Antitrust in the Financial Sector: Hot Issues & Global Perspectives

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Costantino Room
(Second Floor)

CLE Course Materials
Table of Contents

1. Speaker Biographies

2. CLE Materials

**PANEL 1: Lending Syndicates Coordination: What is the Antitrust Risk?**


4. Jaime Pérez-Bustamante (February 2018), *Four Spanish banks fined EUR 91 million for fixing the price of interest rate derivatives attached to syndicated loans*, Linklaters News. (View in document)


8. Derivatives. (View on the web)


**PANEL 2: Funds and Exchanges Collaboration: What are the Limits?**


   [View in document]
   [View in document]

PANEL 3: The Counsels’ Perspective: How to ensure Antitrust Compliance?
2. U.S. Department of Justice, Criminal Division Fraud Section: Evaluation of Corporate Compliance Programs. [View in document]
5. U.S. Department of Justice (March 14, 2018): Assistant Attorney General Makan Delrahim Delivers Remarks at Antitrust Division’s First Competition and Deregulation Roundtable. [View in document]
SPEAKERS BIOGRAPHIES

Graeme BROOKS

Graeme Brooks is Global Head of Competition at Barclays Bank. Barclays is a UK-headquartered, transatlantic retail and investment bank and financial services company, with a significant presence in APAC and elsewhere. Prior to joining Barclays, Graeme spent 12 years as Head of Competition at RBS, and so worked on a wide variety of post-financial crisis state aid issues, as well as major cartel investigations and disposal transactions. Graeme trained and qualified at Linklaters, and has lived and worked in London, Brussels and Paris.

Michael CRAGG

Michael Cragg is a Principal & Chairman at the Brattle Group. Dr. Cragg has extensive consulting, research, and expert witness experience in corporate finance, financial services, and valuation. He has testified in state and federal courts as well as in regulatory proceedings nationwide. His
expertise includes consulting on risk and financial management matters with a focus on leading teams in complex litigation. Dr. Cragg has assisted corporations, the U.S. Department of Justice, and the Internal Revenue Service in developing economic and financial testimony in a variety of finance and tax litigation. Dr. Cragg recently played a key role in the closely watched case regarding the government’s treatment of AIG, as well as in the highly-publicized Long Term Capital Management litigation and Eaton’s and Glaxo’s recent transfer pricing disputes.

Makan DELRAHIM

Makan Delrahim was confirmed on September 27, 2017, as Assistant Attorney General for the Antitrust Division. Mr. Delrahim previously served as Deputy Assistant to the President and Deputy White House Counsel. Mr. Delrahim’s rich antitrust background covers the full range of industries, issues, and institutions touched upon by the work of the Antitrust Division. He is a former partner in the Los Angeles office of a national law firm. He served in the Antitrust Division from 2003 to 2005 as a Deputy Assistant Attorney General, overseeing the Appellate, Foreign Commerce, and Legal Policy sections. During that time, he played an integral role in building the Antitrust Division’s engagement with its international counterparts and was involved in civil and criminal matters. He has served on the Attorney General’s Task Force on Intellectual Property and as Chairman of the Merger Working Group of the International Competition Network. Mr. Delrahim was also a Commissioner on the Antitrust Modernization Commission from 2004 to 2007. Earlier in his career, Mr. Delrahim served as antitrust counsel, and later as the Staff Director and Chief Counsel of the U.S. Senate Judiciary Committee.

Phillip GILLESPIE

Phil Gillespie served until March of this year as Executive Vice President and General Counsel at State Street Global Advisors. Mr. Gillespie joined State Street in 2008 and was responsible for the global legal affairs of the firm and oversaw a team of experienced attorneys, paralegals, and assistants. He was also a member of the firm's executive management group. Previously, he served at Oppenheimer Funds, where he was an Assistant Secretary, Senior Vice President, and Deputy General Counsel, responsible for the day-to-day operations of the legal department. Prior to this, he was the First Vice President of Legal Advisory at Merrill Lynch Investment Managers, where he managed a team of attorneys and paralegals providing legal services and oversight for its U.S based investment teams, operations, and its U.S. registered fund business. From 1993 to 1997, Mr. Gillespie was an Attorney with the U.S. Securities and Exchange Commission holding posts as Senior Counsel in the Legal Policy and Counseling Group of the SEC’s Office of the General Counsel and as Senior Counsel in the
Office of Chief Counsel of the SEC’s Division of Investment Management. Prior to this, he was an Associate in the corporate finance practice at Perkins Coie. Mr. Gillespie started his legal career as a Law Clerk. He is a graduate of Georgetown University’s School of Foreign Service and earned a Juris Doctor, Magna Cum Laude, from Tulane Law School.

Scott HEMPHILL

Scott Hemphill, Professor of Law at NYU School of Law, teaches and writes about antitrust, intellectual property, and regulation of industry. He holds a JD and PhD in economics from Stanford, an AB from Harvard, and an MS. in economics from the London School of Economics, where he studied as a Fulbright Scholar. He served as Antitrust Bureau Chief for the New York Attorney General and clerked for Judge Richard Posner on the US Court of Appeals for the Seventh Circuit, and Justice Antonin Scalia on the United States Supreme Court. Hemphill joined NYU from Columbia Law School, where he was a professor of law. Hemphill’s research focuses on the law and economics of competition and innovation. His scholarship ranges broadly, from drug patents to net neutrality to fashion and intellectual property. Recent work examines the antitrust problem of parallel exclusion in concentrated industries and anticompetitive settlements of patent litigation by drug makers. His scholarship has been cited by the United States Supreme Court and California Supreme Court, among others, and formed the basis for congressional testimony on matters of regulatory policy. His writing has appeared in law reviews, peer-reviewed journals, and the popular press, including the Yale Law Journal, Science, and the Wall Street Journal.

Dean HOFFMAN

Dean is currently Executive Director, Antitrust Compliance with JPMorgan Chase & Co. In this role he leads a global team in the development and implementation of policy, guidance, training and education, controls, and program enhancements. Before joining JPMorgan, Dean was Associate General Counsel and Compliance Manager for DB Schenker. DB Schenker is one of the world’s largest leaders in supply chain management and logistics solutions. In that role he oversaw DB Schenker's compliance program for Region Americas. Prior to joining DB Schenker, Dean was with an international law firm where he was a member of the firm’s White Collar Defense, Internal Investigations and Compliance department.
Nicole KAR

Nicole is a partner in Linklaters’ Global Competition Practice and heads the firm’s London Competition Practice. She has a strong and influential reputation in the market as a leading competition lawyer. Nicole has led on over 40 significant merger control investigations before the European and UK authorities and coordinates merger control proceedings worldwide on global transactions. Alongside her busy merger control practice, she is a highly regarded cartel specialist, advising on global investigations by competition, financial services and other regulators, compliance issues, self-reporting and consequential litigation. Nicole also regularly advises clients on market sector investigations and studies in the EU and the UK. Her broad practice has a particular focus on the financial services, retail, mining and healthcare sectors. Nicole has significant experience advising private equity houses and financial sponsors on a range of competition law issues, in particular in relation to liability flowing from portfolio companies and investments. Nicole co-heads Linklaters’ Global Banking Sector Group and Trade Law Practice.

Elai KATZ

Elai Katz is a partner of Cahill Gordon & Reindel LLP in New York, where he leads the antitrust practice groups. His practice focuses on a wide range of antitrust law matters, including litigation, M&A, counseling, and government investigations. Elai represents clients in the financial, insurance, pharmaceutical, and publishing industries, among others, in a variety of matters, including complex class actions alleging price fixing and monopolization. He has represented defendants in Nicsand v. 3M (6th Cir.), In re IPO Fee Antitrust Litigation (2d Cir.) and In re LIBOR-Based Financial Instruments Antitrust Litigation (S.D.N.Y.), among other matters. Elai has successfully guided a broad range of transactions through the antitrust regulatory review process. Elai has a strong record in obtaining quick and positive resolutions during the early phases of merger reviews and is attuned to the role global antitrust review plays in negotiating and completing mergers and acquisitions. He advises clients on antitrust compliance, joint ventures, distribution arrangements, trade association activities and interaction with competitors. Elai writes and speaks frequently on antitrust topics. He writes an antitrust developments column in The New York Law Journal and is recognized among the top antitrust lawyers in New York by Chambers USA. Elai graduated from Yale University and Columbia Law School. He lives in Manhattan with his wife and two children.
James KEYTE

James A. Keyte is director of the Fordham Competition Law Institute and, as an adjunct professor, teaches Antitrust Law. He is global director of development for The Brattle Group, an economic consulting firm, where he acts as a liaison between Brattle and law firms, as well as oversees project execution. Previously, Mr. Keyte spent more than 20 years as a partner at Skadden, Arps, Slate, Meagher & Flom LLP, where he handled a wide variety of antitrust litigation, transactions, and advisory matters across numerous industries. He led high-profile antitrust cases involving alleged price-fixing, monopolization, mergers, intellectual property licensing, and sports-related matters, including class actions. He was also involved in a number of high-profile mergers, several of which involved litigation challenges by the DOJ and FTC.

Jon LUTINSKI

Jon Lutinski is the Chief Antitrust Counsel at American Express, where he focuses on all antitrust-related aspects of litigation, transactions, counseling, and compliance issues. Prior to working in-house at Amex, Jon was a senior associate at Wilson Sonsini Goodrich & Rosati for 6 years, and a staff attorney in the Healthcare Division of the Federal Trade Commission’s Bureau of Competition for 4 years.

Timothy MAGEE

Tim Magee is an attorney in the Litigation, Investigations & Enforcement group at Barclays. He is currently the Americas Head of Investigations and Enforcement. Prior to Barclays, Tim was a litigation associate at Sullivan and Cromwell LLP. Tim is a graduate of Columbia Law School where he was a Harlan Stone Fiske Scholar and received his B.A. from New York University.
Jon R. ROELLKE

Jon Roellke is a partner at Morgan, Lewis & Bockius. He focuses on antitrust, trade regulation, and other commercial litigation, primarily counseling clients in the financial services and high technology industries. He handles class action and other complex litigation, advises clients on enforcement matters before state and federal agencies, and regularly counsels on competition issues, including refusals to deal, distribution and franchising restraints, tying arrangements, group purchasing, price discrimination, exclusive dealing, leveraging, joint ventures, and trade association activities. Mr. Roellke is recognized annually in Chambers USA as a leading lawyer in antitrust and serves as counsel to a number of financial markets organizations, including the Securities Industry Financial Markets Association, the Investment Company Institute, and the Federal Reserve’s Financial Markets Lawyers Group and Alternative Reference Rate Committee.

Rainer SCHWABE

Rainer Schwabe is a Senior Manager at Cornerstone Research in New York. He consults on a variety of antitrust and competition cases, including matters related to allegations of price fixing, exclusionary practices, and mergers and acquisitions. He has analyzed alleged anticompetitive conduct in a number of industries, including finance, food and agriculture, healthcare, and telecommunications. Dr. Schwabe has managed large teams and supported experts and clients through all stages of litigation, including data production. Dr. Schwabe has particular expertise with antitrust issues in financial markets, both in the context of class certification and liability and damages. He has analyzed alleged anticompetitive manipulation of asset prices, closing and benchmark prices, and bid-ask spreads in both over-the-counter and exchange settings. He has assisted major financial institutions in extracting, analyzing, and producing large transaction-level datasets. Dr. Schwabe also has experience with matters at the intersection of antitrust and intellectual property. He has assisted experts in assessing the effect of proposed mergers on innovation, and in evaluating the competitive effects of licensing practices for standard essential patents. Dr. Schwabe has published his research in leading academic journals, including the American Economic Review. Prior to joining Cornerstone Research, he served at the Mexican Central Bank, where he analyzed competition in retail financial services and financial regulation.
Richard TAFFET

Richard S. Taffet is a partner at Morgan, Lewis & Bockius. He serves as lead counsel in a wide range of antitrust, intellectual property, and other domestic and international litigation and counselling matters. He represents clients in the communications, consumer electronics, financial, pharmaceuticals, textiles, chemicals, software, and industrial products industries. For more than 35 years Mr. Taffet has tried cases in state and federal courts, as well as in arbitration proceedings; represented clients’ interests in appeals to numerous Federal Courts of Appeal and the Supreme Court of the United States. He also regularly assists clients in matters before the United States Department of Justice and Federal Trade Commission, as well as foreign competition and other regulatory bodies, including in European and Asian jurisdictions. Mr. Taffet is noted in Chambers USA “as a proficient and respected antitrust and IP lawyer,” and for his “excellent strategic views and his ability to always think one step ahead.”

Scott TUCKER

Scott Tucker is a Managing Director and the Global Head of Litigation of Morgan Stanley. He is responsible for overseeing all of Morgan Stanley’s non-employment litigation and investigations. Scott joined Morgan Stanley in 2005. Prior to that, he was Counsel at Davis Polk. He received his B.A. magna cum laude from Duke University in 1991 and his J.D. with distinction from Stanford Law School in 1994.
Loan Syndication Structures and Price Collusion*

Jian Cai† Frederik Eidam‡ Anthony Saunders§ Sascha Steffen¶

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Abstract

How does the organizational form of loan syndicates evolve and what are the effects on price collusion? We develop a novel measure of distance in lending expertise among syndicate lenders, and relate this novel measure to the organizational form of loan syndicates and loan pricing. Studying the U.S. syndicated loan market from 1989 to 2017, we find that the organizational form of loan syndicates significantly varies across our lender measure based on similar specializations in lending which we call syndicated distance. Large lead arrangers prefer to form close and concentrated syndicates by letting lenders with similar lending expertise into their syndicates and allocating those lenders higher loan shares. Analyzing loan pricing, we find that concentrated syndicates possess improved screening abilities, but collude on loan pricing. Consistent with Hatfield et al. (2017), we find however that price collusion of concentrated syndicates only occurs during periods of low market concentration. Our findings imply that both the organizational form of loan syndicates and the level of market concentration affect price collusion.

Keywords: Syndicated loans, Loan syndication structure, Loan pricing, Price collusion

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†Washington University, St. Louis, United States
‡University of Mannheim, ZEW and Frankfurt School of Finance and Management, Germany
§Stern School of Business, New York University, United States
¶Frankfurt School of Finance and Management, Adickesallee 32-34, 60325, Frankfurt, Germany
1 Introduction

Over the last two decades, banks have become increasingly interconnected partly because of corporations’ growing funding needs, both in size and complexity. The banking industry, however, is competitive by nature. As a result, banks face a fundamental question: Whom should they collaborate with while competing with the rest? If banks differentiate competitors by how similar they are in terms of lending expertise, i.e., our distance measure, the question translates into the following: Should banks collaborate with close or distant competitors? Our paper seeks to investigate this question by relating banks’ lending expertise to the organizational form of loan syndicates and analyzes the implications for price collusion. More precisely, we study how banks form loan syndicates and analyze their implications on price collusion by addressing the following questions:\footnote{Loan syndicates are ideal for the purpose of our paper. A syndicate consists of: (i) one or multiple lead arrangers that are delegated to screen/monitor the borrower and administer the loan/syndicate, and (ii) participant lenders whose main role is often just funding part of the loan. Lead arrangers choose whom to invite to join the syndicated loan and may delegate certain tasks to the senior members of the syndicate, e.g., co-leads, and co-agents. Thus, loan syndicates provide rich content about the interrelationships among lenders.} How do banks structure loan syndicates?\footnote{We use “banks” to broadly refer to all types of financial institutions that are involved in the syndicated loan market, including commercial banks, investment banks, institutional investors, etc.} Whom do they choose as syndicate partners, and how are loan shares allocated? How does the organizational form of loan syndicates affect loan pricing, in particular price collusion? And, how does market concentration affect price collusion?

We focus on the effects of similarity in lending expertise among banks on syndicate formation, and loan pricing. Cai et al. (2018) provide a comprehensive look at the similarity of two banks’ loan portfolios by their distance measure between two banks. We extend their distance measure to the syndicated loan level (our novel lender distance measure) to capture the similarity in lending expertise of all lenders within a syndicate. We refer to syndicates with high similarity in lending expertise among lenders as “close” syndicates, and call syndicates “distant”, if syndicate lenders’ similarity in their lending expertise is low. Our lender distance measure therefore properly assesses the similarity, or closeness in lending expertise of lenders within a syndicated loan.

We hypothesize that lenders with higher similarity in lending expertise have lower production costs to produce borrower-specific information (Boot (2000)). Borrowers might benefit from improved screening and monitoring abilities of closer syndicates, if lead arrangers pass on some of these savings to the borrower. These cost savings might be particularly pronounced for loans with higher information asymmetries between the borrower and the lenders. We conjecture, that closer syndicates might reduce loan pricing for borrowers.

An alternative hypothesis is that improved information gathering by syndicates with higher similarity in lending expertise might enable lenders to “hold-up” borrowers due to higher information asymmetries between the borrower and outside lenders (Sharpe (1990)),
besides lower production costs resulting from higher similarity in their lending expertise, lenders often already possess borrower-specific and reusable information (Chan et al. (1986)). Also, these lenders with similar lending expertise might include alternative lead arrangers from the perspective of the borrower, potentially strengthening the “lock-in” effect. Consequently, we hypothesize that closer syndicates might collude on loan pricing to extract rents from the borrower.

We further hypothesize, that price collusion might be more pronounced during periods of low market concentration. As theoretically shown by Hatfield et al. (2017), in markets with syndication there exists a certain level of market concentration below which the scope for price collusion increases with reductions in market concentration. This mechanism results from an in-period punishment of lead arrangers, in that “price collusion can be sustained by a strategy in which firms [lead arrangers] refuse to join the syndicate of any firm [lender] that deviates from the collusive price.” In the syndicated loan market, lead arrangers use confidential blacklists to exclude certain banks from syndicates.\footnote{According to anecdotal evidence, these blacklists are wide-spread in the U.S. syndicated loan market and regularly used by lead arrangers to punish lenders.} We first investigate this hypothesis on a stand alone basis. Then, based on our “hold-up” hypothesis of close syndicates, we conjecture that price collusion during low market concentration might be particularly pronounced for close syndicates.

To investigate how lender distance affects the organizational form of loan syndicates and loan pricing, we empirically analyze the U.S. syndicated loan market, using Thomson Reuters LPC DealScan’s loan origination data. We utilize a distance measure between pairs of banks to compute our distance measure on the similarity in lending expertise of lenders within a syndicated loan. We then compute measures of syndicate formation and market concentration in the U.S. syndicated loan market.

First, we examine how lead banks structure syndicates. If lead arrangers structure a syndicate based on how similar lenders’ lending expertise in the syndicate should be, the question translates into how lender distance affects the syndicate structure. We find that close syndicates are associated with smaller and more concentrated syndicates. That is, close syndicates consist of fewer lead arrangers, co-agents, and participants and have higher syndicate concentration (as measured by the Herfindahl index) compared to syndicates with higher lender distance. As discussed above, these closer syndicates might reinforce lenders ability for both improved screening and price collusion.

Second, we analyze how lead arrangers distribute the loan among syndicate lenders. That is, whom lead arrangers choose as members of the syndicate, and how lead arrangers allocate loan shares among the members. While choosing lenders with higher similarity in lending expertise into the syndicate might result in benefits from improved screening or price collusion, it might also increase competition for future syndicated loans from the borrower. Consistent with these trade-offs, we find that lead arrangers are more likely to choose either very close or very distant lenders for more senior roles (co-leads, co-
agents) of the syndicate. In contrast, lead arrangers’ choice of participants becomes more likely with closer distance in lender expertise. Also, except for very distant syndicates, lead arrangers allocate higher loan shares to syndicate members across all loan roles once distance in lender expertise reduces. Consistent with lead arrangers reduced need to signal credit quality, or mitigate moral hazard, we find that lead arrangers do not retain higher loan shares in syndicates with high information asymmetries of the borrower once the syndicate distance is close. Consequently, similarity in lending expertise is an important factor determining the formation of loan syndication structures.

Third, we investigate how lenders’ similarity in lending expertise affects loan pricing. As discussed above, there exist potentially two opposing effects on loan pricing from syndicates with higher similarity in lenders’ lending expertise. On the one hand, borrowers might benefit from lenders’ improved screening and monitoring, as lead arrangers can pass on some of the cost savings to borrowers. On the other hand, hold-up of the borrower might lead to collusive loan pricing. Analyzing the net effect of these two opposing forces, we find that closer lender distance resulted in cheaper loan pricing until 2009 (consistent with improved screening), and more expensive loan pricing since 2010 (consistent with price collusion). Disentangling those opposite effects, we find strong evidence consistent with improved screening in close syndicates over the entire sample period, while price collusion only occurred since 2010.

Fourth and finally, we investigate the effect of market concentration on loan pricing. As discussed above, lower market concentration might enable lenders to collude on loan pricing. We first test the stand-alone effect of market concentration on loan pricing, and then interact our lender distance measure with different levels of market concentration to investigate their joint effect. We find that a reduction of market concentration below a certain level results in higher loan pricing. Further, when interacting market concentration with lender distance, we find that during periods of low market concentration price collusion only occurs for close syndicates.

The paper proceeds as follows. Section 1.1 provides a brief literature review and summarizes the contribution of our paper. In Section 2, we describe the institutional setup, and theoretical framework. In addition, we develop our syndicated loan distance measure. Data are described in Section 3 with summary statistics for our sample of syndicated loan facilities and the syndicated loan distance measure. Section 4 shows the empirical results of tests on our hypotheses on both of syndicate formation and loan pricing. Section 5 is conclusion.

1.1 Related Literature

We make several contributions to the existing literature. First, our paper is related to the growing literature on loan syndication. Among others, Chowdhry and Nanda (1996), Pichler and Wilhelm (2001), and Tykvova (2007) theoretically analyze the rationale for
syndication and find that syndicates are formed for reasons such as risk sharing, knowledge transfer, and circumventing regulation. Empirical papers on syndicated loans have examined syndicate structure from the perspectives of information asymmetries (e.g., Lee and Mullineaux (2004), Jones et al. (2005), and Sufi (2007)), lenders’ reputation (e.g., Dennis and Mullineaux (2000) and Gopalan et al. (2011)), corporate governance (e.g., Ferreira and Matos (2012)), and liquidity management (e.g., Gatev and Strahan (2009)). While this line of research has usually taken the organizational form of syndicates as given, recently member choice in loan syndicates has been studied (e.g. Sufi (2007), Cai (2010), Altunbas and Kara (2011)). This paper, to the best of our knowledge, is the first to examine syndicate structures from the perspective of the similarity in lending expertise among syndicate lenders and to study syndicate formation more broadly (beyond syndicate member choice).

Our paper is also related to the literature on syndicated loan pricing. Empirical papers have examined syndicated loan pricing from the perspectives of information asymmetry (e.g., Ivashina (2009), Cai (2010), Bharath et al. (2009)), liquidity (e.g., Gupta et al. (2008)), syndicated loan composition (e.g., Lim et al. (2014)), business cycle (e.g. Santos and Winton (2008), Santos (2010)), corporate governance (e.g., Ferreira and Matos (2012)), and pipeline risk (Bruche et al. (2017)). Our paper contributes to this literature by analyzing the effects of similarity in lending expertise among syndicate lenders and market concentration on loan pricing.

Finally, this paper is also related to studies in the industrial organization literature examining collusion. Among others, Nocke and White (2007) and Hatfield et al. (2017) theoretically analyze collusion in repeated extensive form games and show that under certain circumstances collusion can exist. For example, Hatfield et al. (2017) develop a model of syndicated markets with repeated interaction of lenders, in which low market concentration facilitates collusion. This resembles our result that price collusion of close syndicates occurs only during periods of low market concentration.

Also, collusion in syndicates has been widely discussed in the IPO market (e.g., Chen and Ritter (2000), Hansen (2001), and Abrahamson et al. (2011)). Our work provides empirical evidence of collusion in the syndicated loan market.

2 Setting, Theoretical Framework and Distance Measure

In this section, we first describe the institutional setup of syndicated bank lending. Then, we discuss the theoretical framework. Finally, we develop our new syndicated loan lender distance measure.
2.1 Institutional Setup

In this sub-section, we first provide a brief overview of the syndicated loan market. Then, we describe the syndication process. Finally, we highlight the key dimensions in which lead arrangers can affect the syndicate structure and the loan distribution to other banks.\(^4\)

**Syndicated Loan Market** In a syndication two or more banks provide a loan to a borrower. Compared to bilateral loans, syndicated loans are usually more efficient to administer and cheaper. Consequently, annual total issuance volume in the U.S. market increased from $177bn in 1990 to $2,017bn in 2007, and quickly recovered from a drop during the Global financial crisis to $2,121bn in 2016. Also, almost all publicly listed firms in the U.S. use syndicated loans to borrow (e.g. Sufi (2007)), and with a median loan amount of $116mn individual syndicated loans are also large. Borrowing volumes from syndicated loans are larger than from public debt and equity issuance combined (Drucker and Puri (2007)). For banks, loan syndication is sizable too, with annual originated syndicated loan volume being 9.6% of total assets (Cai et al. (2018)).

While institutional investors engage in syndicated loans primarily based on risk-return considerations, banks consider the overall profitability of the borrower-creditor relationship. Moreover, lead arrangers also focus on the profitability of their creditor-creditor relationships. Specifically, in the syndication process lead arrangers possess a high leeway in structuring the syndicate and distributing the loan to other lenders, which might beneficially serve their own relationship to these creditors.

**Syndication Process** The syndication process follows two main stages. In the first stage, the issuer awards the mandate for the syndicated loan to a lead arranger. Mostly, borrowers invite their relationship banks and other banks to bid on the syndicate by outlining their pricing and syndication strategy. To determine loan pricing, each lead arranger performs an independent credit analysis of the borrower and creditors make bids. The issuer chooses the lead by awarding the mandate.

In the second stage, the lead arranger prepares an “information memorandum” describing the issuer and terms of the transaction for marketing the loan to other lenders. The document also contains information on compensation for lenders at different tiers (see below on details on different tiers), which come in the form of a spread over a base rate (e.g. LIBOR), and usually different kinds of fees (e.g. commitment fee, upfront fee). Using the “information memorandum”, the lead arranger starts “book running” by contacting other banks and asking them for commitments to join the syndicate (see below on a discussion on the involved trade-offs). If total demand, in form of commitments, equals the target issue amount, the deal is “fully subscribed” and can be closed. If the total

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\(^4\)The following discussion of syndicate formation mainly follows Esty (2001) and Standard & Poor’s *A Syndicated Loan Primer* (April 2016).
commitments are higher or lower than the target amount, the deal is “oversubscribed” or “undersubscribed”, with syndicated loans being predominantly “oversubscribed”. The lead arranger possesses different options to proceed, such as scaling back commitments, re-initiating to ask for commitments, scaling back the loan amount, and retaining a larger share itself in the loan. Once the lead arranger decides on the allocation of commitments, the syndication closes, lenders sign the final loan document, and funds are transferred to the borrower.

Consequently, lead arrangers possess significantly leeway during the syndication process to affect both the syndicate structure as well as loan shares to other syndicate lenders.

**Syndicate Structure** With respect to syndicate structure, lead arrangers can decide whether to allocate monitoring and administrative tasks to other banks, or to structure, administer, and distribute the loan itself. For example, an ‘administrative agent’ monitors the loan and handles interest and principal payments, or a ‘documentation agent’ chooses a law firm and handles documentation. These “joint mandates” usually also increase the chance of a successful syndication, as lenders in more senior roles often commit to larger loan shares and might support loan distribution. Successful syndication might consequently also be a motive by the borrower to request “joint syndication” himself.

In addition, lead arrangers face an important trade-off when deciding on the size of the syndicate. On the one hand, smaller syndicates provide benefits to the borrower in the form of greater confidentiality, concentrated voting control, and administrative convenience. For lenders, smaller syndicates result in greater revenues, and increased influence to modify loan terms over the life of the loan. On the other hand, larger syndicates provide benefits to the borrower as competition usually increases among bidding lenders, which can reduce loan pricing and increase the chance of successful syndication. The lead arranger might benefit due to higher underwriting fees from other lenders to compensate his increased syndication efforts, and from not having to disappoint otherwise excluded bidding lenders. Participating lenders might benefit in meeting their diversification objective and by receiving easier approval in the lender’s internal credit application process.

**Loan Distribution** With respect to loan distribution, lead arrangers also possess high leeway to decide, which banks join the syndicate and at which tiers. Lead arrangers usually allocate more senior roles in the syndicate to its own relationship banks to strengthen their relationship by rewarding them with higher fee compensation. Also, lenders in more senior roles are selected based on lenders experience in lending to specific industries or regions. Finally, lead arrangers might follow borrowers request to reward other of the borrower’s relationship banks to more senior roles. Otherwise, lenders obtain the status of participant lenders, whose main role is often just funding part of the loan.

Finally, lead arrangers also possess leeway in the allocation of loan shares. Allocating higher loan shares to lenders in more senior roles can also reward lead arrangers relation-
ship banks by increasing their revenues from interest payments and fees. Also, borrowers might also ask the lead arranger to invite other borrower relationship banks into the syndicate. Lead arrangers might want to reduce their loan shares for more risky loans, which might however conflict with agency considerations. Specifically, lead arrangers can mitigate adverse selection by holding a larger loan share to credibly signal the loan quality. In addition, a larger loan share also incentivizes lead arrangers ex-post monitoring of the loan, which can mitigate the impact of moral hazard. Allocating a higher loan share to lenders in more senior roles in the syndicate can similarly mitigate agency considerations, and increase incentives to pool borrower screening and monitoring expertise of more senior lenders.

2.2 Theoretical Framework

In this sub-section, we outline the theoretical framework for analyzing the role of syndicated loan lender distance and market concentration on loan pricing. First, we describe the economic mechanisms underlying loan pricing. Second, analyzing this framework we provide a number of testable hypotheses.

Effects of Close Syndicates: Improved Borrower Screening and Monitoring

The theoretical literature on banking relationships views borrower-lender relationships as a mechanism, in which lenders produce borrower-specific information that is durable and reusable over time (Boot (2000)). Close syndicates consist of lenders with higher similarity in their lending expertise (compared to lenders in more distant syndicates). Collectively, lenders in close syndicates might thus more effectively produce borrower-specific information, both during the due diligence and monitoring phases of evaluating a borrower. Also, lenders often syndicated loans to the same borrower, so that lenders already possess borrower-specific and reusable information (Chan et al. (1986)). Close syndicates are also more likely to pool information. Further, lead arrangers might pass on some of the benefits from improved screening and monitoring to the borrower, thereby lowering loan pricing. This leads to the following hypothesis on the effect of lender distance on loan pricing:

HYPOTHESIS 1: Lenders are more likely to reduce loan pricing if syndicates become closer.

Effects of Close Syndicates: Price Collusion

An alternative hypothesis is that improved information gathering by close syndicates, borrowers might be more inclined to be “locked-in” into such syndicates (see Sharpe (1990), and Rajan (1992)). If borrowers are locked-in, lenders will be more likely to extract rents. This leads to the following hypothesis:
Hypothesis 2: *Lenders are more likely to increase loan pricing if syndicates become closer.*

Importantly, hypotheses 1 and 2 are not mutually exclusive. Close syndicates might be able to have lower production costs for borrower screening and monitoring, but at the same time also increase loan pricing due to hold-up of the borrower. In our empirical analysis, we first test the net effect of hypotheses 1 and 2, and then try to separate these two opposing effects.

**Low Market Concentration: Higher Scope for Price Collusion**

The theoretical literature on loan pricing in syndicates shows that lower market concentration fosters price collusion (Hatfield et al. (2017)). Specifically, in markets with syndication there exists a certain level of market concentration below which the scope for price collusion increases with reductions in market concentration. This mechanism results from an in-period punishment of lead arrangers, in that “price collusion can be sustained by a strategy in which firms [lead arrangers] refuse to join the syndicate of any firm [lender] that deviates from the collusive price.” The authors show that this punishment strategy becomes more forceful in markets with lower market concentration. This leads to the following hypothesis:

Hypothesis 3: *Below a certain level of market concentration, price collusion increases with reductions in market concentration.*

Taken together, our two hypotheses 2 and 3 predict that price collusion should be most pronounced during periods of low market concentration for loans originated by closer syndicates. In our empirical analysis, we first test hypothesis 3 on a stand alone basis, and then test for the joint effect of hypotheses 2 and 3.

### 2.3 Lender Distance Measure

In this sub-section, we develop our key explanatory variable to measure the similarity, or closeness in lending expertise of lenders within a syndicated loan, namely our lender distance measure.

#### 2.3.1 Distance between two lenders

The key intermediate measure to compute our lender distance measure, is the distance between two lenders measure developed in Cai et al. (2018). This measure captures the

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5Hatfield et al. (2017) motivate their theory by observations of investment banking fees for initial public offerings (IPOs), which are also syndicated.

6According to anecdotal evidence, lead arrangers in the syndicated loan market regularly punish banks by adding them to confidential blacklists that exclude them from syndicates.
similarity in the syndicated loan portfolios of two lenders, which we use as a measure for the similarity in lending expertise between these two lenders.

To compute the syndicated loan portfolio of an individual lender in a given month, we compute each lead arranger’s total originated loan facility amount during the prior 12 months. Next, we compute each lead arranger’s portfolio weights in lending specialization related to borrower industry, using the 2-digit borrower SIC-industry. Let \( w_{s,j,t} \) be the weight (share) that lead arranger \( s \) invests in industry \( j \) during the 12 months prior to month \( t \).

Using these lending specializations, the distance between two lenders is computed as the Euclidean distance between those two lenders in the \( J \)-dimensional space as

\[
distance_{s,k,t} = \frac{1}{\sqrt{2}} \sqrt{\sum_{j=1}^{J} (w_{s,j,t} - w_{k,j,t})^2}
\]  

where \( distance_{s,k,t} \) is the distance in lending specialization between lender \( s \) and lender \( k \) in month \( t \), with \( s \neq k \). The distance measure ranges between zero and unity, with a smaller distance indicating a higher similarity in the two lenders’ lending expertise.

### 2.3.2 Syndicated loan lender distance

Next, we compute our syndicated loan lender distance measure. Suppose in syndicate \( i \) are \( N_i \) pairs of lead arranger(s) and other syndicate members. The syndicated loan lender distance is the average distance of these \( N_i \) pairs of lead arranger-lender in the 12 months prior to the loan origination month \( t \). Let \( Distance_{i,t} \) denote the lender distance in syndicate \( i \) that is arranged in month \( t \). Then

\[
Distance_{i,t} = \frac{1}{N_i} \sum_{n=1}^{N_i} distance_{s_n,k_n,t}
\]

where \( distance_{s_n,k_n,t} \) denotes the distance between the \( n^{th} \) pair of lead arranger \( s_n \) and syndicate member \( k_n \) in month \( t \), where \( s_n \neq k_n \).

Note that the lender distance measure centers on the similarity in lending expertise from the viewpoint of the lead arranger(s), and thus excludes distance pairs among non-lead syndicate members. Thus, for syndicates with more than two lenders, lender distance can differ even within the same set of lenders in the same originating month. Also, note that the lender distance measure captures the similarity in lending expertise during the prior 12 months to the loan origination month \( t \). Consequently, the same syndicate structure can exhibit varying distances over time, depending on the evolution of the similarity in lending expertise of the lenders in the syndicate.

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7 Loan amounts are split equally across all lead arrangers in the loan, if a loan has multiple leads.

8 Also, we examine lending specialization related to borrower region (using 3-digit borrower zip code), and obtain very similar results.

9 Industry weights across \( J \) industries for each lead arranger \( i \) sum up to unity (\( \sum_{j=1}^{J} w_{s,j,t} = 1 \forall t \)).
In Appendix Table A.2, we show a computational example of the syndicated loan lender distance.

3 Data and Summary Statistics

In this section, we first briefly describe our data. Then, we describe the classification of lender roles and provide summary statistics regarding lenders, borrowers, and syndicated loan facilities. Finally, we discuss our new loan lender distance measure.

3.1 Data

Our primary data source is a sample of syndicated loans from Thomson Reuters LPC Dealscan, which contains information on loan contract terms, borrower characteristics, lender roles, syndicate structure, and loan distribution. Dealscan contains a fairly complete coverage of syndicated loans, especially for the U.S. market. Our original data set contains 127,040 syndicated loans to 31,927 firms originated from a total of 1,299 lead arrangers during January 1988 to March 2017. To focus our analysis and make the computation of our loan lender distance measure manageable, we follow the literature and restrict our sample to larger lead arrangers so that on average lead arrangers in our sample annually originate one percent of syndicated loans in the market. Our final sample contains 123,752 syndicated loans to 30,722 U.S. firms from January 1988 to March 2017 that were originated by 223 lead arrangers.

Importantly, these 223 lead arrangers also frequently obtain less senior roles in the syndicate so that 95.2% of the syndicate’s co-agents and 77.2% of the syndicate’s participants are covered in the sample. These high coverages are consistent with lead arrangers in the syndicated loan market regularly engaging in reciprocal lending arrangements as documented by Cai (2010). That is, lead arrangers also regularly serve in less senior roles in syndicates, where their participant lenders led the syndicate. The non-covered participants in our sample are mostly foreign banks, or smaller domestic financial institutions that do not (or at most sporadically) originate syndicated loans in the U.S. market. Consequently, our sample contains a fairly high coverage of lenders across different lender roles to investigate syndicate formation.

We show in this paper that the average lender distance in a syndicated loan is much smaller than the average lender distance between two randomly selected lenders. In other words, lead arrangers actively choose lenders that have similar lending expertise as themselves. Thus, participants covered in our sample represent those that are also more likely to be selected into syndicates.

To obtain richer financial information on individual borrowing firms, we link our syndicated loan data to Compustat using matchings from Chava and Roberts (2008), Schwert

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10 For consistency of the distance measure, the selection of lead arrangers follows Cai et al. (2018).
11 In Appendix A.3 we provide details on the classification of lender roles.
Through this matching, we retrieve borrower financial data for up to 48,317 syndicated loans (39% of the sample).

3.2 Summary Statistics

Table 1 shows summary statistics. Panel A of Table 1 presents lead arranger characteristics. The sample contains 33,861 unique lead arranger-months. On average, a lead arranger has a market share of 1% during the prior 12 months, in which 65 syndicated loans with a total volume of $11.3 billion were arranged. Four out of five lead arrangers (82%) are banks (as opposed to finance companies, institutional investors, etc.) and hence are considered having expertise in screening, monitoring, and relationship lending. Consequently, most lenders in the syndicated loan market constitute competitors for a lead arranger, when deciding on syndicate formation.

Panel B of Table 1 presents borrower characteristics, which are reported based on the time of loan origination. An average borrowing firm in our sample has sales of $3.54 billion at loan closing. 38% of loans are first syndicated loans of the borrower in the syndicated loan market in our sample period, while the average number of previous syndicated loans is 4.1. Among borrowers whose firm type is known, 64% are identified as private firms, and 36% as public firms. Among the borrowers with Compustat data, the average book value of total assets is $12.3 billion, the average book leverage ratio is 37%, the average earnings to asset ratio is 6%, 56% have an S&P debt rating, and 29% have an S&P investment-grade debt rating.

Panel C of Table 1 reports loan characteristics. The average syndicated loan facility is $271 million, with a loan maturity of 50 months. About one-third (34%) of loans are classified as term loans. The average interest rate spread on drawn funds is 252 basis points over LIBOR. The most common loan purpose is working capital and corporate purposes (72%), followed by acquisitions (22%), refinancing (18%), and backup lines (5%), where a loan facility can have multiple loan purposes.

Important for our analysis, DealScan provides rich information on the syndicate structure and loan distribution. On average, a syndicated loan has 6.0 lenders, splitting into 1.6 lead arrangers, 1.3 co-agents, and 3.2 participants. To measure the concentration of a syndicate, we compute the Herfindahl index as the sum of squared individual loan shares of syndicate lenders.\textsuperscript{12} We also report summary statistics of loan shares, which are computed as the average among the lender group if there is more than one in the syndicate. On average, lead arranger(s) retain 31.4% of the loan, 14.7% are held by co-agents, and 14.7% are also held by participants. Importantly for our analysis on syndicate formation, these variables on syndicate structure and loan distribution show a high degree of variation. Compared to the summary statistics on syndicate structure reported by Sufi

\textsuperscript{12}The Herfindahl index ranges between zero and one, where one being most concentrated (a single lender holding 100% of the syndicated loan).
(2007) for the period from 1992 to 2003, on average, the total number of lenders in the syndicate has shrunk, loan shares of lead arrangers increased, and consequently syndicate concentration also increased.

Finally, Panel D of Table 1 reports summary statistics of the market concentration of the syndicated loan market. On average, the Herfindahl index of market concentration is 0.11, which indicates an “unconcentrated market” based on the definition of the U.S. Department of Justice.\(^\text{13}\) As shown in Figure 2, the market concentration varied over time, with about a tenth of months constituting a “moderately concentrated” market (greater or equal than 0.15) and also a moderate degree of variation in the “unconcentrated market” range.

In Appendix Table A.1, we list the variable definitions.

### 3.3 Lender Distance Measure

For the sub-sample where we are able to compute lender distant pairs, we construct our new syndicated loan lender distance measure. As discussed above, this measure captures the similarity in lending expertise of the lead with the lenders in the syndicate, and ranges between zero and one. Figure 1 shows that lender distance declined over time, indicating that the similarity in lending expertise of lenders within a syndicate increased over time. In other words, on average lenders in syndicates became closer competitors to the lead arranger over time. To ensure that this time-trend does not affect our results, we carefully control for year fixed effects in our regressions.\(^\text{14}\) As shown in Panel C of Table 1, on average, the lender distance of a syndicated loan is 0.29, which is less than half of any randomly selected lender pair of 0.61 (see Panel A of Table 1).\(^\text{15}\) This finding provides indicative evidence that similarity in lending expertise might be an important factor in syndicate formation. Finally, the lender distance measure has a standard deviation of 0.14, implying that there is sufficient variation in the data for the empirical analyses.

Table 2 lists the top three lead arrangers for close, mid, and distant syndicates from 2014 to 2016 by classifying lender distance into the lowest, middle, and highest one-third of the originating month of the syndicate. The top three lead arrangers (Bank of America, JPMorgan Chase, and Wells Fargo) are identical across close, mid, and distant syndicates, even in their ranking. This provides evidence that a lead arranger regularly forms syndicates with different lender distances, indicating that lead arrangers can actively decide on the similarity in lending expertise of the lenders it chooses to include in a syndicate. Also, concentration of lead arrangers is most pronounced for close syndicates, with the top three lead arranger arranging 43% of close syndicates (compared to 32% for

\(^{13}\)See https://www.justice.gov/atr/horizontal-merger-guidelines-08192010

\(^{14}\)In our analysis on ‘loan pricing and market concentration’ (Table 9), we include three-year fixed effects as otherwise most of the variation in the market concentration measure would be absorbed by year fixed effects.

\(^{15}\)Note that the computation of the distance between two lenders measure is completely identical as in Cai et al. (2018). Consequently, also summary statistics in our longer sample period are very similar.
distant syndicates, and 17% for mid syndicates).

4 Empirical Analysis

In this section, we first analyze how distance among lender pairs and syndicated loan lender distance affects syndicate formation. Next, we show how borrower and loan characteristics differ across different degrees of syndicated loan lender distance and show their syndicate formation characteristics. Finally, we test our hypotheses by investigating how syndicated loan lender distance and market concentration affects loan pricing.

4.1 Distance and Syndicate Formation

In this sub-section, we examine how lead banks structure syndicates. If lead arrangers structure a syndicate based on how close or distant competitors are who it wants to join the syndicate, the question translates into the following: How does lender distance affect the syndicate structure? As outlined in the introduction and the institutional setting, choosing close competitors can have both positive effects (e.g., improved screening) and negative effects (e.g., price collusion among lenders) to the borrower. Syndicate structure might influence the magnitude of these effects. Smaller and more concentrated syndicates increase lenders stake in the loan, which should reduces moral hazard and align incentives among lenders for better screening and monitoring. However, smaller and more concentrated syndicates might also reduce price competition among lenders, and foster price collusion. In addition, assigning lenders into more senior syndicate roles might also reinforce these effects, as it mitigates lenders moral hazard and gives lenders a larger share in the proceeds from the syndicate.

We seek to find supporting evidence consistent either with hypothesis 1 or 2. The general regression specification we test is

$$ Synd_{i,t} = \alpha + \beta_1 \cdot Distance_{i,t} + \beta_2 \cdot Distance^2_{i,t} + \gamma \cdot X_{i,t} + \varepsilon_{i,t} $$

where the dependent variable $Synd_{i,t}$ are different measures of syndicate structure, such as the number of lenders, the number of lead arrangers, the number of co-agents, the number of participants, and the concentration of the syndicate (Herfindahl). The key right-hand-side variables $Distance_{i,t}$ and $Distance^2_{i,t}$ measure the (squared) syndicated loan lender distance of syndicate $i$ originated in month $t$. We allow ex-ante for a non-linear relationship of $Distance_{i,t}$ to capture the possibly non-linear net effect from the following two opposing forces. On the one hand, choosing lenders with higher similarity, or closeness in lending expertise into the syndicate might reduce production costs due to improved screening, or increase revenues from price collusion. On the other hand, choosing closer competitors into the syndicate might increase competition for future syndicated loans from the borrower. Either of these two forces might dominate the net effect at different levels of lender distance.
The control variables \((X_{i,t})\) are consistent to the ones used in the literature (such as in Sufi (2007)), and include various borrower characteristics, loan characteristics as well as year, industry, state, loan purpose, and interest type fixed effects. Standard errors are heteroscedasticity robust and clustered by borrower 2-digit SIC industry.

Table 3 reports the results. While we think of lead arrangers having an intention to form closer or more distant syndicates, we only observe the ex-post realized distance in loan syndicates. Consequently, our results on syndicate formation display correlations between our lender distance measure and the syndicate structure. In all regressions on the number of lenders, leads, co-agents, and participants, the estimated coefficients reveal a concave relationship of our distance measure that is significant at the 1% level. Consistent with our conjecture of the above discussed opposing forces, we find that the number of syndicate lenders (and the number of lenders across all roles) slightly reduces for very distant syndicates and strongly reduces for mid and close syndicates (see Figure 3 (a)). These effects are also economically significant. For example, as reported in column (1), a syndicate with a loan lender distance being one standard deviation lower than the median is associated with on average 5 fewer lenders in the syndicate (or -83% at a mean of 6.04 lenders). Consistent with the importance of more senior roles for improved screening and price collusion, the economically strongest difference in the number of syndicate members results from fewer participants.

Analyzing the effect of lender distance on syndicate concentration (Herfindahl) shows similar results (column (5)), with lender distance having a convex effect on syndicate concentration (see Figure 3 (b)). That is, while syndicate concentration reduces for closer lender distance in very distant syndicates, syndicate concentration increases for closer lender distance in mid and close syndicates. In terms of magnitude, a syndicate with a one standard deviation lower lender distance than the median syndicate is associated with a higher concentration of the syndicate by 0.05 (or 20% at a mean Herfindahl of 0.27).

### 4.2 Distance and Loan Distribution

Next, we analyze how lead arrangers distribute loans to other syndicate lenders. As discussed in the institutional setting above, loan distribution consists of choosing syndicate members and allocating loan shares. That is, we address the questions of whom lead arrangers choose to let into the syndicate? And, among those chosen syndicate members, how do lead arrangers allocate loan shares?

#### 4.2.1 Syndicate Member Choice

First, we examine lead arrangers choice of syndicate members. We seek to find supporting evidence consistent with hypotheses 1 or 2, in that lead arrangers might choose lenders

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Note, median (mean) lender distance is 0.26 (0.29), and the centered 80% interval ranges from 0.15 to 0.47. One standard deviation of lender distance is 0.14.
with similar lending expertise to either delegate screening and monitoring responsibilities within the syndicate, or collude on loan pricing. Utilizing the distance measure between two banks, we measure the degree of similarity in lending expertise between the lead arranger and potential syndicate members. We separately investigate lead arrangers choice of co-lead arrangers, co-agents, and participants. The general regression specification we test is

$$
Member_{s,k,i,t} = \alpha_i + \beta_1 \cdot distance_{s,k,t} + \beta_2 \cdot distance^2_{s,k,t} \\
+ \gamma_1 \cdot RELL_{s,k,t} + \gamma_2 \cdot RELB_{k,i} + \gamma_3 \cdot MS_{k,t} + \varepsilon_{s,k,i,t}
$$

(4)

where the dependent variable $Member_{s,k,i,t}$ are different indicator variables that equal one if lead arranger $s$ chooses lender $k$ in a specific role in loan syndicate $i$ that is originated in month $t$. Lender roles are co-lead arranger, co-agent, and participant. Linking this analysis to our previous investigation on syndicate structure above, we exclude syndicates in which lead arrangers decided not to assign lenders into these roles. Also, as lead arrangers usually start by assigning lenders to more senior roles, we exclude lenders that are chosen in more senior roles from the choice set of loan membership for less senior roles such as participants.

The key independent variable is $distance_{s,k,t}$ (and $distance^2_{s,k,t}$), measuring the (squared) distance between lead arranger $s$ and lender $k$ in the 12 months prior to month $t$. Thus, $distance_{s,k,t}$ measures whether lead arrangers choose lenders with close or distant similarity in lending expertise into the syndicate. Consistent with the discussions above, we also allow for a non-linear relationship of $distance_{s,k,t}$ on syndicate member choice. We control for loan facility fixed effects, to rule out any facility-specific effects, such as borrower characteristics, lead arranger characteristics, time-specific effects, and loan characteristics. In addition, we also control for the effects of prior relationships between the lead arranger and lender as well as prior relationships between the potential syndicate member and the borrower. Specifically, $RELL_{s,k,t}$ is an indicator variable for whether lead arranger $s$ syndicated a loan with lender $k$ prior to month $t$ (no matter what roles the two lenders took). $RELB_{k,i}$ is an indicator variable for whether lender $k$ syndicated a loan to the syndicate’s borrower prior the originating month of syndicate $i$ (no matter what role it took). In addition, we include the market share of lender $k$ in the 12 months prior to month $t$ ($MS_{k,t}$) to proxy for lender $k$’s reputation, market size, lending capacity, or power in the syndicated loan market. Standard errors are heteroscedasticity robust and clustered by lead arranger.

Table 4 reports the results. In all regressions, the estimated coefficients on the distance measure show a convex relationship that is significant at the 1%-level. Consistent with our hypotheses on improved screening and price collusion of close syndicates, the propensity

17E.g., syndicates without a co-lead arranger are excluded in the regression for co-lead arranger choice
18Our results are very similar without restricted choice sets.
to be chosen as syndicate member increases for closer (compared to mid) syndication. At the same time, the likelihood of being selected as syndicate member increases for distant (compared to mid) syndicates, consistent to our conjecture of lead arrangers avoiding future competition for the same borrower. However, there is an important difference between these convex relationships across different lender roles. For the selection of co-leads (column (1)), lead arrangers are much more likely to choose more distant (compared to mid) competitors, and to some degree also very close competitors (see Figure 4 (a)). Lenders with a one standard deviation higher distance between the lead arranger and the lender compared to the median are associated with a higher likelihood of being chosen as co-lead by 3.0%-points. In comparison, lenders at the 25th-percentile (compared to the 10th-percentile) of distance between the lead arranger and the lender have a higher likelihood of being chosen by 1.0%-point. The results on the selection of co-agents are very similar (column (2)). These findings on the selection of co-leads and co-agents are consistent with the trade-off between the benefits of lower production costs and price collusion of selecting close lenders, and the benefit of reduced future competition when selecting distant lenders.

In contrast to the results for co-leads and co-agents, lead arrangers predominantly prefer to choose participant lenders with more similar lending expertise (see column (3) and Figure 4 (b)). Consequently, lead arrangers select participant lenders that reinforce improved screening and price collusion. The estimated control variables provide consistent results.

### 4.2.2 Allocation of Loan Shares

Next, we investigate how the lead arranger allocates loan shares among the lenders in the syndicate. Again, we aim to investigate whether lead arrangers allocate higher loan shares to closer syndicates to align incentives for improved screening or price collusion (hypothesis 1 or 2), or allocate higher loan shares in more distant syndicates to reduce future competition. Specifically, we analyze how the allocation of loan shares to lenders with different roles (lead, co-agent, and participant) varies across syndicates. As multiple lenders with the same role in a syndicate cannot be considered as independent observations, we compute the average loan share for each role across possibly multiple lenders of that role to avoid understating standard errors. To investigate the allocation of loan shares across syndicates, we estimate regression specification (3) as discussed above, except for using loan share as dependent variable.

Table 5 reports the regression results. In all regressions, the estimated coefficients reveal a convex relationship of our lender distance measure and all coefficient estimates

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19 Note, median (mean) distance between two lenders is 0.63 (0.61), and the centered 80% interval ranges from 0.29 to 0.88. One standard deviation of distance between two lenders is 0.23.

20 All results continue to hold once we take each individual lenders’ loan share as observations for the regressions.
are significant at the 1%-level. Consistent to our findings from syndicate member choice, we find that lead arrangers prefer to allocate higher loan shares in both close syndicates and distant syndicates (compared to mid syndicates). For close and mid syndicates, for example, a smaller lender distance is associated with higher loan shares across all loan roles (see Figure 5). This effect is most pronounced for lead arrangers (and co-agents) compared to participants. For example, on average the loan share for lead arrangers of syndicates with a lender distance being one standard deviation smaller than the median syndicate lender distance have a 5.4%-points (or 17% at a mean of 31.4%-points) higher loan share. In contrast, the lower sensitivity of the loan share of participants to variations in syndicate lender distance is consistent to a higher average number of participants in loan syndicates. Overall, these findings are consistent to our results on syndicate structure from Table 3 above and show that lead arrangers form more concentrated syndicates by allocating higher loan shares for both close and distant (compared to mid) syndicates.

Analyzing the allocation of loan shares among lenders of the same role within the syndicate also provides consistent results. As shown in Appendix Table A.4, lead arrangers allocate higher loan shares to lenders across all loan roles once the distance between the lead arranger and the lender reduces. These effects are all statistically significant, and the economic magnitude is most pronounced for participant lenders. Consequently, lead arrangers also discriminate in the allocation of loans shares among lenders within a syndicate.

When investigating the retained loan share by lead arrangers across loans with different degrees of information asymmetries, we find additional evidence consistent with improved screening and monitoring abilities of close syndicates (hypothesis 1). The literature on information asymmetries in syndicated loans has shown that if informational asymmetries are severe, lead arrangers retain a higher loan shares (e.g., Sufi (2007)). However, if screening and monitoring expertise is indeed higher in close syndicates, lead arrangers might not have to signal credit quality, or mitigate moral hazard by retaining larger loan shares for those loans with higher informational asymmetries. Consistent with this conjecture, we show that lead arrangers do not retain higher loan shares in syndicates with high information asymmetries of borrowers once the syndicate distance is close (see Appendix Table A.5). In comparison, for syndicates with mid and distant lender distance, lead arrangers retain higher loan shares. Also, analyses for the concentration of syndicates (Herfindahl) show consistent results.

4.3 Close versus Mid versus Distant Syndicates

The above tests provide important insights into how lead arrangers structure loan syndicates, choose syndicate partners, and allocate loan shares. The question of who benefits from these different types of syndicate formation remains to be answered. To address this question, and summarize our results on how syndicate formation differs across syndicated
loan lender distance, we analyze how syndicates differ across lender distance.

We use the syndicated loan lender distance (as defined in equation (2)) to group our sample of syndicated loans into terciles, i.e. close, mid, and distant syndicates. The sub-sample of close syndicates consist of syndicates, in which lender distance is below the lowest one-third lender distance in the originating month. The sub-sample of mid syndicates are syndicates with lender distance above the lowest one-third and below the lower two-thirds of lender distance in the originating month, whereas distant syndicates consist of the remaining syndicates, i.e. those with lender distance above the lowest two-thirds in the originating month. We then look into differences in borrower characteristics, loan characteristics, syndicate structure, and loan distribution across close, mid, and distant syndicates.

Table 6 reports the mean values for these three sub-samples (columns (1) to (3)). Also, in columns (4) to (5) the table reports the mean differences between close and mid syndicates ($\mu_{\text{Close}} - \mu_{\text{Mid}}$), as well as distant and mid syndicates ($\mu_{\text{Distant}} - \mu_{\text{Mid}}$), which are all statistically significant. We find that on average borrowers in mid syndicates are most likely to be public firms, more likely to be rated (and more likely to be investment-grade rated), have borrowed previously most often from the syndicated loan market (and are least likely to be first time borrowers in the syndicated loan market), and show higher sales at closing. In addition, mid syndicates have on average larger loan sizes, tend to have longer maturities, have fewer term loans, and lower interest spreads on drawn funds over LIBOR. In terms of syndicate formation, mid syndicates have on average the largest number of lenders (also, across all lender roles), lenders hold smaller loan shares (also across all lender roles), and syndicates are consequently least concentrated. In other words, mid syndicates seem to have safer borrowers and safer loans, which is reflected in less concentrated syndicates (compared to close, and distant syndicates). These results are consistent to previous findings that loans with intermediate lender distance form larger and less concentrated syndicates, also because of lower information asymmetries. In contrast, distant syndicates lend on average to riskier borrowers, lend smaller loan amounts, and charge higher interest spreads on drawn funds over LIBOR. Syndicates consist on average of fewer lenders, lenders retain higher loan shares, and loans are more concentrated.

Close syndicates lend on average to somewhat riskier borrowers than mid syndicates (but much safer than distant syndicates), and lend smaller loan amounts with somewhat shorter maturities. Consistent with slightly riskier borrowers, but safer loans than mid syndicates, interest spreads on drawn funds over LIBOR are a bit higher than for mid syndicates. However, syndicate formation differs considerably. Close syndicates consist of on average only five lenders (compared to 9 lenders for mid syndicates), with fewer lenders across all lender roles (leads, co-agents, and participants). Consequently, loan shares are higher across all lender roles, with a lead arranger retaining on average about one-third

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21 We choose three groups to reflect the non-linearity of our results above.
of the loan (compared to about one-fifth for mid syndicates). Correspondingly, syndicate concentration is highest.

These findings resemble our previous results that lead arrangers form small and concentrated syndicates consisting of lenders with higher similarity in their lending expertise that might enable those lenders to perform improved screening and monitoring (Hypothesis 1), and/or collude on loan pricing (Hypothesis 2). At this stage, it remains unclear who benefits from these close syndicates.

In the following sub-sections, we address this question and investigate the effects of syndicated loan lender distance and market concentration on loan pricing.

### 4.4 Distance and Loan Pricing

As discussed in the theoretical framework, there are potentially two opposing effects on loan pricing from close syndicates with high similarity in lenders lending expertise. On the one hand, borrowers might benefit from improved screening and monitoring, because lead arrangers can pass on some of these savings to borrowers (Hypothesis 1). On the other hand, borrowers might be "locked-in" into close syndicates so that lenders would be more likely to extract rents (Hypothesis 2). We first examine the net effect of these two opposing forces by estimating the following regression model

$$
\text{Spread}_{i,t} = \alpha + \beta_1 \cdot \text{Distance}_{i,t} + \beta_2 \cdot \text{Distance}^2_{i,t} + \gamma \cdot X_{i,t} + \varepsilon_{i,t}
$$

where the dependent variable $\text{Spread}_{i,t}$ is the interest spread over LIBOR on drawn funds of syndicate $i$ originated in month $t$. The key right-hand-side variables $\text{Distance}_{i,t}$ (and $\text{Distance}^2_{i,t}$) measure the (squared) syndicated loan lender distance of lenders in syndicate $i$ in the 12 months prior to month $t$. We allow ex-ante for a non-linear relationship of $\text{Distance}_{i,t}$ on loan pricing, because (i) the stand alone effects of closer lender distance might neither linearly reduce loan pricing due to lower production costs of borrower-specific information, nor linearly increase loan pricing due to borrower "hold-up"; and (ii) the net effect might be dominated by either of the two opposing effects across different levels of lender distance. We separately test for whether the net effect of lender distance on loan pricing is linearly, or non-linearly. If lender distance reduces loan pricing for closer syndicates, the improved screening and monitoring effect dominates (Hypothesis 1). If lender distance increases loan pricing for closer syndicates, the price collusion effect dominates (Hypothesis 2). In addition, besides analyzing the effect of lender distance on loan pricing across the entire sample period, we also investigate the time-variation of this effect. Specifically, we test whether the effect of lender distance on loan pricing changed after the Global financial crisis (since 2010). The control variables, fixed effects, and standard errors specification is identical to Table 3.

Table 7 reports the regression results. Columns (1) and (2) report results for the entire sample period, and show that a reduction in lender distance monotonically reduces loan
pricing (see Figure 6 (a)). In the linear specification, loan lender distance is statistically significant at the 1%-level, while at the non-linear specification only the squared lender distance is statistically significant. In terms of magnitude, a reduction of lender distance by one standard deviation from the median reduces loan pricing by 5bps (or 2.0% at a mean of 252bps) in the linear specification and by 1.5bps (or 0.6%) in the non-linear specification. Consequently, these results provide mixed evidence on the net effect of close syndicates on loan pricing. While significant economic reductions in the linear specification is consistent with improved screening and monitoring (Hypothesis 1), the marginal economic effect in the non-linear specification might indicate collusive loan pricing (Hypothesis 2).

The results on the time-variation of lender distance on loan pricing are reported in columns (3) to (6). Lender distance has a positive and linear effect on loan pricing from 1989 to 2009, while the effect is convex from 2010 to 2017 (see Figure 6 (b)). These coefficient estimates are all statistically significant at the 1%-level. In terms of magnitude, a reduction of lender distance by one standard deviation from the median reduces loan pricing by 5bps (or 2.0% at a mean of 252bps) until 2009, while increases loan pricing by 10bps (or 4%) since 2010. This implies that the effect of close syndicates on loan pricing significantly changed after the Global financial crisis. Consequently, in close syndicates the net effect of lender distance on loan pricing is dominated by improved screening and monitoring (Hypothesis 1) until 2009, while it is dominated by collusive pricing (Hypothesis 2) since 2010. At this stage it remains unclear, why loan pricing increased for close syndicates since 2010. To answer this question, we next disentangle the two opposing effects of improved screening/monitoring and price collusion.

4.5 Improved Screening versus Price Collusion

To disentangle the opposing effects of improved screening/monitoring and price collusion, we utilize the cross-sectional variation in the degree of informational asymmetries of the borrower. That is, we split borrowers into “opaque” and “non-opaque” firms, with loans to opaque borrowers having a higher degree of information asymmetry. If price collusion is identical across opaque and non-opaque borrowers, the difference between loan pricing for opaque and non-opaque borrowers quantifies a lower bound for the stand alone effect of improved screening/monitoring.22 Consequently, the stand alone effect of price collusion is bounded above by the overall net pricing effect minus the upper bound of the improved screening/monitoring effect. Also, the stand alone effect of price collusion is bounded below by zero.

We disentangle the stand alone effects of improved screening/monitoring and price collusion separately for each of the two sub-periods discussed above. This approach also

---

22The difference captures a lower bound, as lenders in closer syndicates might also mitigate some degree of information asymmetry in loans to non-opaque borrowers. Also, if lenders collude more in loan pricing to opaque borrowers than to non-opaque borrowers (e.g., because the hold-up problem of non-opaque borrowers is more severe), our findings would continue to represent a lower bound.
allows us to investigate the change magnitude of the stand alone effects over time, thus providing insights why loan pricing increased for close syndicates since 2010. We estimate the following regression model

\[
Spread_{i,t} = \alpha + \beta_1 \cdot Distance_{i,t} + \beta_2 \cdot Distance_{i,t}^2
+ \beta_3 \cdot Distance_{i,t} \cdot Opaque_i + \beta_4 \cdot Distance_{i,t}^2 \cdot Opaque_i
+ \gamma \cdot X_{i,t} + \epsilon_{i,t}
\]  

(6)

where the variables \(Spread_{i,t}\) and (squared) \(Distance_{i,t}\) are defined as in the regression model (5). For the same reasons as discussed above, we again allow ex-ante for a possible non-linear relationship of \(Distance_{i,t}\) on loan pricing. \(Opaque_i\) is an indicator variable for whether syndicated loan \(i\) is taken by an opaque borrower, with “opaque” borrowers being defined as unrated firms, or small firms.\(^{23}\) The key right-hand-side variables are the interaction terms of \(Distance_{i,t}\) (and \(Distance_{i,t}^2\)) with \(Opaque_i\). That is, whether the effect of lender distance on loan pricing differs for opaque (compared to non-opaque) borrowers. The control variables, fixed effects, and standard error specifications are identical to regression model (5) above, besides that we include a base line effect for opaque borrower (instead of unrated borrower).

Table 8 presents the estimates. Consistent with Table 7, the coefficient estimates reveal a linear relationship between lender distance and loan pricing until 2009 (see columns (1) and (2) and Figure 7 (a)). However, the effect is only statistically significant for loans with high informational asymmetries. In terms of magnitude, a reduction of lender distance by one standard deviation reduces loan pricing for opaque borrowers (compared to non-opaque borrowers) by 5bps (or 2% at a mean of 252bps). This is our estimated effect for the lower bound of the improved screening and monitoring effect of close syndicates until 2009. Given our estimates of the net effect of close syndicates of 5bps from Table 7, our estimate for the price collusion effect until 2009 is zero. In sum, we find evidence consistent with improved screening and monitoring of close syndicates until 2009 (Hypothesis 1), but no evidence on price collusion (Hypothesis 2).

Columns (3) and (4) report the estimates for the sub-period from 2010 to 2017. Consistent with Table 7, the coefficient estimates reveal a non-linear relationship between lender distance and loan pricing since 2010. In terms of statistical significance, the stand-alone effect of (squared) lender distance and the interaction terms of (squared) lender distance with opaque borrowers are all statistically significant at least at the 5%-level. Despite statistical significance, loan pricing remains unchanged for close syndicates once lender distance reduces (see Figure 7 (b)). However, for non-opaque borrowers smaller lender distance increases loan pricing for close syndicates (see Figure 7 (b)). In terms of mag-

\(^{23}\)Small firms are defined as the smallest one-third of borrowing firms in the sample by sales at closing at the time of loan origination. Our results continue to hold if we define “opaque” borrowers solely by unrated borrowers.
iment, in loans to non-opaque borrowers a reduction in lender distance by one standard deviation from the median increases loan pricing by 18bps (or 7% at a mean of 252bps). This negative net effect of loan pricing for loans to non-opaque borrowers is consistent with price collusion in close syndicates (Hypothesis 2). We thus quantify the lower bound for the improved screening and monitoring effect of close syndicates since 2010 as 18bps. Consequently, we find evidence for both improved screening and monitoring (Hypothesis 1) as well as price collusion (Hypothesis 2) in close syndicates since 2010. While the magnitude of the improved screening and monitoring effect increased over time, the opposing price collusion effect increased in higher magnitude dominating the net effect of loan pricing since 2010. The question of why lenders in syndicates started to collude on loan pricing remains to be answered.

4.6 Market Concentration and Loan Pricing

A possible explanation for the occurrence of price collusion since 2010 as show above might be low market concentration. As stated in hypothesis 3, below a certain level of market concentration, price collusion might increase with further reductions in market concentration. While market concentration declined since the early 2000s, only since 2010 did the syndicated loan market reach low levels of market concentration (see Figure 2). Next, we first test hypothesis 3 on a stand alone basis, and then test for the joint effect of hypothesis 2 (price collusion in close syndicates) and 3.

To investigate the effect of market concentration on loan pricing, we add a linear and squared term of market concentration as additional explanatory variables to our regression model (5) above. Consistent with our theoretical hypothesis 3, we also allow for a non-linear relationship of market concentration on loan pricing to be able to capture increases in loan pricing for reductions of market concentration below a certain level. We measure market concentration in the syndicated loan market by the Herfindahl index in the 12 months prior to the syndicate origination month. The remaining control variables, fixed effects, and standard error specifications remain identical to regression model (5) above, besides that we replace year fixed effects by three-year fixed effects to allow for an identification of the market concentration effect.

To investigate the joint effect of close lender distance and market concentration on loan pricing, we interact our (squared) lender distance measure with indicator variables
for different levels of market concentration. We estimate the following regression model

\[
\text{Spread}_{i,t} = \alpha + \beta_1 \cdot \text{Distance}_{i,t} + \beta_2 \cdot \text{Distance}_{i,t}^2 \\
+ \beta_3 \cdot \text{Distance}_{i,t} \cdot \text{MarketConcLow} \\
+ \beta_4 \cdot \text{Distance}_{i,t}^2 \cdot \text{MarketConcLow} \\
+ \beta_5 \cdot \text{Distance}_{i,t} \cdot \text{MarketConcHigh} \\
+ \beta_6 \cdot \text{Distance}_{i,t}^2 \cdot \text{MarketConcHigh} \\
+ \gamma \cdot X_{i,t} + \varepsilon_{i,t}
\] (7)

where the variables \( \text{Spread}_{i,t} \) and (squared) \( \text{Distance}_{i,t} \) are defined as above. \( \text{MarketConcLow}_{t} \) and \( \text{MarketConcHigh}_{t} \) are indicator variables for whether the market concentration in the 12 months prior to month \( t \) is low, or high, respectively (with intermediate market concentration is the omitted group). Specifically, we split market concentration into terciles, with low market concentration being the lowest one-third of observations in our sample period and high market concentration as the highest one-third (and intermediate market concentration the remaining one-third). Splitting market concentration across terciles again might allow us to capture a non-monotonic effect of market concentration on loan pricing as predicted in hypothesis 3. The key independent variables are the interaction terms of \( \text{Distance}_{i,t} \) (and \( \text{Distance}_{i,t}^2 \)) with \( \text{MarketConcLow}_{t} \) and \( \text{MarketConcHigh}_{t} \). The remaining control variables, fixed effects, and standard error specifications are identical to the specification for the stand alone effect of market concentration, besides that we additionally include indicator variables for low and high market concentration.

Column (2) in Table 9 reports the regression results for the stand alone effect of market concentration. We find a statistically significant and convex relationship of market concentration on loan pricing. Consistent with hypothesis 3, reductions in market concentration first reduce loan pricing, but below a certain level loan pricing increases with further reductions in market concentration (see Figure 8 (a)). In terms of magnitude, a reduction of lender distance by one standard deviation from the median \( \text{increases} \) loan pricing by 2bps (or 1% at a mean of 252bps). While small in economic magnitude, this effect might be more pronounced for close syndicates.

Column (3) reports coefficient estimates for the joint test of hypothesis 2 and 3. We find that the interaction terms of (squared) lender distance with low and high market concentration are statistically significant at least at the 5%-level (with intermediate market concentration being the omitted group). Consistent with standard industrial organization intuition that lower market concentration increases competition, a reduction in market concentration from high to intermediate levels reduces loan pricing across all levels of lender distance (see Figure 8 (b)). Consistent with collusive pricing in markets with syndication during periods of low market concentration (hypothesis 3), however, once market concentration declines from intermediate to low levels, loan pricing does not continue to
reduce across all levels of lender distance. Specifically, while loan pricing further reduces (or remains unchanged) for mid and distant syndicates, consistent with our hypothesis on price collusion in closer syndicates (hypothesis 2) loan pricing increases for close syndicates (see Figure 8 (c)). In terms of magnitude, a reduction of market concentration from intermediate to low increases loan pricing for close syndicates by 8bps (or 3% at a mean of 252bps) at the 25th-percentile of lender distance, and 13bps (or 5%) at the 10th-percentile, respectively. This finding is consistent with the joint effect of hypothesis 2 and 3, namely that during periods of low market concentration only close syndicates engage in collusive loan pricing. This result implies that the net pricing effect of close syndicates is dominated by improved screening and monitoring during periods of high and intermediate market concentration, while it is dominated by price collusion during periods of low market concentration.

4.7 Robustness

One concern might be that our results on the time-variation of loan pricing are affected by low levels of market concentration since 2010. To rule out this concern, we re-estimate our results on the time-variation of loan pricing restricting the first sub-period to an (equivalently long) period of low market concentration, namely 1989-1996:q1. As reported in Appendix Table A.6, this robustness check confirms our previous results. That is, consistent to hypothesis 1, closer lender distance linearly reduces loan pricing prior to 2010. Our findings thus indicate that despite low levels of market concentration, lenders in close syndicates did not collude on loan pricing prior to 2010. Consequently, these findings also imply that price collusion in the syndicate loan market since 2010 might be an active choice of lenders.

5 Conclusion

In this paper, we investigate the formation of loan syndicates and their effects on loan pricing. Consistent with our hypotheses of smaller and more concentrated syndicates magnifying close syndicates’ improved screening/monitoring and price collusion abilities, we find that lead arrangers form close and concentrated syndicates by choosing lenders with similar lending expertise and allocating these lenders higher loan shares. Analyzing the effects of close syndicates on loan pricing, we find evidence of both improved screening/monitoring abilities and price collusion. However, while close syndicates resulted in improved screening/monitoring throughout the entire sample period, close syndicates only engaged in price collusion since 2010. Analyzing the effects of market concentration on loan pricing shows that below a certain level of market concentration, price collusion increases with reductions in market concentration. Investigating the joint effect of close syndicated and market concentration shows that close syndicates engage in price collusion
only during periods of low market concentration. Overall, our findings imply that both the organizational form of loan syndicates and the level of market concentration affects price collusion.

Our empirical findings have two important implications. First, to our knowledge we are the first to provide evidence of price collusion in markets with syndication beyond the well-documented price collusion in IPO markets. We are also the first to show that both the organizational form of loan syndicates and the level of market concentration affects price collusion. Thereby, we provide empirical evidence consistent with the theory of price collusion in syndicate markets from Hatfield et al. (2017), which contradicts standard industrial organization intuitions.

Second, our work also highlights an important channel of how banks become interconnected in the financial system. As discussed above, borrowing volumes from syndicated loans are larger than from public debt and equity issuance combined, so that banks interconnectedness through syndicated loans is relevant. Banks increase their portfolio overlap with close competitors by forming close and concentrated loan syndicates. As shown in Cai et al. (2018), higher interconnectedness of banks through similarity in their syndicated lending elevates systemic risk during recession periods. We document a new channel of how banks become interconnected, namely through the formation of close and concentrated loan syndicates.
References


Figure 1: Mean Syndicated Loan Lender Distance Across Time

This figure shows the annual mean lender distance of syndicated loans from 1989 to 2016. Lender distance of the syndicated loan is the average distance between the lead arranger(s) and all the other syndicate members in the previous 12 months based on lender specialization by borrower 2-digit SIC industry.
Figure 2: Market Concentration of the U.S. Syndicated Loan Market Across Time

This figure shows the market concentration of the U.S. syndicated loan market from 1989 to 2016. Market concentration is the Herfindahl index based on the market share of each bank based on the originated loan amount as lead arranger during the year.
Table 1: Summary Statistics for Syndicated Loan Facilities

This table presents summary statistics for the sample of syndicated loan facilities made to U.S. firms between January 1989 and March 2017. Panel A reports lead arranger characteristics based on 33,861 unique lead arranger-months. Panels B and C report borrower and loan characteristics, respectively, based on 123,752 loan facilities. Panel D reports market characteristics based on 339 months.

(a) Lead Arranger Characteristics

*(Based on 33,861 lead arranger-months, and 3,346,592 lender pair-months)*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>10th</th>
<th>50th</th>
<th>90th</th>
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</thead>
<tbody>
<tr>
<td>Market share (%), previous 12 months</td>
<td>33,861</td>
<td>1.00</td>
<td>3.14</td>
<td>0.00</td>
<td>0.08</td>
<td>1.97</td>
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<td># of loans as lead arranger</td>
<td>33,861</td>
<td>65.05</td>
<td>174.91</td>
<td>1</td>
<td>10</td>
<td>155</td>
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<td>$ of loans as lead arranger ($mm)</td>
<td>33,861</td>
<td>11,288</td>
<td>40,244</td>
<td>43</td>
<td>703</td>
<td>21,792</td>
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<td>Bank indicator</td>
<td>33,861</td>
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<td>0.39</td>
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<td>1</td>
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<td>All lender pairs:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Distance between two lenders</td>
<td>3,346,592</td>
<td>0.61</td>
<td>0.23</td>
<td>0.29</td>
<td>0.63</td>
<td>0.88</td>
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(b) Borrower Characteristics

*(Based on 123,752 loan facilities)*

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<tr>
<th></th>
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<td>All borrowers:</td>
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<td></td>
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<tr>
<td>Sales at closing ($mm)</td>
<td>69,357</td>
<td>3,541</td>
<td>18,683</td>
<td>59</td>
<td>500</td>
<td>6,881</td>
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<td># of previous syndicated loans</td>
<td>123,752</td>
<td>4.13</td>
<td>6.35</td>
<td>0</td>
<td>2</td>
<td>12</td>
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<td>First borrower loan indicator</td>
<td>123,752</td>
<td>0.38</td>
<td>0.49</td>
<td>0</td>
<td>0</td>
<td>1</td>
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<td>Private borrower indicator</td>
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<td>0.64</td>
<td>0.48</td>
<td>0</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Public borrower indicator</td>
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<td>0.36</td>
<td>0.48</td>
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<td>1</td>
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<td>Borrowers with Compustat data:</td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>Total book assets ($mm)</td>
<td>46,533</td>
<td>12,317</td>
<td>71,769</td>
<td>107</td>
<td>1,158</td>
<td>17,643</td>
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<td>Book leverage ratio</td>
<td>46,297</td>
<td>0.37</td>
<td>0.27</td>
<td>0.05</td>
<td>0.34</td>
<td>0.68</td>
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<td>Earnings to asset ratio</td>
<td>44,022</td>
<td>0.06</td>
<td>0.24</td>
<td>-0.01</td>
<td>0.07</td>
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<td>1</td>
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<td>Investment-grade rating ind.</td>
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### (c) Loan Characteristics

*(Based on 123,752 loan facilities)*

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<tr>
<th>Syndicated loan characteristics:</th>
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<th>SD</th>
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<td>Facility amount ($mm)</td>
<td>123,752</td>
<td>271</td>
<td>683</td>
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<td>600</td>
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<td>Maturity (months)</td>
<td>112,647</td>
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<td>25</td>
<td>12</td>
<td>60</td>
<td>80</td>
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<td>Spread on drawn funds (bps)</td>
<td>104,950</td>
<td>252</td>
<td>164</td>
<td>63</td>
<td>225</td>
<td>450</td>
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<td>Term loan indicator</td>
<td>123,752</td>
<td>0.34</td>
<td>0.47</td>
<td>0</td>
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<th>50th</th>
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<tbody>
<tr>
<td>Working capital/corporate</td>
<td>123,752</td>
<td>0.72</td>
<td>0.45</td>
<td>0</td>
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<td>Refinancing</td>
<td>123,752</td>
<td>0.18</td>
<td>0.38</td>
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<td>0</td>
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<td>Acquisitions</td>
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<td>0.22</td>
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<th>50th</th>
<th>90th</th>
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<tbody>
<tr>
<td>Total number of lenders</td>
<td>123,752</td>
<td>6.04</td>
<td>6.83</td>
<td>1</td>
<td>4</td>
<td>13</td>
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<tr>
<td>Total number of lead arrangers</td>
<td>123,752</td>
<td>1.55</td>
<td>1.24</td>
<td>1</td>
<td>1</td>
<td>3</td>
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<tr>
<td>Total number of co-agents</td>
<td>123,752</td>
<td>1.30</td>
<td>2.56</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Total number of participants</td>
<td>123,752</td>
<td>3.16</td>
<td>5.42</td>
<td>0</td>
<td>1</td>
<td>8</td>
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<td>Concentration of syndicate (Herfindahl)</td>
<td>23,194</td>
<td>0.27</td>
<td>0.24</td>
<td>0.06</td>
<td>0.19</td>
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<table>
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<th>Loan distribution:</th>
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<th>SD</th>
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<th>50th</th>
<th>90th</th>
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<tbody>
<tr>
<td>% kept by lead arranger</td>
<td>23,633</td>
<td>31.37</td>
<td>23.94</td>
<td>8.10</td>
<td>24.00</td>
<td>64.00</td>
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<tr>
<td>% held by co-agents</td>
<td>11,679</td>
<td>14.68</td>
<td>10.77</td>
<td>5.18</td>
<td>11.55</td>
<td>28.45</td>
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<tr>
<td>% held by participants</td>
<td>20,847</td>
<td>14.70</td>
<td>13.39</td>
<td>3.23</td>
<td>10.00</td>
<td>33.33</td>
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<table>
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<tr>
<th>Syndicated loan lender distance:</th>
<th>N</th>
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<tbody>
<tr>
<td>Lender distance</td>
<td>100,015</td>
<td>0.29</td>
<td>0.14</td>
<td>0.15</td>
<td>0.26</td>
<td>0.47</td>
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### (d) Market Characteristics

*(Based on 339 months)*

<table>
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<tr>
<th>Market concentration</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>10th</th>
<th>50th</th>
<th>90th</th>
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<tbody>
<tr>
<td>Market concentration</td>
<td>339</td>
<td>0.11</td>
<td>0.03</td>
<td>0.08</td>
<td>0.10</td>
<td>0.15</td>
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</tbody>
</table>
This table shows the top five lead arranger (by number of arranged loans) for close, mid, and distant syndicates in the sample from 2014 to 2016. The sub-sample of close, mid, and distant syndicates consist of syndicates, in which the lender distance is in the lowest, middle, and highest one-third of the originating month, respectively. Lender distance at the syndicated loan facility level is defined as the average distance between the lead arranger(s) and all other syndicate members in the previous 12 months based on lender specialization in borrower 2-digit SIC industry.

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<tr>
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<th># loans</th>
<th># loans</th>
<th># loans</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bank of America</td>
<td>2,054</td>
<td>827</td>
<td>1,912</td>
</tr>
<tr>
<td></td>
<td>JPMorgan Chase</td>
<td>1,794</td>
<td>667</td>
<td>1,682</td>
</tr>
<tr>
<td></td>
<td>Wells Fargo</td>
<td>1,544</td>
<td>490</td>
<td>1,327</td>
</tr>
<tr>
<td></td>
<td>KeyCorporation</td>
<td>823</td>
<td>476</td>
<td>835</td>
</tr>
<tr>
<td></td>
<td>Bank of Montreal</td>
<td>659</td>
<td>389</td>
<td>620</td>
</tr>
<tr>
<td>Total number of lead arrangers</td>
<td>12,583</td>
<td>11,720</td>
<td>15,563</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Top Lead Arrangers, by Loan Lender Distance
Table 3: Syndicate Structure

This table reports coefficient estimates from regressions relating syndicate structure to lender distance of the syndicated loan. The dependent variables are the number of lenders, leads, co-agents, and participants in a syndicated loan, and the concentration of the loan syndicate (Herfindahl). Concentration of the loan syndicate is computed as the sum of the squared loan share of each individual syndicate member, and can range between zero and one, with larger values indicating a higher concentration. Lender distance of the syndicated loan is the average distance between the lead arranger(s) and all the other syndicate members in the previous 12 months based on lender specialization by borrower 2-digit SIC industry. All regressions include year, loan purpose, interest rate type, borrower 2-digit SIC industry, and borrower state fixed effects. Robust standard errors allowing for clustering by borrower 2-digit SIC industry are in parentheses. * indicates that the estimated coefficient is significantly different from zero at the 10% level, ** at the 5% level, and *** at the 1% level.

<table>
<thead>
<tr>
<th></th>
<th>(1) # Lenders</th>
<th>(2) # Leads</th>
<th>(3) # Co-Agents</th>
<th>(4) # Participants</th>
<th>(5) Herfindahl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lender distance</td>
<td>61.902***</td>
<td>1.024**</td>
<td>9.288***</td>
<td>51.455***</td>
<td>-0.732***</td>
</tr>
<tr>
<td>Lender distance²</td>
<td>(3.992)</td>
<td>(0.406)</td>
<td>(0.967)</td>
<td>(3.973)</td>
<td>(0.065)</td>
</tr>
<tr>
<td>Private borrower indicator</td>
<td>-64.948***</td>
<td>-0.813***</td>
<td>-10.330***</td>
<td>-53.687***</td>
<td>0.834***</td>
</tr>
<tr>
<td>Unrated borrower indicator</td>
<td>-0.324*</td>
<td>-0.123***</td>
<td>0.043</td>
<td>-0.248</td>
<td>0.020***</td>
</tr>
<tr>
<td>Investment-grade borrower indicator</td>
<td>-0.653***</td>
<td>-0.088***</td>
<td>-0.040</td>
<td>-0.703***</td>
<td>0.024***</td>
</tr>
<tr>
<td>First borrower loan indicator</td>
<td>0.567*</td>
<td>-0.093**</td>
<td>0.239**</td>
<td>0.423*</td>
<td>-0.002</td>
</tr>
<tr>
<td>Ln[borrower’s sales at closing]</td>
<td>1.011***</td>
<td>0.111***</td>
<td>0.246***</td>
<td>0.649***</td>
<td>-0.011***</td>
</tr>
<tr>
<td>Ln[loan facility amount]</td>
<td>2.387***</td>
<td>0.094***</td>
<td>0.831***</td>
<td>1.460***</td>
<td>-0.056***</td>
</tr>
<tr>
<td>Ln[loan maturity in days]</td>
<td>1.019***</td>
<td>0.078***</td>
<td>0.286***</td>
<td>0.655***</td>
<td>-0.028***</td>
</tr>
<tr>
<td>Term loan indicator</td>
<td>0.906***</td>
<td>0.101***</td>
<td>-0.041</td>
<td>0.839***</td>
<td>0.016***</td>
</tr>
<tr>
<td>N =</td>
<td>33,709</td>
<td>33,709</td>
<td>33,709</td>
<td>33,709</td>
<td>12,113</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.3555</td>
<td>0.4352</td>
<td>0.2429</td>
<td>0.2438</td>
<td>0.4151</td>
</tr>
</tbody>
</table>

Figure 3: Visualization of Coefficient Estimates from Table 3
Table 4: Loan Distribution: Choice of Syndicate Members

This table reports coefficient estimates from regressions relating the likelihood of a potential lender being chosen as a syndicate member by the lead arranger to the distance between the potential lender and the lead arranger. Lenders can be chosen into different loan roles, namely co-leads, co-agents, or participants. The dependent variable is an indicator variable for whether the potential lender is chosen as a member into these syndicate roles (0 if no and 1 if yes). Chosen co-leads (and co-agents) are excluded from the choice set in subsequent regressions for less senior syndicate membership roles. The independent variable of interest is the distance between the syndicate’s lead arranger(s) and the potential lender in the previous 12 months based on lender specializations in borrower 2-digit SIC industry. All regressions include loan facility fixed effects. Robust standard errors allowing for clustering by lead arranger are in parentheses. * indicates that the estimated coefficient is significantly different from zero at the 10% level, ** at the 5% level, and *** at the 1% level.

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Syndicate Co-Lead</td>
<td>Syndicate Co-Agent</td>
<td>Syndicate Participant</td>
</tr>
<tr>
<td></td>
<td>Indicator</td>
<td>Indicator</td>
<td>Indicator</td>
</tr>
<tr>
<td>Distance from lead arranger</td>
<td>-0.264***</td>
<td>-0.264***</td>
<td>-0.192***</td>
</tr>
<tr>
<td></td>
<td>(0.025)</td>
<td>(0.018)</td>
<td>(0.012)</td>
</tr>
<tr>
<td>Distance from lead arranger^2</td>
<td>0.267***</td>
<td>0.218***</td>
<td>0.135***</td>
</tr>
<tr>
<td></td>
<td>(0.022)</td>
<td>(0.020)</td>
<td>(0.012)</td>
</tr>
<tr>
<td>Previous relationships with lead</td>
<td>-0.001</td>
<td>0.004***</td>
<td>0.014***</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.000)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>Previous relationships with borrower</td>
<td>0.125***</td>
<td>0.169***</td>
<td>0.246***</td>
</tr>
<tr>
<td></td>
<td>(0.010)</td>
<td>(0.004)</td>
<td>(0.007)</td>
</tr>
<tr>
<td>Market share (%), previous 12 months</td>
<td>0.014***</td>
<td>0.005***</td>
<td>0.001***</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Loan facility fixed effects</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>N</td>
<td>9,838,197</td>
<td>8,168,392</td>
<td>12,388,715</td>
</tr>
<tr>
<td>Adjusted R^2</td>
<td>0.1882</td>
<td>0.1328</td>
<td>0.1612</td>
</tr>
</tbody>
</table>

Figure 4: Visualization of Coefficient Estimates from Table 4

(a) Distance from Lead Arranger and Syndicate Membership: Co-Lead and Co-Agents
(b) Distance from Lead Arranger and Syndicate Membership: Participants
Table 5: Loan Distribution: Allocation of Loan Shares

This table reports coefficient estimates from regressions relating loan distribution to lender distance of the syndicated loan. The dependent variables are the share of the loan in percentage taken by lead arrangers, co-agents, and participants, respectively. Lender distance of the syndicated loan is the average distance between the lead arranger(s) and all the other syndicate members in the previous 12 months based on lender specialization by borrower 2-digit SIC industry. Loan shares are computed as the average loan share of lenders with the same loan role within the syndicate. All regressions include control variables as in Table 3 as well as year, loan purpose, interest rate type, borrower 2-digit SIC industry, and borrower state fixed effects. Robust standard errors allowing for clustering by borrower 2-digit SIC industry are in parentheses. * indicates that the estimated coefficient is significantly different from zero at the 10% level, ** at the 5% level, and *** at the 1% level.

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Held by</td>
<td>% Held by</td>
<td>% Held by</td>
</tr>
<tr>
<td></td>
<td>Lead</td>
<td>Co-Agent</td>
<td>Participant</td>
</tr>
<tr>
<td>Lender distance</td>
<td>-72.503***</td>
<td>-66.652***</td>
<td>-33.152***</td>
</tr>
<tr>
<td></td>
<td>(6.922)</td>
<td>(8.090)</td>
<td>(4.725)</td>
</tr>
<tr>
<td>Lender distance(^2)</td>
<td>83.559***</td>
<td>81.215***</td>
<td>41.165***</td>
</tr>
<tr>
<td></td>
<td>(8.371)</td>
<td>(9.163)</td>
<td>(5.423)</td>
</tr>
<tr>
<td>Control variables</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>N</td>
<td>12,272</td>
<td>7,463</td>
<td>11,474</td>
</tr>
<tr>
<td>Adjusted R(^2)</td>
<td>0.4160</td>
<td>0.4205</td>
<td>0.4886</td>
</tr>
</tbody>
</table>

Figure 5: Visualization of Coefficient Estimates from Table 5

Lender distance and % held by Lead, Co-Agent and Participant
Table 6: Close vs. Mid vs. Distant Syndicates

This table reports the means of close, mid, and distant syndicates on various borrower, loan characteristics, syndicate structure, and loan distribution, and the mean differences between close and mid as well as distant and mid syndicates. That is, the mean of close syndicates, minus the mean of mid syndicates ($\mu_{\text{Close}} - \mu_{\text{Mid}}$), and the mean of close syndicates, minus the mean of mid syndicates ($\mu_{\text{Distant}} - \mu_{\text{Mid}}$), respectively. The sample of 123,752 syndicated loan facilities is split into three sub-samples based on the monthly one-third, and two-thirds of the lender distance of the syndicated loan. The sub-sample of close syndicates consists of syndicates in which lender distance is up to the one-third of the originating month, the sub-sample of mid syndicates consist of syndicates in which lender distance is above the one-third and up to the two-third of the originating month, whereas the sub-sample of distant syndicates consists of the remaining syndicates. Lender distance at the syndicated loan facility level is defined as the average distance between the lead arranger(s) and all the other syndicate members in the previous 12 months based on lender specialization in borrower 2-digit SIC industry. * indicates that the mean difference is significantly different from zero at the 10% level, ** at the 5% level, and *** at the 1% level.

<table>
<thead>
<tr>
<th>Syndicate Distance</th>
<th>Close (1)</th>
<th>Mid (2)</th>
<th>Distant (3)</th>
<th>Close-Mid (4)</th>
<th>Distant-Mid (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Borrower characteristics:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public borrower indicator</td>
<td>0.359</td>
<td>0.406</td>
<td>0.306</td>
<td>-0.047***</td>
<td>-0.100***</td>
</tr>
<tr>
<td>Debt rating indicator</td>
<td>0.627</td>
<td>0.667</td>
<td>0.521</td>
<td>-0.041***</td>
<td>-0.146***</td>
</tr>
<tr>
<td>Investment-grade rating indicator</td>
<td>0.325</td>
<td>0.373</td>
<td>0.252</td>
<td>-0.048***</td>
<td>-0.121***</td>
</tr>
<tr>
<td># of previous syndicated loans</td>
<td>4.907</td>
<td>5.383</td>
<td>3.502</td>
<td>-0.477***</td>
<td>-1.881***</td>
</tr>
<tr>
<td>First borrower loan indicator</td>
<td>0.299</td>
<td>0.281</td>
<td>0.418</td>
<td>0.018***</td>
<td>0.137***</td>
</tr>
<tr>
<td>Sales at closing ($mm)</td>
<td>3,893</td>
<td>4,921</td>
<td>3,025</td>
<td>-1,028***</td>
<td>-1,895***</td>
</tr>
<tr>
<td><strong>Syndicated loan characteristics:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facility amount ($mm)</td>
<td>312</td>
<td>399</td>
<td>221</td>
<td>-87***</td>
<td>-178***</td>
</tr>
<tr>
<td>Maturity (months)</td>
<td>48.627</td>
<td>50.940</td>
<td>51.294</td>
<td>-2.314***</td>
<td>0.354*</td>
</tr>
<tr>
<td>Term loan indicator</td>
<td>0.322</td>
<td>0.314</td>
<td>0.364</td>
<td>0.008**</td>
<td>0.051***</td>
</tr>
<tr>
<td>Spread on drawn funds (bps)</td>
<td>236</td>
<td>231</td>
<td>260</td>
<td>5***</td>
<td>35***</td>
</tr>
<tr>
<td><strong>Syndicate structure:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of lenders</td>
<td>5.202</td>
<td>9.130</td>
<td>6.781</td>
<td>-3.928***</td>
<td>-2.349***</td>
</tr>
<tr>
<td>Total number of lead arrangers</td>
<td>1.659</td>
<td>1.821</td>
<td>1.556</td>
<td>-0.162***</td>
<td>-0.264***</td>
</tr>
<tr>
<td>Total number of co-agents</td>
<td>1.256</td>
<td>2.149</td>
<td>1.363</td>
<td>-0.892***</td>
<td>-0.786***</td>
</tr>
<tr>
<td>Total number of participant lenders</td>
<td>2.273</td>
<td>5.138</td>
<td>3.810</td>
<td>-2.865***</td>
<td>-1.328***</td>
</tr>
<tr>
<td>Concentration of syndicate (HHI)</td>
<td>0.270</td>
<td>0.171</td>
<td>0.250</td>
<td>0.098***</td>
<td>0.079***</td>
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<tr>
<td><strong>Loan distribution:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% kept by lead arranger</td>
<td>31.437</td>
<td>21.316</td>
<td>29.776</td>
<td>10.121***</td>
<td>8.460***</td>
</tr>
<tr>
<td>% held by co-agent lender</td>
<td>17.661</td>
<td>12.124</td>
<td>15.531</td>
<td>5.537***</td>
<td>3.407***</td>
</tr>
<tr>
<td>% held by participant lender</td>
<td>16.479</td>
<td>10.200</td>
<td>15.578</td>
<td>6.279***</td>
<td>5.378***</td>
</tr>
</tbody>
</table>
Table 7: Loan Pricing and Time-Variation in Loan Pricing

This table reports coefficient estimates from regressions relating loan pricing to the lender distance at the syndicated loan facility level, over the entire sample period and a split of the sample period. The sample period is split into a first sub-period from 1989 to 1996:q1, and a second sub-period from 2010 to 2017:q1. The dependent variable is the interest spread over LIBOR on drawn funds measured in basis points. The independent variables of interest is the (squared) lender distance of the syndicated loan, which is the average distance between the lead arranger(s) and all the other syndicate members in the previous 12 months based on borrower 2-digit SIC industry. All regressions include control variables as in Table 3 as well as year, loan purpose, interest rate type, borrower 2-digit SIC industry, and borrower state fixed effects. Robust standard errors allowing for clustering by borrower 2-digit SIC industry are in parentheses. * indicates that the estimated coefficient is significantly different from zero at the 10% level, ** at the 5% level, and *** at the 1% level.

<table>
<thead>
<tr>
<th>Spread on Drawn Funds (bps)</th>
<th>Full Sample</th>
<th>1989-2009</th>
<th>2010-2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>Lender distance</td>
<td>35.66***</td>
<td>-13.19</td>
<td>38.33***</td>
</tr>
<tr>
<td>Lender distance²</td>
<td>(8.56)</td>
<td>(22.75)</td>
<td>(8.82)</td>
</tr>
<tr>
<td>Control variables</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>N</td>
<td>31,024</td>
<td>31,024</td>
<td>25,774</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.4544</td>
<td>0.4545</td>
<td>0.4578</td>
</tr>
</tbody>
</table>

Figure 6: Visualization of Coefficient Estimates from Table 7

(a) Lender Distance and Loan Pricing: Full Sample

(b) Lender Distance and Loan Pricing: Sub-periods
This table reports coefficient estimates from regressions relating loan pricing to the lender distance at the syndicated loan facility level and information asymmetry of the borrower, separate for two sub-periods. An “opaque” borrower is an unrated firm, or a small firm (defined as the smallest one-third of borrowing firms in the sample by sales at closing at the time of loan origination). The first sub-period spans from 1989 to 2009, and the second sub-period from 2010 to 2017. The dependent variable is the interest spread over LIBOR on drawn funds measured in basis points. The independent variables of interest are the (squared) lender distance of the syndicated loan, which is the average distance between the lead arrange(r)s and all the other syndicate members in the previous 12 months based on borrower 2-digit SIC industry, and interactions of these variables with “opaque” borrower, respectively. All regressions include control variables as in Table 3 (besides including an opaque borrower indicator instead of unrated borrower) as well as year, loan purpose, interest rate type, borrower 2-digit SIC industry, and borrower state fixed effects. Robust standard errors allowing for clustering by borrower 2-digit SIC industry are in parentheses. * indicates that the estimated coefficient is significantly different from zero at the 10% level, ** at the 5% level, and *** at the 1% level.

<table>
<thead>
<tr>
<th>Spread on Drawn Funds (bps)</th>
<th>1989-2009</th>
<th>2010-2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Lender distance</td>
<td>11.51</td>
<td>-5.41</td>
</tr>
<tr>
<td>(2) Lender distance</td>
<td>(12.32)</td>
<td>(38.57)</td>
</tr>
<tr>
<td>(3) Lender distance</td>
<td>3.05</td>
<td>731.38***</td>
</tr>
<tr>
<td>(4) Lender distance</td>
<td>(47.68)</td>
<td>(216.10)</td>
</tr>
<tr>
<td>Lender distance x Opaque</td>
<td>39.07**</td>
<td>100.79*</td>
</tr>
<tr>
<td>(1) Lender distance x Opaque</td>
<td>(17.73)</td>
<td>(54.09)</td>
</tr>
<tr>
<td>(2) Lender distance x Opaque</td>
<td>90.01*</td>
<td>(50.65)</td>
</tr>
<tr>
<td>(3) Lender distance x Opaque</td>
<td>(168.04)</td>
<td></td>
</tr>
<tr>
<td>Lender distance x Opaque</td>
<td>-75.94</td>
<td>-610.45**</td>
</tr>
<tr>
<td>(1) Lender distance x Opaque</td>
<td>(61.26)</td>
<td>(283.09)</td>
</tr>
<tr>
<td>Control variables</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>N</td>
<td>25,774</td>
<td>25,774</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.4532</td>
<td>0.4532</td>
</tr>
</tbody>
</table>

Figure 7: Visualization of Coefficient Estimates from Table 8
Table 9: Loan Pricing and Market Concentration

This table reports coefficient estimates from regressions relating loan pricing to the lender distance at the syndicated loan facility level and market concentration. The dependent variable is the interest spread over LIBOR on drawn funds measured in basis points. Market concentration is the Herfindahl index based on the market share of each bank based on the originated loan amount as lead arranger during the previous 12 months. Lender distance of the syndicated loan is the average distance between the lead arranger(s) and all the other syndicate members in the previous 12 months based on lender specialization by borrower 2-digit SIC industry. The independent variables of interest are market concentration (squared) and the interaction of lender distance (squared) with low and high market concentration, whereas low market concentration is an indicator variable for the lowest one-third of market concentration in the sample period, and high market concentration is an indicator variable for the highest one-third of market concentration in the sample period. All regressions include control variables as in Table 3 (and column (3) additionally indicators for low and high market concentration) as well as three-year, loan purpose, interest rate type, borrower 2-digit SIC industry, and borrower state fixed effects. Robust standard errors allowing for clustering by borrower 2-digit SIC industry are in parentheses. * indicates that the estimated coefficient is significantly different from zero at the 10% level, ** at the 5% level, and *** at the 1% level.

<table>
<thead>
<tr>
<th></th>
<th>Spread on Drawn Funds (bps)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
</tr>
<tr>
<td>Lender distance</td>
<td>67.66***</td>
</tr>
<tr>
<td></td>
<td>(22.99)</td>
</tr>
<tr>
<td>Lender distance^2</td>
<td>-14.06</td>
</tr>
<tr>
<td></td>
<td>(30.36)</td>
</tr>
<tr>
<td>Market concentration</td>
<td>-646.04*</td>
</tr>
<tr>
<td></td>
<td>(364.09)</td>
</tr>
<tr>
<td>Market concentration^2</td>
<td>3746.33**</td>
</tr>
<tr>
<td></td>
<td>(1565.41)</td>
</tr>
<tr>
<td>Lender distance x Low market concentration</td>
<td>-170.73***</td>
</tr>
<tr>
<td></td>
<td>(56.01)</td>
</tr>
<tr>
<td>Lender distance^2 x Low market concentration</td>
<td>183.74***</td>
</tr>
<tr>
<td></td>
<td>(65.69)</td>
</tr>
<tr>
<td>Lender distance x High market concentration</td>
<td>-103.31**</td>
</tr>
<tr>
<td></td>
<td>(48.61)</td>
</tr>
<tr>
<td>Lender distance^2 x High market concentration</td>
<td>128.58**</td>
</tr>
<tr>
<td></td>
<td>(58.46)</td>
</tr>
<tr>
<td>Control variables</td>
<td>Yes</td>
</tr>
<tr>
<td>N =</td>
<td>31,024</td>
</tr>
<tr>
<td>Adjusted R^2</td>
<td>0.4343</td>
</tr>
</tbody>
</table>
Figure 8: Visualization of Coefficient Estimates from Table 9

(a) Market Concentration

(b) Lender Distance and Market Concentration: Intermediate vs. High

(c) Lender Distance and Market Concentration: Low vs. Intermediate
Table A.1: Variable Definitions

This Appendix lists the variables used in the empirical analysis and their definitions.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel A: Lead Arranger Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Market share (%), previous 12 months</td>
<td>Market share of a lender in the U.S. syndicated loan market based on the total loan amount the lender originated during the previous 12 months</td>
</tr>
<tr>
<td># of loans as lead arranger</td>
<td>Number of loans arranged as lead arranger in the U.S. syndicated loan market during the previous 12 months</td>
</tr>
<tr>
<td>$ of loans as lead arranger ($mm)</td>
<td>Amount of loans arranged by a lender in the U.S. syndicated loan market in USD million based on the total loan amount the lender originated during the previous 12 months</td>
</tr>
<tr>
<td>Bank indicator</td>
<td>An indicator variable for whether the lender is a bank (as opposed to finance companies, institutional investors, etc.)</td>
</tr>
<tr>
<td>Lender’s previous relationships with lead</td>
<td>An indicator variable for whether a lender previously syndicated a loan with the lead arranger (no matter what roles the two lenders took)</td>
</tr>
<tr>
<td>Lender’s previous relationships with borrower</td>
<td>An indicator variable for whether a lender previously syndicated a loan to the borrower (no matter what role the lender took)</td>
</tr>
<tr>
<td>Distance between two lenders</td>
<td>The distance in lending specializations between two lenders in the U.S. syndicated loan market during the previous 12 months</td>
</tr>
</tbody>
</table>
### Variable Definitions (continued)

#### Panel B: Borrower Characteristics

<table>
<thead>
<tr>
<th>All borrowers:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales at closing ($mm)</td>
<td>Borrower’s sales at closing in USD million at the time of loan origination</td>
</tr>
<tr>
<td># of previous syndicated loans</td>
<td>The number of syndicated loans that the borrower took prior to the time of loan origination</td>
</tr>
<tr>
<td>First borrower loan indicator</td>
<td>An indicator variable for whether the borrower’s syndicated loan is the first syndicated loan</td>
</tr>
<tr>
<td>Private firm indicator</td>
<td>An indicator variable for whether the borrower is a private firm at the time of loan origination</td>
</tr>
<tr>
<td>Public firm indicator</td>
<td>An indicator variable for whether the borrower is a public firm at the time of loan origination</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Borrowers with Compustat data:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total book assets ($mm)</td>
<td>Total assets of a borrower (book value) in USD million at time of loan origination</td>
</tr>
<tr>
<td>Book leverage ratio</td>
<td>Book leverage ratio of a borrower at the time of loan origination, computed as ((\text{Longterm Debt} + \text{Current Liabilities})/\text{Total Book Assets})</td>
</tr>
<tr>
<td>Earnings to asset ratio</td>
<td>Earnings to asset ratio of a borrower at the time of loan origination, computed as ((\text{Depreciation} + \text{Income before extraordinary items})/\text{Total Book Assets})</td>
</tr>
<tr>
<td>Debt rating indicator</td>
<td>An indicator variable for whether the borrower has a long-term S&amp;P debt rating at the time of loan origination</td>
</tr>
<tr>
<td>Investment-grade rating indicator</td>
<td>An indicator variable for whether the borrower has a long-term S&amp;P investment-grade rating at the time of loan origination</td>
</tr>
<tr>
<td>Unrated borrower indicator</td>
<td>An indicator variable for whether the borrower is unrated by S&amp;P (no long-term debt rating) at the time of loan origination</td>
</tr>
<tr>
<td>Opaque borrower</td>
<td>An indicator variable for whether the borrower is either an unrated firm or a small firm (defined as the smallest one-third of borrowing firms in the sample by sales at closing at the time of loan origination)</td>
</tr>
</tbody>
</table>

#### Panel C: Loan Characteristics

<table>
<thead>
<tr>
<th>Syndicated loan characteristics:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility amount ($mm)</td>
<td>Facility amount of the syndicated loan in USD million</td>
</tr>
<tr>
<td>Maturity (months)</td>
<td>Maturity of the syndicated loan in months</td>
</tr>
<tr>
<td>Spread on drawn funds (bps)</td>
<td>Loan interest rate spread over LIBOR on drawn funds measured in basis points</td>
</tr>
<tr>
<td>Term loan indicator</td>
<td>An indicator variable for whether the syndicated loan is a term loan</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Purpose of loan indicators:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Working capital/corporate</td>
<td>An indicator variable for whether the purpose of the syndicated loan is either working capital, or corporate</td>
</tr>
</tbody>
</table>
### Variable Definitions (continued)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refinancing</td>
<td>An indicator variable for whether the purpose of the syndicated loan is refinancing</td>
</tr>
<tr>
<td>Acquisitions</td>
<td>An indicator variable for whether the purpose of the syndicated loan is acquisitions</td>
</tr>
<tr>
<td>Backup lines</td>
<td>An indicator variable for whether the purpose of the syndicated loan is backup lines</td>
</tr>
</tbody>
</table>

### Syndicate structure:

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of lenders</td>
<td>Total number of lenders in the syndicate</td>
</tr>
<tr>
<td>Total number of lead arrangers</td>
<td>Total number of lead arrangers in the syndicate</td>
</tr>
<tr>
<td>Total number of co-agents</td>
<td>Total number of co-agents in the syndicate</td>
</tr>
<tr>
<td>Total number of participants</td>
<td>Total number of participants in the syndicate</td>
</tr>
<tr>
<td>Concentration of syndicate</td>
<td>Syndicate concentration as measured by the Herfindahl index (the sum of squared loan share by individual lenders)</td>
</tr>
</tbody>
</table>

### Loan distribution:

<table>
<thead>
<tr>
<th>Distribution</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>% kept by lead arranger*</td>
<td>Loan share retained by lead arranger(s)</td>
</tr>
<tr>
<td>% held by co-agent lender*</td>
<td>Loan share held by co-agent(s)</td>
</tr>
<tr>
<td>% held by participant lender*</td>
<td>Loan share held by participant(s)</td>
</tr>
</tbody>
</table>

### Syndicated loan lender distance:

<table>
<thead>
<tr>
<th>Distance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lender distance</td>
<td>The average distance in lending specializations between the lead arranger(s) and other syndicate members of the syndicated loan in the U.S. syndicated loan market during the previous 12 months</td>
</tr>
</tbody>
</table>

### Panel D: Market Characteristics

| Market concentration        | Market concentration in the U.S. syndicated loan market as measured by the Herfindahl index (sum of the squared lenders market share during the previous 12 months) |

* Represents the average loan share of lead arrangers/co-agents/participants if there is more than one lead arranger/co-agent/participant in the syndicate.
Table A.2: Example of Computing the Syndicated Loan Lender Distance

This appendix shows how the syndicated loan lender distance is computed using a real example of a syndicate classified as “close”. Specifically, it uses a syndicated loan to Stancorp Financial Group Inc. originated on June 16, 2014 (DealScan facilityid 324171), which displays syndicated loan characteristics similar to the average close syndicate (loan amount: $250 million; loan maturity: 48 months; term loan indicator: zero; spread on drawn funds: 137.5bps). The syndicate also shows a very similar syndicate structure than the average close syndicate in the sample. It consists of five lenders, led by a large lender in the syndicated loan market (Wells Fargo), has two co-agents (JPMorgan Chase, and U.S. Bancorp) and two participants (Barclays, and Goldman Sachs). First, we show the distance between two lenders for each pair of lenders at the loan origination month. Second, we compute the syndicated loan lender distance as the average distance of all pairs of lead arranger-lender at the time of loan origination. Consequently, only the lender distance pairs from Wells Fargo with the other four lenders (JPMorgan Chase, U.S. Bancorp, Barclays, and Goldman Sachs) enter the computation.

### Distance between two Lenders

<table>
<thead>
<tr>
<th></th>
<th>Wells Fargo</th>
<th>JPMorgan Chase</th>
<th>U.S. Bancorp</th>
<th>Barclays</th>
<th>Goldman Sachs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wells Fargo</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JPMorgan Chase</td>
<td>0.097</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. Bancorp</td>
<td>0.113</td>
<td>0.103</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barclays</td>
<td>0.162</td>
<td>0.104</td>
<td>0.154</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Goldman Sachs</td>
<td>0.151</td>
<td>0.124</td>
<td>0.132</td>
<td>0.167</td>
<td>-</td>
</tr>
</tbody>
</table>

### Computation of Syndicated Loan Lender Distance

\[
\text{Distance}_{s,t} = \frac{1}{N_s} \sum_{n=1}^{N_s} \text{distance}_{i_n,k_n,t}
\]

\[
= \frac{1}{4} (\text{Distance}_{WF,JPMC,t} + \text{Distance}_{WF,USB,t} + \text{Distance}_{WF,Barc,t} + \text{Distance}_{WF,GS,t})
\]

\[
= \frac{1}{4} \times (0.097 + 0.113 + 0.162 + 0.151) = 0.131
\]
Appendix A.3: Classification of Lender Roles

We classify lenders into three categories based on the seniority of their role in the syndicate, namely: (i) lead arranger, (ii) co-agent, and (iii) participant lender. Using lender roles from DealScan, we classify a lender as a lead arranger if its “LenderRole” falls into the following: administrative agent, agent, arranger, bookrunner, coordinating arranger, lead arranger, lead bank, lead manager, and mandated arranger. If no lead arranger or multiple lead arrangers are identified, we then cross-check the information with another field named "LeadArrangerCredit". For a lender to be a lead, this field needs to equal "Yes." If two or more lead arrangers are still identified, they are then co-leads.

We identify a lender as a co-agent if it is not in a lead position and its "LenderRole" falls into the following: co-agent, co-arranger, co-lead arranger, co-lead manager, co-lead underwriter, collateral agent, co-manager, co-syndications agent, documentation agent, joint arranger, joint lead manager, managing agent, senior co-arranger, senior co-lead manager, senior co-manager, and syndications agent.

Lenders with neither lead nor co-agent roles are classified as participant lenders.

See Standard&Poor’s (2016) for descriptions of lender roles.
Table A.4: Loan Distribution: Allocation of Loan Shares within Syndicates

This table reports coefficient estimates from regressions relating loan distribution to lender distance of the syndicated loan. The dependent variables are the share of the loan in percentage taken by lead arrangers, co-agents, and participants, respectively. Lender distance of the syndicated loan is the average distance between the lead arranger(s) and all the other syndicate members in the previous 12 months based on lender specialization by borrower 2-digit SIC industry. Loan shares are identified through within syndicate variation and loan shares are lender-specific. Regressions on the loan share for lead arrangers are restricted to loans with at least three lead arrangers. Regressions on the loan share for co-agents and participants are restricted to syndicates with one lead arranger. All regressions include control variables as in Table 4 as well as loan facility fixed effects. Robust standard errors allowing for clustering by lead arranger are in parentheses. * indicates that the estimated coefficient is significantly different from zero at the 10% level, ** at the 5% level, and *** at the 1% level.

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Held by</td>
<td>% Held by</td>
<td>% Held by</td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td>Co-Agent</td>
<td>Participant</td>
<td></td>
</tr>
<tr>
<td>Distance from lead arranger</td>
<td>-0.341*</td>
<td>-1.449***</td>
<td>-2.241***</td>
</tr>
<tr>
<td>Control variables</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Loan facility fixed effects</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>N</td>
<td>53,216</td>
<td>25,546</td>
<td>62,918</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.8797</td>
<td>0.9463</td>
<td>0.8963</td>
</tr>
</tbody>
</table>

Figure A.1: Visualization of Coefficient Estimates from Table A.4
This table reports coefficient estimates from regressions relating syndicate formation to lender distance of the syndicated loan and information asymmetry of the borrower. Lender distance of the syndicated loan is the average distance between the lead arranger(s) and all the other syndicate members in the previous 12 months based on lender specialization by borrower 2-digit SIC industry. An “opaque” borrower is an unrated firm, or a small firm (defined as the smallest one-third of borrowing firms in the sample by sales at closing at the time of loan origination). A “first” loan is the first syndicated loan the borrower has taken in the syndicated loan market in our sample period. All regressions include control variables as in Table 3 (besides including an opaque borrower indicator instead of unrated borrower) as well as year, loan purpose, interest rate type, borrower 2-digit SIC industry, and borrower state fixed effects. Robust standard errors allowing for clustering by borrower 2-digit SIC industry are in parentheses. * indicates that the estimated coefficient is significantly different from zero at the 10% level, ** at the 5% level, and *** at the 1% level.

<table>
<thead>
<tr>
<th></th>
<th>% Held by Lead (1)</th>
<th>% Held by Lead (2)</th>
<th>% Held by Lead (3)</th>
<th>% Held by Lead (4)</th>
<th>Herfindahl (5)</th>
<th>Herfindahl (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lender distance</td>
<td>-72.975***</td>
<td>-104.936***</td>
<td>-82.393***</td>
<td>-0.735***</td>
<td>-1.015***</td>
<td>-0.807***</td>
</tr>
<tr>
<td></td>
<td>(6.978)</td>
<td>(10.963)</td>
<td>(8.005)</td>
<td>(0.066)</td>
<td>(0.104)</td>
<td>(0.071)</td>
</tr>
<tr>
<td>Lender distance^2</td>
<td>84.306***</td>
<td>123.289***</td>
<td>95.817***</td>
<td>0.838***</td>
<td>1.156***</td>
<td>0.923***</td>
</tr>
<tr>
<td></td>
<td>(8.428)</td>
<td>(13.852)</td>
<td>(10.209)</td>
<td>(0.076)</td>
<td>(0.134)</td>
<td>(0.087)</td>
</tr>
<tr>
<td>Lender distance x Opaque</td>
<td>47.985***</td>
<td>0.440***</td>
<td>(14.734)</td>
<td>(0.135)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lender distance^2 x Opaque</td>
<td>-56.142***</td>
<td>-0.481***</td>
<td>(17.031)</td>
<td>(0.155)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lender distance x First loan</td>
<td>35.215***</td>
<td>0.287***</td>
<td>(11.476)</td>
<td>(0.092)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lender distance^2 x First loan</td>
<td>-37.967***</td>
<td>-0.299***</td>
<td>(12.514)</td>
<td>(0.098)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control variables</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>N</td>
<td>12,272</td>
<td>12,272</td>
<td>12,272</td>
<td>12,113</td>
<td>12,113</td>
<td>12,113</td>
</tr>
<tr>
<td>Adjusted R^2</td>
<td>0.4155</td>
<td>0.4170</td>
<td>0.4161</td>
<td>0.4151</td>
<td>0.4166</td>
<td>0.4155</td>
</tr>
</tbody>
</table>

Figure A.2: Visualization of Coefficient Estimates from Table A.5

(a) Lender Distance and % held by Lead

(b) Lender Distance and Herfindahl
Table A.6: Loan Pricing during Periods of Low Market Concentration

This table reports coefficient estimates from regressions relating loan pricing to the lender distance at the syndicated loan facility level, separately across two sub-periods. The sub-period span from 1989 to 1996:q1, and from 2010 to 2017:q1, respectively. The dependent variable is the interest spread over LIBOR on drawn funds measured in basis points. The independent variables of interest is the (squared) lender distance of the syndicated loan, which is the average distance between the lead arranger(s) and all the other syndicate members in the previous 12 months based on borrower 2-digit SIC industry. All regressions include control variables as in Table 3 as well as year, loan purpose, interest rate type, borrower 2-digit SIC industry, and borrower state fixed effects. Robust standard errors allowing for clustering by borrower 2-digit SIC industry are in parentheses. * indicates that the estimated coefficient is significantly different from zero at the 10% level, ** at the 5% level, and *** at the 1% level.

<table>
<thead>
<tr>
<th>Spread on Drawn Funds (bps)</th>
<th>1989-1996:q1</th>
<th>2010-2017:q1</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>Lender distance</td>
<td>47.63***</td>
<td>106.15</td>
</tr>
<tr>
<td>(16.78)</td>
<td>(66.92)</td>
<td>(23.32)</td>
</tr>
<tr>
<td>Lender distance$^2$</td>
<td>-59.67</td>
<td>382.46**</td>
</tr>
<tr>
<td>(64.56)</td>
<td>(82.51)</td>
<td></td>
</tr>
<tr>
<td>Control variables</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>N</td>
<td>4,872</td>
<td>4,872</td>
</tr>
<tr>
<td>Adjusted R$^2$</td>
<td>0.4221</td>
<td>0.4222</td>
</tr>
</tbody>
</table>

Figure A.3: Visualization of Coefficient Estimates from Table A.6

Lender Distance and Loan Pricing: Low Market Concentration
EU loan syndication and its impact on competition in credit markets

Final Report

Prepared by
Europe Economics

Competition
EU loan syndication and its impact on competition in credit markets

Final report
Authors:

*Europe Economics*
Ross Dawkins
Deborah Drury

*Euclid Law*
Oliver Bretz
Marie Leppard
Helen Bardell
# Table of Contents

Executive Summary ................................................................. 5  
Introduction to the study and our approach to the research .......... 5  
The loan syndication market ..................................................... 6  
Nature and features of the syndicated loans markets ................. 7  
*Nature of LBO and PF/INFRA segments* .................................. 8  
*Availability of banks/ MLAs* .................................................... 8  
*Market features that could facilitate collusion* ......................... 8  
Assessment of competitive dynamics of the syndicated loans process ................................................................. 9  
*Critical safeguards* ................................................................ 14  
Final remarks ........................................................................... 15  
1. Overview of the Study and of our Methodology ...................... 16  
   Introduction and motivation for this research ......................... 16  
   Research methodology ......................................................... 16  
   Structure of this report .......................................................... 18  
2. Introduction to Loan Syndication .......................................... 19  
   Background on the loan syndication market ............................ 19  
   Defining LBOs, Project and Infrastructure finance .................. 20  
   Types of syndication ............................................................. 21  
   Main parties in syndicated loan transactions ......................... 22  
   Deal structure and distribution methods ................................. 24  
   LBO structure and distribution .............................................. 27  
   PF/INFRA structure and distribution ...................................... 28  
   Debt advisory activity ............................................................ 29  
   Types of loan process in LBO and PF/INFRA segments .......... 31  
   Formation of the lead banking group ...................................... 32  
   Formation of the lead banking group in LBO loans ................ 36  
   Formation of the lead banking group in PF/INFRA loans ........ 40  
   Credit ratings ................................................................. 42  
   General syndication phase in LBO (underwritten) loans .......... 43  
   Ancillary services in LBO and PF/INFRA segments ............... 48  
   Hedging services ............................................................... 50  
   Cash management services ................................................... 53  
   Post-closure ................................................................. 53  
   Secondary loan market ....................................................... 54  
   Refinancing, restructuring and default .................................. 57  
   Information exchange in the LBO and PF/INFRA segments ....... 59  
   Conclusions ................................................................. 62  
3. The Loan Syndication Market ............................................. 67  
   Overview of the global syndicated market .............................. 67  
   The syndicated loan market in the LBO, PF and INFRA segments ................................................................. 70  
   The economic benefits and drawback of syndicated lending ....... 74
Executive Summary

This is Europe Economics’ final report on “EU loan syndication and its impact on competition in credit markets”. This research was undertaken for DG Competition of the European Commission.

The European Commission’s interest in the syndicated loan market is primarily motivated as to whether it is working well and efficiently, given its role as a source of finance. The aim of this market study, then, is to undertake an assessment of the loan syndication market in terms of its effectiveness and functioning, and to identify potential competition concerns.

Introduction to the study and our approach to the research

Debt is a critical source of finance for the European economy. The syndicated loan market is a major contributor of debt finance, particularly in terms of large-scale debt. We introduce and describe the European loan syndication market further below.

Our study focuses primarily on a sample of six Member States, namely France, Germany, the Netherlands, Poland, Spain and the United Kingdom. These countries — in particular the UK, France and Germany — are the most significant in terms of the location of borrowers, lenders and investors. The study focuses on specific segments of the syndicated loan market: those connected with Leveraged Buy-Outs (LBOs), project finance and infrastructure finance:

- **LBOs**: LBOs are primarily M&A transactions, where the buyer uses the debt markets to contribute towards acquiring the target’s equity. The core of European leveraged lending comes from borrowers sponsored by private equity funds. In Europe, all such private equity-related activity, including refinancing and recapitalizations, are referred to as LBOs.¹

- **Project finance**: In broad terms, project finance entails the financing of large-scale long-term projects that tend to require a great deal of debt and equity capital. Syndicated loans tend to be particularly prominent in this type of investment, as they allow the diversification of the risks of a single project (which can be considerable) across multiple banks.

- **Infrastructure**: Infrastructure loans are considered here to be a subset of project finance loans, with similar financing requirements. The key distinction is the nature of projects that are financed; this broadly includes projects in the areas of utilities, transport, and telecommunications. As in the case of project finance in general, the size and complexity of these projects renders them highly suitable for syndicated loan financing.

We adopted a multi-strand strategy to conducting this research. In particular:

- We developed a conceptual framework to analyse potential competition concerns in the syndicated loan market. Our academic adviser, Professor Alper Kara, Professor of Finance at the University of Huddersfield, helped us to identify relevant academic material, and we worked with Euclid Law, who specialise in competition law, to incorporate competition law considerations into our framework.

- We complemented this with desk-top research, with one of our main research tools being the Thomson Reuters Loan Connector database (which incorporates the Deal Scan database).

- We conducted primary research with lenders in the market. Mr Simon Hood, who worked in the loan market for 30+ years was very helpful in connecting us to lenders and, more generally, assisting our engagement with the loan syndication market and its participants. Overall we conducted over 43 interviews with 37

¹ See e.g. Standard & Poor’s (2010) “A Guide to the European Loan Market”.
lenders, achieving good coverage across the different countries of interest and diversity in terms of lender type (including leading investment banks, regional commercial banks, and institutional investors, amongst others). We also interviewed debt advisers and Credit Rating Agencies.

- We conducted primary research on borrowers and sponsors. Sponsors (such as private equity funds) are important actors in the LBO and Project Finance / INFRA segments, often taking an active role alongside the borrowers in securing debt finance. We worked with YouGov plc to develop a computer-assisted telephone interview programme that successfully reached 100 market participants. Again, this covered all of the countries of interest and was evenly divided between borrowers and sponsors (i.e. 50 each).

Finally, we brought together these various evidence sources in order to assess the merits of the various hypotheses generated through our conceptual framework so that we could form conclusions about the functioning of the loan syndication market.

The loan syndication market

Debt is a critical source of finance for the European economy. A syndicated loan facility is in turn an important source of large-scale lending where several lenders come together to share credit risk in order to provide loans to a borrower in a single loan facility agreement. Syndicated lending offers an alternative form of debt financing to bilateral lending or corporate bonds, providing benefits to borrowers and lenders alike by addressing a number of typical issues raised in lending markets such as market matching problems, information asymmetry and moral hazard. Syndicated loans are a significant source of capital in Europe, with about $800 billion (about €720 billion) raised in 2017 across all Europe. LBOs, project finance and infrastructure are just some of the purposes to which this capital is put with almost 60 per cent being for various corporate purposes (e.g. refinancing). Corporate M&A is also an important motivation. In 2017, the LBO-related borrowing in the six countries of particular interest to this study was about €58 billion (i.e. about 7 per cent of the total market for syndicate debt for all purposes in all Europe), whereas PF/INFRA-related borrowing was about €35 billion (about 4 per cent).

The evolution of the amounts borrowed by the purpose of the loan and by Member State is set out below. A decline in Spain was experienced particularly strongly post-Euro crisis, but also evident in the Netherlands and Poland. The largest markets – i.e. borrowers located in Germany, France and the UK - exhibit much more consistent deal flow than the others. Poland is clearly a much smaller market than the others, with perhaps only 1-2 transactions “live” at any one time. Overall, the six countries of interest to this study account for about three-quarters of the EU’s LBO, Project and Infrastructure syndicated lending in Europe.
Nature and features of the syndicated loans markets

We have researched two segments within the syndicated lending space, i.e. LBOs and PF/INFRA.
Nature of LBO and PF/INFRA segments

Both LBOs and PF/INFRA projects have significant needs for debt financing. The main substitutes for syndicated lending are bilateral loans, corporate bonds and private debt placement. Whilst these alternative funding options are generally readily available, a borrower/sponsor can still differentiate between these different products, and have preferences between them.

Our analysis of the market shares of individual lenders at a national level does not indicate any of the markets as being highly concentrated. However, it is worth noting that the PF/INFRA segment is more heterogeneous than the LBO one, in that there are credit risks (say related to a particular type of infrastructure construction, such as specific forms of renewable energy) where knowledge could be less well distributed than our HHI-based analysis might suggest.

On the other hand, there is evidence of “home bias” in that the top ranked lenders tend to be lenders with a parent in that country. This is not experienced evenly, being more prominent in PF/INFRA than in LBOs. We consider it unlikely that this “home bias” is a signal of competition being undermined by restricting the pool of potential Mandated Lead Arrangers (MLAs), at least in the west European markets covered by this study, where non-local banks can be readily accessed. In Poland, on the other hand, the low deal frequency and use of a non-mainstream currency (relative to the £ and €), may make the pool of potential MLAs relatively small. This appears to be more of a concern in the PF/INFRA segment.

Availability of banks/ MLAs

Our research shows that borrowers and sponsors are generally considered to have sufficient sophistication either to assess and negotiate the price and terms of the loan in-house or else to appoint advisers to assist them in that. In terms of the availability of lenders, the number of lenders participating in both LBO and PF/INFRA segments is large. However, far from all of these lenders would have the wherewithal to compete effectively for any given MLA mandate. In the LBO segment there are at least 12–15 credible MLAs in the west European markets of interest here but in Poland, there are fewer, with estimates of the number being as low as 6–8. PF/INFRA is somewhat different, at least in terms of the composition of players. However, we consider that the number of capable MLAs is at least as large as in the LBO space. A point emphasised in the lender fieldwork, though, is that the PF/INFRA segment is more heterogeneous, with the result that in at least some parts of it, MLA choice (e.g. toll roads) would be more restricted and, as with LBOs, the Polish market has less choice.

Although the study has been focused on six Member States, we are able to make some tentative observations about the LBO and PF/INFRA segments outside of these countries. There is some degree of differentiation between west Europe and the rest of the EU, with the former likelier to have choice from more lenders to act as an MLA. This may mean that Poland is a good proxy for at least other non-west European countries, particularly where the Euro is not the currency borrowed in.

Market features that could facilitate collusion

It is also the case that any collusion by lenders ahead of submitting bids in an RFP process would obviously invalidate the anticipated competitive outcomes. Whilst sponsors/borrowers generally seek to control the debt origination/syndication process, there are areas where the control would be reduced. We consider that some of these could potentially facilitate collusive outcomes, in particular:

- The use of market soundings by MLAs. This would be particularly problematic where the sounding crossed the boundary between generic sounding and deal specific-sounding and where the sounding was with an MLA (or even an entity connected to
an MLA). The main safeguard here is that lenders emphasised that internal policies meant that any deal-specific soundings would require client consent, and that this would need to be demonstrable to compliance teams. In its strongest form, such consent should be specific as to who is contacted.

- The provision of ancillary services where this provision is restricted to the syndicate, or some sub-set of it, e.g. an obligation – or strong expectation – that purchase would be from the MLAs, especially if not all MLAs were able or willing to provide or quote for that service.

- In the case of a general syndication (e.g. in an underwritten deal), since it is the bookrunners that deal directly with the potential participating lenders there is scope for this to underpin tacit reciprocity in the market. We note, however, that there are several safeguards that can help to counter any such attempts (i.e. borrower/sponsor-driven white lists, direct feedback loops between investors and sponsors, regular feedback from the bookrunners and approval by borrowers/sponsors of final syndicate member allocations).

- The borrowers/sponsors will also have curtailed bargaining power where a borrower is in financial difficulties and faces default. The options available to a borrower may be very limited in such an instance.

Overall, these are particular market features whose presence would indicate greater cause for concern, and which form part of our analytical framework for assessing the market. We also consider those markets (specifically Poland amongst the countries we have considered) with fewer potential MLAs should be monitored most closely. This may also apply to other countries within the EU where borrowing is not in the £ or € and to smaller markets more generally (particularly those less well connected to the main locus of the syndication market in Europe, i.e. the City in London).

**Assessment of competitive dynamics of the syndicated loans process**

We developed a coherent framework to assess the implications of how the syndicated loans market works in terms of the competitive dynamics of that market. This framework drew upon past academic work and insights into competition policy and competition law (namely Article 101 and Article 102 of the Treaty on the Functioning of the European Union (TFEU), including the Horizontal Guidelines for Articles 101 and 102) from our legal collaborators. The key issues examined in the framework were:

- Horizontal information sharing – for example this may lead to the disclosure of strategic information (such as strategic market practices to be adopted) which may serve to coordinate the pricing policies of the lenders, thereby facilitating a collusive outcome on the market in terms of price in particular, but also quantity, quality etc.

- Cooperation may also lead to overt agreements between lenders to collude, for example to share markets or customers, or to rig bidding processes. This would not be necessary to the syndicated loan process but possibly facilitated by it.

- Vertical market power held by individual MLAs and/or the lenders may lead to sub-optimal loan terms.

- Syndication may confer market power to a syndicate in certain circumstances, which may lead to sub-optimal outcomes and may increase the negative impacts of collusive behaviour (for example if lenders agree to increase loan prices on refinancing where the borrower has limited alternatives).

- Misaligned incentives between lenders within a syndicate, and between lenders and borrowers, may give rise to more general sub-optimal market outcomes.

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2 European Commission (2011) “Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements” (2011/C 11/01). We draw mainly on the general information sharing guidelines, see in particular paragraphs 55 to 102 and also on the Agreements for Commercialisation guidelines, see paragraphs 225 to 256.
The extent to which information sharing and any potential market power would be able to restrict competition through facilitating collusion and abuse of dominance depends on a number of market characteristics and the nature of the information exchanged. These include for example the level of concentration in the market and market shares of the participants, the availability of substitutes for the borrowers/sponsors and their sophistication, the extent of market transparency and the frequency of interaction and information exchange. In addition, Article 101(3) states that cooperative agreements that do have the potential to limit competition may be exempt from Article 101(1) by virtue of being efficiency enhancing and indispensable to the pro-competitive benefits of the agreement. Our competition framework therefore developed a range of hypotheses for how the various issues and market features set out above might manifest themselves in the loan syndication market. We then analysed the evidence gathered through our fieldwork and desk research against each of these hypotheses. We note that the analysis of competition law issues in relation to Articles 101 and 102 is based on our own judgement, and that the European Commission has not taken a position on what is falling within/outside the scope of these Articles as regards syndicated lending.

We summarise below, in Table 1, the main findings stemming from this work, describing those areas where we have identified potential risk, and also discussing the evidence for particular safeguards present in syndicated lending that may limit market participants experiencing these risks in practice. Our analysis works through the different stages of process and by loan segment, and our assessment is limited to whether the market features and the various processes within loan syndication are more or less conducive to potential competition law problems, rather than establishing specific cases of competition law violation.
<table>
<thead>
<tr>
<th>Stage in process</th>
<th>Findings and conclusions on safeguards and risks</th>
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<tbody>
<tr>
<td><strong>LBO segment</strong></td>
<td>The boundary between generic and specific market sounding (as can be conducted by syndication desks) needs careful definition to ensure compliance (banks require explicit borrower/sponsor consent to conduct deal-specific soundings in a form whereby this would need to be demonstrable to compliance teams). In its strongest form, such consent should be specific as to who is contacted. There is evidence of generic market soundings by MLAs with investors prior to submitting bids, and whilst these discussions should not involve details of specific transactions information about specific lenders’ appetite etc. may still be communicated back to the origination desks. This risk may be exacerbated where there is no significant functional separation between the syndication and origination desks. Soundings (even generic soundings) with other MLAs (as opposed to exclusively with institutional investors without connections to MLAs) could be abused so as to facilitate collusive action, even potentially enabling a group of MLAs (particularly one with fewer substitute MLAs) to achieve, and sustain, some degree of collective bargaining power. In the markets considered in this study, we consider this risk to be relatively low in the LBO segment.</td>
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<td>In addition, although the bidding process is set up to keep lenders apart, the prevention of information sharing is governed by NDAs, which can be difficult to enforce. Therefore although the process set up by the borrower/sponsor in LBO loans reduces the risk of anti-competitive information sharing, the risk remains that this may happen. Equally, once an NDA is signed, it is evident to the counter-party that the breach of that agreement is problematic (i.e. it puts banks on clear notice of borrower/sponsor expectations).</td>
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<td><strong>PF/INFRA segment</strong></td>
<td>Similar safeguards exist in the PF/INFRA segment, in that the borrower/sponsor controls the formation of the lead banking group, keeping banks separate until the finalisation of terms and seeks to protect information flows with NDAs. However, given the more bespoke nature of PF/INFRA loans, the availability of information to assist in banks forming their views is likely to be lower. Therefore whilst there is no evidence to suggest that banks in this segment are more likely to engage in market sounding or breach NDAs, it follows that there is a heightened risk relative to the LBO segment that interactions between lenders would cross over the general-specific sounding boundary in the bidding stage, making this an area of increased potential concern.</td>
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<td>The use of a single MLA to set up a syndicate and negotiate with other banks is more likely to take place in PF/INFRA loans (although it is still not common). Whilst the fieldwork indicates that borrowers/sponsors retain control of this process, there remains the possibility that information sharing may occur such that the negotiations of the syndicate could be coordinated and the price and terms of the loan move against the borrower. The necessity of such information exchange would need to be assessed on a case-by-case basis, but this remains a risk area. This risk would be heightened further if the bank acting as MLA in such a case was also (through a separate arm) acting as an adviser to the borrower/sponsor or there was some other limitation on replacement of that bank as MLA. However, the appointment of a single MLA in the PF/INFRA segment is rare.</td>
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<td><strong>Post-mandate to loan agreement</strong></td>
<td>The scope for lenders discussing loan terms so as to move against the borrower at the post-mandate stage is low, given that in both LBO and PF/INFRA segments the process widely adopted is for the loan terms to be agreed bilaterally between the borrower/sponsor and individual lenders, and that joint discussions between lenders post-mandate should be limited to agreeing the loan documentation and syndication strategy. Borrowers/sponsors also aim to build in latency when obtaining loan commitments from the lead banking group.</td>
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<td>Stage in process</td>
<td>Findings and conclusions on safeguards and risks</td>
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<td>There is some evidence that the loan process may not always work in the borrower/sponsor’s favour in terms of it agreeing the overall price to the highest common denominator rather than negotiating a common price. This may however simply reflect the relative attractiveness of the credit itself. Our evidence indicates this is not at all common in practice.</td>
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<td>However, in the PF/INFRA segment there have been cases where the borrower/sponsor does bring lenders together at an earlier stage to discuss loan terms, e.g. in a club deal, and so this safeguard does not apply across the board. The exercise of control of the borrower/sponsor in these cases will therefore be more important i.e. by monitoring the discussions that take place. Whilst evidence gathered throughout the report indicates that borrowers/sponsors are sophisticated in this regard, some risk does remain than lenders may engage in discussions outside of the borrowers’ mandate. This risk would be heightened should the borrower/sponsor be less sophisticated than the norm, e.g. if a municipal authority, without prior experience in the syndicated loans market, was acting as borrower.</td>
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<td>The evidence of the multiple interactions between lenders on transactions over time leads us to conclude that there is a definite risk that lenders can observe each other’s behaviours and strategies, which may enable them to engage in some coordination on future loan transactions. We do not have direct evidence that this happens in practice. Given that fact that in most cases the discussions that occur at this stage do not involve detailed information about pricing and hold strategies the amount of information that lenders are able to observe is likely to be limited. Whilst this remains a risk area, we consider it relatively low risk.</td>
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<td>In the majority of cases from our lender and borrower/sponsor fieldwork, the allocation of ancillary services is decided as part of the initial agreement of loan terms, or as a competitive process after the loan has closed. In both cases the borrower/sponsor would be able to choose between banks’ offers and maintain competitive pressure.</td>
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<td>However a small minority of borrower/sponsors identified that the MLAs make the provision of ancillary services by them a condition of the loan (the rest negotiate ancillary services as part of the initial loan agreement process, or after the loan close). Whilst competition law precedent (e.g. Spain’s CNMC) has not concluded that it is unlawful for lenders to specify that ancillary services be purchased from them, we do consider such a feature as raising the risk of a borrower/sponsor achieving a sub-optimal economic outcome. We further note that all of the respondents that cited such provision being a condition of the loan were from Spain. Where this feature occurs, we consider this an area of at least moderate concern.</td>
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<td>In the PF/INFRA segment it is more common for ancillary services directly related to the loan to be allocated by the borrower/sponsor to lending banks at the initial stage of agreeing overall loan terms. The fact that the banks know who is to be providing the services provides them with scope to discuss and collude on pricing (i.e. makes it easier for them to subvert the proper, agreed process). Restrictions placed by lenders on who can provide hedging services will be more problematic in markets where there is a limited number of lenders in the syndicate with the ability to provide such services, thus restricting borrower/sponsor choice. We do not have evidence of this occurring in practice, but note that smaller national markets (such a Poland in our sample) or else in more bespoke PF/INFRA deal will be more at risk.</td>
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<td>Ancillary services not directly related to the loan (e.g. further financing, investment services) can be negotiated as part of the loan negotiation, with both “right of first refusal” and “right to match” clauses being used. These have been found by the UK regulator as to have no client benefit – unless related to the replacement of bridging finance - and have been banned in the UK, but their use may be continued outside the UK (representing a continued risk to optimal outcome for borrowers/sponsors).</td>
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<td>Stage in process</td>
<td>Findings and conclusions on safeguards and risks</td>
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<tr>
<td>The use of debt advisors which are also involved in the syndicated loan</td>
<td>The use of advisors who are also part of the syndicate is widespread among borrowers and sponsors, and in some cases with there being no other source of external advice. This issue is more common in the PF/INFRA segment (but it is not non-existent in the LBO segment) and could represent a non-negligible fraction of transactions. Our lender fieldwork shows that where an advisory role is provided by a lending bank, this is functionally separate from the lending role, and adherence to such protocols should mitigate the risk of sub-optimal outcomes to borrowers of not having a demonstrably independent advisor. There is (limited) evidence that some lenders do bundle – at the request of the borrower/sponsor – the advisory role with a lending role in PF/INFRA. The risks here would be heightened where the advisor is appointed directly without a competitive process and combines the lending role with the advisory role, whereby the borrower/sponsor may not receive the best loan outcome. A different form of concern would be where the advising bank attempted to influence the borrower/sponsor towards a strategy or debt structure that suited its lending arm, i.e. subverting the Chinese wall between the advisory and lending functions, and with this not being fully apparent to the borrower/sponsor. Based upon the description of their policies for managing such situations given to us by lenders, this would represent a significant breach of such internal protocols. Where such controls were weak, this would be an area of high concern.</td>
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<tr>
<td>Coordination by lenders on the sale of the loan on the secondary market</td>
<td>There is no evidence of co-ordinated activity to manipulate prices in the secondary market in our work, and the safeguard relating to hold levels is widely upheld in practice (indeed, it is a key part of the process). The features of the secondary (i.e. post closure trading) loan market - which remains a caveat emptor market with implicitly sophisticated buyers - should limit any attempt by sellers to manipulate the price of the debt, unless they are able to simultaneously identify a group of unsophisticated buyers of that debt. The economic benefit to lenders from any coordination may therefore be limited, reducing the plausibility of this risk. There is widespread evidence of borrower/sponsor restrictions on secondary trading. The lenders described restrictions imposed by PF/INFRA sponsors/borrowers as potentially including: no small transfers; an embargo during the construction period and the transfer being subject to borrower approval (except in case of default). Whilst such restrictions may be reasonably motivated (e.g. restricting the dispersion of deal-specific information), these do limit – at least at some level - the development and efficiency of the secondary market. Given that secondary market pricing data are also used in the primary market (albeit not exclusively relied upon), this could also affect have (minor) knock-on effects to the development and efficiency of the primary market, at least in the PF/INFRA segment.</td>
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<tr>
<td>Refinancing in conditions of default</td>
<td>Competition policy training is undertaken by lenders’ restructuring teams. These are functionally separate teams which take over the loan discussions from the origination teams in the case of a default risk, such that discussions between banks regarding the potential restructuring are not undertaken by teams involved in loan origination. Discussions between lenders are only possible under such policies at the instigation of the borrower. The discussions and negotiations of potential restructuring in the event of a default are performed collaboratively among the members of the syndicate. Whilst this may be efficiency enhancing, as time is often pressurised, it equally enhances the risk of banks acting in a coordinated manner. We note that the bank restructuring teams that we interviewed had undertaken some form of competition policy training, but clearly any subversion of the proper process would be problematic. The extent to which the proper process had been subverted would need to be assessed on a case by case</td>
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EU loan syndication and its impact on competition in credit markets

Findings and conclusions on safeguards and risks

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<tr>
<th>Stage in process</th>
<th>Findings and conclusions on safeguards and risks</th>
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<tr>
<td>basis. Our fieldwork shows a majority of instances where refinancing discussions involved lenders from outside of the original syndicate. The willingness of the market to provide the new finance can be seen as a limit upon any bargaining power that the existing group of lending banks may have. However, there is evidence of a non-trivial number of instances where the existing syndicate is the only option, i.e. there is scope to exert such market power. We do emphasise, however, that we do not have evidence for its abuse.</td>
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<td>In relation to the risk of the syndicate tying ancillary services to the refinancing, the fieldwork shows again that other, non-syndicate members are often involved in these discussions, which would provide market discipline against such coordinated tying behaviour. However, it is also apparent that in a substantial minority of cases such negotiations took place only with the syndicate members. There may be mitigating or efficiency enhancing circumstances, but it is also clear that such distressed circumstances can create the opportunity to price such ancillary services on non-competitive terms, and thus this is also an area deserving future monitoring.</td>
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Critical safeguards

We now draw upon the above analysis to identify the most important safeguards to ensure competitive outcomes in the loan syndication process.

- **Banks’ duty of care to clients. There are two important safeguards here.**
  - Borrowers may source debt advice from the same lender that they wish to act as MLA (or, at least, consider acting an MLA). The critical safeguard here would be the adequate training and policies for the relevant staff at the potential MLAs. In particular, the training would need to cover topics such as the identification and management of conflicts of interest, and provide clarity as to duty of care to provide neutral advice to clients.
  - MLAs should ensure that there are not alternative options that could be put to the borrower, including inviting other lenders not previously involved in the process to participate (subject to obtaining borrower or sponsor consent), or considering a re-structuring of the loan, before aligning loan pricing or terms upwards to a highest common denominator. If the particular lender asking for the higher price is needed for the purposes of the joint bid (e.g. as explicitly required by the borrower), the price should be set at an acceptable level. The borrower (and its advisors, if relevant) can promote a beneficial outcome through ensuring a competitive bidding process (i.e. approaching more banks), building latency into the process and maintaining bilateral negotiations with individual lenders (or lender consortia) through to mandate award.

- **Avoidance of unwarranted information exchange.** In loan origination banks (and any other market players capable of forming the lead banking group) may need to exchange pricing information for the potential syndication while remaining competitors in the origination. The key safeguard would be that there are enforceable (and enforced) protocols around how – and in what form – any deal-relevant information obtained by the syndication function from other potential participants (who may also be competitors in the origination) may be transferred to the same bank’s origination function in order to avoid anticompetitive alignment of prices.

- **Promotion of unbundled price competition.** Ancillary services not directly related to the loan (e.g. future M&A advisory services) can be negotiated as part of the loan negotiation, with both “right of first refusal” and “right to match” clauses being
used. In the absence of market power, such a bundled offering may be pro-
competitive but these have been found by the UK regulator as to have no client
benefit – except when related to the replacement of bridging finance - and have
been banned in the UK. It is advisable for syndicates to limit the cross-sale of
ancillary services in order to avoid the risk of impairing competitive conditions in
neighbouring markets to that of syndicated loans, and this should be kept outside
the loan syndication process when these services are not directly linked to the loan.

Final remarks
The European secondary loan market is notably smaller than that in the USA. The
USA’s secondary market has been shown to have beneficial impacts on the US primary
market.\(^3\) Whilst we do not have evidence to indicate that trading in the European
secondary market is inefficient and, whilst noting that the data are very limited, such
beneficial impacts on the primary market are less clearly apparent in Europe.

An area of inefficiency in the loan syndication market, not directly related to the
competition policy risks discussed above relates to the slowness and expense of Know
Your Customer (KYC) rules applied by lenders and more generally to settlement
processes. We found evidence to suggest that there is something of a coordination
problem here amongst market participants and this could also be an area for future
regulatory attention.

\(^3\) See Kamstra, Mark, Roberts, Gordon, Shao, Pei (2014) “Does the Secondary Loan Market Reduce
1. Overview of the Study and of our Methodology

This is Europe Economics’ report for the study “EU loan syndication and its impact on competition in credit markets”. The aim of this study is to undertake an assessment of the loan syndication market in terms of its effectiveness and functioning, and to identify any potential competition concerns.

Introduction and motivation for this research

Debt is a critical source of finance for the European economy. The syndicated loan market is a major contributor of debt finance, particularly in terms of large-scale debt. We introduce and describe the European loan syndication market in Chapters 2 and 3.

The European Commission’s interest in the syndicated loan market is primarily motivated as to whether it is working well and efficiently, given its role as a source of project and infrastructure finance. The aim of this study, then, is to undertake an assessment of the loan syndication market in terms of its effectiveness and functioning, and to identify any potential competition concerns.

This study is intended to have both a geographic and a product focus within the overall European syndicated loan market. We focus on six Member States as set out in the Tender Specifications, namely France, Germany, the Netherlands, Poland, Spain and the United Kingdom (although we discuss syndicated lending more generally across the EU and globally where relevant). These countries — in particular the UK, France and Germany — are the most significant in terms of the location of borrowers, lenders and investors.

In addition, we focus upon the leveraged (specifically relating to Leveraged Buy-Outs, or LBOs) and the Project / Infrastructure segments within the Syndicated Loan market. (We expand upon what is included within these segments in the following chapter).

Research methodology

We adopted a multi-strand strategy to conducting this research. In particular:

- We have reviewed the available academic literature, as well as market research and consultancy reports. The purpose of this review was to assist in the development of a conceptual framework to analyse competition in the syndicated loan market. Our academic adviser, Professor Alper Kara, Professor of Finance at the University of Huddersfield, helped us to identify relevant academic material.

- Our collaborator, Euclid Law, provided analysis of the competition policy and legal elements within our conceptual framework for assessing the state of competition in the market. Euclid’s analysis of relevant competition cases, including an overview of the available case law, is provided in Appendices 5a–5g.

- We conducted desk-top research to describe the market and to conduct in-depth analysis into specific topics, such as secondary trading in syndicated loans. One of our main research tools here was the Thomson Reuters Loan Connector database (which incorporates the Deal Scan database).

- We conducted primary research with lenders in the market. The aim of the stakeholder engagement was to probe further into the mechanics of how the market works, as well as to investigate any other relevant areas of interest. The main strand of this was a series of stakeholder interviews with lenders. Mr Simon Hood,
who worked in the loan market for 30+ years, was helpful in connecting us to lenders and, more generally, assisting our engagement with and understanding of the loan syndication market and its participants. The questions asked, and the motivation for asking them, are summarised at Appendix 6.

- Overall we conducted 43 interviews with 37 lenders. (Many lenders have discrete teams working in the origination of LBO and PF / INFRA loans, i.e. ‘origination desks’, which we sometimes interviewed separately for logistical reasons. In the lenders we interviewed, syndication activity was embodied separately from origination — again, this could result in a separate interview. Similarly, we also wished to investigate some aspects of the loan market – such as what happens in the event of a restructuring – that are almost universally handled by separate units within lenders). In addition, we engaged with Credit Rating Agencies and debt advisory firms in order to round out this engagement (but we exclude these from the interview numbers set out here). We break down the lenders that we spoke to as follows:

**Table 2: Lender engagement**

<table>
<thead>
<tr>
<th>Location of ultimate headquarters / stakeholder type</th>
<th>Banks</th>
<th>Non-banks (debt funds, institutional investors and CLO managers)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>24</td>
<td>4</td>
<td>28</td>
</tr>
<tr>
<td>Non-Europe</td>
<td>7</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>6</td>
<td>37</td>
</tr>
</tbody>
</table>

- We also conducted primary research with borrowers and sponsors. Sponsors (such as private equity funds, infrastructure funds and construction firms) are important actors in the LBO and Project Finance / INFRA segments. The questions asked, and the motivation for asking them, are included at Appendix 6. We worked with YouGov plc to develop a computer-assisted telephone interview (CATI) programme that successfully reached 100 market participants.
Table 3: Borrower/sponsor engagement

<table>
<thead>
<tr>
<th>Location / stakeholder type</th>
<th>Borrowers</th>
<th>Sponsors</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Germany</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Netherlands</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Poland</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Spain</td>
<td>11</td>
<td>10</td>
<td>21</td>
</tr>
<tr>
<td>UK</td>
<td>11</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Finally, we brought together these various evidence sources in order to assess the merits of the various hypotheses generated through our conceptual framework so that we could form conclusions about the functioning of the loan syndication market.

Structure of this report

The report presents the work undertaken across the following sections:

- Chapter 2 presents a background to syndicated lending, including an overview of the actors involved in the market and the processes involved in organising a syndicated loan.
- Chapter 3 describes the loan syndication market, starting with the global market and then narrowing our focus, first to Europe, and then - in more detail – considering the Member States and loan types of specific interest here.
- Chapter 4 sets out our framework for considering the economic and potential competition issues in the market. This drove the subsequent fieldwork and the analysis in this research. As part of this, a case law assessment has been carried out. We then present our economic and competition analysis, assembling the evidence relevant to considering the various hypotheses identified in our conceptual framework. This is ordered by the stages of the process as identified in Chapter 2.
- Chapter 5 contains our conclusions, including tables summarising the key findings from Chapter 4. The latter are also summarised as part of the report’s executive summary.
- Appendix 1 sets out a glossary of terms.
- Appendix 2 sets out details of how we defined the segments of interest and cleansed the data extracted from Thomson Reuters Loan Connector.
- Appendix 3 sets out some background on the execution of loan transfers.
- Appendix 4 presents additional background material on past regulation that has impacted upon the syndicated loan market.
- Appendices 5a–5g review relevant competition case law across various European countries.
- Appendix 6 contains details on the fieldwork conducted, and the motivation for it.
### 2. Introduction to Loan Syndication

This section sets the context for the study by discussing the relevance of loan syndication and the key processes involved. The aim of this section is to inform the reader of how the loan syndication process works and the key actors involved. Therefore, whilst we identify potential competition concerns (related to both competition law and also sub-optimal market functioning) arising from the processes and relationships between the counterparties, these are analysed in detail in Chapter 4. We begin by presenting a glossary of the main actors involved in the loan syndication market. A fuller description is included later in this section.

**Table 4: Glossary of actors in the syndicated loan market**

<table>
<thead>
<tr>
<th>Actor</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrower / sponsor</td>
<td>A loan transaction would be initiated by a borrower or a sponsor. Borrowers are directly responsible for the project / the direct recipient of the funds (e.g. a special purpose vehicle). Sponsors are the equity providers to a transaction and are often involved in raising finance instead of the borrower.</td>
</tr>
<tr>
<td>Advisor</td>
<td>Debt advisors can be used by borrowers/sponsors to drive the loan process. These can be independent advisors, or located within banks also providing lending.</td>
</tr>
<tr>
<td>Mandated lead arranger (MLA)</td>
<td>MLAs are banks mandated by the borrower/sponsor to provide the primary arrangement and initial underwriting or provision of funds for the loan.</td>
</tr>
<tr>
<td>Bookrunner</td>
<td>In an underwritten deal the bookrunner(s) control the general syndication phase of selling the loan down to participant investors. A &quot;lead left&quot; bookrunner is a single bookrunner appointed to run the whole general syndication phase.</td>
</tr>
<tr>
<td>Coordinator</td>
<td>A coordinator bank can be appointed (normally in a club deal) to facilitate the transaction and to liaise with the other lenders.</td>
</tr>
<tr>
<td>Participant lenders</td>
<td>These participate in the loan through the general syndication or sell-down phase, and include smaller banks and non-bank lenders like institutional investors, debt funds or hedge funds.</td>
</tr>
<tr>
<td>Credit ratings agencies</td>
<td>Ratings agencies can be asked to provide private and public ratings for syndicated loans.</td>
</tr>
</tbody>
</table>

**Background on the loan syndication market**

Debt is a critical source of finance for the economy. A syndicated loan facility is in turn an important source of large-scale lending where several lenders come together to share credit risk in order to provide loans to a borrower in a single loan facility agreement. Syndicated lending offers an alternative form of debt financing to bilateral lending or corporate bonds, providing benefits to borrowers and lenders alike by addressing a number of typical issues raised in lending markets such as market matching problems, information asymmetry and moral hazard.

Lenders’ incentives for engaging in syndicated lending include the ability to earn fees and the ability to gain exposure to certain markets and borrowers that might not be possible on a bilateral basis while at the same time limiting their risk exposure. Borrowers benefit from increased access to capital and lower financial transaction costs than would be achievable through bilateral loans with the individual lenders.
Syndicated loans are a significant source of capital in Europe, with about $800 billion (about €720 billion) raised in 2017. This is comparable in scale to the primary corporate bond market: Euro area non-financial corporations had gross corporate bond issuance of €650 billion in 2017.4 We deepen the analysis of the syndicated loan market in Chapter 3.

However, syndicated loans may present drawbacks to borrowers, for example if they limit the borrower’s ability to influence certain aspects of the functioning of the syndicate, or if intra-syndicate dynamics affect loan pricing and other terms to the detriment of the borrower. A borrowers’ choice of a syndicated loan will be determined by the benefits and drawbacks offered by this form of lending, and also by the availability and suitability of other forms of financing.

We consider in detail the economic and competitive dynamics of the market in Chapter 4. In this chapter, we are primarily interested in how the market works, but draw out emerging features to be analysed and tested in light of our competition framework in chapter 4. This chapter includes the following sections:

- Definition of LBO, Project and Infrastructure finance loans.
- Introduction to the main parties in the syndication loan market.
- Description of the syndicated loan process including formation of the lead banking group, the general syndication phase and provision of ancillary services, and post closure including secondary trading and refinancing/restructuring.

**Defining LBOs, Project and Infrastructure finance**

A clear understanding of the process of loan syndication is important to articulating how this market works and where any competition concerns may arise. We focus on three loan market segments: leveraged buyouts (LBOs), project finance (PF) and infrastructure finance (INFRA).

- **LBOs:** LBOs are primarily Mergers and Acquisitions (M&A) transactions, where the buyer uses the debt markets to contribute towards acquiring the target’s equity. More specifically, an LBO “consists in taking a firm private by purchasing its shares and allocating them to a concentrated ownership composed of management, a general partner, and other investors (the limited partners or LBO fund). Due to the dearth of equity of the owners, the new entity is highly leveraged.”5 A target company that is put up for sale to private equity firms for the first time is a primary LBO. A secondary LBO entails a company being sold from one private equity firm to another (and a tertiary LBO is one that is put up for sale for the third time). The core of European leveraged lending comes from borrowers owned by private equity funds. In Europe, all such private equity-related activity, including refinancing and recapitalizations, are referred to as LBOs.6

- **Project finance:** In broad terms, project finance entails the financing of large-scale long-term projects that tend to require a great deal of debt and equity capital, ranging up to billions of euros. Syndicated loans tend to be particularly prominent in this type of investment, as they allow the diversification of the risks of a single project (which can be considerable) across multiple banks. The loan structure relies primarily on the project’s future cash flows for repayment, while the project’s assets, rights and interests are typically held as collateral. More specifically, a bankruptcy-remote7 special purpose vehicle (SPV) is usually set up, whose assets

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4 See European Central Bank Statistical Warehouse.
7 A bankruptcy-remote firm is a company within a corporate group and whose bankruptcy has as little economic impact as possible on other entities within the group.
are primarily the project’s assets, while the liabilities are primarily the project debt and the equity within the SPV. Project sponsors (i.e. equity investors) are usually multinational companies, state-owned firms, and/or governmental bodies that own jointly the SPV and its project financing contractual agreements. Sponsors contribute equity and technical expertise. Debt is, however, a major source of financing.8

Infrastructure: Infrastructure loans are considered in this report to be a subset of project finance loans, with similar financing requirements. The key distinction is the nature of the projects that are financed. We later describe in more detail how we have defined infrastructure for the purposes of our data analysis, but this broadly includes projects in the areas of utilities, transport, and telecommunications. As in the case of project finance in general, the size and complexity of these projects renders them highly suitable for syndicated loan financing.

In describing the key parties involved and the loan syndication process, we draw primarily on our lender and borrower/sponsor fieldwork reflecting the current market in LBO, PF and INFRA financing, augmented by a review of academic papers9 10 and various industry guides for completeness.11 12 13 14 15 Since different sources and market participants use varying terminology and descriptions of process flows, we have necessarily developed our own synthesis for the LBO, PF and INFRA segments, drawing out key differences in processes where relevant. The motivating ideas behind this are the identification of which actors are important and the scale and direction of information flows between actors.

Types of syndication

One way of distinguishing between different deals is with respect to the distribution method adopted.

- Club deal – this is where the loan is directly (individually) marketed to a group of banks by the borrower/sponsor who then commit to providing the full loan without further syndication. The borrower takes responsibility for identifying a number of banks (likely including, at least, its relationship banks), and then leads the bringing together of those banks interested in providing the finance. (Traditionally club deals have been for smaller scale lending with fewer banks involved, but increasingly more sophisticated borrowers and sponsors are using this method with a larger group and larger amounts of debt.) In a club deal the lenders tend to agree to take on the loan from the outset, without the intention of reducing their commitments through any subsequent syndication. In many cases there would not be an MLA per se as the “arranging” would be done by the borrower, and the amount required is committed by the banks identified. In some cases, however, an arranger or advisor may be involved.

- Fully underwritten – this is where the loan is fully underwritten by the arrangers / initial banking group, these negotiate terms and sign the loan agreement before then going out to the market to engage further lenders (with potentially other rounds of negotiation within the syndicate).

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8 Beyond syndicated loans debt can also be provided by stand-alone banks, public bonds, private placement, special project finance firms and investment banks.
Best efforts – this is where the arrangers / initial banking group agree to take on only a portion of the loan, other participant banks are sought and then terms are negotiated among the syndicate before the signing of the deal.

The distribution methods account for much of the variation between the processes adopted in LBO and PF/INFRA loans, as we discuss in more detail the following sections (in particular, “LBO structure and distribution” and “PF/INFRA structure and distribution”). The main distinctions in distribution method are between underwritten deals (which will have a general syndication phase, i.e. the banks in the initial group take some market risk) – and which are most prevalent in the LBO segment - and club deals (where the initial group of banks tend to continue to hold the entirety of the loan) – which are more characteristic of the PF/INFRA segment. Best efforts deals do also take place, say where certainty of funds is not time-critical (such as in a refinancing deal), and follow a broadly similar process to underwritten deals.

Before looking more closely at the loan process, we now introduce the key parties involved.

Main parties in syndicated loan transactions

- Borrowers and sponsors. Borrowers and/or sponsors are responsible for initiating the transaction through a need for loan financing. Borrowers would be the party directly responsible for the project / the direct recipient of the funds, for example a special purpose vehicle or a corporation responsible for delivering the underlying project. Sponsors are the equity providers to a transaction and are often involved in raising finance instead of the borrower (i.e. a transaction would involve either the borrower or the sponsor). In an LBO transaction, the sponsor would be a private equity firm. In project or infrastructure transactions, the sponsors’ identities are more heterogeneous but could include large construction firms, as well as infrastructure funds (which may also be managed by a private equity firm), or state bodies. In the markets of interest to this study both borrowers and sponsors are generally (but not always) highly sophisticated and typically drive the decision-making in the transactions. Current market conditions, with considerable appetite for investing in loans (particularly LBO debt), have strengthened sponsors’ bargaining power. Private equity firms (particularly the larger ones) may have dedicated in-house, debt-raising teams.

- Advisors. Borrowers/sponsors will sometimes use debt advisors to drive the transaction forward. Advisors are typically independent boutique firms, but in some cases (and generally much more so in the PF/INFRA market) the role can also be filled by advisors located in banks that also have lending capabilities (we return to this topic below). Advisors have extensive experience in loan transactions and can advise on the structure and terms of the loan, as well as manage the negotiations with, and appointment of, the Mandated Lead Arrangers.

- Mandated lead arrangers (MLAs). MLAs are banks mandated by the borrower/sponsor to provide the primary arrangement and initial underwriting for the transaction (or the full provision of funds in the case of a club deal). The MLAs will receive the majority of fees available. MLAs will not necessarily participate on a pro rata basis – smaller underwriting share takers, often relationship banks, can also be called ‘joint lead arrangers’.

  - Depending on the nature of the transaction, MLAs can be large global banks (i.e. on large international transactions) and also smaller banks (e.g. arranging smaller, local deals).

Whilst some sources differ in terminology, the term “mandated lead arranger” is commonly used, for instance by the Loan Market Association (LMA, a global trade association focused on the syndicated loan market) and industry databases.
A range of different titles can be assigned to the MLAs, the primary one being that of "bookrunner(s)" in an underwritten (or best efforts) deal. In an underwritten deal, the bookrunner(s) control the general syndication process in terms of distributing, or selling down, the loan to market participants. In a best efforts transaction the bookrunner(s) use best efforts to attract sufficient commitments to achieve the overall requirement of the borrower. In some cases only one bookrunner is appointed, but, more generally, multiple MLAs share the role. It is considered the most important role as it involves the interaction and negotiation of the sell-down with participant investors (i.e. the market) and involves the most direct interaction with the sponsor/borrower. It is also considered desirable by MLAs to be in control of the management of their own underwriting risk. The fees earned in the role are also important. We discuss these further in Chapter 3.

Due to the prestige attached to this role, there has been substantial ‘title inflation’ where more banks are termed bookrunner than actually run the book. In such transactions the term ‘active’ bookrunner(s) can be used to describe those MLAs with this actual bookrunner role – whereas a ‘passive’ bookrunner would be the other MLAs who would take on a more administrative role (e.g. ratings advisor – who would be responsible for liaising with credit rating agencies). The other titles commonly seen in the European market are the facility agent (which relates to post-closure of the loan and involves such tasks as funds administration, interests calculation, covenants enforcement, information sharing and re-negotiation management) and security agent. These roles are additional to the MLA role in that they involve more administrative activities than simply providing loan funding in the initial lending group. These roles are active after the closure of the loan agreement.

Lead left bookrunner. In some of the largest transactions, a ‘lead left’ active bookrunner can be appointed as a single bank from within the MLAs to lead the whole syndication process and receive the majority of the available fees – e.g. if the sponsor/borrower or advisor prefers to have a single story in the market regarding the loan. A ‘lead right’ bank may also be appointed to stay up to date with the process and step in to fulfil the lead role if the ‘lead left’ loses confidence in the deal or otherwise underperforms.

Coordinator. The role of the coordinator can be used in a club deal (when, as they are arranged by the borrower/sponsor or their advisor, there will not be the need for an actual MLA as is the case in an underwritten or best efforts deal). The coordinator role is assigned to a bank to facilitate the transaction and liaise with the other lenders to ensure communication and consensus on documentation. The borrower/sponsor or advisor would decide whether to appoint a coordinator in a club deal or whether to manage all interaction with the lenders themselves.

Within MLAs there are also different functions (also referred to in practice and in this study as ‘teams’ or ‘desks’), which we define briefly here:

- **Origination function.** The origination function is responsible for the initial stages of the loan process, such as identifying the loan or holding initial

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17 Godlewski, Christophe J. (2007) "What Drives the Arrangement Timetable of Bank Loan Syndication?"
18 The Facility Agent is responsible for the administration of the loan e.g. disbursements, repayments etc.; while the security agent is responsible for holding the security for the loan on behalf of the lenders.
discussions with the borrower about his borrowing needs (e.g. in the case of a relationship bank); bidding for a role in the loan; and negotiating all the key terms – such as price and hold levels – with the borrower and other banks in the lead banking group or club. Depending on the lender’s business model, the origination team may sit within a product team or a specific regional team, or may be a central function.

- **Syndication function.** The syndication function is responsible for syndicating the loan, i.e. selling it down to participating lenders and investors. This team has the main contact with the potential investors in the market, and is responsible for any market soundings to keep up to date with investor sentiment and market appetite for certain loan types. Although the syndication function is more relevant to the later stages of the loan process when the loan is to be sold down in the market, it can still play a role in the origination stage by advising the origination team on current market pricing, loan terms and hold levels, based on what it believes will be acceptable to the market at the syndication stage.

- **Participant lenders.** These parties are only relevant to those syndicated loans with a general syndication or sell-down phase (i.e. they would not be present in a club deal which has no formal syndication phase). These enter the transaction after the MLAs have been mandated and the loan structure and terms agreed with the borrower/sponsor. They can include smaller banks and/or non-bank investors such as debt funds (e.g. investing in Collateralised Loan Obligations, CLOs), hedge funds or institutional investors (i.e. pension funds and insurers). Large ticket holders among the participants (e.g. relationship banks or large non-bank investors like debt funds) are sometimes called ‘arrangers’. These may be appointed before the general syndication phase but would not have taken any underwriting risk. Institutional investors would participate in the Term Loans, whilst banks (usually the lead banks) would also participate in the revolving credit facility.

- **Credit ratings agencies.** Ratings agencies provide (private, or increasingly public) ratings for syndicated loans, driven largely by institutional investors’ demand, e.g. those investing via CLOs. (Our fieldwork shows that banks and non-bank lenders would undertake their own internal credit rating process).

### Deal structure and distribution methods

We describe here the structure of syndicated loans across LBOs, PF and INFRA loan purposes, and the ways such loans are distributed among lenders. The description of the structures is similar across these loan segments, although we draw out differences where relevant. Distribution methods vary more between LBO and PF/INFRA loans, which we describe separately.

#### Deal structure

A deal will generally be divided into different tranches, i.e. different forms of credit which may be priced differently and which would appeal to different types of lender/investor. Tranches constitute the key unit of reference for syndicated loans as each tranche might be activated in a different period of time, be granted a different loan amount, have a different number of lenders or be traded in the secondary

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19. Non-bank lenders are increasingly active in the syndicated loan market, in particular for LBO loans, as syndicated loans become an established asset class for institutional investors seeking alternative investments and higher returns. We discuss this in more detail in our report.

20. This refers to the practice of ‘early-birding’ whereby investors are brought onto the side of the initial negotiations ahead of the general syndication phase. This can be to provide views on market appetite of the emerging terms, and/or so be allocated a share to support the subsequent marketing of the loan. We discuss this in more detail later in this section.

21. Ratings are provided for the loan instrument directly, or for the borrower — with the rating of the loan then derived from the rating for the borrower.
market. The number of tranches in a deal is typically a good proxy for the size of the loan, i.e. the larger the number of tranches, the bigger the loan.

Each tranche can have a different priority level in being repaid if the company decides to liquidate. More than 98 per cent of the tranches within our data sample are classified as “Senior”, meaning that together they represent a company’s first level of liabilities, typically secured by a lien against collateral. This applies in all segments. This means that the interest and capital payments to such senior creditors rank ahead of others (subordinated creditors) both on an ongoing basis and, in particular, in default by the borrower. In the latter case, such senior creditors gain some degree of control over the process and, if the worst comes to the worst, such senior creditors will achieve much better recovery of outstanding debts than subordinated creditors. This makes the debt lower risk than otherwise, but with a commensurately relatively lower return for lenders. We discuss refinancing and restructuring further in Chapter 3.

Linked to this seniority feature, a further sub-categorisation of tranches relates to the loan facility provided. More than 70 per cent of the tranches in our sample are classified as either a Revolver Credit Facility (more than 1 year) or a Term Loan (these can also be further sub-categorised as Term Loans A or B in more complex financing structures). The revolving facility is a form of senior bank debt that acts like a continuous credit source for companies and is generally used to help fund a company’s working capital needs. A company will draw down the revolver up to the credit limit when it needs cash and repays the revolver when excess cash is available. This is a feature of the vast majority of LBOs, but is less common in PF/INFRA. In the latter, when the project is still in the construction phase, there will be little or no working capital to finance and no cash flow being generated. Therefore, in such cases, cash needs to be derived from structural sources of finance (such as a VAT facility, a loan to finance the build-up of VAT balances prior to any reimbursement by the relevant tax authorities).

A Term Loan allows the borrower to draw funds within a predetermined (usually short) time period. The repayments can be done either through a lump-sum payment of via a scheduled series of repayments. There are some differences in terms of typical debt structure between PF/INFRA on the one hand and the LBO segment on the other. In particular, the LBO segment will distinguish between types of Term Loan (specifically A, B) which have different characteristics and can appeal to different types of investor. (To a degree, Term Loan A and Term Loan B are broadly recognisable debt products within the LBO segments). In an LBO, a Term Loan A is typically amortized evenly over 5 to 7 years whereas Term Loan B usually involves nominal amortization over 5 to 8 years, with a large bullet payment in the last year. Term Loan B allows borrowers to defer repayment of a large portion of the loan, but is more costly to borrowers than Term Loan A. PF/INFRA loan durations may be similar, but can equally be adjusted dependent upon the nature of the underlying transaction (as a general rule of thumb,

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22 Other debts will be subordinated to the senior debt. However, the senior tranches may not rank equally (i.e. some may be ‘more senior’ than others). This would be mediated by an inter-creditor agreement.

23 If a company goes bankrupt, senior debtholders are the most likely to be repaid, followed by junior debt holders, preferred stock holders and common stock holders, possibly by selling collateral held for debt repayment.

24 Revolving credit facilities differ across a number of other features such as, e.g. the presence of borrowing limits and the methodology underpinning their calculation (e.g. as a percentage of a collateral); the duration of the facility and the conditions under which this can be reset at its expiry date; whether or not the borrower is allowed to borrow in a different currency, etc. Typically the credit rating of the borrower plays an important role in determining the features available with the facility.

25 Nandy, Debarsshi K. and Shao, Pei (2010) shows that institutional loan tranches are typically designated as term loan B or higher, while bank loans are either various lines of credit facilities or term loan A.
there is greater scope for heterogeneity between different PF/INFRA deals here than between different LBOs).

The table below shows the number of deals by loan purpose and number of tranches per deal. It shows that most of the deals in our sample are composed of less than four tranches (i.e. 60 per cent of deals have 1-2 tranches and 32 per cent have 3-4 tranches) as well as that the average size of deals increases along with an increase in the number of tranches per deal.

**Table 5: Number of deals by loan type and number of tranches per deal across the sample (2010-2017)**

<table>
<thead>
<tr>
<th>Tranches per deal</th>
<th>LBO</th>
<th>Project Finance</th>
<th>Infrastructure</th>
<th>Total</th>
<th>Average loan size (£mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>190</td>
<td>100</td>
<td>355</td>
<td>645</td>
<td>188</td>
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<tr>
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<td>4</td>
<td>2</td>
<td>892</td>
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<tr>
<td>10</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td>1,721</td>
</tr>
</tbody>
</table>

Source: Europe Economics (using Thomson Reuters Loan Connector).

**Distribution method**

Each loan (and underlying tranches) can be characterised by a different distribution method, i.e. club deals, underwritten deals and best efforts deals, as described above.\(^{26}\)\(^{27}\) The distribution methods account for much of the variation between LBO and PF/INFRA loans, as we discuss in the following sections.

As we have noted already underwritten deals are most prevalent in the LBO segment and club deals are more characteristic of the PF/INFRA segment. This is supported in Figure 2 below. The standard syndication (whether underwritten or best efforts) approach to distribution applies to most LBO tranches. The use of bilateral tranches (i.e. involving a unique lender) is used only marginally (largely in Infrastructure deals).

\(^{26}\) Loan Connector gathers data on distribution methods that aligns in part to these loan types – “club deal” refers to a loan that is taken on entirely by an initial banking group appointed by the borrower, with no further syndication; whereas “syndication” refers to loans that are syndicated among a wider group of participant lenders. However, no distinction is made between underwritten or best efforts deals.

\(^{27}\) Loan Connector also notes where tranches are distributed bilaterally (i.e. to a single lender). Deals that are exclusively bilateral, i.e. comprising only bilateral tranches, all with the same lender, have been excluded from our sample. However, some bilateral tranches are still included in the sample if (a) they are part of deals including also non-bilateral tranches or (b) the deal include only bilateral tranches but with different lenders. An example of deals of this sort might include for instance Infrastructure deals composed of two tranches, one of which is uniquely financed by a European financial institution (e.g. European Investment Bank) and the other by another standard bank. Deals of this sort maintain a “syndicated” nature and are therefore included in the analysis.
Figure 2: Number of tranches by distribution method and loan type across the sample (2010-2017)

Source: Europe Economics (using Thomson Reuters Loan Connector).
Note: Other distribution methods include: sole lender, private placement, and undisclosed (bond).

**LBO structure and distribution**

LBO deals are usually sponsored by private equity groups. The presence of a sponsor could mean that the lender would assess not only the credit quality of the borrower (the target company), but also the expertise and reputation of the sponsor (with whom the banks may even have an existing relationship). Huang et al. (2014) examine how private-equity sponsors’ relationships with banks influence their portfolio companies’ loan syndicate structure.28 This study found that a stronger relationship between the borrower’s private equity sponsor and its lead bank enabled the bank to retain a significantly smaller share of the loan and form a larger and less concentrated syndicate. A stronger sponsor-bank relationship also attracts foreign bank participation. This would suggest that relationship banking in the LBO scenario could benefit competition in increasing the pool of eligible participants to include a more diverse syndicate.

A private equity firm may insist that syndication takes place after signing of the loan agreement, so that it takes a credit risk at signing only with the underwriters; this is often acceptable, the banks recognising that the borrower is paying substantial fees and that the process of negotiating the loan documentation may be easier with fewer parties involved, and also that the private equity house may be a regular source of business. Another reason for the difference in timing is that the private equity house may not want the market to know that it is seeking financing. The bidder needs to present a debt commitment letter to the board of the target to show that financing is in place for the bid. At the same time, the vendor may not want information about the bid to leak out to the market ahead of time and, hence, does not want the arranger to start book-running before the target receives the bid.29

The key distinguishing feature of LBO transactions from PF/INFRA is that they almost always take the form of an underwritten loan with a formal syndication or sell down phase. This is driven by timing considerations and the certainty of funds required – the need of the sponsor to have committed funds when bidding for a target within a

narrow time window. An LBO transaction starts well before lenders are involved. In many LBOs, the company that will be the subject of the LBO is first put up for auction by the vendors. It is common for target companies to be marketed to private equity firms, who would lead an LBO, and act as sponsors for the syndicated loan.

Most of the LBO tranches have a maturity of 5-10 years, with tranche structures carefully mapped to the cash flows of the company that is the target of the LBO.

**Table 6: Distribution of tranches across maturities (2010-2017)**

<table>
<thead>
<tr>
<th></th>
<th>&lt; 1 year</th>
<th>1-5 years</th>
<th>5-10 years</th>
<th>&gt;10 years</th>
<th>missing</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>LBO</td>
<td>38</td>
<td>290</td>
<td>1,610</td>
<td>11</td>
<td>231</td>
<td>2,180</td>
</tr>
</tbody>
</table>

Source: Europe Economics (using Thomson Reuters Loan Connector). Note: missing column refers to tranches with missing tranche maturity date.

As described later, the borrower/sponsor will incur underwriting fees in underwritten loans, which is the trade-off for the speed and certainty of funds. Underwritten loans are followed by a general syndication phase where (part of) the underwriters’ loan shares are sold off to other participants. There is a high demand from institutional investors for LBO loans (at least for Term Loan elements within the funding package) and thus a general syndication may result in a lower overall price (notwithstanding the underwriting fees paid) than if the underwriters held onto their shares with no further syndication.

**PF/INFRA structure and distribution**

In the current market the majority of PF/INFRA loans are club deals. This reflects strong, sophisticated sponsors/borrowers able to put together the club and the fact that the timing of most projects is long enough not to necessitate underwritten deals. By having a club deal the borrower/sponsor avoids underwriting fees, i.e. effectively the MLAs are disintermediated. As such, club deals can be considered ‘normal’ for this segment. Although the prudential capital requirements under CRD IV have reduced the attractiveness of holding on to long-term debt, many of the bank lenders in PF/INFRA deals adopt a ‘take and hold’ strategy and thus do not need to materially reduce their exposure through later downstream distribution. Again drawing on the lender interviews, those banks closer to the originate-to-distribute model will aim to sell-down post-close (at least if the ticket size is large) but will retain a greater fraction of the allocation than in an LBO. Institutional investors will generally hold on to the assets acquired trough to maturity.

In some circumstances, such as if a sponsor is in competition for a green- or brown-field site where timing is more pressurised then an underwritten deal may be considered, although this is the exception rather than the norm.

There are some other specific features which can apply to project finance and infrastructure projects. The structure of a project differs from that of a corporation, and so does the structure and the features of a syndicate providing funding. Most large project finance loan packages are associated with specific construction projects. Such loan packages are often complex, international financial deals involving a vehicle

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30 Stapled finance would be an exception to this. Here the seller of a company could arrange a financing package with a bank or with a syndicate. The company would then be auctioned with the financing offer “stapled” to it. This is most often used where an eventual sale to a private equity house is anticipated. See Aslan, H. and Kumar, P. (2014) “Stapled Financing, Value Certification, and Lending Efficiency”.


31 When the vendor is itself a private equity firm, the subsequent LBO would often be termed a secondary LBO (in contrast to the ‘primary’ LBO executed by the first private equity firm).
company owned by multiple sponsors, and are arranged to fund development of large, tangible-asset-based projects. The loans can often be guaranteed by third parties (though the entire package rarely is — only individual loan tranches), and the projects can be located in relatively risky countries.32

Where an asset (e.g. a toll road or a wind power plant) is being built there may be an intention to refinance once that asset is operational. This is partly because fewer lenders (particularly institutional investors) have the necessary appetite for projects with construction risk – but also institutional investors tend to prefer tranches/deals where the commitment is made on day one (i.e. all the money is put to work on day one, rather than subsequently drawn down). (This is also reflected in reduced appetite for revolving credit facilities in LBOs). This means there is less appetite amongst institutional investors during the construction phase than in the operational phase. This is why the financing of the construction of PF/INFRA is sometimes characterised as being a ‘bank market’. However, some institutional investors have emerged recently with revised (i.e. lower) expectations around yield in what continues to be a low real interest rate regime and displaying willing to take on such construction risks (indeed, we understand that some deals are currently being structured such that particular tranches can be marketed directly to such investors, who may be more willing to write large ticket debt). This is facilitated by growing access to internal expertise at such investors (e.g. they have hired individuals or teams with the relevant skills as a pre-condition to increasing such investments). The evolution of the participation of non-bank investors is addressed in more detail in Chapter 3.

Infrastructure and Project Finance loans tend to have a longer time-to-maturity period than LBO tranches, corresponding to long project timelines. In particular, more than half of the Infrastructure loans have more than 10 years.

Table 7: Distribution of tranches across maturities (2010-2017)

<table>
<thead>
<tr>
<th>Maturity</th>
<th>Project Finance</th>
<th>Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1 year</td>
<td>16</td>
<td>45</td>
</tr>
<tr>
<td>1-5 years</td>
<td>175</td>
<td>271</td>
</tr>
<tr>
<td>5-10 years</td>
<td>76</td>
<td>184</td>
</tr>
<tr>
<td>&gt;10 years</td>
<td>191</td>
<td>731</td>
</tr>
<tr>
<td>missing</td>
<td>61</td>
<td>221</td>
</tr>
<tr>
<td>Total</td>
<td>519</td>
<td>1,452</td>
</tr>
</tbody>
</table>

Source: Europe Economics (using Thomson Reuters Loan Connector).
Note: missing column refers to tranches with missing tranche maturity date.

Debt advisory activity

A feature of all of the market segments is the presence of debt advisors, acting on behalf of the borrowers/sponsors. Advisors have extensive experience in loan transactions and essentially drive the transaction on behalf of the borrower/sponsor, often taking on certain of the traditional activities of the lead arranger such as advising on the structure and term of the loan, and managing the information flows to, negotiations with and appointment of MLAs.

Advisors can enhance the efficiency and competitiveness of a syndicated loan transaction, providing the borrower/sponsor with a sophisticated and experienced agent (e.g. able to negotiate bilaterally with competing banks and avoid the need for lender cooperation at the pre-mandate phase, and also to put pressure on loan tenor, terms and pricing) and reducing reliance on a lending bank who may have conflicts of interest (insofar as the advisor itself is independent of the lending group). The presence of an advisor also adds resources, which can mean that staff at the borrower are less distracted from quotidian activities by the demands of the process. Advisors also contribute to the ‘bargaining power’ of borrower/sponsors.

32 Kleimeister and Megginson (2000) “Are Project Finance Loans Different from other Syndicated Credits?”
Our lender fieldwork suggests that a diminution in the role of lead arrangers has been facilitated by the increased use of advisors, as well as increased investment by borrowers and sponsors in internal debt financing teams. The use of advisors is common, with both lenders and borrowers reporting their presence on deals. For example, our borrower/sponsor fieldwork indicates that in assessing the terms of the loan, the minority rely only on their internal capabilities (10 and 20 per cent across borrowers and sponsors respectively selected this option), whilst the rest rely on advisors.\footnote{Fieldwork question B29/S31: “Do you usually receive any external aid in assessing the terms of the loan?” We note that this question does not ask about the use of advisors throughout the syndication processes (e.g. in setting up the initial banking group).}

**Figure 3: Borrower and sponsor assessment of loan terms**

![Graph showing borrower and sponsor assessment of loan terms](image)

Source: Europe Economics and YouGov fieldwork. B29/S31 “Do you usually receive any external aid in assessing the terms of the loan?”

As can be seen in the chart above, the most common method across borrowers and sponsors is to rely on an external financial advisor (74 and 68 per cent across borrowers and sponsors respectively) or a relationship bank that is not involved in the syndicate (eight per cent of borrowers and sponsors). Relatively more borrowers would also rely on a relationship bank that is part of the syndicate compared to sponsors (44 per cent compared to 30 per cent). We note that this fieldwork question did not ask about the role of advisors more generally in the syndication process (e.g. in appointing the lead banking group and negotiating terms), but can be taken as a good indication of advisor involvement.

The appointment of advisors may itself be done through a competitive process, or an advisory firm or relationship bank may be appointed directly. We do not have sufficient evidence to comment on which approach is most common, but discuss the potential risks associated with the appointment of the advisor in Chapter 4.
**LBO loans**

Our borrower/sponsor fieldwork shows that in terms of assessing the loan terms, borrowers and sponsors in LBO loans are less reliant on the advice of relationship banks who are part of the syndicate compared to those in PF/INFRA loans – 32 per cent of LBO respondents compared to 48 per cent of PF/INFRA respondents.

In terms of overall advisory services, in the LBO segment advisors are largely characterised as being independent, even boutique-based.

**PF/INFRA loans**

However, in the PF/INFRA market segment it is not uncommon for the advisors to be a discrete unit within a lending bank. This is supported by our lender fieldwork and borrower/sponsor fieldwork (where 48 per cent of PF/INFRA respondents have used a syndicate bank to help assess loan terms). The banks have adopted various strategies for providing both advisory and loan services, with most maintaining clear separation between advice and lending decisions. For example, the advisory unit would generally have no balance sheet capacity, and would be ‘wall-crossed’ from the origination and syndication desks once mandated.

However, our lender fieldwork shows that some banks appear to be more relaxed about bundling these offerings to clients. There can be an expectation from the client that a substantial portion of the lending would come from the bank providing the advisory services, particularly if raising the necessary funds for the deal proves difficult. For this reason, at least, such bundling can be an attractive feature to some borrowers/sponsors. (It could even be argued that, at least in current market conditions, such a pro-bundling strategy could result in adverse selection problems for the bank).

The case where a syndicate bank is also acting as an advisor poses a risk of a conflict of interest, whereby the advising bank may be able to influence the borrower/sponsor towards its own preferred loan terms. We explore this risk in Chapter 4.

**Types of loan process in LBO and PF/INFRA segments**

The process of loan syndication is complex, with many variations depending on the deal circumstances and distribution method used. The greatest variations exist around the following key stages:

- The formation of the lead banking group,
- the formation of the general syndicate, and
- post-closure (including secondary trading).

In the sections below we describe the process steps under each of the three key stages, drawing out the differences between LBO and PF/INFRA loans where relevant.
**Formation of the lead banking group**

There are various means by which a syndicated loan may be originated and formed. We describe here the typical process, and draw out separately key differences between LBO and PF/INFRA deals below. For our purposes, the “lead banking group” is the group of banks initially appointed by the sponsor/borrower, usually the MLA(s) and the main capacity providers. This could be in circumstances where further syndication is anticipated (such as an underwritten or best efforts deal for LBOs), or in some circumstances the entire syndicate (a club deal for PF/INFRA, where generally no further formal syndication occurs after the appointment of the lead banking group).34

The process of forming the lead banking group typically consists of the following steps:

- The borrower/sponsor or advisor issues an invitation to potential lead banks (MLAs) to participate in the loan, usually through a competitive request for proposal (RFP).
- The banks bid for mandates, either individually or in consortia.
- The borrower/sponsor or advisor negotiates key terms with each bank/consortium and develops a final term sheet.
- The banks agree and sign the final terms.
- The borrower/sponsor or advisor mandates banks and assigns roles where relevant (e.g. bookrunner) and authorises the MLAs to meet and agree a common set of loan documentation.

The process of appointing the lead banks in LBO and PF/INFRA loans is driven by the sponsor/borrower (sometimes assisted by a debt advisor, as discussed under ancillary services), who will have in mind a set of lenders to approach based on prior transactions, ongoing relationships, or the lenders’ product/geographic expertise. The past experience of the borrower/sponsor, as well as publicly available deal information and the lenders’ own strategic marketing efforts (i.e. attempts to signal interest in working with a particular sponsor, such as offering views on the structure of the financing or options for the client to consider), inform this initial selection. The borrower/sponsors (or their advisors) in the LBO, PF and INFRA loan markets are generally sufficiently sophisticated and experienced to drive this selection process. In some cases a bank will be approached by a sponsor due to its relationship with the underlying borrower or target, e.g. if it is currently providing commercial banking services.

Typically the sponsor/borrower35 would issue a Request for Proposal (RFP) to individual banks, through which the banks would compete individually to lend or underwrite the loan (depending on whether a club or underwritten deal) and/or compete for fee-paying roles. An alternative scenario suggested in the literature (e.g. Rhodes (2009) “Syndicated lending: Practice and Documentation”) is where the RFP invites (or consents) to a bank consortium / consortia being created for the purpose of the bidding stage. The consortium could be requested to pitch its expertise / strategy jointly, whilst potentially to bid separately across the individual banks on pricing elements. Multiple consortia may compete for the lending mandate. There is limited evidence from our fieldwork that this happens in practice – none of the lenders indicated that they participate in such consortia, although some borrowers did state that they can accept bids from pre-formed consortia as well as from individual banks.36

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34 The LMA’s guide to Syndicated Loans notes that this group of initially appointed banks can also be known as co-arrangers.
35 Where an advisor is used, the advisor may undertake the majority of liaising with the lenders.
36 Fieldwork question: B6 “Which procedure(s) do you usually follow when the MLA(s) are appointed in this transaction?” to which 40 per cent of borrowers said they issue a competitive RFP for funding from
This may be preceded by a short, more informal stage where views on general appetite and structuring ideas are sought from banks, usually (but not always) relationship banks. This input could be provided by the origination desks in the lending teams within such banks or even by relationship bankers. The influence of these initial discussions may limit the competitive outcome of the RFP process if relationship banks are able to unduly influence the proposed loan structure or set of candidate lead banks in their favour. This impact will depend on the sophistication of the borrower/sponsor in developing the RFP (and if these are not highly sophisticated, whether independent advice has been sought), selecting the candidate banks to approach and assessing the competing bids, and the number of other candidate lead banks who would participate in the RFP process. We explore the competitive implications of this in Chapter 4.

At this stage all banks are competing individually and all discussions are bilateral between each bank and the borrower/sponsor. Banks typically would not know the identity of their competitors, but might be aware of approximately how many there are. The request for proposal is accompanied by a non-disclosure agreement (NDA), which requires the banks not to discuss any or all aspects of the proposal as a pre-condition to the sharing of some information about the transaction. We describe these information flows in more detail under the LBO and PF/INFRA sub-sections in this chapter.

The RFP process means that the key terms of the loan (fees, margins, documentation, flex provisions etc.) would be negotiated and agreed bilaterally between the borrower/sponsor and the competing banks, and the borrower/sponsor would use the competitive bidding process to secure the most attractive terms overall and use this as the basis for inviting banks to form the core lending group. In its ultimate form, this can involve the production of a ‘grid’ by the borrower/sponsor (or their advisers) that summarises the key terms (potentially over several pages), and requests the competing banks to complete the most important economic elements (i.e. margin, fees, etc.) We describe this process further below.

The exchange of grids is not a one-off: once received back from the potential MLAs, the borrower/sponsor may seek to cherry-pick its preferred terms into a revised grid – which would again be sent back to the banks involved in the RFP. At this stage of the process banks may decline to participate (and others may then be invited to participate) based on the borrower/sponsors’ initial invitation – for example if the borrower/sponsor invites banks to participate at the best (lowest) price offered by one or more of the banks, some banks may not be willing to participate at that price. Whether the borrower/sponsor will be able to achieve that price will depend on whether enough banks are willing to provide the level of financing that the borrower requires. The price may need to increase if particular bank(s) required cannot commit to certain hold levels other than at a particular price (which is why it is valuable to have some redundancy in the banks involved in the process, to avoid pricing at the highest common denominator amongst the banks). This dynamic is an essential element of the formation of the single price which is inherent in the multi-bank loan process. If views are very different across the pool of lenders it may result in a change to the structure of the loan to better meet the borrower’s objectives (e.g. a given level of debt at the lowest possible price).

The borrowers/sponsors seek to build in some redundancy contacting more banks than they wish to appoint as MLAs. That said, in our borrower/sponsor fieldwork, where the
RFP process was used most borrowers and sponsors indicated that they would not typically approach more than 4-5 potential MLAs. This is below the levels indicated in the lender fieldwork, where approaches to 10+ banks were cited as common (such broader-scale approaches were not unknown in the borrower/sponsor fieldwork, but these did not appear standard). When we compare these numbers with the number of actual MLAs recorded per Loan Connector, there is a further apparent mismatch in that the number of lead arrangers appointed does not differ significantly from the borrower/sponsor fieldwork’s views on those approached. One explanation, at least in the LBO space where underwritten deals are most common, is that loan syndication process can be subject to title inflation, whereby those lenders listed as MLAs at the end of transaction include banks which have not truly played the economic role of an MLA. Equally, the banks approached to act as an MLA for an underwritten transaction may be characterised in two ways: those able to act as underwriters and successfully distribute debt – i.e. the MLA function - and those that are essentially being asked to provide balance sheet capacity. Ultimately, the number of banks approached bears some relation to how much is being raised and the expected likelihood of receiving offers from those banks approached.

Another way of thinking about this is what happens when an MLA underperforms. The majority (54 per cent) of borrowers and sponsors had not experienced any such issues across their syndicated lending transactions, with others able to replace the MLA or for other MLAs to rescue the situation. Four respondents in each of LBO and PF/INFRA (i.e. 8 per cent of the sample) identified a lack of suitable alternatives as the reason for non-replacement of the MLA. We need to exercise some caution in interpretation here, however, in that within the context of a transaction (certainly an LBO) there are time constraints meaning that a suitable alternative may not be identifiable in time.

In some LBO transactions, specifically public-to-private or P2P deals, sponsors may be unwilling or unable to go to more than a couple of potential MLAs. (Debt advisers we interviewed were clear, however, that only approaching one would be highly unusual even then). In most LBO deals, however, there is likely to be some form of auction process whereby the target for the LBO is itself being marketed. In such a case the banks do not get paid for helping with losing bids – fees are payable only post-mandate. In this case, then, any attempt at collusion has to cover all banks possibly approached by at least one private equity sponsor - otherwise it could be self-defeating as more costly debt would limit the bid being made by the private equity sponsor.

LBO tranches tend to end up with – on average - a larger number of MLAs than PF/INFRA. There is not a straightforward interpretation to this finding, although on average larger deals than Infrastructure, they tend to be below the size of PF deals (under our definition). LBOs will often be underwritten (at least for the initial LBO), as we have described above, whereas the other two segments are typically club deals. Equally, the average LBO in our dataset has three tranches, whereas the average PF/INFRA deal has about two. These factors would drive the involvement of a larger pool of lenders than infrastructure and project finance deals, even though it is not clear that these deals are per se more complex.
Table 8: Average number of lead arrangers by Member State and loan type (2010-2017)

<table>
<thead>
<tr>
<th></th>
<th>LBO</th>
<th>Project Finance</th>
<th>Infrastructure</th>
<th>All loan types</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td>4.4</td>
<td>2.9</td>
<td>2.9</td>
<td>3.9</td>
</tr>
<tr>
<td>ES</td>
<td>4.0</td>
<td>3.3</td>
<td>4.8</td>
<td>4.3</td>
</tr>
<tr>
<td>FR</td>
<td>3.8</td>
<td>3.8</td>
<td>2.4</td>
<td>3.4</td>
</tr>
<tr>
<td>NL</td>
<td>4.5</td>
<td>2.4</td>
<td>3.6</td>
<td>4.1</td>
</tr>
<tr>
<td>PL</td>
<td>7.3</td>
<td>1.0</td>
<td>2.6</td>
<td>4.8</td>
</tr>
<tr>
<td>UK</td>
<td>4.2</td>
<td>4.1</td>
<td>4.1</td>
<td>4.1</td>
</tr>
<tr>
<td>All countries</td>
<td>4.2</td>
<td>3.7</td>
<td>3.7</td>
<td>3.9</td>
</tr>
</tbody>
</table>

Source: Europe Economics (using Thomson Reuters Loan Connector).

The MLAs involved in a deal tend to remain the same across all the tranches in a deal as the syndication process typically occurs at the deal level (this holds in 78 per cent of deals). However, there is a significant minority (22 per cent of deals) where variation of the lead arrangers group happens within the same deal (Table 9). As can be seen in this table, even when the MLA group is not the same across all tranches, the composition of the MLA groups does not tend to vary very much. Banks are taking on risk (credit risk) with each tranche that they participate in. A bank will have different, evolving appetites for revolver, Term Debt etc. that will affect their willingness to bid aggressively to sponsors. Similarly, where a general syndication is intended, different potential MLAs may vary in their expectations around their distributive capacity / capability between tranches. The ability of sponsors / borrowers to differentiate between MLAs in this way is facilitated by the way in which sponsors approach banks (as described further below).

Such variation in MLAs is correlated with deal size (last column of the Table). There is no significant difference in pattern between LBOs and PF/INFRA with respect to this feature. Similarly, there is no clear difference at the Member State level, with the partial exception of Dutch borrowers where the proportion of deals with MLAs varying (at least partly) by tranche increases to 35 per cent.

Table 9: Number of deals with varying lead arrangers across different tranches (2010-2017)

<table>
<thead>
<tr>
<th>Changes in MLA group</th>
<th>LBO</th>
<th>PF</th>
<th>INFR</th>
<th>Total</th>
<th>Average deal amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>586</td>
<td>180</td>
<td>531</td>
<td>1,297</td>
<td>244</td>
</tr>
<tr>
<td>1</td>
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<td>128</td>
<td>277</td>
<td>396</td>
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<tr>
<td>2</td>
<td>24</td>
<td>9</td>
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<td>57</td>
<td>645</td>
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<td>3</td>
<td>8</td>
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<td>29</td>
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<td>5</td>
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<td>1</td>
<td>1</td>
<td>1,467</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1,872</td>
</tr>
</tbody>
</table>

Source: Europe Economics (using Thomson Reuters Loan Connector).

The borrower/sponsor may have a clear idea of the ‘relationship banks’ that it would like to have on the deal, or it may proceed entirely on the basis of price/terms. A borrower/sponsor’s final decision as to which banks to include in the group will be based on margins, fees, hold-levels (if applicable), reputation and track record, (potentially) the ability to provide ancillary services such as swaps, payment services and trustee/custodian services, and the number of banks that the borrower wants to be in the consortium.
Formation of the lead banking group in LBO loans

The formation of the lead banking group in LBO loans is usually a rapid process, particularly if the company that will be the subject of the LBO (i.e. the target company) has been put up for auction by the vendors (which is often the case for those LBOs entering the syndicated loans market). The sponsors to whom the target company has been marketed would need committed funding to finance the LBO ahead of the closure of this auction, and therefore there is time pressure to secure the funding before the end of the auction being run by the M&A advisers to the target’s company’s owners. The interaction between the sponsor and the lead banking group (i.e. the issuing of RFPs and negotiation of terms) therefore typically occurs during the auction for the target company.

At this point, each sponsor might be contacting multiple banks – with the larger banks generally willing to operate multiple “trees” within origination (and sometimes even syndication) teams such that they are working with multiple sponsors. The rationale for approaching a large number of banks (our lender fieldwork indicates this can be up to 20) is to ensure capacity in the limited time available. In some cases, such as public-to-private transfers (where only one bank may be appointed, and confidentiality is critical) the sponsor may only approach two to three candidate banks to limit the number of lenders who are aware of the deal. Sponsors will seek to maintain competitive tension regardless of the number of banks approached (e.g. by not disclosing the number of candidate banks). As sponsors are often in a competitive situation themselves they have an incentive to ensure a competitive process for raising debt (i.e. if a sponsor does not secure competitive debt terms, then it will likely not win an auction).

Depending on the circumstances of a transaction, banks may have more or less room to propose and negotiate the structure and terms of the loan with the borrower/sponsor. In LBO loans, the borrower/sponsor usually already has a very clear idea of the terms it wants (for example based on past transactions), and LBO loans tend to be more consistent in structure terms and pricing; therefore banks will often receive a ‘grid’ covering all the terms, including pricing, which they would either complete (if cells are empty) or else accept/propose changes to. This also supports a more time-pressured deal process compared to PF/INFRA loans. Banks would also likely be required to outline features such as their intended hold levels, experience, syndication strategy and views on the way the loan will price in the market as part of their bids.

Sponsors could also seek initial informal views from potential lead banks before issuing an RFP, to assess initial interest. More detailed pre-RFP conversations regarding for example how much could be raised on the market, how the loan would be perceived, acceptable leverage multiples etc. would be less common. These discussions would be under NDA, and the sponsor would then issue an RFP and pricing grids. Our lender fieldwork indicates that these discussions would not guarantee the bank’s involvement in the loan (it would still need to bid through the RFP and grid process), and that the borrower/sponsor retains control over which candidate banks are invited to participate. The first phase usually entails two to three rounds of ‘grid exchange’ between the sponsor and each bank (which can last for a few weeks or less), with each round narrowing down terms. During this phase some banks will drop out if they cannot meet or agree to the terms.

37 Our borrower fieldwork supports this, although does leave room for the direct appointment of MLAs. For example, for the fieldwork question: B6 “Which procedure(s) do you usually follow when the MLA(s) are appointed in this transaction?” In response, 91 per cent of borrowers stated they use a competitive RFP process, and 9 per cent stated that they would directly appoint an MLA without a competitive process (these responses were split evenly across PF/INFRA and LBO loans).
After the initial exchange of grids, the remaining banks would enter a second phase of negotiation with the sponsor to arrive at final, committed bids, which can last between two and three weeks. The sponsors need to commit to funding and they will seek — on a bilateral basis — binding funding commitment letters from all banks left in the process (operating a ‘N + x’ model with built-in redundancy). Since financing is committed, all terms need to be negotiated at this stage (including the provision for flex, which we describe under the general syndication phase) and credit committee approval obtained. At this stage of the negotiations the borrower/sponsor would also consider which banks to appoint to various fee-paying roles, such as active bookrunner.

Once each bank or lender agrees to the final terms, various documents, which form part of a syndicated loan transaction, are signed to finalise their participation in the loan, such as a commitment letter (i.e. post-credit committee), mandate letter and term sheet. The final syndicated loan agreement is also typically signed at this point containing the loan terms — these may be subject to change during the general syndication round in an underwritten or best efforts transaction (i.e. through flex as described later). Fee letters are also usually distributed at this stage: these would detail any fees payable by the borrower and are usually contained in letters separate to the main loan agreement to ensure confidentiality. These fee letters are sent out by the borrower to the members of the syndicate with fee-paying roles (e.g. the lead arrangers, agents etc.). The loan agreement should refer to the details contained in the fee letters.38 (We discuss fees further in the Chapter 3 section “Fees”).

In some LBO transactions, particular participant lenders (for example an institutional investor who would take a large ticket) with no fee-paying roles may be included in the negotiations at this stage, ahead of the general syndication phase. These would be ‘early bird’ investors. The rationale for this would be either to allow the investor more time to engage in the transaction (as a preferred investor), or as a means of testing the deal with the investor market at a stage when the terms of the trade are still relatively fluid. Investors would sign an NDA to receive information on the deal. Institutional investors may choose not to be involved if such early engagement prevented or restricted trading opportunities available to those investors. The early-bird investors would be approached either by the borrower/sponsor or advisor, or by one of the lead banks on instruction by the former.

As and when a sponsor wins its auction, its lead banking group would ultimately be responsible for underwriting the senior loan facility, which is commonly structured to incorporate both multiple term loan facilities and a revolving loan facility.39 The arrangers underwrite the term loan facilities and revolving facilities in order to fund the:

- senior element of the buy-out,
- refinancing of existing debt in the target group, and the
- working capital and capex requirements.

It is only at this stage, i.e. once all the lead banks have been mandated, that they are brought together by the client to discuss the general syndication strategy and agree

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38 Other documents relevant to a syndicated loan are created later in the process, for example the Information Memorandum is usually provided to potential syndicate participants at the beginning of the general syndication phase. We describe this in the relevant section below.

39 In an LBO, the debt part of the financing package consists of a senior facility (usually provided by banks), a junior facility (riskier and high yield debt provided usually by institutional investors), and often a quasi-equity facility, such as mezzanine debt. See the LMA Guide to Syndicated Loans.
and sign a common set of loan documentation. At this point, as part of the syndication preparation, banks can also finalise with the borrower/sponsor a ‘white list’ of participants (smaller banks and institutional investors) that will be approached in the general syndication phase (the sponsor’s initial take on the white list would be a key part of finalising terms – as an underwriting bank would need to understand how much of the market it can approach in the general syndication phase in order to lay off its risk). We describe the use of white lists in more detail in the section on the general syndication process.

**Information sharing and market sounding in LBO loans**

As described above, the negotiation of key terms is conducted primarily at this appointment of the lead banking group. In LBO loans this negotiation takes place bilaterally between the borrower/sponsor and the individual banks/lenders. There is seldom scope for banks to discuss the transaction externally at all until such time as the terms have been agreed and the banks mandated. Banks’ processes require explicit borrower consent to engage in pre-mandate sounding on the specifics of a transaction.

In preparing their responses to the RFP or grids, our lender fieldwork shows that lenders’ decisions on risk, margins and hold amounts are informed by a number of information sources, such as:

- Knowledge of investor sentiment (as well as of precedents for contract terms and covenants), as expressed in the general syndication phase of current and recent internal deal flow, i.e. live primary market deals, as well as the secondary market response to these deals if they are closed. Those banks with greater deal volume should have an advantage here.

- Secondary trading activity in loan markets and bond markets, either through internally held data or via independent data vendors such as Bloomberg and Markit, which collect both venue-traded and OTC data.

- Data such as leverage multiples on comparable loan deals (e.g. comparable industries, loan types, countries, transaction amounts), whether the bank was involved or not. Where the bank was involved, it will have access to detailed information. These data are also accessible through independent data vendors. Dealogic’s Loan Analytics and Thomson Reuters’ Loan Connector are two commonly used loan databases. The information on transactions contained in these databases includes over one hundred fields on the primary transaction (from pricing data through to descriptions of the borrowers and the banking group, down to detail on covenants). Against this, since it is a private market, these fields may not always be complete. Indeed, as we note in our analysis of pricing and fees, in particular, such economic details are more often omitted. These are on a subscription basis but otherwise available to all market participants willing to pay. These databases also have secondary trading data (such as iQuery in Thomson Reuters, which collects non-executable pricing information from broker-dealers on a daily basis for about 250 more actively traded loan tranches).

- Assessments of current market liquidity, e.g. through assessing public and/or data vendor information on flows into high yield bond funds and CLO formation.

Lenders active in LBO loans consider such data to be much more readily available than in the past, with multiple data vendors competing to provide such transparency.

Our lender fieldwork shows that the syndication desks of banks do not engage in deal-specific market ‘soundings’ or ‘reads’ with other potential lead banks or participant lenders related to the details of the transaction to inform decisions made about risk, margins and hold amounts. However, lead banks do maintain relationships with key participants (i.e. particularly institutional investors) relevant to the general syndication
phase and discuss *generic* issues with them (e.g. investors’ appetite for loans in certain sectors) to ensure they keep up to date with market appetite. These generic market soundings are important for underwritten and best efforts loans where the lead banks will need to syndicate the loan to further participants, and as such need to be aware of general market appetite. It would also be relevant to a club deal, if there is intent to sell down part of the loan subsequently. The boundary between generic and specific sounding can, however, become somewhat blurred when there are live transactions in the sector that is the subject of the ‘generic’ discussion or where the sector is somewhat atypical (so that a meaningful understanding of appetite requires additional information-sharing). We note that some papers have suggested a greater use of market soundings than reflected in our lender fieldwork.\(^40\) Indeed, lenders characterised a step change from such specific soundings to current practice as happening several years ago – enabled largely by the growth of the syndicated loans market and of its investor base.

The lender fieldwork highlights that where deal-specific soundings are still made, particularly where liquidity is low and there is uncertainty around how a loan will price in the market, these are conducted under borrower consent and with defined information-sharing parameters. We explore the potential risks associated with market sounding (e.g. around the boundary between generic and specific discussions) and information sharing in Chapter 4.

The flow and timing of information throughout the process of forming the lead banking group is set out below.

- The first step is for the borrower/sponsor to approach candidate banks with an RFP and to sign an NDA which prohibits speaking to anyone else about the deal ahead of the sharing of information. If banks’ views are solicited before the issuing of an RFP this is also likely done under NDA.
- In the first phase, when the grid exchange is taking place between banks and the sponsor, banks would be given vendor due diligence (most deals will be competitive process for sponsors, organised by the current owners of the target of the LBO which would provide the due diligence) or other preliminary data about the target from the sponsor.
- After the initial exchange of grids, the remaining banks who are still committed to the transaction (some would have dropped out in the first phase) would enter a second phase of negotiation to arrive at final bids. More information would be available to enable them to make firm bids, for example buyer due diligence (which may have a different perspective to the vendor-commissioned due diligence) and management forecasts from the target. The NDAs would apply throughout this phase as well.

The sharing of specific information related to LBO transactions is governed by NDAs between the borrower/sponsor and the lead banks, such that banks would be contravening contractual agreements with borrower/sponsors if they did engage in specific market soundings (i.e. the process as set out here does not in itself facilitate such information sharing, but there is still the possibility for lenders to do this illegally). This would have implications for competition in terms of increasing the risk of collusion between lenders – we explore the competition implications of this in Chapters 4.

Formation of the lead banking group in PF/INFRA loans

As with LBO loans, PF/INFRA deals may begin with the borrower/sponsor or the advisor to the borrower/sponsor issuing an RFP to selected banks, each of whom would respond individually in order to compete for the opportunity to lend part of the loan. In some cases, invitations may not involve a formal competitive RFP, but rather discussions between each selected bank and the borrower/sponsor or advisor. The number of banks approached varies, although borrower/sponsors tend to approach around double the number they intend to finally appoint, and build latency into the final bids (e.g. they might approach 10 banks with the view to appointing six, and then have these commit to a third of the loan amount).

As noted earlier, clients may hold pre-RFP discussions with selected banks. These are usually informal (either based on publicly available information or else private information subject to NDAs), and used by the client to inform its views on loan structure and terms and (potentially) market appetite before issuing the RFP. Our lender fieldwork indicates these pre-RFP discussions are more common in PF/INFRA loans compared to LBO loans, and can be particularly useful for bespoke loans with little precedent in terms of structure and terms. The process would then usually formalise into an RFP process. The risks associated with the influence of the relationship banks engaging in early informal discussions are explored in Chapter 4.

Competing banks will respond to the RFP or invitation with proposals outlining features such as their hold levels, experience, syndication strategy and views on the way the loan will price in the market. The use of ‘grids’ is less common in PF/INFRA deals than with LBOs, although these can be used and can range from only a few dimensions proposed by the borrower/sponsor to more prescriptive detailed grids.

The negotiations around pricing and terms would take place bilaterally between the competing banks as outlined in the general process description above. At this stage the borrower/sponsor would also consider whether and which banks to appoint to fee-paying roles, such as a coordinator.

Once each bank or lender agrees to the final terms, a number of documents are signed to finalise their participation in the club, such as a commitment letter (i.e. post-credit committee), mandate letter and term sheet. The final loan terms are also typically signed at this point, and in PF/INFRA (by virtue of being club deals) no further change usually occurs.\footnote{If a PF/INFRA loan were to be syndicated further through an underwritten or best efforts distribution method, a ‘general syndication’ process would apply. As noted however, the majority of PF/INRA deals described to us in our fieldwork are club deals.}

It is only at this stage, i.e. once all the lead banks have been mandated, that they generally are brought together by the client in to the club to agree and sign common legal documents.

The process for forming the initial lead banking group described above is definitely the standard process adopted in most instances (particularly in western Europe). However, our lender fieldwork shows that more ‘traditional’ models are still in use – for example where the borrower/sponsor (whilst still taking the final decision on which lead banks are included in the group and what the final terms are) relies more heavily on a lead bank who would drive the formation of the bank group and the negotiation of terms with those other banks.
If the borrower/sponsor mandates a single bank as a lead arranger (or coordinator), this bank would typically sign an NDA and receive information from the borrower/sponsor, then prepare a term sheet to negotiate with the rest of the candidate banks. The bank might be involved in finding partners for the club, although usually the borrower/sponsor indicates the banks it wants to approach. Usually the lead bank would share all the information it receives from the sponsor with the other club members (although again this would be agreed with sponsor). The lead bank in this instance would be the main interface between the borrower/sponsor and the rest of the club, although the borrower/sponsor would still be very involved and take the final decisions. In such a case, the lead bank will need to understand each potential participating lender’s potential interest (e.g. willingness to underwrite/hold) and at what price. The lenders then communicate between each other. If a lender(s) has a certain price requirement in order to participate at a certain level, which is higher than others, then either (i) the other lenders may be willing to accept an increased participation, (ii) there may be other lenders (not previously involved) who could be invited to participate; or (iii) if the particular lender(s) is ‘needed’ then the price will have to be set at the highest price acceptable within the group. This would be heavily influenced by the borrower/sponsors’ set-up of bidding process, i.e. if they specify that the particular bank wanting the highest price be part of it then the MLA would not be able to replace it. Alternatively, if the consortium is bidding against other consortia or individual banks then normal market dynamics should keep pricing in check (since a high bid will not win the competition). Our lender fieldwork shows that a model where a group of banks is approached in this way is more common in PF/INFRA deals than LBO, and more so in more national, non-west European markets.

**Information sharing and market sounding in PF/INFRA loans**

Bilateral negotiations between the individual lenders and the borrower/sponsor in a PF/INFRA club deal follow a similar process to those in an LBO deal, whereby information is controlled by NDAs and there is little scope for lenders to legally discuss the transaction externally and share information with other banks until the terms have been agreed with the borrower/sponsor. Where no NDAs are used (i.e. in some informal pre-RFP discussions) the information discussed would be publicly available.

As with LBO loans, lenders in PF/INFRA loans rely in internal deal flow and public information sources to inform their decisions about pricing and terms, in addition to the loan-specific information provided by the borrower/sponsor. However, we note that – based at least on the sources available to us including lender fieldwork and the analysis of Loan Connector data – there are more comparators available in the LBO segment, in that pricing data is more comprehensive than in PF/INFRA, particularly in the secondary market (where LBO loans trade more actively than PF/INFRA loans). All else being equal, this raises the potential for specific market soundings to be more necessary in PF/INFRA loans. A relevant counter-point is that the PF/INFRA segment is largely (but not wholly) a club deal market where the relevant lenders are approached by the borrower/sponsor directly - and there is no underwriting or onward general syndication (but there may be some post-closure downstream distribution). In other words, there is less value (to investors) in participating in a market sounding exercise – but increased value to the bank in having access to either specialist knowledge either as incorporated into particular individuals, internal experts or access to internal deal data. If these are limited, then – absent market sounding – this could represent a

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42 See Chapter 3 for a description of the secondary market for syndicated loans. Essentially, the primary market includes the original loan between the borrower/sponsor and the lead banking group, as well as any further syndication to participant banks and investors. The secondary market consists of the buying and selling of these loans between lead and participant lenders as well as other investors not part of the primary loan.
substantive barrier to entry. We discuss the competition implications of such information sharing in Chapter 4.

As PF/INFRA loans are usually club deals, there will be no further syndication phase and therefore less need for the lead banks to engage in generic market sounding with potential investors in order to assess market appetite.

In rare cases (and more likely in PF/INFRA than LBO according to our lender fieldwork), the borrower/sponsor may request banks to discuss the transaction before the signing of mandates, but this would still be client-driven. Our fieldwork suggests this is more a feature of the past when there was more uncertainty about the availability of funds in the market, but this principle could still hold in the current market with very large and/or bespoke PF/INFRA deals where the borrower/sponsor is more uncertain about how the loan should be priced or, indeed, in some future market state where available funds had significantly shrunk. All lenders were clear that such contact would require explicit consent from their (potential) clients. The discussions and information sharing between lenders at this stage may give rise to competition concerns if it facilitates collusion – we describe these risks in Chapter 4.

If a more traditional model of syndication is used, whereby a lead arranger or coordinator is mandated by the borrower/sponsor to engage with other lead banks to negotiate and agree key loan terms, then the issues of information sharing and cooperation are more pertinent. In such a case, the sharing of information is part of the process (rather than lenders acting illegally by breaching client NDAs), and we examine the implications of this in Chapter 4.

The timing of the information flows between the borrower/sponsor and the lead banks builds throughout the RFP process:

- Banks would receive an initial set of information (either along with an RFP or beforehand if the situation involves pre-discussions), which would either be subject to NDA or be wholly public information.
- As banks engage in the RFP process and show commitment to being in the lead banking group, they would receive more detailed information regarding the loan and the underlying project. This might include due diligence conducted by the borrower/sponsor if the loan involves the acquisition of an existing facility. If the underlying project is a new build then other data would be shared such as relevant market research (e.g. traffic forecasts in the building of a road). Other information shared by the borrower/sponsor could include information they have obtained from technical and legal advisors, but potentially also financial, insurance, auditing, tax, market and environmental advisors.
- If banks are brought together in the club before the final terms are agreed, they would share information between themselves and the borrower/sponsor around their desired hold levels, pricing views and views pertaining to other loan terms such as covenants.

**Credit ratings**

Credit ratings may be sought by the lead banks as a precursor to any general syndication. If the marketing of the loan is to include CLOs, then a credit rating will be required. This will typically be a private rating (i.e. available to only the syndicate participants). The rating will be sought from one of the three major credit rating agencies. Credit ratings agencies would provide ratings for syndicated loans, either for the loan instrument directly, or for the borrower — with the rating of the loan then derived from the rating for the borrower.
The demand for credit ratings is driven largely by institutional investors, e.g. investing via CLOs. Ratings would therefore be sought as a means of marketing the loan to a wide range of investors, and will not be sought for all loans or borrowers (e.g. particularly for club deals where there is no sell-down phase). One of the lead banks would liaise with the ratings agency for the provision of the ratings (this would be a role assigned by the borrower/sponsor). The ratings provided by the agencies may be private, but can also be public. The ratings agency will base its ratings on the information about the loan provided by the syndicate banks requesting the rating, as well as other market information.

Our lender fieldwork confirms that banks and non-bank lenders would undertake their own internal credit rating process, but that some institutional investors may require external ratings.

Generally, one of the MLAs will be tasked with commissioning the credit rating. In our lender fieldwork, this was characterised as one of the tasks that would be undertaken by one of the passive bookrunners.

**General syndication phase in LBO (underwritten) loans**

The general syndication phase is the marketing and distribution of the loan to other banks and institutional investors. It takes place after the lead banking group has been selected and the loan terms agreed between the lead banking group and the borrower/sponsor. A general syndication phase typically does not take place in a club deal, where the lead banks either hold the full amount of the loan they committed to, or sell parts off onto the market individually (usually on the secondary market). Therefore the majority of this section in the process applies to LBO loans rather than PF/INFRA.

Once the lead banks have been mandated and final loan terms signed, the borrower/sponsor would usually instruct them to get together and agree on a common syndication strategy. This would include agreeing on the total amount that needs to be raised to make up the balance between the underwriters’ (or arrangers in the case of a best efforts deal) hold amounts and the total loan amount, and allocating roles such as developing the marketing material, obtaining ratings, and approaching the market of participant banks and non-bank investors. The lead banks can share the active bookrunner role and divide the investor market between them (sometimes strategically based on discussions with the borrower/sponsor, and sometimes simply alphabetically). This is most common in smaller deals with around 2 – 3 lead banks.

Alternatively, in some transactions (larger deals with multiple lead banks) a single bookrunner might have this active role, aka a ‘lead left’. The use of a lead left can be beneficial to the borrower/sponsor (or advisor) in that it results in a single story being presented to the market regarding the loan. This is more likely to be important for more speculative loans, or where a deal is struggling, where careful messaging to investors is needed to accurately communicate the details of the loan and to avoid scenarios where mis-communication undermines investor appetite. It may also be more efficient for the sponsor/borrower or advisor to deal with a single active bookrunner, and thus a lead left may hold particular advantages in time-pressured deals. Borrowers/sponsors would appoint a lead left bookrunner based on its track record in distributing debt in similar deals (e.g. country, size or sector), and also on its

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43 That said, there may be a coordinated sell-down where one bank would sell down a centralised amount on behalf of the other banks in the club for a limited time after the loan closure (e.g. 45-60 days), after which banks could choose to sell shares individually on the secondary market if needed. However, this coordinated sell down happens after the loan has closed and is not part of the general syndication phase.
EU loan syndication and its impact on competition in credit markets

appetite to underwrite and hold debt. A ‘lead right’ bank may also be appointed to stay up to date with the bookrunning process and step in to fulfil the lead role if the ‘lead left’ loses confidence in closing the deal or otherwise underperforms.

In either case the sponsor/borrower/advisor is usually closely involved in the decision-making during the general syndication phase.

The initial set of potential general syndicate participants is strongly determined by the borrower/sponsor – the lead banks would put together lists of potential participants which would then be reviewed/changed and signed off by the borrower/sponsor. The banks would make suggestions about certain institutional investors to be included (e.g. those who they know would be particularly interested in a deal, based on their knowledge of the market, thus demonstrating potential to add value to the transaction). The syndication strategy, including selection of members, is usually set out in the mandate letter or term sheet for the transaction. Typically, provision will be made for invitations to be sent to financial institutions or other lenders fulfilling a set of criteria, or on a list previously agreed with the borrower (a ‘white list’). White lists are imposed by the borrower/sponsor as a means for them to control which institutions are invited to participate in the general syndication phase. Borrower/sponsors may wish to exclude certain institutions from the loan, in particular institutions which could cause difficulties in the event of a default or restructuring (e.g. “vulture funds”) or institutions which may have performed poorly for the borrower/sponsor in the past.

It is naturally important to underwriting banks to understand the size of the white list prior to agreeing final terms, as this will affect their ability to sell-down the loan in the market (i.e. lenders favour as wide a list as possible). Therefore the white lists would be negotiated and agreed with the borrower/sponsor during the first phase of the loan syndication (the formation of the lead banking group, before the final terms are signed). Our lender fieldwork indicates that these are long lists (can include hundreds of institutions) and extend well beyond the number of participants approached, i.e. they are not typically overly restrictive for lenders. In addition to excluding certain investors, borrower/sponsors can also request that specific investors are included in the general syndication. Borrower/sponsors may indeed approach these directly, or leave this to the bookrunners.

The ‘white list’ approach is the standard approach adopted in Europe (albeit with variation in terms of its length). By contrast, the standard approach in the USA is characterised as being the use of a ‘black list’, i.e. the sponsor identifies those market participants it does not wish to be involved in the syndication, and allows the lenders to approach anyone else. The latter approach is likely to result in the potential consideration of a broader spectrum of the market’s participants, i.e. the white list concept is prima facie more narrow (albeit a white list may run to several hundred identified investors or lenders). This continues to be relevant into secondary trading activity, i.e. if the primary loan is traded in the secondary market then an investor on the white list can be presumed to be acceptable – otherwise borrower permission is necessary (albeit this would be subject to a not to be unreasonably withheld proviso). The white list’s key purpose is to enable the borrower/sponsor to control which institutions have access to the underlying loan of the borrower/sponsor.

Participants’ previous experience with the borrower/sponsor, the industry sector or the geographic area are strong drivers for being put on the white list (i.e. the precondition to being marketed to and to be able to consider joining the syndicate). The white list is initially generated by the borrower/sponsor (particularly the latter). This would be based upon the sponsors’ own knowledge, and any marketing to the sponsor by
investors (i.e. an institutional investor could approach a sponsor on a general basis – since they would not be aware of currently private transactions - to state an interest in looking at future transactions). The bookrunners may seek to expand the white list to aid them in laying off risk (as described above). This information would draw upon be provided by the lenders’ own past deals and through ongoing interactions with investors (i.e. both the banks and sponsors would be engaging with the market on an ongoing basis). Knowledge of the investor base and experience/success in syndicating similar deals is one of the dimensions along which a lead bank would market itself to the borrower/sponsor in the first loan phase, i.e. it would be part of his remit to have sufficient knowledge of the market.

The bookrunners, often in collaboration with the borrower/sponsor, will prepare an information memorandum (IM) describing the terms of the transaction. The IM typically will include an executive summary, investment considerations, a list of terms and conditions, an industry overview, and a financial model, and sometimes the buyer’s due diligence. Because loans are not securities, this will be a confidential offering made only to qualified banks and accredited investors, under an NDA. If the issuer (borrower) is speculative grade and seeking capital from non-bank investors, the arranger will often prepare a “public” IM in agreement with the borrower/sponsor. The main omission relative to the “private” IM would be management forecasts (i.e. it could still be confidential – and certainly the fact of the transaction itself would still be confidential). This is done in order to allow potential investors the opportunity to invest in a company’s publicly-traded securities as well as engage in the loan. This version is not necessarily public in the sense that it is readily available to the general public, rather that it does not contain highly sensitive information. This version will be stripped of all confidential material such as management financial projections so that it can be viewed by accounts that operate on the public side of the wall or that want to preserve their ability to buy bonds or stock or other public securities of the particular issuer. Investors that view materially non-public information of a company are disqualified from buying the company’s public securities for some period of time.44

A ‘roadshow’ may then be organised to present and discuss the content of the IM, as well as to announce closing fees and establish a timetable for commitments and closing. After the roadshow, the bookrunner(s) make formal invitations to potential participants. Not all participants will be interested in all parts of the transaction, e.g. typically, a revolving credit facility will appeal only to banks, and therefore the marketing usually focuses on the Term Debt (which, as we have noted, has most appeal to institutional investors) rather than on the revolver.45

A number of lenders use a secure portal, such as Debt Domain, to manage the information flows to participant bank and non-bank lenders. This ensures that all investors receive the same information at the same time, and provides transparency and an audit trail that this is the case.

The starting point can be a summary one page setting out the key terms for the loan, followed by the more detailed information memorandum, with legal documents towards middle/end of process.

44 For example, a public version of a loan may be marketed if there was to be a high-yield bond attached to the loan, to enable those investors wishing to trade the bonds to be able to continue to do so.
45 A bank’s willingness to take and hold a meaningful share of the revolver is a necessary requirement in selecting the lead banks in a syndicated loan, and therefore this has already been decided when the roadshow takes place.
**General syndication phase for PF/INFRA loans**

As set out above PF/INFRA loans are usually club deals. The literature indicates that if a PF/INFRA loan is to be syndicated further, a similar process to other underwritten/best efforts deals would be followed in that the borrower/sponsor would mandate the lead arrangers after the finalisation of the term sheet, giving the MLAs (in the capacity of bookrunners) a legal mandate to syndicate the loan. This time period is rarely shorter than one month and can be as long as one year. 46

Where there is a general syndication phase, market guides state that the arranging banks and project company representatives may go on an investor roadshow at which they will present the issuer, the project, the management of the project company, the proposed financing and the risk mitigation features, and give the investors the opportunity to ask for more information. At the project company’s request, a provisional (private) rating may be provided by one or more rating agencies to facilitate the roadshow phase. Typically, each rating agency would also publish a ‘pre-sale report’, setting out its rating rationale for the project. 47 Our lender fieldwork indicates that roadshows are less common now due to the increasing proportion of club rather than underwritten deals in PF/INFRA loans.

**Negotiation and allocations**

The terms of the loan are typically agreed between the borrower and the lead banks and signed before the general syndication phase (in particular, in the case of an LBO involving an auction, the sponsor needs committed funds and terms from the lead banks ahead of the auction close). There is limited scope for investors to individually negotiate terms directly with the arranger banks who approach them to participate in the loan: they can say yes or no to the offered terms – or say yes, if this or that is changed (and this feedback would then be share with the borrower/sponsor). This appears to be in part a feature of current market conditions – in scenarios of low liquidity then participant lenders may have more scope to negotiate key terms (especially large ticket holders).

However, in an underwritten deal’s general syndication, if overall demand for the loan proves to be too low (or unexpectedly high), the arrangers can use “market flex” to make loans more attractive to investors (or to the borrowers if the loan is heavily over-subscribed, in which case it is known as ‘reverse flex’).

A flex works such that the bookrunners feed back to the borrower/sponsor (and to other underwriters) on progress, giving a view as to whether the flex needs to be operated in order to secure the appropriate level of financing. In such a case, the syndication process is re-iterated at the new terms. In the case of under-subscription, if post-flex the syndication is still unsuccessful, there could be additional flex and subsequent syndication rounds. At some point, the arranger could decide not to decrease the price any further. If the deal is underwritten (flex only applies in underwritten deals), this means that the underwriters have to retain a larger share than expected. Sometimes, the underwriters prefer to pull the deal out of the market altogether, issue a bridge loan instead, and defer further syndication attempts.

Market flex allows arrangers to change the pricing of the loan, shift amounts between various tranches of a loan, or even change documentation, provided this is within the boundaries set by the flex clause. All flex provisions are agreed in the initial term sheet signed by the MLAs, for example which elements of the terms can be flexed, ranges for pricing shifts, and criteria for using flex. Typically MLAs must ‘pay away’

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some proportion of their fees to the market before they can invoke the flex provisions (cf. reverse flex), and this pain-sharing is also agreed upfront. Narrow flex clauses and fee ‘pay aways’ are included by the borrower/sponsor as a disincentive to bookrunners to invoke flex unless absolutely necessary. Fee pay aways disintivitise bookrunners from winning a mandate by bidding overly aggressively, only to invoke flex in the general syndication phase. Over-reliance on flex can also be damaging to an underwriters’ reputation as it signals a mis-reading of market appetite. Once flex is negotiated into the contract it is ‘automatic’ (i.e. the bookrunner is free to use it if necessary).

The frequency of use of flex or reverse flex is the result of a dynamic process, as the different actors respond to changes in market sentiment and to feedback from the market on past syndications (with some lag). In the current market, sponsors and borrowers will tend to push hard for borrower-friendly terms, building on past precedent of what they (particularly the sponsors) have achieved previously. Such terms may be agreed with the lenders (albeit potentially with warnings from the bookrunners that such terms may be too much) and which may then be subject to push back from institutional investors in a general syndication.

The nature of flex provisions varies across transactions, but our lender fieldwork indicates that the provision for extensive flex terms is less than it was. Terms have tightened – i.e. bookrunners have less contractual scope to change the pricing in the general syndication phase, and in (relatively rare) cases sponsors push for no flex provisions to be included at all. In addition, the economics have changed such that lenders are less likely to share in gains where loan terms move towards the borrower (i.e. reverse flex), and have increased pay away terms in cases of flex. The negotiation of these terms in parallel with the other terms of the underwritten loan is obviously an important element within the process.

That said, documentation flex provisions were highlighted as a feature of the current market by a number of lenders and investors. In particular, flex can be included around certain documentation terms which the borrower/sponsor removed during the initial negotiations (e.g. limitations on additional indebtedness of the borrower/sponsor) but recognised that doing so may be too aggressive for the market and agreed to allow the arrangers to re-instate the terms during the general syndication phase if necessary. In some PF/INFRA loans flex can be linked to market-moving events (such a change in regulation affecting the viability of renewable energy projects) – however, given that PF/INFRA loans are mostly club deals, flex will only occasionally be relevant.

In a recent paper by Bruche et al., the authors find that, in their sample, loans with a high yield and loans that finance acquisitions or LBOs, are more likely to experience price flex and that the likely direction in which spreads are flexed relates to net inflows into high yield mutual funds and CLOs. These flows occur after the arranger has launched the deal and, hence are not known to the arranger at launch. Net outflows, indicating low aggregate demand, are more likely to be associated with spreads being flexed up. A possible interpretation is that for such more complex loans, the arranger

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48 The majority of lenders in our fieldwork mentioned that the provision for at least some flex is made in LBO contracts, but that the terms of what could be flexed have tightened over time.

49 In addition, given the longer time-frames of PF/INFRA deals, changes in the market for a loan could be discussed between the lead banks and the borrower/sponsor whilst the loan terms were still being finalised, such that there would be minimal chance of the final terms needing to be flexed.

finds it harder to anticipate the true demand for the loan and adjustments occur more frequently.

“Reverse flex” can come into play if demand for the loan is higher than anticipated and the arrangers are able to secure better (pricing) terms for the client. The economics of reverse flex is partly conditional on the market segment. The largest sponsors tend to insist that all the gains go directly to the client, but below this level some degree of gain-sharing (say the book runners taking 25–50 per cent of year one benefits) can still occur.

Subsequent to any flex of terms, the book running bank(s) will recommend an initial allocation among participants. The starting point for this is likely to be pro rata. The final allocation will be signed off by the sponsor, who often will have its own allocation strategy in mind (although sponsors would normally advise the banks of this ahead of time).

Once the allocation has been finalised, the deal becomes active and the loan is operational, binding the borrower and the syndicate members by the debt contract. The latter sets out the terms and conditions of the loan: the amount, the purpose, the period, the rate of interest plus any fees, the periodicity and the design of repayments and the presence of any security.51

Ancillary services in LBO and PF/INFRA segments

There are two main types of ancillary services which can be provided in relation to syndicated loans: those services which can reasonably be split among a number of lenders such as hedging services (e.g. the writing of interest rate or foreign exchange swaps) and those services each typically provided by a single bank, such as cash/collateral management, custodianship and advisory services, as well as credit ratings services.

Our fieldwork with borrowers and lenders showed that it is relatively commonplace for at least one such ancillary service to be incorporated into the loan discussions.

Figure 4: Provision of ancillary services connected to the loan

Source: Europe Economics and YouGov fieldwork.

The figure below shows the ancillary services negotiated by borrowers and sponsors as part of the syndicated loan – as can be seen hedging and advisory services are the main two.\textsuperscript{52} We have described debt advisory activity earlier in Chapter 2 in the background to the syndicated loan market.

**Figure 5: Ancillary services purchased by borrowers and sponsors**

![Figure 5: Ancillary services purchased by borrowers and sponsors](source)

Some ancillary services are directly related to the syndicated loan and others are not ‘essential’ to the loan but can nevertheless be negotiated at the same time as the loan. Below we describe the key ancillary services from this perspective:

- **Hedging services:** Interest rate or foreign exchange risks are directly related to the loan as they ultimately affect the ability of the borrower to repay. In those cases where these risks are judged material (especially the case with PF/INFRA loans) hedging against these risks can be mandated by lenders in the loan contract.

- **Cash management:** this is not directly related to the loan, other than in the trivial sense that payments on the loan have to be processed. We note that where a loan is to a new borrower (e.g. an SPV set up especially to manage a new project) then cash management services would be necessary as a pre-condition to completing the loan.

- **The same applies to foreign exchange services, custodianship and insurance services:** these are not necessarily considered an essential part of a syndicated loan, but borrowers’ need for these may arise due to their engagement in the loan.

\textsuperscript{52} Our borrower/sponsor sample is not large enough to draw significant inferences of the differences between LBO and PF/INFRA loans, but the data show a greater proportion of borrowers and sponsors in PF/INFRA loans purchased ancillary services in general than in LBO loans, and that hedging services were the most commonly purchased ancillary services in PR/INFRA (75 per cent of those who purchased ancillary services) followed by advisory services (69 per cent); whereas advisory services were most commonly purchased by borrowers and sponsors in LBO loans (79 per cent of LBO sponsors/borrowers who purchased ancillary services) followed by hedging services (64 per cent).
The loan facility will require the appointment of a facility agent to manage the syndicate. This is directly related to the loan in that it simplifies the administration of the loan for the borrower (which pays the fees) and should also mean that the syndicate members have the same information as each other.

Borrowers can also agree the sourcing of other services from lenders that are not part of the syndicated loan per se, but are implied by it, namely acting as lead banks on future bond issuance expected to be undertaken to replace a bridging loan that is part of the syndicated loan facility.

Borrowers can also purchase other services from lenders that are not directly related to the loan, but rather to future business activities, such as to provide future M&A or IPO advisory services.

We describe here the two main services – hedging and cash management, the processes by which they can be engaged, and draw out differences where relevant between LBO and PF/INFRA loans.

**Hedging services**

The hedging of interest rate or foreign exchange risks may be required as part of the syndicated loan, i.e. mandated in the loan contract. Where hedging services are required, the borrower/sponsor would therefore be obliged to seek a bank(s) approval to write swaps. (They may also wish to take out swaps even if not obliged to do so by the contract terms.) This can, but does not always, involve negotiations with the original syndicate, and borrowers/sponsors can look outside the syndicate. This process can vary along the following main dimensions:

- The timing of when the hedging services are discussed and awarded (e.g. after the primary loan has been concluded or as part of the negotiation of the initial loan terms).
- The banks to whom the hedging services are allocated (e.g. those within the syndicate or not).
- The process under which the services are allocated (via competitive bids from banks or allocated directly by the borrower/sponsor).

Whilst there are no hard and fast trends for how these dimensions apply across loan types, there are some typical differences between LBO and PF/INFRA loans which we draw out below.

**LBO loans**

The majority of lenders in our fieldwork indicated that interest rate and foreign exchange swaps are mandated less often for LBO loans compared to PF/INFRA loans. The borrower/sponsor may still choose to enter into hedging agreements, but are generally able to resist any contractual obligation to do so. That said, in less usual circumstances hedging may be mandated and therefore the related issues are still relevant to a proportion of LBO loans.

Lenders in our fieldwork indicate that in LBO loans usually the allocation of hedging services is finalised after the loan documentation has been signed, i.e. they do not form part of the initial negotiations for loan itself. The most common process reflected in the borrowers/sponsors fieldwork also involved discussions after the initial loan terms had been agreed.53 However, there are cases where the provision of ancillary

53 Fieldwork question: "Did the negotiation with the lead arranger and/or participant institutions include arrangements about provisions of ancillary services related to the loan (e.g. hedging services, insurance, advisory services etc.)?" and "If yes, how".
services are discussed as part of the initial loan negotiations, e.g. in around 20 per cent of LBO cases reflected in the borrower/sponsor fieldwork.

The banks in the lead banking group would generally have the opportunity to bid for the provision of ancillary services (participant lenders, especially non-banks, may not be able or willing to provide hedging services) – in very few cases are such arrangements made completely independently of the syndication group (e.g. only four sponsors and no borrowers indicated this). Whilst this does not mean that the opportunity to bid for such services is restricted to the syndicate banks by the borrower/sponsor, in the majority of cases the services are awarded to syndicate banks.

The process of bidding for hedging services can either take place via a formal competitive bid process between the syndicate banks, or through negotiations between the borrower/sponsor and the syndicate banks. In around 40 and 50 per cent of cases, borrowers and sponsors respectively in our fieldwork indicate that lenders compete for such services through a formal competitive process rather than through the loan negotiations. Our lender fieldwork indicates that in many (but not all) banks the teams involved in discussions around ancillary services such as hedging are different to those involved in the loan syndication, and in some cases our fieldwork shows that lenders have a formal separation between these functions. A small number of lenders in our fieldwork indicated that the considerations about ancillary services such as hedging affected their primary decisions about the loan pricing – for the majority these decisions are kept separate.

Borrowers and sponsors also identify very few instances where ancillary services were made a condition of the syndicated loan i.e. where a lender includes in its initial bid for the loan the condition that it is allocated some proportion of the ancillary services (only one borrower and two sponsors responding to our fieldwork indicated that this occurred, although they did not specify the type of service involved – i.e. this could apply to hedging and/or other forms of ancillary service, as described below). We explore the potential risks associated with bundling of certain ancillary services and the loan in Chapter 4.

For efficiency purposes, in our lender fieldwork, it was indicated that a single bank could be delegated with the actual execution of the hedging transaction on behalf of the other banks. Borrowers/sponsors may rely on internal expertise in assessing the prices obtained (complemented where available by market prices) by the banks, or they may even engage a hedging broker to handle the transaction (e.g. run an auction). Market risk would be reflected in the price of the swaps which the borrower/sponsor would be able to check on the market via purchasable market data. This is because Interest Rate Swap (IRS) pricing is formula based. In other words,

54 Fieldwork question “What was the process for deciding ancillary arrangements if this did not entail negotiation with the lead or participant banks?”
55 Out of 89 borrowers/sponsors, 35 (i.e. 39 per cent) generally or wholly made provision for ancillary services independently of the loan process. A further 22 (i.e. another 25 per cent) left negotiation until post-deal but did invite bids from the MLAs.
56 Fieldwork question: “Did the negotiation with the lead arranger and/or participant institutions include arrangements about provisions of ancillary services related to the loan (e.g. hedging services, insurance, advisory services etc.)?” and “If yes, how”. This finding applies across all ancillary services – no breakdown specifically for hedging services is given by borrowers/sponsors.
57 Fieldwork question: “Did the negotiation with the lead arranger and/or participant institutions include arrangements about provisions of ancillary services related to the loan (e.g. hedging services, insurance, advisory services etc.)?” and “If yes, how”. See for example an introductory primer here: https://insight.factset.com/hubfs/Resources%20Section/White%20Papers/Interest_Rate_Swap_Valuation_WP.pdf?t=1530886131305.
pricing can be benchmarked provided there is access to the relevant financial data and the knowledge to put it together using an appropriate formula. Whilst this may likely be a level of sophistication not universally shared amongst the borrowers and sponsors (even) in the LBO and PF/INFRA segments, there are also dedicated third-party derivative advisory firms, either operating as part of broader debt advisors or an independent basis. Similarly, MiFID2 has created new obligations around transaction reporting, including price data, apply to OTC derivatives that are economically equivalent to those “traded on a trading venue”, which ESMA has interpreted as sharing the same reference data details.\textsuperscript{59} For Interest Rate Swaps, for example, this would mean: data on reference rate, term, currency, and description of floating and fixed legs (i.e. applicable interest rate). This is expected to capture a substantial part of IRS, particularly ‘vanilla’ IRS constructed around EURIBOR and LIBOR benchmarks. Some other local benchmarks (e.g. Warsaw IBOR) could fall outside this. As Recital 116 of MiFID2 states, it is expected to “improve the quality of trade transparency information published in the OTC space”. However, MiFID2’s implementation was only in January 2018 and the industry may take time (and potentially supervisory action) to fully adjust to the new protocols.

**PF/INFRA loans**

By contrast to LBO loans, it is common in PF/INRA deals for the extent of interest rate hedging on the loan to be specified as part of the negotiation of terms, due to the nature of the projects.

Similar points apply as with LBOs regarding the banks involved in the provision of such services, namely that although non-syndicate banks need not be excluded from the (private) tendering process for the provision of such services, the hedging services end up being allocated to syndicate banks (although this appears to be particularly relevant to PF/INFRA loans – the lead banking group may be best placed to secure the business of writing swaps given their knowledge of the credit risk of the project). Similarly, there are no significant differences in whether such services are allocated by formal competitive bids (52 per cent) or via a negotiation (48 per cent), although our borrower/sponsor fieldwork shows that a competitive process is slightly less likely in PF/INFRA loans than LBO loans (46 per cent versus 54 per cent).

One difference between LBO and PF/INFRA loans is the timing of the discussions around hedging services. Both our lender and borrower/sponsor fieldwork indicate that instances where the discussion of hedging services occurs earlier on in the loan process are more common in PF/INFRA loans compared to LBO loans. For example, our lender fieldwork indicates that in some instances there may be a hedging letter agreed as part of the mandate award stage whereby an agreement to split the hedge between certain banks is made (this aligns with the borrower/sponsor fieldwork which indicated that the tying of ancillary services with the original loan – although only in a few instances in our borrower/sponsor – does happen),\textsuperscript{60} even if the final pricing of the derivatives can only take place after the loan has been finalised (i.e. the loan’s terms have been agreed). The potential competition issues associated with the bundling and timing of ancillary services are discussed in more detail in Chapter 4.

As hedging services are more common in PF/INFRA loans than LBOs, leading banks (especially if these are commercial banks) might aim to secure ancillary services as a means of maximising the overall returns of the transaction and as part of a long-term strategy of deepening relationships with the borrower - and would seek to use their

\textsuperscript{59} ESMA Opinion on TOTV published 22 May 2017.  
\textsuperscript{60} One borrower and two sponsors (out of 54 in total providing an answer to this question) responding to our fieldwork indicated that lenders make the provision of ancillary services a condition of their initial loan terms. All three were located in Spain (out of 11 borrowers/sponsors answering this question).
experience and relationship with the borrower/sponsor in positioning themselves as the preferred candidate. This would apply to other ancillary services as well. However, our borrower and lender fieldwork indicates that the final decision on ancillary services is at the discretion of the borrower/sponsor, e.g. through negotiations related to the initial loan or through the bidding/negotiating processes after the loan has closed. In Chapter 4 we draw out the risks associated with circumstance where the borrower/sponsor’s decision making may be limited in some way.

**Cash management services**

Other ancillary services such as cash management and advisory/agency services are not split between syndicate banks, but are usually assigned to a particular bank (or a few banks). In the case of cash management services, this is seen as sticky (as systems and processes will vary between banks) and if there is an existing relationship bank that handles this work it is likely to retain this business. Banks might compete for these roles, but some roles (especially cash management) need to be held by a bank local to the borrower and thus the pool of eligible banks may be diminished, and sometimes a bank may already be providing similar services to the borrower or the underlying target corporation. (Indeed, in such cases such a bank may be brought into the syndicate largely on the basis of this relationship to ensure continuity.) There are no significant functional differences in the nature of cash management services across LBO and PF/INFRA loans. With LBO loans it might be that the underlying target already has a relationship with a certain bank which the borrower/sponsor will want to preserve during the loan syndication phase. This is unlikely to be the case with PF/INFRA loans for new builds, but may apply if the borrower is an existing construction company or SPV.

Our lender fieldwork indicates that in general, any anticipated returns from ancillary services are not considered as a factor in loan pricing, i.e. would not compensate for lower loan margins. However, some banks’ business models from our fieldwork do not preclude this and there are thus instances where the consideration of ancillary services and the returns to be made would influence decisions about participating in a syndicated loan. Indeed, in most banks the provision of ancillary services is dealt with entirely separately by a group (or groups) other than that involved in the syndicated loan, and as such there may be reduced incentives to consider the returns from such services in the syndication phase. However, as with the areas of hedging services, we explore the risks associated with the bundling of ancillary services e.g. opacity of pricing in Chapter 4.

**Post-closure**

We touch briefly upon phases that may occur post-closure, once the loan has been fully allocated to lead banks and participant investors.

After the loan has closed – all documentation signed and the loan allocated to all lenders – the facility is administered by the Agent Bank. This bank acts on behalf of all syndicate members (both the leading banks and the participant investors) throughout the life of the loan. The Agent’s role is largely administrative – it receives and passes on all borrower information throughout the course of the loan (management report etc.) and is the conduit for all payments and notices under the facility. The post-closure phase is not distinguished across LBO and PF/INFRA segments, and variations would rather stem from the nature of the transaction. Some key variations between LBOs and PF/INFRA exist in relation to the secondary loan market (e.g. the liquidity of the two markets) which we discuss in the section below and in Chapter 3.
After the loan has closed, lenders may choose to engage in the secondary loan market, where loan shares are bought and sold. In time, the loan may also be refinanced, and in the event of any default or distress the loan may be restructured.

**Secondary loan market**

Secondary market trading here refers to the buying and selling of the primary loan on the secondary market once the loan has been closed.\(^61\) We do not include the buying of ancillary products (such as interest rate or foreign exchange swaps) in this definition – this has been described in the section under ancillary services.

Lenders might have several reasons to sell loans (or parts of loans) in the secondary market. First, they might do so for portfolio management considerations including smoothing risk due to the concentration of particular obligors or industries, or to move on to higher return opportunities. Second, they might do so to change their lending strategy. Banks indeed might become particularly vulnerable to given industries / geographic locations or customers during the business cycle. Third, they might do so to satisfy regulatory requirements. The sale of a loan in a portfolio allows them to use their capital effectively and therefore to engage in a higher level of loan origination activity.\(^62\) In some cases, potential lead banks might signal interest in a particular sponsor or corporate by buying part of a syndicated loan on the secondary market (this is usually accompanied by other discussions with the potential client to indicate that such interest would be welcome).

Equally, certain types of lenders, such as hedge funds, may be more inclined towards rapid trading for short-term profit on the secondary market.\(^63\) Major buyers of syndicated loans in the secondary market are non-bank financial institutions e.g. hedge funds, debt funds using investment vehicles such as CLOs, and other funds.\(^64\) Syndicated loans are an increasingly popular asset class for institutional investors seeking alternative investments and higher returns. Past studies have found that the returns on these loans are only loosely correlated with equity returns.\(^65\)

Another category of participants in the secondary loan market are specialist investors who wish to own part of the debtor company. These may buy a large proportion of the borrower’s debt, potentially with a view to acquiring control of the company. Alternatively, the investors may look to influence the borrower’s insolvency or restructuring process. The investors may be making an investment on their assessment of the probability that the company will be successfully rescued, the ultimate aim being to profit from any subsequent upside in the value of the business. The investors may also be taking a view that the breakup value or recovery via insolvency will be sufficient to make a profit on its original investment. Our understanding from our fieldwork is that the white lists specified by borrowers/sponsor relating to primary or secondary loan transfers may seek to exclude such specialist investors particularly as the borrower/sponsor may not wish them to have a role in

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\(^61\) The LMA Guide to Secondary Loan Market (2016) defines the secondary loan market as follows: “The secondary loan market refers to the sale of loans that occurs after syndication of the original loan has been closed and allocated. It includes sales or trades of syndicated loans made by lenders in the original syndicate and those made by subsequent purchasers.


\(^64\) Mutual funds (acting on behalf of retail investors) are common in the US market but not in Europe (there are a few quoted investment vehicles in Europe through which a retail investor can achieve access).

\(^65\) LMA (2016) ”Guide to secondary loan market transactions”.
any restructuring (e.g. if these investors are likely to favour the break-up of the company).

The secondary market for LBO loans is much more liquid than for PF/INFRA (as described in more detail in Section 3). That said, the common approach among the majority of banks in our fieldwork is to use the secondary market for portfolio management, rather than to engage in continuous trading. The exceptions are large investment banks. PF/INFRA loans tend to be more often held to maturity, and the bespoke nature of such loans (i.e. credit risk etc.) means that finding counterparties willing to take on the exposure can be difficult. Indeed, it is not uncommon for banks needing to sell on part of a PF/INFRA loan to first approach the other lenders in the club before approaching the wider secondary market.

Secondary trading is affected by transfer restrictions specified in the initial term sheet. In some cases (most common in LBO loans), transfers can happen without formal borrower consent so long as these are from within the ‘white list’ of investors agreed, as described in the previous section. In other cases, borrower consent is required for any transfers (typically ‘not to be unreasonably withheld’). These restrictions may limit the efficiency of the secondary market, which we discuss further in Chapter 4.

**Types of secondary market trades for LBO and PR/INFRA segments**

Our understanding from our fieldwork and market reports (e.g. the LMA’s guide to the secondary loan market) is that the process for trading loans on the secondary market is not driven by whether the loan is for an LBO or PF/INFRA purpose, and therefore we describe the process here as applicable to both. There are several mechanisms available for trading loans on the secondary market which differ in the degree to which they transfer the rights and obligations of the existing lender to a third party (i.e. buyer). Starting from the most to least “complete” transfers these are:

- Novation.
- Legal assignment.
- Equitable assignment.
- Sub-participation.

With the first two methods, i.e. novation and legal assignments, the third party enters into a direct contractual relationship with the borrower (i.e. joining the syndicate ex post), while with the other two the third party’s involvement in the loan is (to a larger or lesser extent) intermediated by the existing lender.66 Starting from the most to least “complete” transfers these are:

- Novation.
- Legal assignment.
- Equitable assignment.
- Sub-participation.

Given that assignment is the most common method of transfer in several EU Member States (as well as in the US, where the academic literature is concentrated), in the remainder of this chapter we focus on this type of transfer mechanism and, unless stated otherwise, when discussing trade or secondary transactions we mean a transfer of rights by way of assignment.68

In general, assignment is a transfer of rights but not obligations. It is often accompanied by an indemnity that the new lender will also assume those obligations “as if named as a lender under the facility agreement”.69 As opposed to a transfer by novation, assignment generally does not require obtaining the consent of the borrower.

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67 Aside from the techniques set out in this section, an additional way of obtaining exposure to the syndicated loan market is through derivatives.
68 Further details of secondary market transfers are included in Appendix 3.
69 LMA (2016) “Guide to secondary loan market transactions”.
(or other syndicate members). Legal assignment is more complete and requires the transfer: to be unconditional, to cover the whole of the existing lender’s share of the debt, to be in writing and signed by the existing lender, and to be disclosed in writing to the borrower (and other lenders, if the loan agreement specifies so). If any of those conditions is not satisfied, the transfer is an equitable assignment. The main difference between legal assignment and equitable assignment is that the assignee (i.e. the new lender) often cannot bring any action against the borrower or other syndicate members and has to join the assignor (i.e. the existing lender).

**Process of trading loans on the secondary market**
The process of trading shares of a syndicated loan would generally – regardless of the transfer mechanism – follow the following steps and information flows.

- **Before the trade** both parties would need to be aware of the types of entities to which loans can be transferred or assigned as specified in the original loan agreement (i.e. either through the white lists or other specific references). Once this is determined, the buyer would have to agree to the confidentiality requirements specified in the original loan agreement, after which they would be able to perform due diligence, i.e. examine all the relevant loan documentation and financial information provided by the seller.

- **The trade** usually happens over the phone and constitutes a binding contract. In the oral agreement the parties usually determine: the price paid (par, premium or discount), the exact facility and tranche that will be traded, the amount (entire or part of the tranche), the form of purchase (legal transfer, legal transfer with a fall-back option to funded participation, or funded participation), the treatment of interest payments and fees (any unusual fees such as repayment premiums), trade-specific representations and warranties, and the party responsible for preparing the confirmation of the trade.

- **The confirmation** is a written record of terms previously agreed orally, and therefore it is in principle not subject to further negotiation. The party responsible for its preparation sends it for the other party to review, and in the absence of any objections, sign.

- **Third party consent** might be required (e.g. if the transfer is by way of novation). If borrower consent is required then the seller usually obtains it via the agent rather than by directly contacting the borrower (or other relevant syndicate parties).

- **Transaction documentation** will consist of any documents required to complete the transaction, including transfer certificates, and pricing letters (specifying any transfers of funds between the buyer and the seller, and to the agent).

- **The Settlement date** is directly agreed by the parties, or – in the case of transfer by novation – it is the date specified in the transfer certificate or the date at which the agent signed the transfer certificate, whichever is later. On the settlement date the asset is transferred to the buyer (unless the trade is via a participation) and the settlement amount paid.

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70 There is some inconsistent evidence in the literature as to whether consent is required in the case of assignments:
- S&P (2014) “A Syndicated Loan Primer” says consent is ‘typically’ required, but that the consent cannot be withheld unless there is a reasonable objection. This is equivalent to what the LMA (2016) guidelines say on novation.
- Thomson Reuters glossary (cited below) states that assignments generally do not require consent. Our interpretation is that assignments (as we define above) do not require consent. We are of the view that the S&P statement that consent is ‘typically’ required is the result of their using the terminology slightly differently, namely by grouping novation and assignment together, and collectively referring to them as assignment.


72 Based on LMA (2016) “Guide to secondary loan market transactions”.
• **Post-settlement** there is time for any notices, e.g. notifying the borrower about the assignment.

• **Secured debt** is likely to be a syndicated loan which is part of a multilateral financing structure, which in turn often includes a security trust agreement. There is no need for any amendment in the trust agreement after the trade is complete – the new lender automatically benefits from the security.

The LMA also provides a target timeline specifying when the relevant parties could be expected to complete each of the stages of the trade described above. This is illustrated in the figure below. This illustrates the slowness of such trading compared to transferable securities governed by the CSDR which operate on a T + 2 settlement cycle.

**Figure 6: Timeline of secondary market transactions**

<table>
<thead>
<tr>
<th>Time</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>T - x</td>
<td>Identification of the trade parties</td>
</tr>
<tr>
<td></td>
<td>Ensuring confidentiality</td>
</tr>
<tr>
<td></td>
<td>Due diligence</td>
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<tr>
<td>T</td>
<td>The trade</td>
</tr>
<tr>
<td>T + 1</td>
<td>Seller requesting borrower’s consent via agent</td>
</tr>
<tr>
<td></td>
<td>Seller sending credit documentation to buyer (unless already sent before)</td>
</tr>
<tr>
<td>T + 2</td>
<td>Responsible party sending the confirmation</td>
</tr>
<tr>
<td></td>
<td>Agent requesting borrower’s consent</td>
</tr>
<tr>
<td>T + 4</td>
<td>Other party returning the signed confirmation</td>
</tr>
<tr>
<td>T + 5</td>
<td>Responsible party sending transaction documentation</td>
</tr>
<tr>
<td>T + 7</td>
<td>Borrower providing consent</td>
</tr>
<tr>
<td>T + 8 (par)</td>
<td>Signing transaction documentation</td>
</tr>
<tr>
<td>T + 15 (distressed)</td>
<td>Settlement date - transfer of assets and settlement payments</td>
</tr>
<tr>
<td>T + as soon as reasonably practicable</td>
<td>Settlement date - transfer of assets and settlement payments</td>
</tr>
<tr>
<td>T + 10 (par)</td>
<td>Delayed settlement compensation starts to accrue</td>
</tr>
<tr>
<td>T + 20 (distressed)</td>
<td>Delayed settlement compensation starts to accrue</td>
</tr>
<tr>
<td>T + 60 (par only)</td>
<td>Buy-in / sell-out if settlement delivery obligations are not satisfied</td>
</tr>
</tbody>
</table>

Source: Loan Market Association. Note: The LMA does not specify the typical value of x.

**Refinancing, restructuring and default**

**Refinancing**

Refinancing is a normal part of the syndicated loan market. Refinancing could be attractive to a borrower/spONSor if the risk appetite in the market has changed significantly (i.e. spreads over Euribor for a particular instrument have narrowed) or if the risks/prospects of the project have changed significantly. This could be where – in an infrastructure project, for example – the project transitions from the construction phase to its operational phase.

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73 A security trust agreement appoints a trustee to hold the security for all lenders for a period of time.
The process for such (voluntary) refinancing will be equivalent to that of the initial, primary syndication process, i.e. there would not be restrictions in place to deal only with existing syndicate members. One point of difference is that, for performing loans, there is much less likelihood of time being a key variable, and so underwritten deals are much less common.

**Restructuring and default**

A requirement to refinance can also be involuntary. The default rate on sub-investment grade loans is estimated by Moody’s to be around 2–3 per cent in Europe.⁷⁴ The senior status of the loans can mean that recovery in default can be substantial (e.g. estimated at about two-thirds of par value on a historic basis, globally, by Moody’s).

The syndicated loan documentation may contain financial (e.g. around interest cover, maintenance etc.) covenants. A breach of these covenants may represent a default in the loan. The simple failure to pay interest or capital when due would also constitute default events. This would clearly signal that the borrower is in financial difficulties. As such, the parties to the loan would need to determine a solution around re-negotiation of the loan documentation, through to some form of re-structuring (which may be equivalent to a new origination), and even more severe outcomes (i.e. insolvency).

In the event of default (or possibility of default), the typical process is for a separate group within each of the lending banks to take over the management of the loan. This group (“Restructuring”, “Special credit” etc.) would either liaise with the origination/relationship team of the bank, or there might be complete separation between the teams. Discussion of solutions between lenders would be instigated by the sponsor/borrower.

Market participants consider it best practice for the sponsor/borrower to engage early with arranger banks to discuss an expected problem, and either give permission for banks to speak to each other, or better give a ‘voluntary’ presentation by management to the banking group.

A negotiation committee would be set up among some of the lead banks which would lead the negotiations on behalf of the rest of the syndicate – this committee would be arranged by the borrower. From our fieldwork, lenders have differing views on participation in this committee – some consider it a good way to receive information early and have access to the negotiations (particularly if they have large exposure). Others do not consider it necessary and consider all banks to have broadly equal bargaining power as many decisions need to be taken unanimously (e.g. to defer repayment), although sometimes only 75% (of shares in loan) is needed to pass a decision and therefore banks with larger shares would have more power. This will vary – the loan documentation will specify which requests require unanimous consent and what the required majority will be for other requests. Participation in the negotiation committee may restrict lenders from trading as they may be in possession of non-syndicate level information for a time before it is passed to the rest of the syndicate, and some lenders would refuse to join committee for this reason. Negotiations would continue until the necessary majority/unanimous proportions have been reached.

In the event or possibility of a default, where refinancing or restructuring negotiations are being held, it is possible that the lenders would have a degree of market power, as alternative refinancing options would be limited for the borrower (i.e. the market may not be willing to provide the new finance) and the lenders would have an incentive to

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EU loan syndication and its impact on competition in credit markets

protect their existing investment. The lenders could seek to exploit any such power through bundling in of ancillary services as a condition of refinancing, or, more baldly, through effecting the loan on ‘punitive’ terms (e.g. pricing excessively). We assess these risks in more detail in Chapter 4.

Banks could decide to sell their shares, which would be an isolated decision (i.e. not discussed with other banks). There is quite a liquid market for distressed debt, e.g. larger banks have specialised trading here. Secondary market sales could be executed by the trading desk, or by the syndicated sales team.

Information exchange in the LBO and PF/INFRA segments

We begin with a series of diagrams that summarise the loan syndicate process for LBO (underwritten/best efforts) and PF/INFRA (club deal) loans, showing the main parties involved and the information flows.

**Figure 7: Loan syndication process for LBO (underwritten) loans – formation of the lead banking group**

The formation of the lead banking group in the LBO segment involves the borrower/sponsor and/or their advisor, a number of lead banks bidding for various MLA positions – this can be done individually or as a ready-made consortium, and potentially relationship banks providing input before the RFP stage (this happens less often in LBO loans than in PF/INFRA, and the relationship banks would still need to
EU loan syndication and its impact on competition in credit markets

compete formally in the RFP process). Sometimes a borrower/sponsor may wish to bring a non-bank investor (an ‘early bird’ investor) into the initial discussions with the lead banking group. Alternatively, a mandated bank could approach the early bird investor pre-marketing (i.e. prior to any general syndication). The diagram above represents only the first of these two possibilities (for clarity).

The process is designed to keep the competing banks separate for as long as possible, with negotiations occurring bilaterally between the borrower/sponsor/advisor and each bank or consortium. Information flows are controlled under NDAs.

Once the lead banking group is formed, the banks are brought together to agree the syndication strategy. The borrower/sponsor also assigns various roles at this stage, including bookrunners who are in charge of the general syndication phase and liaise between the participants and the borrower/sponsor. The figure below illustrates this process.

**Figure 8: Loan syndication process for LBO loans – general syndication**

The key negotiations at this stage take place between the (potential) participant lenders and the bookrunners, who relay the market response to the borrower/sponsor and the rest of the lead banking group. In some transactions (e.g. very large deals that are potentially more difficult to market) a single ‘lead left’ bookrunner would be appointed instead of there being multiple bookrunners. Participants to be approached usually form part of a white list imposed by the borrower/sponsor in order to retain control over who can participate in the loan.
At this stage, ancillary services may also be negotiated between the lead banking group and the borrower/sponsor (participant banks may also be involved at this stage but these services are more likely to be awarded to those in the lead group).

**Figure 9: Loan syndication process for PF/INFRA (club deal) loans**

The figure above illustrates the process of forming the syndicate in a PF/INFRA loan (i.e. a club deal). The process is largely similar to the formation of the lead banking group in LBO loans, although there is a higher likelihood of relationship banks being involved at the pre-RFP stage. The borrower/sponsor/advisor typically puts the club together and negotiates directly with each lender, although there are cases where a coordinator might be appointed to form the club and negotiate with lenders on behalf of the borrower/sponsor.

The club banks typically agree and sign final terms with the borrower/sponsor before being brought together to agree documentation; however, there are also cases where the club would negotiate terms together and with the borrower/sponsor before signing the final terms. There is no formal general syndication phase to club deals (though the clubs’ members may sell down some part of the debt post-close). Any negotiation of ancillary services would be towards the end of the club formation, as illustrated in the general syndication figure for LBOs above.

Source: Europe Economics.
EU loan syndication and its impact on competition in credit markets

Figure 10: Post-closure processes for LBO and PF/INFRA loans

Source: Europe Economics.

The figure above illustrates the secondary loan market phase. (For the avoidance of doubt, we treat pre-closure as the primary market, and post-closure as the secondary market in loans). The process is similar for both LBO and PF/INFRA loans, albeit the evidence indicates that secondary activity in LBO debt is substantially more important than in PF/INFRA. Lead banks, participant lenders and non-syndicate lenders can all be involved in the secondary loan market. The borrower/sponsor’s white list (if there is one) carries through to the secondary market, such that any non-syndicate (club) investors would either need to be on the white list in order to participate, or the borrower/sponsors consent would need to be given.

Conclusions

In this section we summarise the features of the loan syndication process which may pose risks to competition. The purpose of these conclusions is to highlight issues to be examined more detail in Chapter 4, where our hypotheses of risks are fully developed within our competition framework and then tested against the empirical evidence. The summary points below should therefore not be considered as our developed competition risk hypotheses, but rather an iteration of the points to be addressed further in Chapter 4.

The table below summaries the features of the syndication loan process that may pose risks for competition law or sub-optimal outcomes. We indicate where issues are the same across LBO and PF/INFRA loans, and where they are similar but more pronounced in a certain loan type.
Table 10: Summary of issues to be examined in Competition Framework – LBO and PF/INFRA loan process

<table>
<thead>
<tr>
<th>Element of process</th>
<th>Feature to be examined under Competition analysis</th>
<th>Applicability to LBO or PF/INFRA loans</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Formation of initial banking group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appointment of lead banking group</td>
<td>If borrowers/sponsors hold initial discussions with relationship banks before the RFP process this may unduly influence the syndication process in the banks’ favour.</td>
<td>Given the bespoke nature of many PF/INFRA loans, the uncertainties around structure and market appetite may be greater and thus initial scoping discussions with relationship banks may be more likely for these loans.</td>
</tr>
<tr>
<td></td>
<td>Appointing the lead banks directly without a competitive (e.g. RFP) process may influence the outcome of the syndication process if these banks propose terms that are uncompetitive. For example, it could make the likelihood of settlement of the loan terms at the ‘highest common denominator’ amongst the participating banks more likely (because the lenders approached represented insufficient market coverage).</td>
<td>Similar conceptual issues across LBO and PF/INFRA, albeit this looks to be more common in PF/INFRA.</td>
</tr>
<tr>
<td></td>
<td>The risks of information sharing may be influenced by whether banks are invited individually to compete for a position in the lead banking group, or if they compete as ready-made consortia.</td>
<td>Similar issues across LBO and PF/INFRA.</td>
</tr>
<tr>
<td>Information issues in the competitive formation of the lead banking group</td>
<td>Where a (bilateral) competitive process is used to appoint banks to the lead banking group and negotiate pricing and other terms, any sharing of information between banks is not an intrinsic/necessary part of the loan syndication process and is governed by NDAs. Borrowers/sponsors use of NDAs to control information sharing between competing lead banks is a key element in retaining competitive tension in this approach to the formation of the lead banking group. The extent to which such NDAs can be enforced will influence the risks associated with [illegal] information sharing.</td>
<td>Similar issues across LBO and PF/INFRA.</td>
</tr>
<tr>
<td>Market soundings</td>
<td>The use of deal-specific market soundings (by the syndication desks), where lead banks share details of the loan with potential participants or competitors to gain insight into market appetite and develop their proposals on price and hold levels – with or without borrower consent</td>
<td>Given the more bespoke nature of PF/INFRA loans, the availability to banks of internal / vendor information may be more limited and thus the likelihood of more specific market soundings between potential competitors is greater.</td>
</tr>
</tbody>
</table>
### EU loan syndication and its impact on competition in credit markets

**Table: Element of process**

<table>
<thead>
<tr>
<th>Element of process</th>
<th>Feature to be examined under Competition analysis</th>
<th>Applicability to LBO or PF/INFRA loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Information issues in a collaborative formation of the lead banking group</td>
<td>- raises risks associated with information sharing and possible coordination / collusion between lenders. More generic market soundings by the syndication desks of lead banks are conducted with market participants not involving specific details of the transaction are less risky – and indeed could be pro-efficiency for difficult to price credit – but the line between specific and generic market soundings may become blurred without appropriate policies and safeguards.</td>
<td>Generic market sounds as means of remaining up to date with participant market a feature of underwritten loans and thus more relevant to LBO loans than PF/INFRA.</td>
</tr>
<tr>
<td>- Appointing a single MLA to lead the syndication process</td>
<td>Where lead banks are invited by the borrower/sponsor to discuss key terms ahead of the finalisation of the loan terms (for example in situations of high market uncertainty), information sharing becomes an intrinsic part of the syndication process. This may have implications for competition and the outcome for the borrower/sponsor.</td>
<td>More applicable to PF/INFRA loans, although cannot rule out with LBO.</td>
</tr>
<tr>
<td>- General syndication</td>
<td>The appointment of a single MLA to lead the formation of the initial banking group (which we describe in the Chapter as a more ‘traditional’ model of syndication not common to the west Europe markets, but potentially more relevant to other, more national markets) may invest too much power with a single bank and affect intra-syndicate dynamics. This model may also increase the risk of information sharing between banks as the borrower/sponsor is not negotiating bilaterally with each one.</td>
<td>More applicable to PF/INFRA loans, although cannot rule out with LBO.</td>
</tr>
</tbody>
</table>

**General syndication**

<table>
<thead>
<tr>
<th>Feature to be examined under Competition analysis</th>
<th>Applicability to LBO or PF/INFRA loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Information sharing among participants</td>
<td>Unsanctioned information sharing (as information is distributed under NDA) between the participants in the general syndication may facilitate anti-competitive behaviour or invest the syndicate with excessive bargaining power, resulting in the loan terms unduly moving against the borrower/sponsor. Applicable to underwritten and therefore primarily LBO loans.</td>
</tr>
<tr>
<td>- Lead left</td>
<td>The use of a single bookrunner (&quot;lead left&quot;) to manage the whole general syndication process and be the main point of interaction between the borrower/sponsor and the market may lead to a restriction in the number of eligible bookrunners for future transactions. Applicable to underwritten and therefore primarily LBO loans.</td>
</tr>
<tr>
<td>Element of process</td>
<td>Feature to be examined under Competition analysis</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>White lists</td>
<td>The use of white lists to restrict the marketing of the loan in the general syndication phase (and in secondary trading) may unduly limit competition for the loan by participants. Lead banks may be able to exert pressure on the borrower/sponsor to ensure that participants which are favourable to them are included in the white lists, which may facilitate reciprocity and coordination between lenders in future transactions.</td>
</tr>
<tr>
<td></td>
<td><strong>Provision of ancillary services</strong></td>
</tr>
</tbody>
</table>
| Hedging services   | Potential risks around the provision of hedging services include the discussion among banks in order to share out the services between them and/or coordination on pricing, and uncompetitive bundling of the services with the initial loan terms which restricts the choice of borrower/sponsors. The competitive dynamics related to the provision of hedging services will depend on the way in which these are negotiated and awarded, such as:  
  - The timing of when the hedging services are discussed and awarded (e.g. after the primary loan has been concluded or as part of the negotiation of the initial loan terms).  
  - The banks to whom the hedging services are allocated (e.g. those within the syndicate or not).  
  - The process under which the services are allocated (via competitive bids from banks or allocated directly by the borrower/sponsor). | Hedging services more commonly required in PF/INFRA loans, but issues cannot be ruled out with LBO loans. |
<p>| Cash management    | The sticky nature of cash management services may give rise to competition risks if borrowers/sponsors are not able to easily switch providers (however, this stickiness is not a function of the syndicated loan market). The impacts of this would be exacerbated if the provision of such services also gives incumbents an additional advantage in the provision of the syndicated loan. | Similar issues across LBO and PF/INFRA. |</p>
<table>
<thead>
<tr>
<th>Element of process</th>
<th>Feature to be examined under Competition analysis</th>
<th>Applicability to LBO or PF/INFRA loans</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advisory services</strong></td>
<td>The use of an advisor by the borrower/sponsor to assist in the loan syndication, where the advisor is one of the syndicate banks, could give rise to conflicts of interest, undermine the competitive nature of the syndication, and result in sub-optimal outcomes for the borrower/sponsor.</td>
<td>The use of syndicate banks as advisors more likely in PF/INFRA loans, but cannot be ruled out for LBO loans</td>
</tr>
<tr>
<td><strong>Post closure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borrower/sponsor restrictions on secondary trade transfers</td>
<td>The process of secondary market transfers can be limited by the white list approach, whereby only institutions on the pre-defined list developed for the primary loan would be eligible to participate in secondary market trades. This may lead to inefficiencies if this prevents or holds up trades.</td>
<td>Similar issues across LBO and PF/INFRA, if traded.</td>
</tr>
<tr>
<td></td>
<td>Similarly, the need for transfers outside of the white list to be approved by the borrower/sponsor may introduce inefficiencies that may undermine the functioning of the secondary market.</td>
<td></td>
</tr>
<tr>
<td>Refinancing and restructuring</td>
<td>There is a risk that the existing syndicate may be able to exert bargaining power over the borrower/sponsor in the event of a breach of covenants, i.e. when restructuring negotiations take place the group of leading banks could be in a position of strong bargaining power – against the interests of the borrower – as alternate sources of which may be restricted. This needs to be balanced against the needs of borrower for capital.</td>
<td>Similar issues across LBO and PF/INFRA.</td>
</tr>
</tbody>
</table>
3. The Loan Syndication Market

In this section we provide a description of the syndicated loan market in the EU, focusing on our core sample of Member States and three market segments of interest (i.e. LBO, Project and Infrastructure), by using Thompson Reuters Loan Connector data, covering the period January 2010 to December 2017.\(^75\) We also draw on our literature review and fieldwork with lenders, borrowers and sponsors to develop conclusions and hypotheses for how the features (and evolution) of the market may affect competition.

This section includes the following:

- An overview of the syndicated loan market both globally and in the EU. This covers the syndicated lending market in its entirety. We then focus on the segments of greatest interest to this study, i.e. the LBO segment and the PF/INFRA segment, specifically in the countries of interest.
- We describe the market participants active in these areas from the demand and the supply side, including an analysis of the economic benefits and drawbacks of syndicated lending from both borrowers’ and lenders’ perspectives; an analysis of the alternatives to syndicated loans; impacts of financial services regulation; and cross-border dimensions.
- We also describe other salient aspects of the market such as loan pricing, fees and covenants. We describe the secondary market for syndicated loans, including the economic benefits of secondary trading and implications for competition.
- The conclusions to this chapter summarise the various hypotheses we will explore in more detail in the framework of competition issues and the associated analysis in Chapter 4. We also summarise our considerations on the product and geographic market for syndicated loans and implications of market trends.

Overview of the global syndicated market

The global syndicated loan market is a major source of debt capital, with borrowers raising over $4 trillion globally in 2017. The graphs below present an overview of the main syndicated loan markets across the world, namely Europe, the United States of America (USA) and Asia. (Many large lenders incorporate Europe into an EMEA-focused region. Given our interest in Europe, we have separated out European borrowers discretely.) These data include all forms of syndicated lending, including corporate loans, etc.

The syndicated lending market in Europe received a major boost from the introduction of the Euro, but was also strongly influenced by the credit bubble building through to the credit and Euro crises of 2008–2010. Indeed, the global impact of the credit crunch is very apparent in these data. The USA market is by far the largest – and its relative significance has in fact grown subsequent to the credit crunch as the European market has only partly reverted to pre-crisis levels.

\(^{75}\) We describe in Appendix 2 how we defined these segments for the purposes of extracting data from Loan Connector.
The distribution of transactions is somewhat similar. Again, transaction numbers in Europe have not recovered to pre-crisis levels. (Comparable US transaction data are only available from 2006 onwards.)
**Figure 12: Number of syndicated lending transactions**

Note: USA data are only available from 2006 onwards. The number of deals will be underestimated as Loan Connector does not report number of deals for loans that do not easily fall under either Investment Grade or Leverage according to Thomson Reuters LPC’s criteria.

Source: Thomson Reuters Loan Connector.

As implied by these charts, average transaction sizes also vary across these regions – in particular, the average transaction size in the Asia region is significantly below the levels seen in the USA and Europe. On these data, at present, the average transaction value is about $1 billion in Europe and $0.9 billion in the USA.

**Figure 13: Average deal value of syndicated lending transactions (US$ bn)**

Source: Thomson Reuters Loan Connector.
The above has considered the global syndicated loans market. In this study, we are mainly focused upon the LBO, PF and INFRA segments within this market, and within these segments, upon borrowers in France, Germany, the Netherlands, Poland, Spain, and the UK. The chart below approximates the relative scale (within the EMEA region) of these. Project Finance includes both PF and INFRA. The Acquisition Finance share includes – but is not limited to – LBO financing (since corporates also conduct acquisitions).

**Figure 14: Distribution of syndicated lending in EMEA in 2017, by purpose of loan**

The syndicated loan market in the LBO, PF and INFRA segments

We now turn specifically to the segments of interest to this study, i.e. LBO, PF and INFRA. Within Europe, across 2010-2017, a total of €670 billion was borrowed across the EU28 in the three segments of interest.

The share of the six countries we focus on in this study (i.e. the UK, Germany, France, Spain, the Netherlands and Poland) is about 74 per cent (€500 billion) of this total of borrowing over the same time period. More than 50 per cent of this borrowing is in LBOs (Table 11). The UK is by far the largest supplying market, with France, Germany and Spain having comparable shares over this time period. LBOs account for the greater share of borrowing in all Member States in our sample, with the exception of Spain where infrastructure has been the main one. The UK also has a relatively higher share of borrowing for infrastructure compared with the other Member States.
Table 11: Total amount borrowed by Member State and loan purpose (2010-2017, €m)

<table>
<thead>
<tr>
<th></th>
<th>LBO</th>
<th>Project Finance</th>
<th>Infrastructure</th>
<th>Total (%)</th>
<th>Total (€m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td>23%</td>
<td>5%</td>
<td>12%</td>
<td>17%</td>
<td>83,886</td>
</tr>
<tr>
<td>ES</td>
<td>10%</td>
<td>12%</td>
<td>23%</td>
<td>15%</td>
<td>73,876</td>
</tr>
<tr>
<td>FR</td>
<td>18%</td>
<td>32%</td>
<td>14%</td>
<td>19%</td>
<td>92,958</td>
</tr>
<tr>
<td>NL</td>
<td>14%</td>
<td>8%</td>
<td>9%</td>
<td>11%</td>
<td>57,031</td>
</tr>
<tr>
<td>PL</td>
<td>3%</td>
<td>0%</td>
<td>2%</td>
<td>2%</td>
<td>9,899</td>
</tr>
<tr>
<td>UK</td>
<td>32%</td>
<td>42%</td>
<td>40%</td>
<td>36%</td>
<td>181,379</td>
</tr>
<tr>
<td>Total (%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Total (€m)</td>
<td>256,499</td>
<td>67,254</td>
<td>175,277</td>
<td>499,030</td>
<td></td>
</tr>
</tbody>
</table>

Source: Europe Economics (using Thomson Reuters Loan Connector).
Note: Loan Connector does not report amounts borrowed for 17 out of the 4,020 tranches.

The evolution of the amounts borrowed from 2010 to the end of 2017 by the purpose of the loan and by Member State is set in detail in Figure 1. A decline in the market was experienced particularly strongly in Spain post-Euro crisis, but is also evident in the Netherlands and Poland. The largest markets – i.e. borrowers located in Germany, France and the UK - exhibit much more consistent deal flow than the others. Poland is a much smaller market than the others, with perhaps only 1-2 transactions “live” at any one time.

By deal number, the most important markets (based on the location of the borrower) over the period 2010-2017 for LBO, PF and INFRA deals have been the UK, France, Spain, Italy, Germany and the Netherlands. This means five of the Member States of interest to this study are among the top six Member States by number of deals, with the other (Poland) being 10th. In 2017, the LBO-related borrowing in these six countries was about €58 billion, whereas PF/INFRA-related borrowing was about €35 billion. It is important to note that the Loan Connector data only record the location of the borrower and not the project itself. This means that some of the deals recorded may apply to projects in other countries within or, indeed, outside of our sample. It is also possible that some projects undertaken in these six sample Member States involved external borrowers and thus do not appear in our dataset, although based on our lender interviews (who reported that the country of the borrower aligned to the country of the project) we do not believe this is likely to be a significant proportion.

Table 12 shows the distribution of deals included amongst the six Member States and by loan purpose, covering the whole period 2010-2017. Most (86 per cent) are split evenly between LBO and Infrastructure, with Project Finance deals being the residual.
Any given loan syndication can involve multiple ‘tranches’. This means that the syndication of a revolving credit facility (one tranche) could differ in process and in syndicate members to a Term Loan (another tranche) on the same deal. The total of 1,721 deals in turn corresponds to over 4,000 tranches.

It is worth noting that the average deal values vary markedly by loan purpose. Again, looking across the entirety of the period 2010-17, the average LBO deal value was about €240 million in the six countries of interest (albeit notably lower than this in France and Germany). By contrast, the average deal in Project Finance (under the definition used here) was almost €1.1 billion, whereas the average Infrastructure deal was less than €0.1 billion.

**Evolution of syndicated lending across LBO and INFRA/PF loans**

The evolution of the amounts borrowed by the purpose of the loan and by Member State is set out below.
Figure 15: Total value of deals by Member State (biannual, €m)

Source: Europe Economics (using Thomson Reuters Loan Connector).
The economic benefits and drawback of syndicated lending

**Borrower’s perspective**

In this section we consider the economic advantages of syndicated lending compared to other forms of lending as part of our consideration of the product market for syndicated loans. We also draw on the literature around the economic benefits and drawbacks of syndicated loans to identify further hypotheses to explore in Chapter 4. The stylised diagram below describes the typical issues arising in a general borrower/lender relationship (the boxes at the top), and how there are typically overcome (the boxes at the bottom).

**Figure 16: Typical issues in credit markets**

The syndicated loan market addresses the issues around market matching, information asymmetry and moral hazard in a different way relative to both bilateral lending and public debt markets (e.g. the corporate bond market). This creates both benefits and drawbacks for borrowers and lenders, which we discuss below.

Syndicated loans offer an alternative form of debt financing to bilateral lending or corporate bonds. A borrower’s choice of a syndicated loan will be determined by the benefits offered by this form of lending, but also by the availability and suitability of the other two forms. This will depend on several factors, such as borrower characteristics and the characteristics of the loan.

We first discuss the advantages of syndicated loans over bilateral lending and corporate bonds along the three dimensions in the figure above, before describing the potential disadvantages. We draw on our literature review to set out the theoretical analysis before describing insights from our fieldwork.

**Market matching.** For firms with very large financing needs, obtaining a loan from a single lender may not be possible if individual banks do not have the capacity or the necessary risk appetite. Whilst multiple bilateral loans may solve this capacity problem, they may bring efficiency problems. In comparison, a syndicated loan would provide flexible and efficient funding through access to multiple lenders, but within a single set of terms and conditions, requiring less documentation, time and resources. As a syndicate can consist of lead banks who take on all or a large proportion of the underwriting, it also increases the scope for a broader range of lenders than multiple bilateral loans, and the borrower may benefit from the combined experience of this wider range of lenders.
In terms of market matching, the corporate bond market may provide similar benefits of meeting a large borrowing requirement across a multiple number of investors in a more efficient way than bilateral lending. However, other factors may mean that the corporate bond market is not suitable, such as the costs of raising an IPO, projects that require a degree of confidentiality, and issues such as information asymmetries and moral hazard, as discussed below.

**Asymmetric information problems.** Information asymmetries can impede investors’ assessment of the credit worthiness of a borrower. This may result in borrowers facing higher costs on the bond market compared to private bank lending, as bond investors may require higher returns to compensate for information asymmetries if they did not have access to all relevant information regarding the borrower and the loan purpose. This would be particularly relevant to loans in project finance, infrastructure and LBOs, where public credit ratings of the borrower are less likely to exist for the bond market to access (especially if the borrower is an SPV with no prior credit history). Private lenders (i.e. those involved in syndicated loans) are more likely to be better at assessing the credit worthiness of the borrower and the project than the public bond market. This could also translate to the quality of any credit ratings sought by the lead banks for syndicated loans, as these ratings would be based on this superior private information.

**Moral hazard problem.** Information asymmetries may be expressed in moral hazard, whereby investors are unable to observe the activities of borrowers. Private lenders can be more efficient and effective monitors. Such monitoring is typically achieved by incorporating restrictive financial and non-financial loan covenants. These are a feature of loan contracts (both bilateral and syndicated, although as we have noted decreasing in prevalence in the LBO segment) but less common in capital market instruments.

Private bank lending may be more beneficial than a public debt market if the borrower requires more flexible contracts, particularly in the event of financial distress. As described earlier, a borrower is more likely to be able to negotiate a solution that does not involve liquidation with a limited number of creditors compared to the bond market. Private bank lending may also be more beneficial if the timing of the loan is critical – i.e. in LBO deals the private equity house typically need certainty of funds ahead of bidding for a target.

However, in this case a syndicated loan may have drawbacks compared to bilateral loans (if that is a viable alternative). There is arguably a more complex relationship between borrower and lenders within a syndicate which could increase decision-making time in crucial moments of distress such as debt restructuring, where a consensus by all (or most) syndicate members would be required for a final decision to be taken. As discussed further in Chapter 4, restructuring in situations of distress may confer a degree of bargaining power on the syndicate, since the borrower may lack options, although this would also be the case with a bilateral loan.

**Other benefits and drawbacks of syndicated loans for borrowers compared to alternative sources of lending** include:

- Compared to bilateral loans, syndicated loans may present drawbacks to borrowers if they limit the borrower’s ability to influence certain aspects of the functioning of the syndicate (such as the negotiation of the final terms and pricing of the loan among the syndicate members). This will depend on the sophistication of the borrower and his role in the formation of the syndicate.
Syndicated loans introduce different dynamics between lenders and the borrower which could affect loan pricing and other terms. For example, the existence of lead arrangers/underwriters within a syndicate who retain a significant proportion of the loan may reduce the perceived riskiness of the loan to other participant lenders, who would then be willing to lend at a lower price than would otherwise be possible.

On the other hand, information asymmetries between lenders may result in negative pricing impacts for the borrower, particularly where the lead arrangers do not take on a significant amount of the loan or are considered likely to sell it off on the secondary market. The literature indicates that when syndicate-participant banks have information inferiority compared to the lead arrangers in the syndicate, they require higher returns for the increased risk (arising from the asymmetries) – but also that repeated interactions with a borrower can reduce or even eliminate such an inferiority.76

With respect to the moral hazard problem that arises in lending relationships, participant investors/lenders may demand higher prices against ex post opportunistic arranger behaviour. This “diminished monitoring hypothesis” means syndicate-participant lenders cannot rely on the arranger to monitor the borrower post-closure, and would have to perform this role themselves. However, there can be mitigated where the MLAs are reputable,77 as it has been found that such MLAs suffer (from reduced future lending volume) when reputation suffers (e.g. due to a default).78 It is important to note here that there is no legal responsibility on MLAs to take ex post responsibility for monitoring (i.e. this falls to all members of the syndicate). The facility agent (which can be part of an arranging bank) has a duty to notify syndicate members in the event of default once this occurs but this role is defined in standard LMA documentation as being “solely mechanical and administrative in nature”, i.e. it is not expected that the agent would seek to predict default.

Compared to bond markets, syndicated loans provide the borrower/sponsor with greater control over loan participants, as white lists can be used to exclude the involvement of certain investors (such as so-called ‘vulture funds’).

An empirical study for the ECB shows further evidence of where syndicated lending is economically advantageous. The study found that firms in the euro area tend to prefer syndicated loans over corporate bonds when they are larger, more profitable, highly leveraged, with a higher proportion of fixed to total assets, but lower (publicly measurable) growth opportunities.79 We expand on the characteristics below, which support our discussion of how syndicated loans address the three main issues in credit markets. We note that the ECB’s findings are related to corporate loans, but the principles are likely to apply across all lending.

Firm size — the issuance of corporate bonds entails a significant fixed cost component in terms of issuance costs. Therefore, for relatively small financing needs, it is typically more cost-effective to rely on bilateral bank loans (indeed, there is a practical lower bound below which corporate bond issuance is de facto not available). At the same time, very large firms with large borrowing needs can prefer syndicated loans above corporate bonds. This is driven by the circumstances of the


79 Altinbas, Yener, Kara, Alper and Marques-Ibanez, David (2009) “Large Debt Financing: Syndicated Loans versus Corporate Bonds” ECB. The study links the choice of debt market to the specific characteristics of firms measured prior to the financing decision.
firm. For instance, issuing corporate bonds can also include substantial costs stemming from information asymmetries (whereby investors who are unable to observe the firm’s activities may demand higher returns for the risks generated by such information asymmetry). Firms with complex financing needs and uncertain risk profiles may therefore find it less costly to borrow from the syndicated loan market compared to the corporate bonds market. This information asymmetry issue is relevant to all three areas of interest in this study, i.e. LBOs, project and infrastructure finance.

- Financial leverage — since high financial leverage can be interpreted as a proxy for financial distress, highly levered borrowers are likely to require greater monitoring from lenders. In cases of financial distress, the limited number of parties in bank financing allows for an easier and better-coordinated resolution. Given loan syndication entails a more direct level of monitoring compared to capital market debt, this could explain the findings that firms with higher levels of leverage tend to prefer loan syndication over corporate bonds. Again, all three segments of interest to this study are likely to involve borrowing entities with high leverage (e.g. in an LBO, effectively by definition, and in project/infrastructure finance the borrower may be an SPV, with initially at least, limited assets).

- Growth opportunities — there is evidence that European firms with lower growth opportunities (as measured by the ratio of market-to-book value) tend to prefer syndicated loans over capital market debt. This result can be rationalized by the notion that a high market-to-book value is a publicly visible measure of future expected cash flows which should facilitate firms’ access to public capital markets (both debt and equity). In contrast, syndicated loans appear to be a better alternative to bonds when growth prospects can be better assessed through lenders’ private information.

- Debt maturity — asymmetric information problems are likely to be exacerbated in the presence of debt with long maturities. This is a possible explanation of why firms that rely on the bond market (where monitoring firm performance is more difficult) tend to carry higher levels of short-term debt, compared to those that rely on syndicated loans.

- Fixed assets — firms with higher levels of fixed assets are more likely to borrow from the syndicated loan market than from the bond market. This could be due to two reasons. First, it is easier to use fixed assets as collateral when borrowing in the syndicated loan market than on the bond market. Second, since fixed assets can be seen as a proxy of liquidation value, the more stringent monitoring of syndicated loans may alleviate the risk of inefficient and premature liquidation of profitable projects.\(^80\)

**Lender’s perspective**

The matching problem in the credit market, as illustrated in the chart at the beginning of this chapter, refers to agents in the market being imperfectly aware of existing economic opportunities. It represents the difficulty of borrowers finding lenders who have an appetite for their level of riskiness, and vice versa. Under some circumstances, in the formation of a syndicated loan the bookrunner acts as the agent in bringing together interested lenders, alleviating the market matching problem. Another way in which the syndicated loan market provides a solution to this market matching problem is by enabling lenders to participate in loans up to their desired

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\(^80\) Literature suggests that lenders in public debt (i.e. bond) markets are unable to distinguish, owing to information asymmetry and free-rider problems, between the optimality of liquidating or allowing a project to continue. If such situations are reflected on the debt contracts in the form of harsh covenants, they may, in turn, result in the premature liquidation of profitable projects. See Altinbas et al. (2009).
level of risk and capital, which they would otherwise not have been able to do in a bilateral situation.

**Rationale for banks’ participation as lead arrangers**

Lead banks may have several reasons for participating as a lead arranger in a syndicated loan. It can be a means of avoiding excessive single-name exposure, in compliance with regulatory limits on risk concentration, while maintaining a relationship with the borrower/sponsor. It is also a means of earning fees as part of revenue generation.\(^{81}\)

In relation to the first point, loan syndications are driven primarily by the lead banks’ capital considerations, both in the form of their capital-to-asset ratio and their loan-to-capital ratio.\(^{82}\) In general, syndication allows banks and other lenders to reduce their exposure to any one borrower and to reduce undesirable concentration. By enabling lenders to serve more borrowers, this provides them with greater geographic and industry diversification. Some of this diversification may be necessary to comply with government regulation.\(^{83}\)

Lead arranger banks receive high fees for their expertise and efforts, especially in the cases of fully underwritten deals (whilst these types of loans would also entail higher risk, this is likely to be reflected in the pricing).\(^{84}\) Additionally, commitment fees are imposed on the borrower/sponsor for unused funding and represent a part of lenders’ profits. These are associated with the revolver tranches in LBO and PF/INFRA transactions.

**Benefits and drawbacks for participant lenders/investors**

Syndications and loan sales make it possible for smaller lenders to participate in a loan to a large and/or riskier borrower than otherwise possible on their own, because of legislatively mandated lending limits or internal credit and risk appetites.\(^{85}\)

Additionally, some participant lenders may not have the size, experience or desire to arrange loans themselves. They would not normally negotiate directly with the borrowing firm, but would have what is defined as an “arm’s-length” relationship acting through the arranger.\(^{86}\) Through syndication, these lenders can gain some expertise and experience in a market where they do not already have exposure.\(^{87}\)

However, syndicated lending can create an asymmetric information problem between senior and junior syndicate members, whereby the lead arranger(s) has an informational advantage over other syndicate-participants. Prior to the general syndication, the lead banks are likely to know more about the borrower/sponsor than potential participants. In the case of riskier loans, there is a possible hypothesis these lenders may be tempted to retain a lower loan share, syndicating a higher proportion to less informed participants and collecting syndication fees upfront, as well as the opportunity to cross-sell other services to the borrower. One way to mitigate this asymmetrical information problem would be by obtaining a credit rating of the

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84 A description of fees and pricing is provided later in this chapter, in the sub-section “Fees”.


87 We examine certain issues around dependency between participant lenders and lead arrangers in the section on general syndication in Chapter 4.
borrower or project. However, whilst credit ratings will be sought in underwritten deals and for certain other loan purposes, credit ratings need not be available for all borrowers or all loan tranches (essentially they are sought when marketing to CLOs and certain institutional investors). Even so, the literature has not found evidence of such opportunistic arranger behaviour. Instead, higher share retention and MLA reputation have been found to mitigate such information asymmetries.

To curb these problems, if an informed lender took on a large proportion of the loan this would provide a credible and positive signal by the informed party to potential participants. When arrangers retain a higher proportion of a syndicated loan, participants view borrowers as less risky and the loans carry lower prices. The empirical literature holds that indeed lead lenders mitigate the adverse selection problem by holding larger proportions of low quality loans with borrowers that require more monitoring.

In the cases when a borrower/sponsor engages in repeated borrowing, participant lenders will not solely rely on information passed on by the arranger but are likely to consider their own information set as well, which they have assembled through repeat interactions with the same borrower. Repeat business is another way of solving asymmetrical information problems. Additionally, since the arranger and participants are repeat players in the loan syndication market, if the lead arranger ‘shirks’ in its due diligence and monitoring activities, it faces the threat of loss of reputation and future income on part of future syndicate-participants. The credibility of this threat will depend on the nature of the particular loan market. For example, in LBOs, the borrowers may not engage in repeat transactions (although the sponsors of the LBOs — the private equity firms — will do).

The impacts of information asymmetries on competitive dynamics would be influenced by whether the leading banks have particular links with certain junior syndicate members which might enable the latter to take advantage of additional information over other competing syndicate members. The likelihood of leading banks competing as junior members in other deals with the same borrower would also influence competitive dynamics. We explore in more detail in Chapter 4 the issues related to vertical informational asymmetries between lenders.

The regulatory framework of the syndicated lending market

There have been a number of regulatory interventions that have recently come into force (or which are expected to be implemented in the future), which are likely to have an impact on the syndicated loan market. We pay particular attention to the impacts of the Capital Requirements Regulations and Directive IV (CRR and CRD IV), Solvency II, the AIMF Directive and MiFID 2. Our analysis of the impacts draws on available literature and market reports, complemented by our fieldwork among lenders. Details of the regulatory interventions are included in the Appendix 4, and this section presents our conclusions on the key impacts.

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88 The introduction of credit ratings for loans can be understood as a market mechanism that evolved to reduce an adverse selection problem. See Mora, Nada (2013) "Lender Exposure and Effort in the Syndicated Loan Market" Federal Reserve Bank of Kansas City.
89 Mora, Nada (2013) "Lender Exposure and Effort in the Syndicated Loan Market" Federal Reserve Bank of Kansas City.
**CRRD IV**
The CRD IV and the CRR impose requirements in three areas: capital, leverage and liquidity.

**Capital requirements.** The capital requirements set by CRD IV are more stringent than those in its predecessor, and the impacts on the syndicated loan market are likely to manifest primarily through the appetite for lending.

- Overall, the amended capital requirements have already had an impact on affected institutions by requiring them to increase the quality and quantity of their existing capital reserves (in turn generating equivalent pressure on returns to equity).  

- Increased capital requirements impact the syndicated loan market specifically through their effect on long-term loans. Such corporate loans and long-term asset-based finance businesses (e.g. infrastructure and project finance) have been estimated to increase funding cost by about 10 basis points. This may aid substitution of banks by non-banks in such long-term loans.

- There is an argument that the CRD IV has increased costs claims passed on to borrowers, although any increases in costs would have been justified by the increased financial stability and consumer protection that the regulation sought to bring about.

- The increased regulatory capital charge imposed on financial institutions means that impacted lenders may be increasingly reluctant to take on a fronting role, as this would mean holding more capital to offset the loan asset, as compared to a participating role.

It is worth noting that industry groups, such as the LMA, argued that the CRD IV represents a significant regulatory change for the banking industry which might materially increase the regulatory costs of originating and participating in loan assets and thus the appetite to engage in this activity. On the other hand, empirical and modelling work by the ECB on the impact of higher capital requirements identified some adverse, but relatively limited, impacts on loan supply. The paper states that some distributional impacts would need to be further analysed – in particular in relation to more risky borrowers due to increased risk-based funding costs.

**Leverage requirements.** The likely impacts on the syndicated loan market include the following:

- The introduction of the leverage ratio could result in due course in a considerable deleveraging of the banking sector, which could decrease banks’ appetite for loans in general. Compliance with the leverage ratio requirement could also incentivise banks to take a more junior role in syndicated loans by financing a small part of the loan, in order to keep the requirements for capital low. As a result, in order to compensate for this decreased appetite, particularly for large and high-risk loans, borrowers would — all else being equal — need to pay higher margins. Such an increase has not been observed in the market to date in 2018. This may not disprove the hypothesis since such impacts could be masked by (a) considerable...
and continued current appetite for loans from non-bank lenders and institutional investors (i.e. these would be substituting for declining bank appetite), and (b) the continuation of central banks’ quantitative easing underpinning asset values, and so contributing to (a).

- The prohibition of netting might also increase the cost of borrowing, as without the benefit of netting, borrowers might appear less creditworthy. This could shift the balance of bargaining strength from borrowers to lenders, or encourage borrowers with substantial cash reserves to borrow less.

**Liquidity requirements.** The potential impacts of the liquidity requirements on the fundamentals of the syndicated loan market include the following.

- The liquidity coverage ratio (LCR) requirements have a significant impact on bank lenders in respect of committed undrawn facilities, since these will be required to be backed with liquid assets. In addition, given that liquid assets tend to be low-yielding, the maintenance of the liquid asset pool itself is likely to result in considerable additional cost. A study by McKinsey estimated a cost increase of 60 basis points for higher liquidity requirements from uncommitted credit lines to financial institutions and uncommitted liquidity lines to both financial institutions and corporates. Banks may not be able to fully pass on these cost increases. (Certainly, no price spike on this scale is observable in early 2018 so far). If they cannot, the higher costs may lead to a reduction in profitability and eventually less capital being allocated to these businesses, i.e. less supply to the syndicated loan market.97

- The requirements imposed by the LCR may also lead to changes being made to the documentation of loan facilities in the future. For example, stricter governance may be imposed on borrowers, requiring them to inform lenders of changes to their debt obligations and their activities generally, as well as information undertakings on the part of borrowers to inform lenders of their drawing requirements within the next 30 days could all be introduced. Borrowers who have entered into syndicated loans specifically with the aim of obtaining flexible financing could be put off making or accepting such changes.

- Loans or loan participations are not eligible for inclusion within the liquid asset pool, regardless of the underlying borrower. This may affect banks’ decisions to participate in loans.

- The requirement to obtain stable funding for the majority of loan activities under the net stable funding ratio (NSFR) means committed loan facilities with longer tenors, i.e. most syndicated lending for project, infrastructural and LBO lending (at least the senior tranches), are less attractive for banks to provide.98

**Solvency II**

Solvency II is an EU Directive that seeks, amongst other things, to establish new risk-based capital requirements for most insurers and reinsurers. Under Solvency II, affected firms must hold sufficient capital reserves to meet any expected future contractual liabilities, known as “technical provisions”.

The likely impacts on the syndicated loan market include the following.

- Insurers and reinsurers may have more freedom to invest in a wider range of syndicated loans, if these were not permitted under the previous legislation. This would increase the supply of eligible investors.


In practical terms, debt structures relevant to the syndicated loans market such as long maturity debt, structured finance products, and real estate all carry higher capital charges when compared to other forms of debt. Insurers are allowed to apply their own internal risk model rather than the standardised one and thereby bring about lower capital charges if their assessments indicate a reduced risk. However, not all institutions may wish to follow this approach, as internal risk models first require regulatory approval. This may lower the appetite for syndicated loans.

Higher-rated instruments are also given better treatment than low or unrated instruments. As a result of the above, interest in loan investment may well increase for loans to higher-rated borrowers, or those that are fully secured and have shorter tenors.

Solvency II will also impact the syndicated loan market via insurer investment in CLOs, which fall within the definition of a securitisation. The Directive distinguishes between a Type 1 and a Type 2 securitisation with the first type having a lower stress factor and thus requiring lower capital to be held against it. CLOs are unlikely to fall in the first category and thus, investment in CLOs by insurers may fall due to the increased capital requirements.

**AIFM Directive**

The aim of the Alternative Investment Fund Managers Directive (AIFMD) applies to fund managers of AIFs (AIFM) including hedge funds, private equity funds, retail investment funds, investment companies and real estate funds. The AIFMD was published came into force on 21 July 2011 and had an implementation date of 22 July 2013.

The AIFMD may impact the syndicated loan market in a number of ways.

- The greater due diligence requirements may affect the ability and desire of funds to invest in long duration, less liquid assets such as syndicated loans, thus reducing the size of the market and availability of investors.
- Under the Directive, managers have the duty to act in the best interests of the AIF or the lenders of the AIF and the integrity of the market. AIFMs must act in such a way so as to prevent "undue costs" being charged to the AIF and must also perform any due diligence prior to execution. These could lead to fund managers requiring more streamlined market practices, as settlement delays lead to capital being tied up for periods of time, resulting in AIFMs suffering potential "opportunity costs" by virtue of the fact that they are unable to invest in other assets until settlement. The issue of settlement times is key in the context of the efficiency of the loan syndication market.

**MiFID 2**

The syndicated loan product is not directly affected by MiFID 2 (as syndicated loans are not financial instruments).Whilst loans themselves may be unaffected, the package impacts lenders generally depending on who they are and what kind of services they provide. An impact directly relevant to syndicated loans market is that structured finance products are now specifically within the scope of MiFID 2, and certain loan-related products (such as CLOs) are also directly affected. Trading in CLOs and other credit securitisations are subject to the transparency and best execution

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100 In general terms, a security will qualify for Type 1 status if it 

"(i) is investment grade, (ii) is listed in OECD, EEA or other robust markets and (iii) is the most senior tranche of the deal. See NEAM Group (2015), "The European Securitization Solvency II Saga".

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regimes, with requirements being tailored to each financial instrument and for different types of trading.

NPL Regulation
The European Commission is also currently seeking to introduce legislative measures to facilitate the reduction of NPLs (i.e. loans where payments are 90+ days overdue) held by European banks (the NPL Regulation). One of the European Commission’s objectives is to improve the secondary market’s contribution to NPL reduction. For example, the current draft contains provisions that any Member State-level provisions restricting such transfers to non-banks would need to be removed. However, its current draft also contains provisions that would require ex ante disclosure by a bank of all relevant information against a defined disclosure standard for a non-bank to evaluate the credit in question, and ex post reporting of the transfer to the appropriate supervisor. This would not be limited to NPLs, but would also apply to the transfer of performing loans to non-banks. As such, this could essentially end the buyer beware principle (i.e. caveat emptor) in such instances and as such significantly affect the working of the secondary market. Indeed, since some existing non-bank participants in the secondary loan market operate on a ‘public side’ only basis (i.e. avoiding accessing private information in order not to be prevented from trading any related securities) lenders opined that such mandated disclosure could in fact deter participation (i.e. the opposite of the desired effect). Obviously, the text of the NPL Regulation may change (perhaps significantly) as it is negotiated further but we include reference to it here for completeness.

Conclusions on the impact of the applicable regulatory framework
The existing recently modified regulatory framework implies that the syndicated loan market can be affected in a number of key ways:

- Greater security for borrowers and the wider financial system but increased costs to banks of loans due to more stringent capital requirements. The leverage requirements and liquidity ratios may affect banks’ appetite for syndicated loans in general, and PF/INFRA loans in particular (as the capital requirements particularly target long-term loans). The extent to which, if at all, this may reduce lending supply will depend on the relative size of cost increases and their impact on borrowers’ demand and banks’ overall lending decisions, as well as the availability of other sources of lending (notably non-bank lenders).

- Increased capital requirements may also affect banks’ appetite for underwriting loans (where they would be required to hold capital to offset the loan until it is sold down) or club deals (where banks typically hold the majority of the loan) compared to leading in a best-efforts deal or being a non-underwriting participant. Similarly, this could also encourage greater participation in the secondary market whereby lead banks seek to offload loans from their balance sheets after syndication.

- The leverage requirements (particularly the prohibition of netting) would increase the costs to borrowers of borrowing if they appear less credit-worthy. This may affect the balance of power between borrowers and lenders in the favour of the latter, e.g. in a restructuring situation.

- Documentation between lenders and borrowers may become increasingly important e.g. lenders wishing to impose stricter governance on borrowers.

- Overall cost increases stemming from the revamped regulatory framework may be passed onto borrowers, or internalised within banks.

- The activity of institutional investors in the market (notably insurers and reinsurers) might increase as they have more freedom to invest in a wider range of assets. Appetite to invest in infrastructure assets may also increase given the provisions of
Solvency II. Investment behaviour may be negatively impacted by potentially higher capital charges for some loan types as well as investment via CLOs.

The impacts of these regulatory changes on the loan syndication market depend on how borrowers react to the heightened transparency and how lenders respond to cost increases and change their business models and lending decisions accordingly (considering the full breadth of all regulation and the impacts on many different areas of lenders' businesses). A number of the regulations have only been implemented in 2018 and thus the impacts will take some time to become fully evident.

Our interviews with banks shows that many consider prudential regulation to have had a notable impact on lending costs (particularly for long-dated loans), such that in some markets they are finding it difficult to compete with non-bank lenders. There is no clear evidence of increasing loan prices or fees from our data (i.e. banks being able to pass on costs to borrowers) – banks and other investors will usually decide not to participate in a loan if the economics are not worthwhile. It may be, then, that cost increases are not currently impacting the market in a notable way and that this represents a case of special pleading by the banks.

The demand-side of the syndicated loan market

Data from Invest Europe\textsuperscript{101} show that the amount of equity invested in buyout activity fell significantly following the global financial crisis, with the total EU market value falling from over €60 billion in 2007 to just over €13 billion in 2009. It bounced back more sharply in 2010 (to €30 billion), since when increases have been more gradual. The value of “large” (€150-300m) and so-called “mega” (> €300m) buyouts, which are more likely to have a syndicated loan element, have typically accounted for just over 40 per cent of the total buyout market.

Figure 17: Value of equity investment in LBOs in the EU

![Figure 17: Value of equity investment in LBOs in the EU](image)

Source: Invest Europe (2016).

In terms of our sample of Member States, the UK and France have typically had the largest buyout markets (in terms of equity investment\textsuperscript{102}), followed by Germany, then

\textsuperscript{101} Invest Europe (2016) “Yearbook 2016: Europe and country overview tables”

\textsuperscript{102} An LBO will typically include an ‘equity’ element provided by the private equity house, with the balance of the transaction value coming from debt. These proportions vary from deal-to-deal and over time, but the debt element is likely to be at least as much as the ‘equity’ contribution.
Netherlands and Spain of comparable size, and Poland as the smallest market. The UK was hit hard by the financial crisis with initial LBO volume falling almost 80 per cent (syndicated lending in the LBO segment includes the refinancing of existing transactions as well as new transactions), albeit recovering since. Since then, the Member State which has experienced the strongest recovery is France (268 per cent increase), with the UK showing the weakest recovery (72 per cent).

We have described above the evolution of syndicated lending for LBOs in each of the Member States of interest in the chart on the preceding page. The relative importance of the markets does not fully match that for the location of the private equity sponsors: whilst the UK takes precedence in both, Germany has consistently been more prominent than France in the LBO syndicated lending segment. This implies that French private equity firms are bigger and more active than those based in Germany.

Infrastructure borrowing can be compared to infrastructure investment spending from 2010 to 2015. The European Investment Bank (EIB) in its 2017/18 Investment Report recognises that data on infrastructure investment are ‘not available in any ready-to-use’ form. As a result, the EIB has developed its own approach to estimation which uses national accounts data on gross fixed capital formation for sectors that are typically considered ‘infrastructure sectors’; specifically, education, health, transport and utilities. The figure below displays data for each Member State based on the aggregation of gross fixed capital formation in these four sectors.

The data shows infrastructure investment spending to be fairly stable over this time period. They show that infrastructure investment is highest in Germany, followed by the UK and France. This is an interesting difference to the syndicated lending data, which show greatest activity in the UK. Cross-country comparisons of the infrastructure data should be treated with particular caution however due to some data gaps for specific sectors in specific Member States.

**Figure 18: Infrastructure investment spending (€m)**

Note: infrastructure investment calculated as the sum of gross fixed capital formation in education, health, transport and utilities. Gross fixed capital formation is calculated by summing the value for relevant NACE codes in each sector, i.e.: Education = "Education"; Health = "human health activities" + "human health and social work activities"; Transportation = "Land transport and transport via pipelines" + "Water transport" + "Air transport";
Borrowers in the LBO, PF and INFRA segments

Our dataset includes a total of 1,478 unique borrowers over the entire time span covered by the analysis. The distribution of borrowers across Member States is presented in the chart below, which shows that most of the borrowers are located in the UK, France and Spain. As noted in Chapter 2, as the data reflect the location of the borrower rather than the project, some borrowers may be borrowing for a project in another Member State, and some projects within the sample Member States may not be recorded. However, we consider this eventuality to be low in our sample.

Figure 19: Number of borrowers by Member State (2010-2017)

Borrowers can be further classified based on their organisation type. Most of the borrowers in LBO deals are companies/corporations whereas most of the borrowers in Project Finance and Infrastructure tend to be Infrastructure Special Purpose Vehicles (Table 13). This is fully expected given the nature of these loan types.

Table 13: Number of deals by borrower’s organisation type and loan purpose (2010-2017)

<table>
<thead>
<tr>
<th>Organisation type</th>
<th>LBO</th>
<th>Project Finance</th>
<th>Infrastructure</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company/Corporation</td>
<td>567</td>
<td>49</td>
<td>129</td>
<td>745</td>
<td>43%</td>
</tr>
<tr>
<td>Project/ Infrastructure SPV, Special-purpose</td>
<td>48</td>
<td>133</td>
<td>371</td>
<td>552</td>
<td>32%</td>
</tr>
<tr>
<td>Other</td>
<td>15</td>
<td>8</td>
<td>7</td>
<td>30</td>
<td>2%</td>
</tr>
<tr>
<td>Government/Industry Authority</td>
<td>1</td>
<td>7</td>
<td>8</td>
<td>16</td>
<td>1%</td>
</tr>
<tr>
<td>Joint-venture</td>
<td>4</td>
<td>1</td>
<td>11</td>
<td>16</td>
<td>1%</td>
</tr>
<tr>
<td>Missing</td>
<td>113</td>
<td>41</td>
<td>208</td>
<td>362</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>748</td>
<td>239</td>
<td>734</td>
<td>1,721</td>
<td></td>
</tr>
</tbody>
</table>

Source: Europe Economics (using Thomson Reuters Loan Connector).
Other characteristics of borrower which would be useful to analyse are their size and their credit worthiness. However, Loan Connector data on borrower size is very limited (available for 172 borrowers); likewise credit rating is very limited in scope.

The frequency with which borrowers engage in the market might have an impact on their ability to influence the syndicate process, in particular their experience in appointing MLAs, and their ability to use future appointments as a means of incentivising MLAs to perform well. On the other hand, repeated engagement with the market may increase ties with syndicating banks which may have implications for competitive dynamics. (We describe these hypotheses in more detail, taking account of other factors, and test for them in Chapter 4.) In this respect, our analysis shows that only a small fraction of borrowers engaged in more than one deal over the period 2010-2017, and almost 90 per cent of borrowers across LBO, PF and INFRA segments concluded only one deal (Table 14).

Table 14: Number of borrowers by number of deals and loan purpose (2010-2017)

<table>
<thead>
<tr>
<th>Deals per borrower</th>
<th>LBO</th>
<th>Project Finance</th>
<th>Infrastructure</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>573</td>
<td>184</td>
<td>596</td>
<td>1,353</td>
</tr>
<tr>
<td>2</td>
<td>63</td>
<td>18</td>
<td>51</td>
<td>132</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>4</td>
<td>10</td>
<td>29</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>2</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Europe Economics (using Thomson Reuters Loan Connector).

The sectoral distribution of borrowers is highly related to the purpose of the loan. When we consider the deals struck in 2010-17, 68 per cent of Infrastructure deals are listed as within the Utilities sector, with a further 11 per cent categorised as Construction. As noted already, under our definition, there are far fewer Project Finance transactions (albeit, on average, these are larger in value than Infrastructure deals) and these do not exhibit the same concentration in Utilities and Construction. Similarly, LBO deals are spread across many different sectors, reflecting the fact that companies suitable for an LBO can be found across the entire economy. The sector with the most transactions within it, classified by Thomson Reuters as General Manufacturing, accounts for 13 per cent of LBO transactions.

Sponsors in the LBO, PF and INFRA segments

This “recurrence” feature is much more relevant to sponsors, both in the LBO and PF/INFRA segments. As described in Chapter 2, a financial sponsor for an LBO is typically a private equity investment firm that, in addition to bringing capital to a deal, is expected to bring a combination of capital markets expertise, contacts, strategies for operational improvement, and the experience of owning leveraged companies. These features make them more likely to be recurrently engaged. Our lender fieldwork characterised the European LBO market as being more sponsor-dependent than its USA equivalent.

For PF/INFRA, sponsors are usually multinational companies and infrastructure funds, but could also be state-owned firms, and/or governmental bodies that own jointly the SPV and its project financing contractual agreements. In the Thomson Reuters Loan Connector-derived sample, multinational companies and infrastructure funds are identified as sponsors in the PF/INFRA segments. Sponsors contribute equity and

103 This is discussed in more detail in Chapter 4.
technical expertise. The fieldwork has highlighted how the technical expertise can relate to both engineering and financing (including financial engineering). Debt is, however, the major source of financing. As in the LBO arena, sponsors can be essential actors in any debt-raising, complementing or even substituting for roles allotted to the de jure borrower.

To illustrate this, Table 15 shows the proportion of sponsors by number of deals and loan type: 35 per cent of the 609 sponsors in our sample engage in more than one deal, 7 per cent of which engage in more than 5 deals. The recurrence feature is more marked in the LBO segment than the PF and particularly INFRA segments. In the INFRA segment, 78 per cent of sponsors have engaged in only a single syndicated loan over the period, and only one per cent have engaged in more than five. This compares to sponsors in the LBO segment, only 56 per cent of whom have only engaged in one deal, and 10 per cent of whom have engaged in more than five.

<table>
<thead>
<tr>
<th>Deals per sponsor</th>
<th>LBO</th>
<th>Project Finance</th>
<th>Infrastructure</th>
<th>Total (number of sponsors)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>56%</td>
<td>62%</td>
<td>78%</td>
<td>413</td>
<td>65%</td>
</tr>
<tr>
<td>2</td>
<td>19%</td>
<td>16%</td>
<td>13%</td>
<td>105</td>
<td>17%</td>
</tr>
<tr>
<td>3</td>
<td>6%</td>
<td>8%</td>
<td>4%</td>
<td>35</td>
<td>6%</td>
</tr>
<tr>
<td>4</td>
<td>3%</td>
<td>4%</td>
<td>3%</td>
<td>21</td>
<td>3%</td>
</tr>
<tr>
<td>5</td>
<td>5%</td>
<td>3%</td>
<td>1%</td>
<td>20</td>
<td>3%</td>
</tr>
<tr>
<td>&gt;5</td>
<td>10%</td>
<td>8%</td>
<td>1%</td>
<td>40</td>
<td>6%</td>
</tr>
<tr>
<td>Total (number of sponsors)</td>
<td>312</td>
<td>76</td>
<td>246</td>
<td>634</td>
<td></td>
</tr>
</tbody>
</table>

Source: Europe Economics (using Thomson Reuters Loan Connector).

Prevalence of sponsors across LBO, PF and INFRA segments

LBO deals are very likely to be sponsored by a private equity firm, as shown for our sample in Figure 20 below.
On the contrary, Project Finance and Infrastructure deals tend to rely less on sponsors as shown in the graphs below. Within these loan types, the UK is the country with the largest share of sponsored deals.

Source: Europe Economics (using Thomson Reuters Loan Connector).
Figure 21: Number of sponsored vs not sponsored Project Finance deals (2010-2017)

Source: Europe Economics (using Thomson Reuters Loan Connector).

Figure 22: Number of sponsored vs not sponsored Infrastructure deals (2010-2017)

Source: Europe Economics (using Thomson Reuters Loan Connector).

This implies that the issues related to repeat engagement in the syndicated loan market are more relevant in the LBO segment than the PF/INFRA segment. We discuss these issue in detail in the competition framework and analysis in Chapter 4.

**Syndicated loans and its alternatives**

The availability of other sources of lending will increase the choice borrowers/sponsors have and limit their reliance on syndicated loans. This would be particularly beneficial in markets where syndicated lending is more at risk of competition concerns, for example where the pool of potential MLAs is small or where certain banks have a stronger market position.
The main substitutes for syndicated lending are bilateral loans, corporate bonds and private debt placement. In general borrowers and sponsors consider there to be alternative funding options readily available for their organisation. Of bilateral loans, bonds and private placements, bonds were considered to be the closest substitute by the most respondents, followed by private placement and then bilateral loans – this is shown below.

**Figure 23: Benefits of syndicated loans over alternative debt**

Source: Europe Economics/YouGov survey of borrowers and sponsors. Question: "Where you do use syndicated loans, how close a substitute for syndicated lending are each of the following usually (1 being not a close substitute to 5 being the closest possible)."

In PF/INFRA, the closest identifiable substitute was not clearly identified amongst the respondents to the YouGov survey. By contrast, bonds and private placement were comfortably ahead of bilateral loans as the closest identifiable substitutes in the LBO segment.

The advantages of syndicated loans as perceived by borrowers and sponsors differ slightly, conditional upon which form of finance is perceived as the closest substitute. The main advantage cited by those considering a bilateral loan as the closest substitute (and ranked the closeness at either 4 or 5 on the scale in the figure above) considered the price of syndicated loans to be its major advantage. Those considering corporate bonds and private placement as the closest substitute cited reduced transactional risk as its main advantage.

Our fieldwork confirms the benefits to borrowers and sponsors of syndicated loans. Syndicated loans are preferred over alternative lending options for a number of reasons principally because they are seen as less risky than other forms of lending, more flexible and cheaper. This can be seen in Figure 24 below, which shows the reasons borrowers and sponsors have for choosing syndicated loans over alternatives.
The benefit perceived by the most sponsors was to maintain or make use of relationships with a number of banks, whereas the key benefit perceived by borrowers was the lower risks associated with syndicated loans. A small proportion of respondents – 10 per cent of sponsors and six per cent of borrowers – said that they chose a syndicated loan as there were no substitutes for that loan.

Borrowers and sponsors connected to LBOs generally had similar views to those connected to PF/INFRA transactions. However, it is worth noting that reduced transaction risk was particularly important in LBOs. This is intuitive in that we have noted already that underwritten loans are used here to provide the private equity sponsors with financing certainty, which in turn is required of the sponsors by the vendors of the target company. In PF/INFRA, the flexibility of the loan terms was the most cited factor.

The consideration of substitutes is complicated by the fact that debt can be acquired by borrowers on a mixed basis, i.e. in a combination of loans and High-Yield bonds (or even sometimes private placement financing). In the LBO segment the syndicated loan can be part of a funding package that (ultimately) also includes High-yield (HY) bonds (as opposed to investment grade corporate bonds). When HY bonds are part of such a package, then bridging facilities would be established (since the timeline for raising the HY bonds is generally too slow to meet the wider transaction’s deadlines). Similarly, projects and infrastructure have a set of substitutable and complementary modes of financing, specifically project-related bonds (which are issued on a syndicated, book-building basis) and private placement.
However, these different types of debt would not be sourced simultaneously. Instead, a package based upon the syndicated lending may be acquired by a borrower/sponsor, but with this incorporating some element of bridge finance. In this way, the borrower/sponsor obtains the financing package at the point in time necessary (such as to but the target in an LBO). The bridging loan would then be replaced at some point subsequently by a bond issue.

One point arising here is whether and on what basis the arranger of the bridging loan would be privileged in terms of involvement with such a bond issue. This is an area investigated by the UK’s FCA in its work on corporate and investment banking. In its subsequent policy statement, the FCA determined that “right of first refusal” clauses (i.e. a contractual right to be given the opportunity to enter into a business transaction with a company before anyone else can), the client subject to the right is prevented from accepting offers from third parties should be banned but that “right to match” clauses are acceptable.

However, the FCA explicitly excluded bridging loans from its ban on such clauses, identifying clear benefits to the borrower. Specifically, the FCA concluded that banks would not be likely to provide such bridging finance on equivalent (or conceivably not provide it at all) without being able to exercise subsequent control of any future ‘take-out’ of the bridging loan by being mandated with the bond issue (or whatever the subsequent longer-term financing was determined to be). On the other hand, the FCA was not convinced of client benefits in other areas, e.g. debt or equity issuance not connected to taking out a bridging loan, or the provision of M&A services. The FCA’s ban applies to regulated firms operating in the UK (irrespective of the client’s location.) We discuss this further in Chapter 4.

Our fieldwork (please see Figure 23 and Figure 24 above) shows that there are generally potential substitutes for syndicated loans (e.g. almost no borrowers said there were no close substitutes, and around half said that bond financing or debt private placement were fairly close substitutes). Syndicated loans are used because of their added value including the ability to attract a sufficient volume of lending, more flexible loan terms, less risk (a particular benefit for borrowers versus sponsors), greater privacy and the benefits of maintaining relationships with lenders.

The availability of other sources of lending will increase the choice borrowers/sponsors have and limit their reliance on syndicated loans, although this will depend on the additional benefits provided by syndicated loans over and above other lending forms as well as the existence of a sufficient number of competing lenders to those involved with the syndicated loan. The availability of alternatives would be particularly beneficial in markets where syndicated lending is more at risk of competition concerns, for example where the pool of eligible banks is small and where banks may enjoy a strong position (have market power).

**Bargaining power of borrowers and sponsors**

The ‘bargaining power’ of borrowers and sponsors is a key factor influencing the competitive dynamics of syndicated lending. Bargaining power refers to the ability of borrowers and sponsors to dictate terms and to react to potentially anti-competitive behaviour of lenders. This is influenced by the availability of alternative lending options, the expertise of the borrower/sponsors, and current market conditions.

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105 Fieldwork question: “Compared with the closest substitute in the previous question, what are the reasons generally for choosing to take out a syndicated loan?”
The sponsors in the LBO and PF/INFRA syndicated loan market are generally considered to be sophisticated in terms of raising finance, i.e. they have sufficient expertise to weigh the pros and cons of different financing options. Private equity firms acting as sponsors in both LBO and PF/INFRA segments may have in-house, specialist debt finance expertise (at least for larger private equity firms with dedicated in-house Debt Financing Teams) and/or can complement in-house knowledge through access external debt advisors. This has also enabled them to more readily construct club deals (particularly prominent in PF/INFRA, and where may not be a role for MLA(s), or at least the MLAs’ role will be reduced). Such sponsors are assessing debt financing on each LBO that they progress (i.e. they have relevant experience). There may be other sponsors with less past experience (e.g. less well established private equity firms or ones with insufficient scale to justify resources dedicated to raising debt), who would consequently be more dependent upon either advisors and/or the MLAs. The latter instance would represent a heightened risk of an adverse outcome.

The borrowers generally have less experience than the sponsors, at least in the LBO space (since they are not raising syndicated loans on a near-continuous basis). However, the target companies subject to LBOs where syndicated lending is applicable are not SMEs – i.e. they should be expected to have finance professionals with some expertise in raising and managing financing, even if not necessarily experience with syndicated lending. This contributes to the strong influence exerted by sponsors in the process.

Indeed, the sponsors will seek to control much of the debt origination/syndication process, from the selection of the initial group of lead banks to be approached, to negotiating terms with those banks and even having the final decision on further participant members. However, this ‘control’ is not total. In particular:

- In the initial approaches, sponsors/borrowers use a competitive process whereby several banks are approached independently, followed by bilateral negotiation. However, the use of such a process is not total, and where it is not used the MLAs approached would exercise greater influence (and if only one MLA is approached, this influence could be substantial).

- Even when an RFP style process is used, one feature that could be problematic in terms of the exercise of borrower/sponsor control is the use of market soundings. Market soundings can be efficient, particularly if a particular credit is not mainstream as it would enable better judgements to be made on pricing and any eventual marketing. Lenders emphasised that internal policies meant that any deal-specific soundings would require client consent, and that this would need to be demonstrable to compliance teams. However, lenders also conduct generic soundings, raising a potential boundary issue as to what is generic and what is specific. There is also the question of who is approached: an approach to an institutional investor who lacks the capacity to act as an MLA is relatively unproblematic whereas an approach to another MLA would have the potential to be highly problematic even when the sounding was generic.

- Where a general syndication takes place (e.g. in an underwritten deal), it is the bookrunners that deal directly with the potential participating lenders. Whilst the sponsors can aim to control who is approached (through the white list), and seek feedback from the process (either from the bookrunner, but also indirectly from firms on the white list), the MLAs again exercise relatively greater influence here. The MLAs will also seek to add potential participants to the white list, albeit subject to borrower/sponsor approval.

- The borrowers/sponsors will also have curtailed bargaining power where a borrower is in financial difficulties and faces default. The options available to a borrower may be very limited in such an instance.
Another aspect of this is that the main substitutes for syndicated lending - bilateral loans, corporate bonds and private debt placement – can involve the same firms. Banks (particularly leading investment banks) will be involved in each of these. However, this is not exclusively so. For example, there are corporate finance boutiques that can arrange bond issuance or private debt placement as an alternative to a bank. Similarly, bilateral loans can also be made by debt funds. However, the extent of the importance of non-bank actors here should not be overstated since in the (current) market such bilateral lending from debt funds is only towards the lower end of the syndicated lending spectrum. Likewise, banks dominate book-running in bonds, particularly at larger ticket sizes.

The obvious thoughts that flow from this are whether this critical role for banks could influence pricing or fee levels. On fees, as we describe in the relevant section below, these can be substantial. Whilst the involvement of non-bank actors should add market discipline, at least where there are such participants, in other cases the competitive determination of fees is driven by the process (i.e. in the RFP setting, all economic terms – including fees and loan pricing – would be subject to that process). In terms of pricing, an important, further distinction can be made between bilateral loans and the other sources of debt in that all the others have some degree of direct non-bank input in the price formation process. In the syndicated loans area, this could be through the secondary market or, indeed, in the primary issuance phase as part of a general syndication. We have observed that there are no significant short-term deviations from par in the secondary market in syndicated loans (see page 139 below). This suggests that syndicated loan pricing, at least in the LBO segment where general syndication and secondary trading are more common, should be in line with “market” pricing. However, as we have noted elsewhere, the PF/INFRA segment is more club-orientated, has reduced (but not non-existent) institutional investor involvement and less post-close trading activity than the LBO segment. The possibility of any pricing impact would depend on what the substitutes are, and the transparency of pricing in those markets — but more largely on the extent to which other participants (including other banks) are willing and able to compete, and the capacity of the borrowing entity (and its sponsors, where applicable). This can only be assessed on a case-by-case basis.

The supply side of the syndicated loan market

This section gives an overview of the supply side of the syndicated loan market, such as the total number of lenders by Member States, the number of leading lenders, their relation to the geographic origin of the borrower (i.e. domestic or cross-border) as well as the type of lenders (i.e. banks, non-banks). Our sample includes a total of about 540 lenders. The chart below shows their distribution across parent countries.106

Most of these are banking institutions (70 per cent) while the remaining 30 per cent are other non-bank financial institutions.107 However, this should not be taken as a full description of non-bank involvement: the data available on Thomson Reuters Loan Connector/Deal Scan does not capture all participants, especially those lenders/investors that engage solely at the general syndication stage.

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106 Operating country is distinct from parent country. So for example a German subsidiary in the UK would have UK as its operating country and Germany as its parent country.

107 A few notes apply to this table. First, Loan Connector does not report lender operating country and institution type for each lender individually but rather combines in alphabetic order all lender operating countries and institution types in a single cell for each tranche. We therefore carried out an exercise to link each lender to its operating country and institution type. Second, consolidation has been carried out to rename lenders uniformly if they were named differently but in fact referred to the same entity. Third, we have consolidated subsidiaries, i.e. this shows “unique” entities.
As can be seen from the above, lenders from different countries can have different focus: whereas more lenders with parents based in Germany, Spain and Japan have a greater appetite for PF/INFRA, the opposite holds for lenders from France, the UK and the USA. The large number of non-EU lenders involved in loans syndicated in the EU can be interpreted as a signal of the internationalisation of this market, i.e. the syndicate is likely to engage with lenders that operate in a country which is different from the borrower’s country. We discuss this further in the below in terms of both the LBO and PF/INFRA segments.

Lenders in the LBO segment

The involvement of lenders in the LBO syndicated loan segment can be described in a number of ways. In particular, it is possible to distinguish between those lenders listed by Loan Connector as being involved in a transaction, i.e. participants, and those identified as having a more prominent role (i.e. identified by Loan Connector as being an MLA). As noted already, title inflation can mean that the label MLA could signify a lender actually taking an important role in the process (acting as bookrunner or coordinator, say), or providing more of its balance sheet (i.e. lending more), or for some other reason. Therefore, we constructed league tables showing the market share of the top lenders in each Member State for 2010-2017, incorporating all lenders identified as participants in a deal or tranche.\footnote{108 We replicated the approach followed by Loan Connector as to allocate the amount borrowed to each lender. When available, we applied the loan share of each identified lender to the total amount borrowed. When the loan share was not available, a pro rata amount was awarded to each lead arrangers involved in a syndicate.}

This analysis does not identify any of the markets as being very highly concentrated. It is worth noting, even so, that France is less fragmented than the other markets. Calculating the Herfindahl-Hirschman Index (HHI) for each of these markets confirms this. Based upon the market shares of the top 20 participants, these range from 267-
316 for all countries save France (where the HHI score is just above 500). HHI scores in these ranges, i.e. below 1000, are generally taken as indicative of non-concentrated markets. We discuss the possibility of collective bargaining power at the end of this chapter.

**Table 16: Leading participants by market share in the LBO segment (based on loan value, 2010-2017)**

<table>
<thead>
<tr>
<th>Lender ranked</th>
<th>DE</th>
<th>ES</th>
<th>FR</th>
<th>NL</th>
<th>PL</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lender ranked 1</td>
<td>7%</td>
<td>7%</td>
<td>11%</td>
<td>8%</td>
<td>7%</td>
<td>8%</td>
</tr>
<tr>
<td>Lender ranked 2</td>
<td>6%</td>
<td>7%</td>
<td>10%</td>
<td>7%</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td>Lender ranked 3</td>
<td>6%</td>
<td>6%</td>
<td>10%</td>
<td>6%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Lender ranked 4</td>
<td>5%</td>
<td>5%</td>
<td>9%</td>
<td>6%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Lender ranked 5</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Lender ranked 6</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>5%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Lender ranked 7</td>
<td>4%</td>
<td>4%</td>
<td>3%</td>
<td>4%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Lender ranked 8</td>
<td>3%</td>
<td>4%</td>
<td>3%</td>
<td>4%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Lender ranked 9</td>
<td>3%</td>
<td>4%</td>
<td>3%</td>
<td>4%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Lender ranked 10</td>
<td>3%</td>
<td>4%</td>
<td>3%</td>
<td>3%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Lender ranked 11</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>2%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Lender ranked 12</td>
<td>3%</td>
<td>3%</td>
<td>2%</td>
<td>2%</td>
<td>3%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Source: Europe Economics (using Thomson Reuters Loan Connector data).

There is evidence of some degree of “home bias” in that the top ranked lenders tend to be lenders with a parent in that country. Such “domestic” lenders are highlighted in pale blue in the table above. This effect is particularly deep in France in the LBO segment (where over 40 per cent of the estimated total loan value is accounted for by such local banks). Local clearing banks may be able to lever existing relationships (e.g. in terms of already providing cash management services to the borrowers) to take leading roles in transactions. Momentum (i.e. local banks have the relevant experience) may also be a factor. As we have noted already, the Loan Connector data do not pick up all investors in loans – the above analysis may be best understood as what has been underwritten, not necessarily what is retained by these lenders. In the literature, there are indications that borrowers tend to borrow in their natural home market and hence bank portfolios display significant home “bias.”

The extent of this effect should not be over-stated however. The LBO segment has a number of leading banks active in all or nearly all of the six markets. If we consider the top 20 banks in the LBO segment in each Member State, we find that no less than twelve banks feature in at least five of the country-specific Top 20s. Each of these twelve banks is a G-SIB (i.e. Globally Systemic Important Bank). All twelve of these G-SIBs are in the Top 20 in Germany – whereas only 8 feature in Poland’s top 20. This offers some (weak) support to the idea that internationalisation of the LBO market is stronger in west Europe than in Europe as a whole.

This means that there is considerable homogeneity between the different league tables (Top 20) – but (a) positioning of these G-SIBs in a given country’s league table is at least partly influenced by whether the bank is based in that country, and (b) the identity of the other banks in the Top 20 is influenced by the country the borrower is

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in (being a mix of “local” banks and other G-SIBs that are simply less consistently prominent in the LBO market).

Over 300 lenders were involved in at least one LBO transaction in at least one country during the course of 2010-2017. This is a low threshold to signal active engagement in the market. If we – as a rule of thumb – assume that an active lender would be involved in a deal at least every other month then 46 lenders pass this test – and 34 were involved in at least 96 deals (i.e. one per month) across all six Member States in this time period. If we double the threshold again, there are still 13 lenders that were sufficiently active to pass this test. This is simply to reinforce the point that there are a non-trivial number of lenders that have the necessary skills and wherewithal to participate in the LBO segment. This was reinforced in our fieldwork where the vast majority of lenders had a leveraged team specialised in originating and executing such transactions (somewhat fewer had a dedicated PF/INFRA team).

These more active lenders pursue a variety of strategies. As we have noted above, some are very active across all of the countries of interest. But there are also lenders that are highly active, but with a very clear country focus.

There is also some degree of segmentation by size. We divided deals into three broad bands: those with total debt below €250m, those between €250m–€1bn and those above €1bn. If we consider those 34 lenders that were involved in at least 96 deals across all six countries in 2010-17, then eleven of these were most prominent in the €1 billion band, i.e. they were primarily focused on larger transactions. These eleven overlap significantly (but not perfectly) with the twelve G-SIBs mentioned above. Such large banks should have the skills necessary to execute the process well but also have access to broader banking knowledge (provided that they can effectively manage any ensuing conflicts of interest and properly harness such knowledge to better assess credit risks). There are also lenders focused on such larger deals, but which do not appear to be volume players (at least in Europe), nor are they G-SIBs.

Other lenders are active across all size bands relatively evenly. This latter group also includes several of the G-SIBs. These are lenders particularly focused on the volume, or flow, of deals.

A further dimension is the capacity to underwrite high-yield bonds within debt structures. In the larger banks that we interviewed, it was most often the case that such capacity sat in the same originating teams as for syndicated lending. This reflects a degree of convergence between these products.

**Lenders in the PF/INFRA segments**

As with the LBO market, we conducted a similar analysis of the leading lenders in the PF/INFRA segment. We combine these here (indeed, lenders tend to operate PF/INFRA activity out of the same units). Most countries – the exceptions are France and the UK – are less fragmented/more concentrated than the LBO segment. More lenders (almost 370) are recorded at least once in a PF/INFRA deal in Loan Connector, with about 150 appearing in both the LBO and PF/INFRA segments.

**Table 17: Leading participants by market share in the PF/INFRA segment (based on loan value, 2010-2017)**

<table>
<thead>
<tr>
<th>Lender ranked</th>
<th>DE</th>
<th>ES</th>
<th>FR</th>
<th>NL</th>
<th>PL</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lender ranked 1</td>
<td>17%</td>
<td>13%</td>
<td>12%</td>
<td>13%</td>
<td>23%</td>
<td>6%</td>
</tr>
<tr>
<td>Lender ranked 2</td>
<td>11%</td>
<td>10%</td>
<td>10%</td>
<td>14%</td>
<td>14%</td>
<td>6%</td>
</tr>
<tr>
<td>Lender ranked 3</td>
<td>6%</td>
<td>10%</td>
<td>8%</td>
<td>8%</td>
<td>9%</td>
<td>5%</td>
</tr>
</tbody>
</table>
EU loan syndication and its impact on competition in credit markets

Lender ranked 4  
5%  6%  5%  8%  8%  5%

Lender ranked 5  
4%  4%  2%  4%  4%  4%

Lender ranked 6  
3%  4%  4%  3%  4%  3%

Lender ranked 7  
3%  3%  2%  2%  3%  3%

Lender ranked 8  
3%  2%  4%  3%  3%  3%

Lender ranked 9  
3%  2%  2%  2%  3%  3%

Lender ranked 10  
3%  2%  3%  3%  2%  3%

Lender ranked 11  
3%  2%  3%  3%  2%  2%

Lender ranked 12  
3%  2%  5%  2%  2%  2%

Source: Europe Economics (using Thomson Reuters Loan Connector data).

As with the LBO segment we calculated the HHI for each of these markets based upon the market shares of the top 20 participants. The results were higher for all markets, except the UK. These were in the range from 465-582 for all countries save Poland (where the HHI score is just below 1000). HHI scores in these ranges are generally taken as being prima facie indicative of non-concentrated markets, with Poland’s market being on the cusp. As noted above, we discuss the possibility of collective bargaining power at the end of this chapter.

The evidence of some degree of “home bias” is more apparent in PF/INFRA than in the LBO segment. Now “domestic” lenders (highlighted in pale blue in the table above) have over 40 per cent of the estimated total loan value in Germany, Spain, France and Poland. There are also banks operating across all of these countries – however, this is less pronounced than with the LBO segment. The number of leading banks appearing in the Top 20 in all (or at least five) of the markets is eight rather than the twelve seen in the LBO segment. Again each of these is a G-SIB (together with the European Investment Bank). Such large banks should have the skills necessary to execute the process well but also have access to broader banking knowledge (provided that they can effectively manage any ensuing conflicts of interest and properly harness such knowledge to better assess credit risks). This may be both more important and more challenging than in LBOs. In was clear in the fieldwork both that PF/INFRA often has dedicated bank professionals working on such deals – but also that there are many specialisms within PF/INFRA, i.e. knowledge of the credit risks in building a windfarm may not transfer well (if at all) to an understanding of the credit risks in a pipeline.

We explored any segmentation by size amongst lenders. The results were broadly comparable with the LBO segment, which we have described above, except that there were more lenders mostly focused on larger transactions (i.e. above €1 billion). This is not particularly surprising given the typical deal sizes relative to LBOs (as described earlier in this chapter).

There are four banks that are consistently in the league tables for all (or nearly all) countries for both the LBO and PF/INFRA segments. Three of these are based in France.

Lenders’ business models

We draw on our lender fieldwork to describe lenders’ approaches to syndicated loan organisation and client relationships. There are a few key differences according to whether lenders are engaging in LBO or PF/INFRA loans, which we describe below, but overall lenders’ business models reflect individual firms’ preferences rather than loan segments (for example two different lenders both engaged in PF loans may have very different approaches).
**Organisation**

The approach to deal origination and execution varies across lenders according to their business models (although overall they follow a similar process as described in Chapter 2). Many MLAs seek to manage borrower/sponsor relationships locally (i.e. in the various geographic markets where the lender is active), but manage the deal execution and syndication centrally. In contrast, some international banks may organise around product rather than geographic markets, e.g. with a project finance team covering all deals in PF/INFRA across the relevant geographic markets. These local/product business lines would be responsible for originating a loan and developing the credit risk assessment.

This local / product-specific presence is often considered critical to origination (i.e. interacting with the borrower and assessing the merits of the loan for the bank) and credit risk assessment, but matters less to the syndication process per se (i.e. selling the loan down in the wider investment market, where the important factor is where the investor base is, rather than where the loan is based). For this reason many banks have a more centralised syndications team which is involved when a loan is to be syndicated (and would likely also be consulted on loan pricing even if not). These syndications teams tend not to have a balance sheet and their role is to support the syndication process in terms of advising on pricing, underwriting (taking into account market appetite and the ability of the bank to sell down), and terms and documentation to negotiate with the borrower/sponsor, and executing the deal in the market (which would include managing the general syndication phase – sometimes along with a sales or distribution team). These teams tend to be based in regional hubs, close to the main investor base and (potentially) large sponsors. Some very large international banks might have syndication teams across multiple cities to respond to local deal teams.

In some cases, the syndication expertise will typically be integrated with a broader team responsible for origination, structuring and securing access to capital markets for loans within the same institution. In the case of LBO loans, where national markets are less relevant and the main drivers are the location of the sponsors and investors, many origination and syndication teams are based in London regardless of the overall geographic scope of the bank. For PF/INFRA loans, on the other hand, local or product-specific presence is considered to be more valuable by many (although not all) lenders in our fieldwork (the syndication function would still likely be centralised). This could explain in part the greater degree of “home bias” shown in Table 16 and Table 17 for PR/INFRA loans compared to LBO loans.

Sign off for syndicated loans generally happens centrally (various committees would review submissions from the origination and syndications teams); this may depend on the size and risk of the loan, with some decisions being taken regionally and others at the central/global level in the bank. Non-EU banks may have some delegated authority to sign off deals in the relevant EU hubs, with deals over a certain threshold signed off in the bank’s headquarters.

**Approaches to client relationships**

Some banks tend to take an ‘originate to distribute’ approach to syndicated loans, accessing underwriting (and other lead arranger) fees and distributing a large proportion of the loan away in the general syndication phase (some parts of the loan would still be held, in particular the revolver element and possibly part of the Term A loan). This approach relies particularly on experienced syndication and distribution teams to ensure the sell-down of the loan, and is generally adopted in LBO loans (PF/INFRA loans generally being club deals where the lenders are more likely to hold
their allocations). There is no clear trend in the banks adopting this approach – non-EU investment banks are more likely to originate to distribute but there are still those with a take a hold approach. Similar variation exists with other large EU banks in our sample, although the majority appear to favour a take and hold approach. Smaller banks with MLA roles in smaller markets also tend to take and hold.

This approach may be driven in part by the importance of the banks’ commercial operations, with investment banks likely to be more focused on deal flow and underwriting fees and commercial banks interested in using loans as an entry point to providing other banking services. Indeed, those lenders in our fieldwork with a strong local presence tended to favour take and hold approaches (which may encourage participation in the PF/INFRA market).

That said, building relationships with borrowers and sponsors is important to banks across the board, regardless of the ability to provide additional commercial banking services or the approach to holding or distributing loan shares. Banks maintain relationships with borrowers and sponsors actively through local teams and their more centralised syndications teams (the latter usually focussing on sponsors), and through repeat business (reputation). For some banks cultivating relationships with sponsors may influence their lending strategies. For example, in LBO loans it is common for banks to work with more than one sponsor bidding for the asset (through the use of trees) as this maximises the chances of being attached to a winning bid and securing the deal. However, some banks prefer to focus exclusively on one sponsor in a particular transaction and build a relationship with them. The relationships between lenders and borrower/sponsors is explored further in Chapter 4 where we set out and test competition hypotheses.

Deal flow is important for determining pricing and loan precedents, but not essential. A strategy that is overly focused on deal flow may incentivise a bookrunner to activate market flex when a deal is going badly (bearing the loss of fees but also potentially resulting in a worse deal for the borrower/sponsor) sooner than if it was focused on embedding its relationship with the client.

Having strong relationships with borrowers and sponsors is advantageous to lenders in terms of ensuring they are among the initial banks approached to bid for a role in the syndicate, and providing the possibility to influence the loan structure through ‘early bird’ discussions with the borrower. In some cases a relationship bank might be appointed directly as a lead arranger and bookrunner without a competitive process (e.g. in cases where the underlying transaction is highly confidential and need to be executed quickly). We explore potential competition concerns related to the appointment of a lead arranger without a competitive process in the analysis of competition hypotheses in Chapter 4.

**Cross-border dimensions of syndicated loans**

Overall then, the west European market is largely an international one. Banks with a different country of origin to the borrower are active in the syndicated loan market. Such non-domestic or foreign bank underwriting and arranging of syndicated loans is found throughout the European markets, in small countries as well as the largest countries with the most sophisticated domestic financial systems.\(^{110}\) In the analysis of lenders above, we noted that the majority of lead banks are active across all (or mostly all) these geographies in at least LBO and likely both LBO and PF/INFRA loans, and either have local offices and teams based in these countries or access borrowers

and sponsors from a central hub. In this section we draw on our literature review to analyse the cross-border dimensions of syndicated loans, which are summarised at the end of this chapter along with our data analysis (e.g. around lenders’ geographic presence in Table 16 and Table 17) and lender fieldwork results in the lender business model section).

Foreign banks might initially have less local, market or firm specific information than their domestic counterparts and may also overcome cultural and bureaucratic barriers in the host country. Yet cross-border lending is widespread in Europe and around the world. Given the costs imposed by these barriers, the empirical literature provides some specific reasons why foreign bank entry takes place. A key benefit of cross-border lending arises from its effects on risk diversification – when a domestic bank invests abroad, it becomes less exposed to domestic shocks. Another reason is that foreign banks – initially at least - tend to follow their customers abroad when they enter foreign markets. When the foreign bank serves existing customers from their home country, customer-related informational and cultural barriers are essentially not present, although country/market-specific informational barriers may still exist. Third, foreign banks might have technological (expertise) advantages over domestic banks and thus operate more efficiently. Foreign bank entry would occur when these technological advantages outweigh the informational disadvantages.

Syndication offers syndicate lenders the possibility to benefit from the each other’s knowledge of the borrower and expertise in lending to a given market; by contrast, bilateral lending requires costly market research and relationship-building. Syndicated lending enables foreign banks to come together with domestic banks and therefore may provide greater opportunities for these foreign banks compared to bilateral lending. Additionally, banks with lower levels of capital in lender countries favour syndicated loans over other kinds of cross-border loans. Borrower country characteristics such as level of development, economic size, and capital account openness, play a lesser role for syndications compared to bilateral lending, suggesting a diversification motive for syndications.

Borrower country risk characteristics that are generally relevant in a bank’s decision to extend cross-border loans should reflect external and domestic vulnerabilities, and may include solvency, liquidity, and financial openness. Since syndicated loans allow banks to diversify risks by lending to a wide range of borrowers (i.e. by lending a potentially smaller amount to a greater number of borrowers than would have been possible bilaterally), including riskier ones, individual borrower risk profile is likely to be less relevant for syndicated loans compared to bilateral lending.

Another potential explanation for the presence of foreign lenders in the syndicated loan market is underdevelopment of the domestic credit supply. For example, a recent

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111 The Bank of International Settlements’ definition of foreign banks is: “bank whose controlling parent is located in a country other than that where the borrower resides, i.e. bank whose controlling parent is a non-resident financial institution.”
115 As part of our further data analysis, we will explore the frequency with which foreign and domestic banks join together on the same deal.
analysis\textsuperscript{118} of the motivation for cross-border activity in the European syndicated market has found that, after controlling for loan and borrower characteristics, loan spreads are larger in large countries, and particularly for foreign banks. In contrast, in smaller and less developed markets spreads are lower and so is the difference between the spreads charged by foreign and domestic banks. This suggests that whilst cross-border activity in large markets is motivated primarily by risk appetite and larger loan spreads, in smaller market syndications by foreign banks serve may fill in for the absence of domestic borrowing opportunities.

\textbf{Figure 26: Number of lenders by borrower’s country across sample (2010-2017)}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure26}
\caption{Number of lenders by borrower’s country across sample (2010-2017)}
\end{figure}

Source: Europe Economics (using Thomson Reuters Loan Connector).

Figure 27 below shows the number of deals involving only foreign lenders or \textit{at least one} domestic lender. The graph shows that most of the deals involve at least one domestic lender, however some variation is visible across countries. Whereas almost 90 per cent of deals in Spain and France have at least one domestic lender, this percentage decreases to 82 for Germany, to around 70 for Poland and the UK and to 60 for the Netherlands.

An important potential benefit of cross-border lending for the banking system as a whole, is due to the interaction of competition and stability. Foreign entry in the domestic market will tend to increase competition in the domestic banking market. This effect will be particularly pronounced if the domestic market was previously highly concentrated or if domestic banks were operating inefficiently (as is often the case in developing countries).\textsuperscript{119} If foreign banks are more efficient (for example, foreign banks that enter developing markets may have more advanced risk management systems), then competitive forces may push domestic banks to becoming more efficient as well, further enhancing stability.

On the other hand, foreign capital can be more mobile than domestic capital. Following a negative event that reduces the attractiveness of investment in the domestic economy, foreign banks may decide to rapidly exit the market. Domestic banks, on the other hand, cannot divert their capital as quickly outside their country. It should be kept in mind that foreign banks are less likely to exit the market if they have established their presence in the form of a subsidiary, possibly due to the presence of significant fixed costs.\textsuperscript{120}

The availability of cross-border supply has not diminished the importance of local banks, as can be seen above. In terms of loan amount and the number of deals local banks (by parent) rank highly in the league tables in all Member States in our sample. In our lender fieldwork, banks were divided as to the merits of having a local presence to either help secure origination or else better assess a potential client’s credit risk. These preferences do not appear to be driven by segment focus (i.e. LBO versus PF/INFRA).

\textsuperscript{119} Allen, Franklin; Beck, Thorsten; Carletti, Elena; Lane, Philip; Schoenmaker, Dirk and Wagner, Wolf (2011) "Cross-Border Banking in Europe: Implications for Financial Stability and Macroeconomic Policies", CEPR.
\textsuperscript{120} Allen, Franklin; Beck, Thorsten; Carletti, Elena; Lane, Philip; Schoenmaker, Dirk and Wagner, Wolf (2011) "Cross-Border Banking in Europe: Implications for Financial Stability and Macroeconomic Policies", CEPR.
In Poland, there are evidently fewer lenders active in the syndicated loans market (at least for the segments that we have examined). This is largely a function of the significantly smaller deal pool in Poland (as can be seen from Figure 26 and Figure 27 above). In addition, provision of a competitively priced zloty loan is seen as requiring access to local currency deposits (to avoid hedging costs).\textsuperscript{121}

Some lenders (notably in Poland) focus predominantly on deals with a domestic link – e.g. either a local borrower/sponsor, or a foreign borrower involved in a local project or buyout. (This is driven in some part by the capacity to lend in currencies other than zloty, which may be uncompetitive for some banks.) A further explanation offered by lenders in our fieldwork for the dominance of local banks relates to the point that some of the ancillary services (such as cash management) to syndicated loans are best provided by a local clearing bank, and where such a local bank is already providing the borrower with such services, then this may drive its inclusion in the syndicate.

These findings are broadly mirrored in the survey of borrowers and sponsors. The fieldwork show some or most lenders approached to act as MLAs were local to the borrower and/or sponsor in the majority of cases. This could also include foreign banks with local operations – indeed, UK borrowers and sponsors were the most likely to go exclusively or mostly approach locally-based lenders to act as an MLA on the loan, which we interpret as being reflective of the importance of London in this market.

\textbf{Figure 28: Proportion of banks approached to act as MLA from same country as borrower and/or sponsor}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure28.png}
\caption{Proportion of banks approached to act as MLA from same country as borrower and/or sponsor}
\end{figure}

Source: YouGov survey results, sponsors and borrowers combined, N=84.

Obviously, there is a difference between approaching a bank and appointing one (meaning that the former group could be notably more diverse than the latter). However, the clear capacity of sponsors and borrowers to approach non-local banks should provide some element of market discipline.

\textsuperscript{121} We also note that ninety per cent of loans with Polish borrowers (where the disclosure is made) use the WIBOR benchmark, rather than LIBOR or EURIBOR. Again, this limits cross-border appeal.
The key question is whether the “home bias” is a signal of competition being undermined by restricting the pool of potential MLAs. We consider this unlikely, at least in the west European markets covered by this study, where non-local banks can be readily accessed. In Poland, on the other hand, the low deal frequency and use of a non-mainstream currency, may make the pool of potential MLAs relatively small. This appears to be more of a concern in the PF/INFRA segment.

It could still be possible for local banks, though, to establish a degree of market power in connection with services ancillary to loan where the service is (a) to be provided by a local lender, and (b) the provision of the service is restricted to amongst the MLA pool. On the other hand, any desire to bring in a local clearing bank into the syndicate (i.e. without including it in the competitive RFP process to act as MLA) to provide commercial cash management services is unlikely to affect the competitive dynamics of the loan itself (although where these services are awarded to an ‘incumbent’ local bank without a competitive process, then this could of course lead to sub-optimal results).

**Participation in the market and barriers to entry**

The size of the eligible lending pool has an influence on competition in two main ways, by affecting the likelihood of collusive outcomes and the likelihood of an abuse of market power. We note that this analysis is at the loan segment / country level, rather than any case-by-case level and as such our assessment is limited to whether the market features and the various processes within loan syndication are more or less conducive to competition problems, rather than establishing specific cases of competition law violation.

The number of lenders approached will depend on the loan process. The most pro-competitive process involves borrowers/sponsors (and potentially their advisers) creating competitive tension amongst lead banks by negotiate terms individually with each lender, with little or no interaction between lenders pre-mandate. Subject to the number of participants capable of bidding being reasonably large (or, at least, not small) this feature will make any coordinated bidding difficult.

We have seen above that several hundred lenders are recorded on Loan Connector as having participated in at least one LBO or PF/INFRA transaction in 2010-17. However the number of these capable of acting as an MLA is clearly significantly smaller. This varies between markets, by segment (as we have noted previously, PF/INFRA loans are perceived as more idiosyncratic than LBO debt) and by transaction size.

Beginning with the LBO segment, in larger transactions (above €250m), the lender fieldwork indicated that banks expected the potential competition for a mandate in the western European markets of interest here to be from a pool of 10–12 international banks (being universal or investment banks) and a small number of regional players (with the latter likely to be, but not necessarily, local to the borrower). Lenders expect to compete for lead roles (i.e. a place in the initial lending group) on a number of dimensions including price and other terms, experience in similar deals and knowledge of the investor market (especially important in bidding for bookrunner roles). This does not mean that sponsors/borrowers need to approach all of these. In less large transactions, fewer of the international banks would be relevant, but more local or regional banks would have the necessary capabilities. In Poland, for number of potential MLAs will be fewer, with estimates of the number being as low as 6–8.

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122 Loan Connector, of course, only shows who was selected as an MLA, not who was approached.
PF/INFRA is somewhat different, at least in terms of the composition of players. At least some of the international investment banks active in LBOs have limited or wholly curtailed coverage of this segment. This decision was described as being down to both low returns coupled to low velocity of money (i.e. a bank could be locked into a deal for long-term) and the absence of underwriting opportunities (since it is largely a ‘club market’). This is why the number of banks awarded multiple MLA mandates across several markets in both LBO and PF/INFRA is relatively small, at just four. On the other hand, to the extent that it is fairly characterised as a club market, provision of balance sheet is more important than demonstrating distribution expertise. It is also the case that banks (e.g. Japanese ones) that have very limited presence in the LBO segment are highly active as MLAs in PF/INFRA. Altogether this means that the number of capable MLAs is at least as large as in the LBO space. However, a point emphasised in the lender fieldwork is that the PF/INFRA segment is more heterogeneous, with the result that in at least some parts of it, MLA choice (e.g. toll roads) would again be more restricted. As before, the Polish market was described by lenders as having fewer MLAs than elsewhere with the skills and appetite in the PF/INFRA segment. The consensus view of those with one was that it fewer than in the LBO segment, i.e. suggesting six or fewer.

We also note that, if the same lenders are repeated on multiple transactions with a sponsor/borrower and if the pool of lenders is small (e.g. because of the nature of the credit risk is likely to restrict who the potential MLAs could be), this might enable lenders to converge their terms and prices over time even without explicit cooperation.

Reputation, including previous interactions with the sponsor/borrower, involvement in successful syndications and willingness to underwrite or lend significant tickets, also matters. Some aspects of reputation are institutional (i.e. associated with the lender itself), whilst others are individual (i.e. the skills and expertise to make an effective cash flow-based lending assessment, or to gauge market appetite well).

This suggests that three main barriers to entry to acting as an MLA in the syndicated loan market would relate to having the right people in place at lenders with the reputation to deliver and access to the necessary information. Lenders with recent experience of building market position (e.g. growing from regular participant to regular MLA over the course of several years) did not consider the ability to hire expert individuals represented an insurmountable entry barrier. We are not in a position to comment on how individuals in the market could lead such a transformation (clearly, this is a different proposition to ‘simply’ being able to execute a syndication effectively).

Deal flow is widely (but not exclusively) viewed by lenders as an important factor contributing to banks’ development of their offers, e.g. building and sustaining relationships with sponsors, assessing appropriate price levels and other terms. This, combined with the importance of past experience and reputation, as well as high existing liquidity, could also imply that new entrants would face a slow take-up. MLAs considered the availability of other sources of information (such as publicly available

123 Toll roads were identified as such an area in the lender and investor fieldwork. It is difficult to draw robust conclusions from the PF/INFRA dataset without identifying false positives because the majority of sub-divisions identified within Loan Connector have only a few transactions within them – i.e. those MLAs on those deals actually done would appear to dominate MLA choices. It can be observed that as the number of transactions in a given PF/INFRA segment increases, so the shares of the leading MLAs in that segment decrease. Segments with more than 15 transactions (across the eight years in our sample period) do not exhibit signs of concentration amongst MLAs. (Interestingly, toll roads also fall into this pattern – this segment has enough transactions such that it does not appear to exhibit concentration amongst the MLAs active in it).
deal data from a mix of databases) to be much improved from the position pre-crisis and generally to be sufficient to assess comparable transactions adequately. On the other hand, since the syndicated lending space remains a private market, there are various critical elements of information that do not always get released (specifically – and most critically – pricing information, at least based upon the availability of this in Loan Connector).

Outside of MLAs, the number of potential participating lenders is large (i.e. several hundred banks and institutional investors have participated). Markets where non-bank involvement is more limited across the board would have a smaller pool of lenders with this feature is evident in Poland which is a very bank dominated market, the involvement of institutional investors is currently very limited.

Conclusions around the remainder of Europe
Given that we were tasked with considering borrowers in six countries, we need to be careful in not over-extrapolating the results to elsewhere in Europe. We repeat that we are basing our analysis on activities in the countries of interest, within a set time period (largely speaking, post-crisis). However, in conjunction with views expressed in the lender fieldwork, we are able to make some tentative observations. First, that there is some degree of geographic segmentation between western Europe and the remainder of the EU, with the former more likely to have more lenders and more institutional investors following those markets. This could mean that Poland is a good proxy for non-west European countries more generally.

Second, we note that lenders do not have a common view on whether a local presence is significant or not. Those lenders considering this to be relatively unimportant are potentially less constrained in geographic coverage than those that do. The latter group are likely to focus upon local markets and large markets (where scale could justify the investment). Such an effect, if material, could mean that smaller markets (whether or not in western Europe) could be less well-served than the large markets covered by this study.

Subject to the same conditions as with the LBO segment, we are able to also make tentative observations about PF/INFRA outside of the six countries of interest to this study. First, there is some degree of geographic segmentation between western Europe and the remainder of the EU, with the former more likely to have more lenders. Again, this may mean that Poland is a good proxy for other non-west European countries, or other non-Eurozone countries (i.e. Scandinavian ones) – but this is in the context of more localised participation generally in PF/INFRA relative to the LBO space.

Non-bank institutional investors
Non-bank, institutional investors such as insurers (particularly life insurers that have long duration liabilities and wish to match long-duration assets against these), pension funds, family offices and sovereign wealth funds have been a significant feature of the LBO segment for some time. This can be through direct participation in a loan or indirectly through an investment vehicle, such as a Collateralized Loan Obligation (CLO). Whereas as pre-crisis such participation was generally through CLOs, it is now much more mixed according to the investors interviewed. Whilst such investors’ involvement in the PF/INFRA arena lags behind, it has been increasing in the past few years such that the latter can no longer simply be characterised as a “bank market”.

As noted, non-bank investors have various ways of accessing the market. Direct participation has normally been at the general syndication stage, but some investors
have developed dedicated teams, such that earlier participation in a transaction is achievable (e.g. the debt structure of an INFRA deal might be designed such that a long-dated, Term B tranche can be marketed directly at institutional investors such as insurers).

Over and above this, investors can participate via a mix of investment vehicles. The main forms are:

- **Collateralized Loan Obligations (CLOs).** These are portfolios of loans that are sub-investment grade or towards the bottom of the investment grade spectrum that are securitised and held in closed-ended funds. They are constructed and managed by dedicated managers. It is typical for such vehicles to incorporate fund-level leverage (i.e. the fund borrows in order to increase its firepower in the market, with current multiples being around 9x). Whilst such an approach can raise returns, it also magnifies losses and so can expose the CLO to significant loss if any loans in the portfolio default. The CLOs were severely affected by the financial crisis, but began a recovery in about 2013. However, these have not fully recovered their former prominence in the LBO segment where pre-crisis they may have accounted for 75–80 per cent of institutional monies, this is estimated to now be closer to 35-40 per cent. Given the increased diversity of investors, and the greater use of direct participation, it does not appear likely that CLOs will fully recover their old prominence in at least the short- to medium-term.

- **Credit funds.** These provide debt finance either through participation in a syndicate or through bilateral lending. These funds may well be leveraged, albeit at modest levels compare to a CLO. Credit funds are often managed by alternative asset fund managers (including private equity firms).

- **Separately Managed Accounts.** These are where a specialist third-party manager is tasked by an institutional investor with managing a pool of capital. These are typically unleveraged (i.e. the manager is able to invest the capital provided by the institutional investor to the account and no more).

**Benefits to institutional investors of participating in the syndicated loan market**

The European syndicated loan market is important not just to borrowers, but also to institutional investors. (Of course, this is recursive: the willingness of investors to contribute to the supply of capital impacts upon the terms upon which deals are struck, affecting demand).

Investing in a syndicated loan has a mix of economic benefits and drawbacks.

- **First,** as an asset class, syndicated loans share many features originally designed for bilateral bank lending. The most important of these is their location in the borrower’s capital structure. As senior secured instruments, loans would be first to get repaid by a borrower. Similarly, in the event of default, loans enjoy a first lien claim over substantially all of the assets of that borrower.

- **Second,** it is essentially a floating rate market rather than a fixed rate market (as with bonds). (Borrowers may convert a floating rate instrument into a quasi-fixed rate one by executing interest rate swaps, etc. – however, unless these swaps are executed with the investor, the latter would still own a floating rate asset). As such, syndicated loans provide investors with protection from rising interest rates. It follows that the supply of capital to this market will tend to increase in periods of rising rate expectations (such as now).

- **Third,** a feature of syndicated loans that can be attractive to lenders relative to bonds is the (potential) availability of a covenant package. Project Finance and infrastructure loans tend to have strong covenant packages. In contrast however, in the leveraged market, the current tendency is for very limited covenant packages.
("covenant lite", or cov-lite). This appeals to private equity sponsors as it provides them with additional flexibility in handling the companies in their investment portfolios. In particular, cov-lite can facilitate earlier repayment of the sponsor’s investment or even payment of dividends to the sponsor. This is seen by participants as being very much driven by current market conditions, i.e. as and when the cycle turns, more traditional covenant packages will return to the leveraged market as well.

- Fourth, syndicated loans tend to be long-life assets, ranging from 5-8 years (LBOs) to up to 25-30 years (new build infrastructure). For those institutional investors with long-dated liabilities — such as life insurers and pension funds (or at least, asset managers investing on the behalf of these entities) — this match can be particularly attractive.

**The increasing supply of non-bank lenders**

Non-bank, institutional investors are increasingly interested in long-term financing in areas such as infrastructure and other large-scale projects, as well as leveraged assets (where their interest is longer-established). Attracted by the higher returns on offer, institutional investors have taken advantage of the financing opportunities in Europe as banks have pulled back to meet stringent capital requirements imposed by regulators, following the global financial crisis. In 2016, institutional investors accounted for nearly two-thirds of total primary loan issuance in Europe, a share that has steadily increased since the end of the financial crisis.\(^{124}\) The share of non-bank investors in the European syndicated loan market is below the level of that in the US market, but this is essentially due to the presence of retail investors that are absent in the EU. Indeed, an analysis by M&G (2017, using S&P IQ data) indicates that institutional investors have larger-scale participation in Europe than in the USA, notwithstanding institutional investor participation in the US predating that of Europe.

This increasing participation by non-bank, institutional investors is confirmed by our fieldwork.\(^{125}\) Non-bank lenders are particularly active in LBO loans, and tend to prefer PF/INFRA loans for projects that are in the operational phase, typically avoiding construction risk and the staggered draw-down phases (e.g. preferring the early utilisation of funds). Historically they have also targeted higher returns associated with leveraged loans. However, some investors have become comfortable with construction risk and there has been some softening in expectations on yield (i.e. moving nearer to banks) such that non-bank participation across all types of PF/INFRA loans is increasing too.

This increase in participation in PF/INFRA can also be explained by institutional investors’ current strong appetite for long-dated loans (e.g. 20–30 years), as indicated in our lender fieldwork. Banking regulations (e.g. capital requirements and Basel III, discussed earlier in this chapter) have decreased banks’ willingness to participate in long term loans and institutional investors are an increasing source of liquidity here. Indeed, our fieldwork shows that banks (in particular MLAs/active bookrunners) welcome the participation of institutional investors as this facilitates the general syndication phase by increasing the pool of investors to whom underwriters can sell down their loan shares.

There is also a consensus in the academic and industry literature from the US and the EU that non-bank investors have contributed to increased liquidity in the secondary

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\(^{125}\) Data from Loan Connector does not include a comprehensive picture of the participation of non-bank, institutional investors participating via the general syndication phase.
Our fieldwork evidence indicates that non-bank investors (especially certain debt funds) actively trade here.

The increasing participation of non-bank, institutional lenders may well displace some banks in the general syndication phases of syndicated loans, and potentially also displace non-lead banks in the initial banking group (particularly in non-underwritten deals). For example, there is evidence from our fieldwork of loans in our sample Member States being structured to include whole tranches that are marketed directly to non-bank lenders. This may increase over time as non-bank investors become increasingly comfortable with PF/INFRA loans.

However, banks' role in syndicated lending is still critical, in particular for underwriting and arranging loans and taking on the revolving credit facility, even if (with LBO loans) banks do not retain the majority of the loan. Increasing participation by non-bank lenders is therefore unlikely to significantly alter market dynamics within these core lending groups (increasing non-bank interest is as much complementary as substitutive). Banks participating in our fieldwork in general welcomed the increased participation of non-bank institutional lenders and as such do not see them as a threat to their lead roles in syndicated lending, although some banks did note increasing competition for loan shares from non-bank lenders.

That said, our lender fieldwork shows that key non-bank institutional investors have sufficient interaction with borrowers/sponsors which is likely to affect syndicate dynamics. For example, they might be approached directly by a sponsor/borrower, in addition to the bookrunner, during the general syndication phase, which can add to the borrower/sponsor's ability to monitor the behaviour of bookrunners leading the general syndication phase (i.e. by hearing directly from investors how the bookrunner is leading the general syndication and whether he is making every effort to sell down the loan at a good price). The impacts of non-bank lenders on the syndicated loan market dynamics will depend on the relationships between them and the lead bank lenders – if the two are vertically integrated in any way (i.e. lending banks have ownership in a non-bank lender) or there is a special dependent relationship between the two this would reduce the pro-competitive dynamic of non-bank involvement. We explore this hypothesis further in Chapter 4.

It is important to note that non-bank participation is not across the board. For example, in our sample Poland is still very much a bank-dominated market and there is very little non-bank participation. Respondents to our lender fieldwork suggested that institutional investors (i.e. insurers, pension funds) in Poland are limited by regulation with regard to what they can invest in – in particular complex and less liquid structures – and that changes to their regulation may be needed to facilitate their investment in syndicated loans. The same may be true of other smaller markets across the EU28. In more national, bespoke markets where there is not a large pool of eligible banks and limited alternative lenders (as may be the case outside the west European market) any loss of lending appetite among banks resulting from regulation or changing market conditions could reduce the overall supply and lead to a reduction in executed lending volume or an increase in borrowing costs.

127 The IMF identifies as much as 15-20 per cent of very high leverage debt in 2017 in the USA as originating with a non-bank as lead agent. This phenomenon does not appear to have crossed the Atlantic as yet.
**Non-banks lenders and asymmetric information**

A hypothesis associated with non-bank investors’ attitude to pricing relates to asymmetric information. If non-bank investors are not likely to have pre-existing relationships with borrowers/sponsors they could be relatively less informed compared to bank investors. Therefore, to compensate the less informed institutional investors engaging in costly information production, loans with non-bank participation should have higher spreads than bank loans ceteris paribus (the “asymmetric information hypothesis”).

Analysis of spreads on US loans with institutional investor participation against deals without such participation reveals that the difference in spreads between institutional and bank loans was larger in the earlier years when institutional loans first came into existence, but gradually decreased subsequently. The paper’s authors establish the causal relationship between the informational disadvantage of institutional lenders and the premium on institutional loan spreads, supporting the argument for decreasing asymmetrical information over time. However, these higher spreads may simply be justified by risk factors, as non-bank investors will participate in risker loans. Indeed, the overwhelming majority of disintermediated loans were leveraged loans in the study of the US market through to 2006. Thus, risk factors alone may justify a higher spread on institutional loans (the “selection effect hypothesis”).

We explore the hypothesis around information asymmetry between lead banks and non-bank lenders in detail in Chapter 4.

**Non-bank lenders’ impact on pricing**

Non-bank lenders include pension fund and insurers, as well as alternative asset managers of CLOs (such as hedge funds and also credit funds managed by private equity general partners). These asset managers usually target a higher rate of return than other institutional investors and banks. As a result, they may be more inclined to participate in higher-risk, complex transactions that would provide them with higher returns. Investment in syndicated loans may also be through funds that are themselves leveraged, such that the alternative investment fund manager still aims to achieve a higher return on its ‘equity’ in the fund.

Empirical evidence from the US market shows that loans involving institutional investors tend to be with riskier borrowers. For example, an average borrower from a non-bank lender was found to have a lower market-to-book ratio, a higher leverage ratio, and a higher default probability than an average bank borrower in the US market (using data from the mid-1990s to 2006). Borrowers that approach institutional lenders are also found to be willing to pay higher spreads at loan origination. It has been argued that because non-bank lenders can be willing to lend at times and situations when banks are not (for example very long-dated loans), where they are the ‘marginal lender’ necessary to complete a syndicate, then this will influence pricing.

This may be the case in the EU markets examined for this study – specific tranches within a loan can be structured such that they are marketed directly to institutional investors, potentially at a higher price than other tranches. Our fieldwork showed this is more likely to occur in PF/INFRA loans, where bank demand for long-dated loans is

reduced and where institutional investors have become more active in the past few years.

However, the impacts on pricing of non-bank lenders would need to be considered along with the overall demand for the loan. Presumably such structures are adopted in order to attract non-bank demand in the face of insufficient bank demand, and therefore they are necessary to complete the funding, i.e. if a borrower requires a given sum, then it is for the borrower to determine whether the overall debt package required to provide that sum makes sense. The argument also does not account for causation – institutional investors may be focused on higher returns, but this likely dictates the types of loans they participate in, rather than resulting in them pushing up the price of all loans they are active in.

**The role of the state actors**

Based on our research, public sector actors are not involved in the LBO segment (we are excluding those lending banks temporarily under national government ownership or control as a result of remedial action taken post-financial crisis).

The PF/INFRA side is different. Their role in PF/INFRA could be as borrowers /sponsors (e.g. in the context of a public-private partnership, or PPP) and also potentially as lenders.

Infrastructure projects can also be developed and owned by public-private partnerships. As such, their financing may reflect either explicit or implicit guarantees from public authorities. This could decrease the credit risk to lenders either directly (the debt is guaranteed) or because the project’s revenues are partly or wholly derived from government. Such reduced risk could allow the SPV to obtain funding at lower pricing than would otherwise be the case.

The central or local government, if it is involved, may contractually provide a number of undertakings to the Project Company, Sponsors, or Lenders which may include credit support in respect of the Procurer’s payment obligations (real or contingent) under a concession agreement. If there is some governmental involvement, the choice of the lead arranger (and the other lenders) may even involve some level of scrutiny from the relevant public authorities. It is unclear whether this means it is more likely to involve competitive bidding in the selection of the MLA.

PPP debt, with its reduced risk (e.g. due to stable, even potentially guaranteed income) and longer maturities, was seen by several participants in our fieldwork as making it more attractive to institutional investors. In this sense, public actors (acting as sponsors) can be seen as contributing towards encouraging such investors to respond positively to a partial gap in the market created by the withdrawal of some banks from longer-term PF/INFRA financing.

There are also public sector lenders in the PF/INFRA space. Syndicated lending has also opened the gate for participation of multilateral development banks, state or European Union-sponsored structural funds into eligible loans. One such fund with particular importance is the EIB-operated European Fund for Strategic Investments (EFSI). The EFSI’s link with the syndicated market is most tangible in the scope of infrastructure project financing. The EIB is likely to use EFSI funds to provide guarantees and loans via a financial intermediaries, who would then participate or lead a syndicate.131

The EIB does not itself act as a sponsor. It is a significant actor in the PF/INFRA segments, often able to provide finance in larger ticket-sizes than commercial banks.

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In our lender fieldwork (who, obviously, may be partial), it was noted that deals can be re-structured to accommodate EIB involvement, e.g. developing a tranche that is specific to the EIB. This can then mean that the deal is effectively re-structured around EIB involvement. If the deal was commercially financeable (i.e. the EIB’s involvement is substituting for debt that could have been provided by commercial banks, rather than complementing this) then the borrower/sponsor would need to assess carefully the trade-offs involved. In our lender fieldwork, no bank claimed that the EIB was depressing prices through its involvement.

This EFSI program may have an effect on the incentives of borrowers and lenders in the sectors which it targets, specifically in SME and infrastructure lending. The Fund’s activities may service a demand that existed but has not been adequately addressed until now. According to a document published by the EIB, new potential borrowers may include:

- Cities or regions with lower credit rating;
- Municipal or regional companies (e.g. utilities, transport companies, private social housing companies) with limited recourse to public sector guarantees;
- Companies or structures owned by associations of municipalities;
- Investment funds with an enhanced risk appetite (e.g. long tenor, long-term investment strategy, focus on very specific sectors such as brownfield decontamination and redevelopment);
- Financial intermediaries with lower credit rating, including those selected to implement financial instruments using European Structural and Investment Funds (ESIF);
- National/Regional Promotional Banks or commercial banks through risk-sharing structures; and
- Investment platforms.

Borrowers that would have benefited from the efficiency and lower borrowing costs, but do not have the financial standing in order to access the syndicated loan market, are likely to benefit from the Fund’s activities. By providing guarantees and securitisation, the Fund effectively allows borrowers, such as high-risk, but socially beneficial projects to have access to syndicated (and bilateral) lending. This would be particularly true for those Member States where sovereign guarantee schemes are few and underdeveloped. The EFSI would provide a complementary financial instrument to syndicated lending. That said, it is not possible to conclude from the data available to us (or rather not available) whether the presence of a public sector actor actually does lead to lower borrowing costs for a given credit risk nor whether it has other effects on the commercial aspects of a transaction (e.g. resulting in increased fees due to higher expected bidding costs, etc.).

Apart from addressing the demand for certain types of loans, the Fund may impact the supply side of lending. While the EFSI is unlikely to divert funds from the few large banks, smaller national-level banks and lenders, who have been deemed partner financial intermediaries are likely to become more active in the lending process, either on a bilateral basis or as members in the syndicate, as the EFSI guarantee effectively serves as collateral. The idea is that smaller banks that have to follow strict regulatory rules would be willing to give loans more readily.132

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132 European Investment Bank (2016) "The role of EFSI in financing urban and regional projects: Factsheet".
EIB funding under EFSI is not considered to be state aid. However, the EIB does look at the overall funding of a project to check whether there is state aid from one of the other co-financers. In particular, according to a joint statement by the EC and the EIB, state aid rules apply for programmes managed and implemented by the EIB Group on behalf of, or together with, a Member State, funded by resources from national budgets, or by resources from the Union budget which flow through national budgets, or by a combination of those resources.

The main motivation for such involvement would be to resolve a market failure, i.e. providing capital to (narrowly) sub-marginal borrowers (i.e. those borrowers that could not afford debt priced according to their risk). In current market conditions, there is a risk that such actors will displace lending that could have come from commercial lenders.

**Loan pricing per segment**

Syndicated lending is essentially a floating rate market. This is a point of difference to the bond market, which is a fixed rate product. (A floating rate syndicated loan can of course be converted into a fixed rate loan through, for example, the use of interest rate swaps.)

As a floating rate market, typically the pricing mechanism of a syndicated loan is expressed in terms of a spread over a benchmark rate, e.g. the London Inter Bank Offered Rate, LIBOR (in this way it resembles the pricing of conventional bilateral loans in the corporate market). Table 18 shows that the majority of tranches with pricing information have Euribor (Euro Inter Bank Offered Rate) as benchmark rate whereas the price of the second largest group of tranches is benchmarked against LIBOR. Only 2 per cent express price in terms of a spread over the Warsaw Interbank Offer Rate.

<table>
<thead>
<tr>
<th>Base rate</th>
<th>Number of tranches</th>
<th>% of total tranches with this disclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Euribor</td>
<td>1,069</td>
<td>63%</td>
</tr>
<tr>
<td>LIBOR</td>
<td>601</td>
<td>35%</td>
</tr>
<tr>
<td>Warsaw Interbank Offer Rate</td>
<td>29</td>
<td>2%</td>
</tr>
<tr>
<td>Fixed Rate</td>
<td>10</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,709</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: Europe Economics (using Thomson Reuters Loan Connector).

It is worth noting that Euribor, for example, is currently negative. For example, the three month Euribor rate has been negative since 2015, and currently sits around -0.3 per cent. It is understood, however, that the LMA’s standard clauses around having a zero floor for Euribor and Libor has been fairly widely adopted.

LBO loans are systematically more expensive than Infrastructure and Project Finance loans. LBO margins tend to remain within the 400-500 bps band whereas a larger

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133 European Commission (2016) “European Structural and Investment Funds and European Fund for Strategic Investments: Complementarities”.

134 Syndicated lending in Europe remains a private market. In consequence, Loan Connector is not able to provide pricing data for all loan tranches as it can be kept confidential by market participants. Pricing information (i.e. on a loan’s applicable interest rates) available for 41 per cent of the tranches in our sample, ranging from 57 per cent for LBOs to 29 per cent and 22 per cent for Project Finance and Infrastructure loans respectively. That these data are not comprehensive needs to be borne in mind in the analysis below.
price variation over time is identifiable for Project Finance and Infrastructure. This pattern holds in each Member State.

**Figure 29: Average margin by loan type over time (bps)**

![Average margin by loan type over time (bps)](image)

Source: Europe Economics (using Thomson Reuters Loan Connector).

Similarly, the benchmarks in the market, for example, the LPC Top 40 (focused on the leveraged market), shows a similar downward trend starting around the end February/early March 2016 to the new issuance chart above. Relatively benign macroeconomic conditions and significant supply of capital are putting pressure on spreads/yields.

**Figure 30: Average yield on LPC Top 40 Leveraged EMEA (bps, 2010-2017)**

![Average yield on LPC Top 40 Leveraged EMEA (bps, 2010-2017)](image)

Source: Thomson Reuters Loan Connector.

There are two main ways in which we can consider pricing using the data from Loan Connector. First, we can consider how pricing is linked to the rating category of the
EU loan syndication and its impact on competition in credit markets

tranche, i.e. since we would indeed expect higher prices to be associated with riskier loans. Given the nature of the market it is unsurprising that the Loan Connector data on tranche ratings are very restricted (ratings information is provided only for 296 tranches, 95 per cent of which are LBO tranches). Over two-thirds of these ratings are B+/B (S&P classification), i.e. towards the bottom of the investment grade spectrum, just above junk.

We nevertheless explored the extent to which a higher price is an indicator of risker loans. Figure 31 shows indeed that the lower the credit rating the higher the price of the tranche on average. It is possible that the variation in pricing of loans between countries noted above could simply be a function of different risk profiles of the tranches syndicated.

**Figure 31: Relationship between tranche rating and average spread (bps, 2010-2017)**

Second, we can consider the pricing of different types of loan facility (e.g. considering the prices of all tranches identified as ‘Term B’ debt. This is cruder than looking at credit ratings, but does significantly increase the size of the available data set. The recent experience in Europe has been that loans have generated a significant premium relative to index, albeit this has been declining in the past few years.
This access to a larger dataset allows us to examine the influence of factors – in particular deal size – on spreads. The most data on spreads available to us relate to Euribor-benchmark Term B Loans, where we have spread data on over 250 loan tranches. We note that whilst Term B loans are a recognisable product in the market, they are not a commodity, i.e. there are many idiosyncratic features that are not captured here. As can be seen below, larger deals tend towards lower spreads (the chart below looks across the entirety of 2010-17 – but this effect also holds for shorter timeframes, say the most recent 2-3 years).

There are two main potential, non-mutually exclusive explanations for this. First, there may be qualitative differences between large and small loans, e.g. larger deals are consistent with larger borrowers, which correlates with superior prospects, i.e. lower credit risk. Second, larger deals are more likely to have secondary markets made for them by broker-dealers, i.e. there should be some reduction in liquidity risk at work. The phenomenon described here is consistent with both these, and with any risk reduction being – at least in part – passed on to borrowers through standard competitive dynamics.
Fees

Market participants are not under an obligation to publish fees in what remains a private market. Therefore, as with pricing data, Loan Connector does not provide comprehensive pricing data for loan tranches. Given the paucity of this data, we are cautious here not to overly rely upon it in case it suffers from selection bias, or equivalent issues. Similarly, in our fieldwork, we found that many participants were reluctant to share such information. In addition, because of the different tasks involved in the formation and management of a syndicated loan (e.g. identifying potential members, determining commitment shares, negotiating the contractual terms, monitoring loan performance, managing many transfers between syndicate members and the borrowers, etc.), and the different types of loan facility provided, the typologies of fees in a syndicate can be quite complex.

However, the data from both sources are broadly complementary and we have used both these sources in the description below. Therefore, we are able to provide an approximate picture of both issuance fees and the cost of ancillary services such as cash management and hedging. We do so in two illustrative cases, one for an LBO, the other for a PF/INFRA transaction.

Fees in LBOs

We take as our first example an LBO. One key determinant of fees will be whether or not underwriting is provided. Underwriting fees remunerate the banks for the additional risk for committing to provide (in aggregate across all the underwriters) the full value of the loan (such fees can also be seen as a way of remunerating a lender for providing what would otherwise be unremunerated services).

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135 According to the product specialists at Thomson Reuters, this is due to the confidential nature of pricing and fee data which is not always provided by banks. Looking across the entirety of the sample, 2010-17, there are 357 data points for what Loan Connector terms upfront fees and about 200 on commitment/cancellation fees.
As we have noted above, LBOs are frequently underwritten. This is to provide certainty as to financing in a constrained timeline. Therefore our illustrative LBO example incorporates underwriting. Based on those lenders willing to provide a gauge, such underwriting fees can vary from 150–175 basis points (i.e. 1.50-1.75 per cent on the underwritten amount), but this range will increase to 175-200 bps where there are cross-border dimensions or other complications. Underwriting fees would vary conditional upon the role taken, e.g. an active bookrunner would likely get more of the total underwriting fees than a passive one. The apportionment of such fees is obviously a key element within the negotiations between the borrower/sponsor and the banks pre-mandate.

**Table 19: Transaction costs in underwritten LBO**

<table>
<thead>
<tr>
<th></th>
<th>£m</th>
<th>£m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan value</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>Underwriting fees</td>
<td>175</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>8.75</td>
<td>10</td>
</tr>
<tr>
<td>Participation fees</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>2.5</td>
<td>5</td>
</tr>
<tr>
<td>Total one-off fees</td>
<td>11.25</td>
<td>15</td>
</tr>
</tbody>
</table>

Participation fees can also be payable upfront. Participation fees are more generally known in the market as the OID (Original Issue Discount). These can vary depending on ticket size, typically ranging from 0.25-1.00 per cent flat (although the data are limited in scope, the Loan Connector data on participation fees are in line with this, with a median around 100 bps, and the average of those OIDs reported being 99.0). These would be paid directly to the participants by the borrower (i.e. the issuer). In the event of Reverse Flex, the OIDs can be reduced or eliminated such that the borrower retains the full benefit of the reverse flex (at least in larger ticket sizes). In smaller transactions, underwriters may be able to retain some fraction of the benefit.

The one-off fees payable to MLAs generally incorporate an element of contingency (i.e. where the full amount is payable only upon meeting set conditions for success) in order to provide additional incentive for MLA performance (and potentially to provide a degree of protection should the transaction not complete for any reason). An element of contingency obviously provides economic justification for higher fees than otherwise (provided there is some risk of the success conditions not being met).

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136 For the avoidance of any doubt, this symmetry is of course not a coincidence. The participation fees and OID are either both reported or neither is, with the participation fee being the difference between par value and the stated OID price.
Agency fees are paid annually to the Facility Agent. These vary dependent on the complexity of the deal, the number of drawdowns anticipated, expected secondary market trading volume, etc. The range in an LBO could be €50,000–€200,000. The lender fieldwork characterised this activity as (a) generally functionally separate from origination/syndication activity, and (b) being essentially administrative in nature.

**Table 20: Annual costs in an LBO**

<table>
<thead>
<tr>
<th></th>
<th>€m</th>
<th>€m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility agent fees (annual cost)</td>
<td>0.05</td>
<td>0.2</td>
</tr>
<tr>
<td>Cash management (annual cost, 3-5 year contract)</td>
<td>0.05</td>
<td>0.075</td>
</tr>
<tr>
<td></td>
<td>0.1</td>
<td>0.275</td>
</tr>
</tbody>
</table>

Cash management is generally provided independently from the syndicated loan. The charging structure will vary according to local practice, with some variation of an annual fee supplemented by transaction volume fees if transactions exceed a defined amount.

On an ongoing basis, there could also an annual facility or commitment fee on undrawn facilities (e.g. if a capex facility of up to €100m was in place, but undrawn). These are not included in the table above. Such fees compensate lenders (along with the margin) for providing capital (even when not drawn down). The loan documentation can also contain cancellation fees (although this is not common — other than on sub-ordinated tranches — such as mezzanine debt - as one of the advantages of a syndicated loan relative to a bond is the absence of significant early repayment fees). Loan Connector’s data on both commitment and cancellation fees is limited in scope, but about 100 bps appear typical.

The lender fieldwork indicated that the LBO market has moved away from contractual hedging requirements. The CFO of the LBO issuer may of course still decide to hedge
part of their exposure anyway, but this would be subject to a discrete competitive process. There may be independent derivatives boutiques or a financing team within the sponsors which can create an organised auction to establish the terms and to ensure that the price is correctly set.

**Fees in PF/INFRA**

Since these are a club deal, no underwriting fees would be payable. However, there could be a role for advisers to the borrower/sponsor (this would also apply in the case of an LBO, but we have omitted these from the above for simplicity and because our fieldwork indicates that private equity sponsors are more likely to have in-house expertise to fulfil at least some functions that could otherwise be delegated to an adviser). This could be about £0.5-£1m on a transaction such as this. (There would also be legal costs to cover, but these are not shown).

Participation fees – where payable – are at similar levels to those in an LBO, at around 1 per cent, payable on the full allocation made, but could be lower (0.8 per cent) in less complex transactions (i.e. with fewer tranches, or lacking cross-border complications).

**Table 21: Transaction costs in club PF/INFRA**

<table>
<thead>
<tr>
<th></th>
<th>€m</th>
<th>€m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan value</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>Participation fees</td>
<td>80  4</td>
<td>100  5</td>
</tr>
<tr>
<td>Advisory fees</td>
<td>0.75 1</td>
<td></td>
</tr>
<tr>
<td>Total one-off fees</td>
<td>4.75 6</td>
<td></td>
</tr>
</tbody>
</table>

We understand that agency fees would tend to be in the €100,000–€250,000 range here. There are a diminishing number of banks interested in undertaking this role in PF/INFRA due to the tenor of the transactions (i.e. up to 20 years) and the complexity of the role (e.g. due to a growing number of conditions precedent that have to be complied with). There are third party providers who can undertake this role.

Cash management is generally provided independently from the financing / syndication activity. The charging structure will vary according to local practice, but likely with some variation of an annual fee supplemented by transaction volume fees if transactions exceed a defined amount. The estimate below draws on the lender fieldwork.

**Table 22: Annual costs in PF/INFRA**

<table>
<thead>
<tr>
<th></th>
<th>€m</th>
<th>€m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility agent fees (annual cost)</td>
<td>0.05</td>
<td>0.2</td>
</tr>
<tr>
<td>Cash management (annual cost, 3-5 year contract)</td>
<td>0.05</td>
<td>0.075</td>
</tr>
<tr>
<td>Total annual fees</td>
<td>0.1</td>
<td>0.275</td>
</tr>
</tbody>
</table>

Again, commitment fees could also be payable, as with LBOs.

In PF/INFRA deals there is likely to be a requirement for contractual hedging of some defined part of the exposure. Given the complexity of the transactions the natural providers will be the arranging banks who understand the security package and
project risks best. However the project finance sponsors can create bidding pressure from a group of potential derivatives providers or run auctions through independent derivative boutiques.

Our lender fieldwork indicated that banks’ interest in writing very long-dated swaps as these can be constrained because these are an inefficient use of regulatory capital. Instead:

- Combining cap and floor interest rate derivatives into a self-funding collar. For example, this was the standard practice in the Spanish project finance loans subject to the recent CNMC review (please see summary at Appendix 5f).
- Alternatively, the debt structure may introduce a fixed rate component to achieve the same overall goal as hedging (i.e. to reduce the scale of exposure to floating interest rates). This could mean substitution by tranches of mini bonds or fixed rate private placements distributed to institutional investors for bridge loans introduced as part of the syndication.

One further aspect of the fees picture, which relates equally to both LBOs and PF/INFRA, is that the borrower pays for the banks’ lawyers. This has resulted in sponsors and borrowers choosing the lawyers used. This feature may mean that institutional investors push back harder on documentation than the banks, potentially resulting in some degree of document flex. We discuss this feature further, in our discussion of flex at Chapter 4.

Covenants

As we have identified in the previous chapter, access to a covenant package is a traditional differentiator between syndicated lending and corporate bonds (excluding, to a degree, high-yield bonds). Whilst access to such a strong covenant package remains the norm in the PF/INFRA segments, such protections have been watered down in the LBO segment over the past few years. ‘Covenant-lite’ (Cov-lite) loans are a particular kind of syndicated loan facility, which lack some of the traditional protective covenants (or erode the headroom around a covenant) and place fewer restrictions on the borrower’s future behaviour (e.g. around taking on new debt, paying dividends). There are also ‘cov-loose’ loans that are essentially an intermediate grouping.

Indeed, such borrower-friendly “cov-lite” loans have become increasingly common in European LBO debt markets. In 2014 10 per cent of European LBO loans were cov-lite but that had increased to 70 per cent in 2017. Such cov-lite loans are increasingly common as deal size increases.\(^{137}\) It is worth noting that the high-yield bond market (which is also accessed by private equity sponsors to fund transactions) – and, indeed, may be origininated out of the same leveraged finance teams within lenders – have also seen deterioration in covenant quality, albeit from a more cov-lite starting point.\(^{138}\) This may also partly represent a structural shift due to convergence in investors’ minds between syndicated debt and high-yield bonds.\(^{139}\)

The US market has a longer history of cov-lite loans. The incidence of such cov-lite loans has represented 70–80 per cent of leveraged loans in the USA since 2014, i.e. the European market has converged with the USA.\(^{140}\)

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\(^{137}\) See for example, [https://www.debtextplained.com/explore/insights/covenant-erosion-continues/](https://www.debtextplained.com/explore/insights/covenant-erosion-continues/)

\(^{138}\) For example, “Tensions over junk bond covenants start to boil over”, Financial Times, 14 February 2018.

\(^{139}\) For example, “CLO demand weakens lender protections”, Financial Times, 18 June 2018.

\(^{140}\) See Moody’s analysis of loan covenant quality (USA only).
Secondary market for syndicated loans

In Chapter 2 we provided a brief description of the process of trading syndicated loans on the secondary market. We now discuss secondary trading for syndicated loans in more detail, covering the market as a whole including a factual description of the market and its evolution, the rationale for its existence, the types of trades, the types of players active in the market, and the types of loans more likely to be traded. We also draw out distinctions between LBO and P/INFRA loans.

Secondary market overview

Once a syndicated loan has been closed in the primary market, it can be traded in the secondary market, subject to any restrictions included in the primary documentation (e.g. borrower permission may be required). These loans, as with other private financial instruments, are traded solely on an over-the-counter (OTC) basis or via bilateral negotiation.

Initially, i.e. up to the mid-90s, loans in Europe were traded predominantly among a small number of US investment banks, specialist debt traders and so-called 'vulture funds'. However, subsequently a wider range of players has entered the market, including most notably other banks, hedge funds, mutual funds and other funds such as CDOs (Collateralized Debt Obligations) and CLOs. Other institutional investors that have also started (albeit to a lesser extent) trading loans on the secondary market are pension funds and insurance companies. The increased heterogeneity in the types of market players active in the secondary market also reflects an increased heterogeneity in the market players in the primary market.

Evolution of the market

There was a clear and rapid growth in the secondary loan market from the early 1990s up to the global financial crisis. In the USA, for example, the volume of loans traded increased from $8 billion (approx. €6.5 billion) in 1991 to $176 billion (approx. €142 billion) in 2005, which is equivalent to an annual compound growth rate of around 25 per cent in that period. Similarly, data for the EMEA region show a sharp increase in trading volumes from €32 billion in 2002 to €157 billion in 2007. Both the EMEA and US markets experienced their sharpest growth (by quite some way) between 2005 and 2007.

Trading volumes fell back sharply however following the financial crisis. In the EMEA region, trading volumes more than halved from 2007 (at €157 billion) to 2008 (at €73 billion) and have remained at a lower level than pre-crisis since. The volume traded in 2016 (€54 billion) is still less than that traded back in 2005 (€61 billion), as shown in Figure 35 below. The US saw more moderate declines (in percentage terms) following the global financial crisis and has witnessed significant growth since 2012, with 2016 trading volumes more than three times their 2005 level. As such, the US market has pulled further ahead of the EMEA market in more recent years. Indeed – looking

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141 LMA (2016) “Guide to secondary loan market transactions”. A ‘vulture fund’ is a hedge fund or private equity fund that invests in distressed securities (debt considered to be very weak or in default).
144 All EMEA and Member State data referred to in this section is taken from Thomson Reuters Loan Connector data tool, in particular its Market Monitor and Deal Scan Search tools. The Deal Scan Search application allows one to search, by a number of different criteria, the syndicated loan market, including data on the borrower, lender, deal, tranche, credit rating, secondary pricing if relevant, spreads and fees etc. Market Monitor provides aggregate data, e.g. on trading volumes, for the syndicated loan market.
across all loan types — secondary market trading in the USA is approximately 3–4 times greater relative to issuance volumes than it is in EMEA.\(^{146}\) A return to the level of secondary trading in EMEA last seen in 2007 would match what is seen in the USA, all else being equal. In our fieldwork, those banks with transatlantic operations characterised the US market as being broader, with less focus on LBO debt than still is the case in Europe. This may mean that the difference in the level of trading may be less in the LBO segment than in the syndicated loan market as a whole.

**Figure 35: Annual secondary trading volumes in €billion for EMEA (all loan types)**

Trading in the secondary loan market can be both in “par” loans and in distressed debt. This is a long-standing trend in the USA can be seen in Gupta et al. (2008).\(^{147}\)

The EMEA data show that the share of distressed loans to par loans in Europe was just under 14 per cent of secondary market trades in the most recent quarter (Q4 2017). (This has declined from close to 25 per cent in 2013-14, which is unsurprising given the broad recovery in the EU economy). In the same time period, in the larger and more liquid US market, distressed loans have only constituted around 4 per cent of secondary market trades (the economic recovery in the USA has longer roots than that in the EU as a whole).

Distressed debt is inherently higher risk, but also has potentially higher rewards for investors in it. An increase in non-bank investor appetite for participation in non-distressed (i.e. par) debt in the EU would of course see some convergence towards the US position. A more active secondary market could, in turn, allow increased recycling of capital to the primary market. However, particularly in PF/INFRA, the investors at the primary stage (whether take and hold banks or institutional investors seeking long-term assets) are long-term ones, i.e. there may be a dearth of ready sellers.

\(^{146}\) Thomson Reuters only provide aggregated secondary trading data on EMEA, not the EU.

Figure 36: Secondary market trading volumes by par and distressed loans, across all loan types in EMEA

Trading of LBO versus PF/INFRA loans

Based on data from our sample of Member States (DE, ES, FR, NL, PL and UK) for the period 2010 to 2017, just over 10 per cent of primary syndicated loan issuance has secondary market trading data. Loan Connector (specifically iQuery) concentrates on the more liquid loans, providing daily (non-executable) pricing in these – in other words, there will be a greater proportion of loans that may see some secondary market activity. This set of more liquid (less illiquid) is dominated by LBO loans – of the total 241 tranches listed in iQuery, 224 were LBOs. This means that any benefits due to secondary trading (discussed later in this chapter) would be experienced differentially in these market segments.

Table 23: Number of tranches with secondary market data by purpose of loan, across 6 Member State sample

<table>
<thead>
<tr>
<th>Loan type</th>
<th>Number with secondary market data</th>
<th>% of primary market</th>
</tr>
</thead>
<tbody>
<tr>
<td>LBO</td>
<td>224</td>
<td>10.3%</td>
</tr>
<tr>
<td>PF</td>
<td>6</td>
<td>0.3%</td>
</tr>
<tr>
<td>INFR</td>
<td>11</td>
<td>0.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>241</strong></td>
<td><strong>11.1%</strong></td>
</tr>
</tbody>
</table>

Source: Europe Economics (using Thomson Reuters Loan Connector).

There is less variation in the extent of trading data across the different Member States, being more common in Germany, the Netherlands and the UK.
The data also show that those tranches with secondary market data are typically larger, on average (at €316 million), than those without (€111 million).

**Table 25: Average value of tranches with secondary market trading data**

<table>
<thead>
<tr>
<th>Secondary market data</th>
<th>No secondary market data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average value (€ million)</td>
<td>Number of tranches</td>
</tr>
<tr>
<td>LBO</td>
<td>300.71</td>
</tr>
<tr>
<td>PF</td>
<td>669.52</td>
</tr>
<tr>
<td>INFR</td>
<td>426.92</td>
</tr>
<tr>
<td><strong>All sample</strong></td>
<td><strong>316.10</strong></td>
</tr>
</tbody>
</table>

Source: Europe Economics (using Thomson Reuters Loan Connector).

The obvious inference is that markets are much more likely to be made in larger loans, i.e. deals valued at €250 million or more. Indeed, this is further corroborated by the chart below, which depicts the full spectrum of deals, from the lowest value deals on the left hand side to the highest value deals on the right hand side. Deals with secondary market data are denoted in blue, while those without are denoted in grey. The chart demonstrates that high value deals are more likely to have secondary markets than low value deals — though the cut-off is do occur even in relatively small tranches.
The average bid-ask spread, across all loan types and member states in our sample, is shown in the figure below. It shows bid-ask spreads rose sharply in 2011, but have generally been in decline since. There does not appear to be a clear correlation between average bid-ask spreads and the trading volumes shown below.

**Figure 37: Spectrum of deal values and whether secondary market is made or not**

![Spectrum of deal values and whether secondary market is made or not](image1)

Source: Europe Economics (using Thomson Reuters Loan Connector).

Given these spreads, it is not surprising that the majority of secondary market activity is in more speculative grade loan tranches – the low margin on AAA investment grade loans would make trading economically unattractive since the trading spread is 25-50 basis points. Indeed, all of the LBO tranches listed on iQuery are speculative (normally BBB) grade.\(^{148}\)

**Figure 38: Bid-ask spreads**

![Bid-ask spreads](image2)

Source: Europe Economics (using Thomson Reuters Loan Connector iQuery).

\(^{148}\) Non-investment (speculative) grade defined as Ba1 or lower on Moody’s scale, and BB+ and lower on S&P scale.
Participants in secondary market trading

The main motivation for banks to participate in trading loans is to more actively manage loan portfolios, whether for regulatory reasons (i.e. managing risk-weighted assets) or to reduce/diversify risks (e.g. to free up additional capacity to lend more to a client or sector). The banks originating loans are not exclusively sellers (obviously they are selling more than they buy) - in the lender fieldwork it was noted that banks might buy debt in order to signal intent to the borrower, i.e. trying to build a commercial relationship, which should be pro-competitive in the absence of a past relationship. The (net) buyers are institutional investors and funds managing their money (e.g. CLOs), although of course these can and do further 'churn' loans to other investors or banks as the value proposition evolves. We do not see a specific competition issue arising from this market feature, beyond the point about post-close coordination by the MLAs described above.

The larger investment banks will also have more active secondary trading desks, i.e. buying and selling loans. Lenders indicated that the scale of such operations had not recovered to pre-crisis levels, with a large desk having a portfolio of perhaps €200–250 million at any one time. As we have noted in Chapter 3, this contributes towards lower market volumes (one measure of liquidity). The academic consensus is that the benefits of trading transparency (whether pre- or post-trade), i.e. where a market is 'lit', are heavily influenced by the liquidity of the instrument being traded – with there being a significant risk that lit trading will significantly disturb trading in less liquid markets (such as even the syndicated LBO loans market), and so would likely be counter-productive from the perspective of increasing efficiency.

Economic benefits of trading on the secondary market

There are various economic benefits to lenders in trading syndicated loans on the secondary market. In very general terms, the seller (lender) could sell the loan to crystallise a gain and raise capital; to diversify and manage its exposure to risk; to satisfy regulatory capital requirements; or to crystallise a loss. Being able to sell loans on the secondary market also reduces financial frictions for lenders, and can increase balance sheet liquidity.

Our lender fieldwork confirms the rationale behind engagement in the secondary loan market, namely to make room on their balance sheet, or to sell positions in markets they are no longer active in. They also engage in the secondary market to buy loans from (new) borrowers they wish to signal an interest to. Some lenders (banks and non-banks) may also engage more actively in secondary trading (i.e. making markets in more liquid loans, holding a trading portfolio), but this is largely restricted to investment banks and the largest universal banks (and not all those).

Some non-bank investors – such as CLO managers – may be more active in the secondary market than the primary phase, looking to buy and sell on a value basis. In an effort to cater to the demands of CLOs, deals (particularly LBOs) can be structured in a way to aid “primary assignments”, which are pre-arranged loan purchases on the origination date and at the primary market price, but which are otherwise similar to

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149 If the sale is executed through its own trading desk, there will also be a trading commissions. However, in our lender fieldwork, the lenders made clear that the secondary trading desks were separate to the origination and syndication teams, i.e. to the extent that the latter should be treated in the same way as a third party.

150 The banks adopt a mix of strategies for such trading desks. These could be sited within or wholly separate to the syndicated lending unit, and could be set up to operate either on private or public information (if functionally separate, the latter is more likely).

secondary market transactions.\footnote{Benmelech, Efraim & Dlugosz, Jennifer & Ivashina, Victoria (2009) “What lies beneath: An inside look at corporate CLOs collateral”.} Mark-to-market discipline for institutional investors (e.g. as a result of Solvency II) means that funds often need to sell quickly when there is a downgrade.

The buyer, on the other hand, may view the secondary loan trade as a way to establish a relationship with a specific borrower or to achieve exposure to certain sectors or countries where their market position would not allow them to participate in primary loan origination; to make a profit; or to obtain rights over a proportion of the borrower’s asset in case the latter defaults.\footnote{See LMA (2016) “Guide to secondary loan market transactions”, and Gupta et al. (2008), “Liquidity in the pricing of syndicated loans”, \textit{Journal of Financial Markets} 11 (2008) 339-376.}

Another demand-side factor which could drive growth in the secondary loan market (and the demand for speculative loans in particular) is that syndicated loans are senior, typically secured instruments. All of this implies – everything else being equal – higher recovery rates given default than a bond. Moreover, the fact that syndicated loans are generally floating instruments implies less risk regarding future inflation or interest rates, which could be particularly important for long-duration investments. Finally, the returns on these loans can be fairly uncorrelated with equity returns -- Gupta et al. (2008) reports that in the period 1992-2002 the correlation of returns between loans and the S&P 500 was 0.12.\footnote{Gupta et al. (2008) “Liquidity in the pricing of syndicated loans”, \textit{Journal of Financial Markets} 11 (2008) 339-376.} This can make them an attractive investment for investors, for whom the high yields they could achieve on distressed loans justify the cost associated with a relatively complex trading process and other limitations of trading in a private market. On the other hand, investors who are seeking to de-risk, and thus who would be more willing to buy investment-grade loans rather than distressed loans, might find the trading costs outweigh the returns (at least in the current interest rate environment).

On the other hand, one challenge in secondary trading is that loans are private – the documentation around the loan contains commercially sensitive information about the borrower and thus is subject to strict confidentiality agreements. An implication of this is that only the sellers have access to all the relevant information. Since other market participants (i.e. those not party to the syndicate) may not be privy to all the relevant information, even after the due diligence conducted pre-trade, it has been argued that an announcement of a loan sale on the secondary market would be perceived as a negative signal of the likelihood of the borrower defaulting on payment.\footnote{Gande, A. and Saunders, A. (2012) “Are Banks Still Special when there is a Secondary Market for Loans?” \textit{Journal of Finance} 67, 1649–1684.} More recently, studies have shown that the first secondary market trade transaction of a loan has a \textit{positive} stock price effect.\footnote{See Gupta et al. (2008) “Liquidity in the pricing of syndicated loans”, \textit{Journal of Financial Markets} 11 (2008) 339-376.} This does not necessarily mean that the disadvantages of secondary loan trading have disappeared, but that the benefits have been recognised more widely and could (in certain circumstances or in certain aspects) outweigh the costs.

There is agreement in the literature – albeit based on US market data - that the secondary market “unambiguously lowers borrowing costs”. Kamstra et al. estimate at 16 basis points for leveraged loans. This observed benefit is the net effect of two countervailing effects. The reduced liquidity risk to lenders from access to the secondary market is a gain that, in a competitive market, should flow back to borrowers.

\footnotesize
\begin{itemize}
\item \footnote{Benmelech, Efraim & Dlugosz, Jennifer & Ivashina, Victoria (2009) “What lies beneath: An inside look at corporate CLOs collateral”.}
\end{itemize}
However, there are also potential risks associated with MLAs accessing the secondary market (e.g. in the originate-to-distribute model). Some academics have argued that an MLA selling a loan in the secondary market undermines the ex post monitoring role of MLAs. One of the key roles of lenders is to monitor the borrowers with whom they enter into agreements to ensure that the likelihood of loan repayment does not deteriorate. The argument is that an accessible secondary market could lower lenders’ incentives to thoroughly screen and monitor borrowers as they would be able to sell any loans in case of increasing risk of default.\textsuperscript{157} However MLAs do not have a contractual role to other lenders in the syndicate post-closure. Equally, the role of a facility agent does not encompass monitoring credit quality other than in an administrative way, i.e. passing information onto the syndicate in general. In other words, it is the responsibility of the individual owners of the syndicated loan to monitor credit quality (although some may choose to rely on credit ratings, where available, or professional asset managers, i.e. those managing CLOs or managed accounts). As such, we find this argument unconvincing, and we have noted already that the institutional investors buying loans are sophisticated (indeed, since it is a ‘buyer beware’ market, this is imperative). The importance of reputation in the syndicated loans market also appears to play a role here in limiting any misbehaviour by MLAs – for example, Gopalan et al. (2009) have shown that low quality screening by a lead arranger adversely affects its subsequent lending activity, consistent with a loss of reputation.

Bushman et al. (2009) found no difference in credit performance between traded and untraded loans involving reputable (experienced) MLAs – but did find some evidence of worse performance by traded loans originated from less reputable MLAs.\textsuperscript{158} Equally, Santos and Nigro (2009) examine the difference between the borrowing costs to a borrower on an initial loan and the cost of the loans originated after that first loan was sold in the secondary market. The analysis shows that borrowers holding more liquid loans are able to borrow at lower interest rates afterwards. This is interpreted as evidence that the benefits associated with the higher liquidity outweigh the risks associated with reducing the incentives lenders have for monitoring the borrower. Gupta et al. (2008) find that loans which are expected to be more actively traded in the secondary market have – everything else being equal – lower spreads than loans expected to be more illiquid. His estimates varied from an 88-128 basis points impact compared to otherwise equivalent loans.\textsuperscript{159} Kamstra et al. (2014) argues that the benefits achieved by the borrower are stronger for leveraged loans (i.e. such as in the LBO segment) than for investment grade loans, for which the existence of the secondary market drives the cost of borrowing up rather than down. This implies the reduced liquidity risk should be priced into the loan in the primary market – assuming that the market is sufficiently competitive for these gains to be passed on in the form of lower prices.

We undertook an analysis to test this finding in the EU market. The question we addressed is whether being traded on the secondary market has an impact on the pricing of the primary loan. (This analysis assumes that it is known at the time the

\textsuperscript{158} Bushman, R and Wittenberg-Moerman, R (2009) “Does secondary loan market trading destroy lenders’ incentives?”  
\textsuperscript{159} The approach taken in Kamstra et al. (2014) is different – contrary to the approach in Gupta et al. (2008), it seeks to distinguish between liquidity and the probability of being resold. The former is proxied by the resale constraints – the stronger than constraints the lower the liquidity. The probability of being resold, on the other hand, is interpreted as a proxy for the incentives lenders have to monitor the borrowers. As such, the theoretical prediction would be that as those incentives decline (i.e. as the probability of resale increases) spreads are increasing.
primary loan’s price is being finalised that there would subsequently be a secondary market in it (and, unless there are contractual restrictions, this is a reasonable expectation for at least larger LBO loans).

We used Thomson Reuters Loan Connector data to compare the primary pricing of loans traded on the secondary market with the primary pricing of similar loans that have not been traded on the secondary market. In undertaking this analysis we controlled for certain loan characteristics. Ideally, this would have included controlling for the credit ratings of the tranches. However, only a small proportion of tranches have credit ratings in the Loan Connector dataset (mostly BB or BBB, i.e. the typical credit quality to the characterisation of most non-distressed LBO debt). This has therefore limited the use of credit rating as a control variable.

Given the data limitations, we were able to investigate the following control variables: type of loan (e.g. Term B loans in LBO deals); country; and benchmark (Euribor v Libor). We analysed the pricing data on a quarter-by-quarter basis – again, a more granular analysis (e.g. month-by-month) is not possible given the limited amount of data. The lack of data availability stems from the less liquid secondary market in the EU compared to the USA, with the EU market experiencing a more difficult recovery post-crisis than the USA one.

Based on the empirical literature, we would expect to see lower pricing at issuance on the traded loan sample. However, our analysis does not find any significant evidence of differences between the primary pricing of those tranches with market makers and those without.

Conceptually, it can also be seen that at the time of pricing a loan, its likelihood of being traded would only be imperfectly known. Our analysis in Chapter 2 suggested that larger loans were more likely to be traded, and would also access lower spreads. For comparison, then, we also analysed issuance pricing on tranches in deals above and below a deal size of €400m. This makes the difference much more marked – however, attribution between the size of the loan and access to secondary trading is not possible given the high correlation between the two, and, in particular, the small datasets available to us here. In both cases, we have limited the comparison to the 2013 to 2016 period as prior to 2013, the data are increasingly scarce to make meaningful comparisons even on this simplistic basis. The results are shown below.

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160 Controlling for borrower characteristics beyond the details of the loan (such as size and ratings) is also not feasible as these data are not incorporated into Loan Connector. Academic papers that have included these controls have always used external databases.
Table 26: Comparison of average spread for tranches with market makers and those without (Euribor-benchmark, Term B, LBO)

<table>
<thead>
<tr>
<th>Date</th>
<th>Count of market made tranches (with pricing data)</th>
<th>Count of non-market made tranches (with pricing data)</th>
<th>Average spread for market made tranches</th>
<th>Average spread for non-market made tranches</th>
<th>Which is greater?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1-2013</td>
<td>1</td>
<td>10</td>
<td>400</td>
<td>613</td>
<td>Non-MM</td>
</tr>
<tr>
<td>Q2-2013</td>
<td>1</td>
<td>3</td>
<td>400</td>
<td>475</td>
<td>Non-MM</td>
</tr>
<tr>
<td>Q3-2013</td>
<td>2</td>
<td>13</td>
<td>375</td>
<td>454</td>
<td>Non-MM</td>
</tr>
<tr>
<td>Q4-2013</td>
<td>3</td>
<td>3</td>
<td>413</td>
<td>458</td>
<td>Non-MM</td>
</tr>
<tr>
<td>Q1-2014</td>
<td>2</td>
<td>2</td>
<td>463</td>
<td>425</td>
<td>MM</td>
</tr>
<tr>
<td>Q2-2014</td>
<td>2</td>
<td>6</td>
<td>438</td>
<td>413</td>
<td>MM</td>
</tr>
<tr>
<td>Q3-2014</td>
<td>8</td>
<td>13</td>
<td>331</td>
<td>417</td>
<td>Non-MM</td>
</tr>
<tr>
<td>Q4-2014</td>
<td>3</td>
<td>2</td>
<td>483</td>
<td>550</td>
<td>Non-MM</td>
</tr>
<tr>
<td>Q1-2015</td>
<td>5</td>
<td>1</td>
<td>498</td>
<td>425</td>
<td>MM</td>
</tr>
<tr>
<td>Q2-2015</td>
<td>6</td>
<td>2</td>
<td>433</td>
<td>513</td>
<td>Non-MM</td>
</tr>
<tr>
<td>Q3-2015</td>
<td>8</td>
<td>7</td>
<td>434</td>
<td>457</td>
<td>Non-MM</td>
</tr>
<tr>
<td>Q4-2015</td>
<td>7</td>
<td>5</td>
<td>439</td>
<td>390</td>
<td>MM</td>
</tr>
<tr>
<td>Q1-2016</td>
<td>8</td>
<td>6</td>
<td>491</td>
<td>475</td>
<td>MM</td>
</tr>
<tr>
<td>Q2-2016</td>
<td>9</td>
<td>6</td>
<td>494</td>
<td>463</td>
<td>MM</td>
</tr>
<tr>
<td>Q3-2016</td>
<td>6</td>
<td>2</td>
<td>504</td>
<td>475</td>
<td>MM</td>
</tr>
<tr>
<td>Q4-2016</td>
<td>1</td>
<td>1</td>
<td>425</td>
<td>425</td>
<td>Non-MM</td>
</tr>
<tr>
<td>Q1-2017</td>
<td>6</td>
<td>0</td>
<td>396</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q2-2017</td>
<td>8</td>
<td>2</td>
<td>369</td>
<td>363</td>
<td>MM</td>
</tr>
<tr>
<td>Q3-2017</td>
<td>10</td>
<td>2</td>
<td>393</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4-2017</td>
<td>5</td>
<td>3</td>
<td>475</td>
<td>350</td>
<td>MM</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>87</td>
<td>433</td>
<td>460</td>
<td></td>
</tr>
</tbody>
</table>

Note. ST denotes secondary traded tranches; Non-ST denotes non-secondary traded tranches.

Table 27: Comparison of average margin for tranches on deals above and below €400m (Euribor-benchmark, Term B, LBO)

<table>
<thead>
<tr>
<th>Date</th>
<th>Count of deals &gt;=€400m (with pricing data)</th>
<th>Count of deals &lt;€400m (with pricing data)</th>
<th>Average spreads for &gt;=€400m</th>
<th>Average spreads for &lt;€400m</th>
<th>Which is greater?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1-2013</td>
<td>5</td>
<td>6</td>
<td>460</td>
<td>704</td>
<td>Below 400</td>
</tr>
<tr>
<td>Q2-2013</td>
<td>3</td>
<td>1</td>
<td>442</td>
<td>500</td>
<td>Below 400</td>
</tr>
<tr>
<td>Q3-2013</td>
<td>8</td>
<td>7</td>
<td>409</td>
<td>482</td>
<td>Below 400</td>
</tr>
<tr>
<td>Q4-2013</td>
<td>3</td>
<td>3</td>
<td>417</td>
<td>454</td>
<td>Below 400</td>
</tr>
<tr>
<td>Q1-2014</td>
<td>3</td>
<td>1</td>
<td>450</td>
<td>425</td>
<td>Over 400</td>
</tr>
<tr>
<td>Q2-2014</td>
<td>6</td>
<td>2</td>
<td>413</td>
<td>438</td>
<td>Below 400</td>
</tr>
<tr>
<td>Q3-2014</td>
<td>19</td>
<td>2</td>
<td>379</td>
<td>438</td>
<td>Below 400</td>
</tr>
<tr>
<td>Q4-2014</td>
<td>2</td>
<td>3</td>
<td>500</td>
<td>517</td>
<td>Below 400</td>
</tr>
<tr>
<td>Q1-2015</td>
<td>2</td>
<td>4</td>
<td>425</td>
<td>516</td>
<td>Below 400</td>
</tr>
<tr>
<td>Q2-2015</td>
<td>4</td>
<td>4</td>
<td>431</td>
<td>475</td>
<td>Below 400</td>
</tr>
<tr>
<td>Q3-2015</td>
<td>7</td>
<td>8</td>
<td>429</td>
<td>459</td>
<td>Below 400</td>
</tr>
<tr>
<td>Q4-2015</td>
<td>5</td>
<td>7</td>
<td>370</td>
<td>454</td>
<td>Below 400</td>
</tr>
<tr>
<td>Q1-2016</td>
<td>11</td>
<td>3</td>
<td>475</td>
<td>517</td>
<td>Below 400</td>
</tr>
<tr>
<td>Q2-2016</td>
<td>9</td>
<td>6</td>
<td>478</td>
<td>488</td>
<td>Below 400</td>
</tr>
<tr>
<td>Q3-2016</td>
<td>3</td>
<td>5</td>
<td>483</td>
<td>505</td>
<td>Below 400</td>
</tr>
<tr>
<td>Q4-2016</td>
<td>1</td>
<td>1</td>
<td>425</td>
<td>425</td>
<td>Below 400</td>
</tr>
<tr>
<td>Q1-2017</td>
<td>3</td>
<td>3</td>
<td>400</td>
<td>392</td>
<td>Over 400</td>
</tr>
<tr>
<td>Q2-2017</td>
<td>7</td>
<td>3</td>
<td>364</td>
<td>375</td>
<td>Below 400</td>
</tr>
<tr>
<td>Q3-2017</td>
<td>5</td>
<td>5</td>
<td>380</td>
<td>405</td>
<td>Below 400</td>
</tr>
<tr>
<td>Q4-2017</td>
<td>4</td>
<td>4</td>
<td>444</td>
<td>413</td>
<td>Over 400</td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>78</td>
<td>422</td>
<td>479</td>
<td></td>
</tr>
</tbody>
</table>
Restrictions on trading

It is evident from the fieldwork with sponsors and borrowers that restrictions can be imposed on secondary trading. These can involve prohibitions, but can also involve restraints on who the loan can be sold to (the default LMA clause references consent not to be unreasonably withheld by the borrower but the use of this is not, of course, mandatory). The evidence from the fieldwork suggests that the adoption of such clauses are at least regularly considered by sponsors and borrowers.

Figure 39: Use by borrowers/sponsors of clauses prohibiting or restricting secondary trading activity in LBO and PF/INFRA segments

The motivations cited by borrowers and sponsors for putting in place some form of restriction can be ranked by frequency:

- The most frequently cited response (two-thirds of those putting some restriction in place) was that a sale of their debt could imply a more burdensome re-negotiation process in case of default, as more (new) parties would need to agree to any change in the loan agreement (this would depend on the structure of the secondary market transaction).
- The second most common reason was that it could complicate loan payment procedures (cited by about half).
- Also referenced by about half were concerns about the leakage of confidential information outside of already known parties. The concern here is not necessarily (or even particularly) limited to the loan itself, but rather about the overall transaction (i.e. the INFRA project or LBO itself).
- Fourth (referenced by about one-third) was that there were some lenders that the borrower did not wish to borrow from, e.g. such as distressed debt funds, or debt funds owned by rival private equity houses.\(^\text{161}\)

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\(^{161}\) Our fieldwork shows that the majority of borrowers and sponsors have contract provisions either preventing or limiting secondary trading. Interestingly, sponsors are more likely to have provisions
As a result, a borrower may place restrictions on the ability of a syndicate to enter into secondary transactions. Where secondary trading is permitted, any such transfer restrictions put in place by borrowers/sponsors would be a potential source of inefficiency in the secondary market. These constraints could include restrictions on transfer to those investors not on the ‘white lists’ used in any general syndication (the inefficiency being that the borrower’s consent would be required before a secondary trade could be settled).

For an MLA, particularly one focused on an originate-to-distribute strategy, (or any member of the original syndicate) such restrictions are generally unattractive. That they are in place in transactions implies that borrowers/sponsors are considering the trade-off between the negative consequences outlined above (i.e. complicating any potential default, etc.) against any saving on the price of the loan. Those borrowers/sponsors using RFP-style processes (i.e. 93 per cent in the YouGov fieldwork) could make this an explicit feature of that process. Those mandating an MLA directly would find this more challenging. The use of white lists can be contrasted with the USA where such transfer restrictions are less common, and where shorter ‘black lists’ are used instead (i.e. stating which institutions could not be sold to, but otherwise with the presumption that the sale to anyone else is acceptable).

Although the default LMA clauses state that consent is ‘not to be reasonably withheld’, this process can delay the settlement process and is seen as inefficient by a number of market participants. We discuss this further in the sub-section on back office inefficiencies towards the end of this chapter.

**Impact of secondary market activity on information transparency in the primary market**

As we have noted already, the secondary market for syndicated loans exists predominantly for LBO loans, with the secondary market for PF/INFRA loans being virtually non-existent in terms of Thomson Reuters iQuery data. In general, PF/INFRA transactions are club deals where the lenders indicated in our fieldwork that they expected to hold the majority of loan shares. The difficulties in pricing PF/INFRA loans on the secondary market also contributes to lower activity, i.e. the need for investors to be familiar with the project and associated risks. Potential secondary market investors may need to sign an NDA to receive information that will enable them to quote a price. Lenders indicated to us that these loans are typically more likely to be traded once the project is out of the construction phase and into the operational phase.

Market participants can access a range of publicly available data on secondary trade pricing, for example from Thomson Reuters, Bloomberg and others. Licence costs can be €10–€30,000 per annum per seat. However, the low liquidity in the EU market means that such data are widespread.

It is not simply lenders that can access such data: so can borrowers, sponsors and debt advisors. However, whilst information transparency afforded by the secondary market may increase the ability of borrowers/sponsors to assess competitive pricing levels in the primary market and so enhance competitive dynamics, they do not rely solely on such data (and, indeed, would not be able to in PF/INFRA loans).

The transparency of the market in terms of who the competitors are and what terms the competitors are ultimately proposing and receiving for the loans, could be an important factor in determining the scope for anti-competitive behaviour. Loans are preventing such trading than borrowers. Q32S and Q30B: “Do the loan agreements include any provisions preventing secondary trading of the loan?”
private contracts and unlike bond issues, pricing features can be kept confidential. Yet the unique characteristics of the syndicated loan market, especially where there is a secondary market for leveraged loans (even if that remains relatively illiquid), render it more transparent than the bilateral loan market. Data vendors such as Thomson Reuters Loan Connector publish data on syndicated loan deals with the goal to aid investors in both primary and secondary markets (where one exists in a particular loan). In addition, a significant portion of the infrastructure market consists of public-private partnerships and public procurement is likely to rely on transparent funding, again facilitating loan pricing data availability. Such additional transparency allows market players to compare pricing and loan structure. This would also allow borrowers and sponsors to better understand the market and to uncover what a competitive pricing should look like. This could exert pressure on an MLA to keep the pricing in line with market standards.

**Secondary market activity and pricing in the primary market**

Were the loan market to be competitive some of these benefits should be reflected in a lower loan spread at the time of origination, at least where secondary trading of the loan was anticipated or was reasonably expected. One hypothesis here is that if lenders misprice a primary loan (due, potentially, to a lack of competition), we would expect the loan to be traded above par in the secondary market. On the other hand, the absence of significant price discounting (i.e. selling below par) at initial sale indicates that the market does not interpret the act of selling a loan as evidence of enhanced moral hazard or adverse selection problems.162

We have investigated the secondary loan pricing just after launch (specifically at 1, 2, 3 and 6 months after launch) to see whether there is any peak in pricing. The analysis is based on data from Thomson Reuters Loan Connector tool, specifically the iQuery database. The iQuery database provides daily average ask and bid data for loan tranches that are traded in the secondary market. We have undertaken our analysis using the mid-price between bid and ask prices.

We find no evidence of loans being systematically traded above par in the secondary market for which we have data. Table 28 below shows the proportion of loans being traded above and below par, the median mid-price and lower (Q1) and upper (Q3) quartile mid-price. The data do not show a systematically higher proportion of trades being above par (as can be seen by comparing Columns 2 and 3). It can also be seen that the median trade price is very close to par.

The upper and lower quartile data shown in Table 28, along with the frequency distribution of secondary loan pricing presented in Figure 40, show that the pricing of secondary loans is concentrated around the median (which itself is close to par). This is captured by a positive kurtosis value for the distribution, which indicates that the data are more concentrated around the mean than in a normal distribution (i.e. the tails of the distribution are 'light'). The data also indicate a slight negative skew, indicating a longer tail of pricing below the median price than above.

**Table 28: Statistics on pricing of secondary loans**

<table>
<thead>
<tr>
<th>Mid-price after...</th>
<th>Proportion of trades below par</th>
<th>Proportion of trades above par</th>
<th>Median</th>
<th>Q1</th>
<th>Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 month</td>
<td>0.41</td>
<td>0.55</td>
<td>100.08</td>
<td>99.25</td>
<td>100.5</td>
</tr>
<tr>
<td>2 months</td>
<td>0.48</td>
<td>0.47</td>
<td>100</td>
<td>99.13</td>
<td>100.5</td>
</tr>
</tbody>
</table>

162 Bushman, R and Wittenberg-Moerman, R (2009) "Does secondary loan market trading destroy lenders’ incentives?"
Overall, we find no evidence of loans being systematically traded above par in the secondary market for the tranches for which there are data (i.e. the more actively traded loans). Instead, the pricing in these loans on the secondary market appears to be strongly concentrated around par.

More broadly, we do not have evidence to indicate that trading in the secondary market in Europe is inefficient (we do discuss the presence of back office inefficiencies below). However, the scale of the secondary market remains significantly below that in the USA (by a factor 3–4 across all types). Whilst institutional investors have become more active in the primary market, secondary market activity remains relatively muted and has certainly not recovered to pre-crisis levels. The US secondary market has been shown to have beneficial impacts on the US primary market. Whilst we note that the data are limited, such beneficial impacts are less clearly apparent in Europe.

**Back office inefficiencies in the primary and secondary markets**

An issue cited repeatedly in the fieldwork was the slowness of back office processes. This could increase transaction costs, resulting in sub-optimal economic outcomes.
Whilst this is a source of inefficiency, the impact on the market should not be overdone — i.e. it has not prevented the development of institutional investor appetite for syndicated loan assets. The inefficiencies identified to us are:

**‘Know your client’ (KYC)** requirements which banks need to adhere to participate in loans with other counterparties, which involve banks collecting a range of documentation from all loan participants. Depending on the size of the syndicate this can be very onerous for lead banks, particularly where debt funds are involved (a participating debt fund manager might manage many different funds such that across the whole loan ultimately investors could – in extremis - number in the hundreds, with the banks having to process KYC requirements for all investors).

Equally, lengthy KYC requirements can add to long settlement windows (although other factors contribute here e.g. borrower/sponsor approval for some loan transfers and the manual nature of many settlement systems). For example, settlement can take up to 20 days, or even longer. Long settlement windows can be a risk factor, for example they potentially could lead to gaming if views on the credit evolve significantly during the window. They also hold up the start secondary market trading by delaying transfers and thus increase transaction costs.

A central repository for all KYC documentation may help here, whereby each investor only needs to upload its documentation once for all banks to access. A key barrier here is the differences across countries and banks regarding the implementation of KYC requirements which impede the sharing of a common set of KYC documents, and which would require significant industry and potentially regulatory initiative to overcome.

Another issue raised (not directly related to KYC) was the transparency around the settlement process. Funds can get queued between the investors and the agent banks, meaning that if the agent bank has little visibility of where the funds are and when they are likely to arrive, its treasury may need to make up the difference in order to provide the client with the funds on time if money from investors has not yet arrived.

Market participants pointed to the greater settlement efficiency of the US market as a sign that current inefficiency is largely market-driven rather than technological (although direct comparisons are difficult given the larger size and liquidity of the US market, and the fact of its single jurisdiction).

**Secondary market settlement** is also considered inefficient – due to borrower/sponsor restrictions on loan transfers (e.g. requiring that consent is sought) slow down the process and can also introduce settlement risk (i.e. where a lender might be unsure if a counterparty will be approved). A borrowers/sponsors are not directly involved in the secondary market they have limited incentive to explore ways of reducing this friction. The manual settlement systems and the process of KYC also contribute to settlement time.

In summary, back office inefficiencies in the primary and secondary loan markets — driven by KYC requirements, loan transfer restrictions and a more general lack of sophistication in the systems used — increase transaction costs and can even create settlement risk. Whilst these inefficiencies (in particular those relating to KYC requirements) are exacerbated in syndicated loans involving multiple institutional

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163 The implementation of these requirements can be different and even small differences can be a barrier to a shared system. An example given in our fieldwork was the need for ‘wet’ as opposed to electronic signatures in some countries.
investors, they are not sufficient to deter banks’ involving these investors in loans – indeed, the benefits of the liquidity provided by a strong pool of investors (i.e. enabling a lead bank to successfully syndicate a loan) far outweigh the associated costs. Nevertheless, overcoming these inefficiencies would contribute to a better functioning primary and secondary market. Given the current lack of consistency across the industry in terms of KYC processes it is possible that a more coordinated approach at the EU-level will be required to address these inefficiencies. We discuss this in more detail in Chapter 4.

Conclusions
We have been tasked with researching two segments within the syndicated lending space, i.e. LBOs and PF/INFRA. We end this chapter by bringing together our analysis of competition dynamics in these segments.

Nature of LBO and PF/INFRA segments
Both LBOs and PF/INFRA projects have significant needs for debt financing. The main substitutes for syndicated lending are bilateral loans, corporate bonds and private debt placement. Borrowers and sponsors considered such alternative funding options to generally be readily available, albeit with differing attributes (e.g. floating rate loans versus fixed rate bonds). These are all forms of debt finance but they are not perfect substitutes for each other. This means that a borrower/sponsor can still differentiate between these different products, and have meaningful preferences between them. The dynamic between borrowers/sponsors on one hand and the lenders on the other would determine how much borrowers/sponsors would need to pay to secure their preferred form of funding.

Another aspect of this is that the main substitutes for syndicated lending - bilateral loans, corporate bonds and private debt placement – can all involve a critical role for the same banks. We discussed earlier in this chapter how the involvement of non-bank actors and the adoption of competitive processes (i.e. in the RFP setting, all economic terms – including fees and loan pricing – would be subject to that process) should add market discipline. There are no current signs of upward pricing pressure in the segments of the syndicated loan market of interest to this study. Indeed, the margin on debt has generally been falling over the past few years and our fieldwork indicated that overall loan costs (including fees) are under pressure from borrowers and, especially, sponsors. These trends may be a function of recent/current strong investor appetite for – in particular – LBO debt.

Our analysis of the market shares of individual lenders does not identify any of the markets as being very highly concentrated, with the HHI for each of the national markets in both the LBO and PF/INFRA segments confirming this. This finding is particularly strong in the LBO space. In the PF/INFRA segment the HHI scores were higher but only in Poland (where the HHI score is just below 1000). It is worth noting that the PF/INFRA segment is more heterogeneous than the LBO one, in that there are credit risks (say related to a particular type of infrastructure construction, such as specific forms of renewable energy) where knowledge could be less well distributed than the HHI-based analysis might suggest.

There is also segmentation between lenders by deal size. Taking LBOs as an example, amongst the most active lenders (there are 34 lenders averaging at least one LBO per month), about one-third was most prominent in the €1+ billion deal size band, i.e. they were primarily focused on larger transactions with this group overlapping significantly (but not perfectly) with G-SIBs – but other were active across all size bands relatively evenly. Again, some of this latter group are G-SIBs. These are lenders particularly focused on the volume, or flow, of deals. There are four banks that are
consistently in the league tables for all (or nearly all) countries for both the LBO and PF/INFRA segments. Three of these are based in France.

On the other hand, there is evidence of “home bias” in that the top ranked lenders tend to be lenders with a parent in that country. This is not experienced evenly, being more prominent in PF/INFRA than in LBOs. We consider it unlikely that this “home bias” is a signal of competition being undermined by restricting the pool of potential MLAs, at least in the west European markets covered by this study, where non-local banks can be readily accessed. In Poland, on the other hand, the low deal frequency and use of a non-mainstream currency (relative to the £ and €), may make the pool of potential MLAs relatively small. This appears to be more of a concern in the PF/INFRA segment. Obviously, there is a difference between approaching a bank and appointing one. However, the clear capacity of sponsors and borrowers to approach non-local banks (since otherwise these could not be appointed) should provide some element of market discipline.

**Evidence of competition among lenders**

We described in Chapter 2 how a very high proportion (93 per cent) of borrowers and sponsors have adopted RFP-style process. The selection of such a competitive form of process should enable the achievement of competitive outcomes in those cases by giving the banks the incentive to reveal their best prices.

The other main rider here would be whether sufficient banks were invited to participate in the competition (i.e. the ability of the borrower, the transaction’s sponsor and their advisers (if any), to identify banks with the appropriate skills and capacity to provide the relevant services, and to adequately judge the offers received, and also the availability of such banks).

**Availability of banks/ MLAs**

The availability of MLAs is a key consideration in assessing the possibility of MLAs having excess bargaining power over borrowers/sponsors, i.e. where the pool of available MLAs is restricted, borrowers/sponsors may have less choice and competition may operate less effectively. Our research shows that borrowers and sponsors are generally considered to have sufficient sophistication either to assess and negotiate the price and terms of the loan in-house or else to appoint advisers to assist them in that. In terms of the availability of lenders, the number of lenders participating in both LBO and PF/INFRA segments is large. However, far from all of these would have the wherewithal to compete effectively for any given MLA mandate. We have described in Chapter 3 how in the LBO segment there are at least 12–15 credible MLAs in the west European markets of interest here but that in Poland, there are fewer, with estimates of the number being as low as 6–8. PF/INFRA is somewhat different, at least in terms of the composition of players. On the other hand, to the extent that it is fairly characterised as a club market, provision of balance sheet is more important than demonstrating distribution expertise meaning that banks (e.g. Japanese ones) that have very limited presence in the LBO segment are highly active as MLAs in PF/INFRA. Altogether we consider that the number of capable MLAs is at least as large as in the LBO space. However, a point emphasised in the lender fieldwork is that the PF/INFRA segment is more heterogeneous, with the result that in at least some parts of it the choice of MLA (e.g. toll roads) could be more restricted. As with LBOs, the Polish market generally has less choice.

Although the study has been focused on six Member States, we are able to make some tentative observations about the LBO and PF/INFRA segments outside of these countries. There is some degree of differentiation between western Europe and the rest of the EU, with the former likelier to have more lenders. This may mean that Poland is a good proxy for at least other non-west European countries.
Another aspect of the availability of lenders is the capacity of lenders to transition from participation to acting as MLAs. Reputation of the lead bank is regarded as an important mechanism in the literature, and more generally previous interactions with the sponsor/borrower, involvement in successful syndications and the demonstrable willingness to underwrite or lend significant tickets also matter in terms of MLA appointment. This may mean entry into the ‘MLA market’ is more difficult for lesser known institutions.

Some aspects of reputation are institutional (i.e. associated with the lender itself), whilst others are individual (i.e. the skills and expertise to make an effective cash flow-based lending assessment, or to gauge market appetite well). Therefore, the three main barriers to entry to an institution acting as an MLA in the syndicated loan market relate to having the right people with the relevant skills, the reputation to deliver on providing loan finance, and access to the necessary information. Lenders with recent experience of building market position did not consider the ability to hire expert individuals represented an insurmountable entry barrier. We are not in a position to comment on how individuals in the market could lead such a transformation (clearly, this is a different proposition to ‘simply’ being able to execute a syndication effectively). Deal flow is widely (but not exclusively) viewed by lenders as an important factor contributing to banks’ development of their offers, e.g. building and sustaining relationships with sponsors, assessing appropriate price levels and other terms. This, combined with the importance of past experience and reputation, as well as high existing liquidity, could also imply that new entrants would face a slow take-up. MLAs considered the availability of other sources of information (such as publicly available deal data from a mix of databases) to be much improved from the position pre-crisis and generally to be sufficient to assess comparable transactions adequately. On the other hand, since the syndicated lending space remains a private market, there are various critical elements of information that do not always get released (specifically – and most critically – pricing information, at least based upon the availability of this in Loan Connector).

**Market features that could facilitate collusion**

It is also the case that any collusion by lenders ahead of submitting bids in an RFP process would obviously invalidate the anticipated competitive outcomes. Collusion arises from dynamic interactions amongst the competitor firms. In the case at hand, repeated interactions between the banks competing to be the MLA, would be an important factor in maintaining any potential collusion. Coordination is easier, the smaller the number of parties involved, in particular when coordination is only based on a tacit common understanding of the market. For example, identifying a “focal point”, in terms of loan margins, underwriter and arranger fees charged and market shares, would be easier in a market consisting of a few symmetrical market players. For each firm the long-term benefit of maintaining collusion is reduced, precisely because it gets a smaller share of the collusive profit.

We have described earlier in Chapter 3 how sponsors/borrowers seek to control the debt origination/syndication process, but also note certain areas where the control would be reduced. Some of these could facilitate collusive outcomes, in particular:

- The use of market soundings by MLAs. This would be particularly problematic where the sounding crossed the boundary between generic sounding and deal specific-sounding and where the sounding was with an MLA (or even an entity connected to an MLA). The main safeguard here is that lenders emphasised that internal policies

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meant that any deal-specific soundings would require client consent, and that this would need to be demonstrable to compliance teams. In its strongest form, such consent should be specific as to who is contacted.

- The provision of ancillary services where this provision is restricted to the syndicate, or some sub-set of it, e.g. an obligation – or strong expectation – that purchase would be from the MLAs, especially if not all MLAs were able or willing to provide or quote for that service.

- When general syndication takes place (e.g. in an underwritten deal), since it is the bookrunners that deal directly with the potential participating lenders there is scope for this to underpin tacit reciprocity in the market. We note, however, that there are several safeguards that can help to counter any such attempts (i.e. borrower/sponsor-driven white lists, direct feedback loops between investors and sponsors, regular feedback from the bookrunners and approval by borrowers/sponsors of final syndicate member allocations).

- The borrowers/sponsors will also have curtailed bargaining power where a borrower is in financial difficulties and faces default. The options available to a borrower may be very limited in such an instance.

We also note that, if the same lenders are repeated on multiple transactions with a sponsor/borrower if the pool of lenders is small (e.g. in some parts of PF/INFRA), this might enable lenders to converge their terms and prices over time even without explicit cooperation.

Overall, then, there are particular market features that have greater cause for prima facie concern. We also consider those markets (specifically Poland amongst the countries we have considered) with fewer potential MLAs should be monitored most closely. This could also apply to other countries within the EU where borrowing is not in the £ or € and to smaller markets more generally (particularly those less well connected to the main locus of the syndication market in Europe, i.e. the City in London).

**Involvement of state actors**

Based on our research, public sector actors are not involved in the LBO segment (we are excluding those lending banks temporarily under national government ownership or control as a result of remedial action taken post-financial crisis).

The PF/INFRA side is different. Role in PF/INFRA could be as borrowers /sponsors (e.g. in the context of a public-private partnership, or PPP) and also potentially as lenders. The proportion of PF/INFRA borrowers within the Loan Connector dataset is, however, rather low — at just 2 per cent of the total. Such public sector sponsors are not discretely identifiable.

PPP debt, with its reduced risk (e.g. due to stable, even potentially guaranteed income) and longer maturities, was seen by several participants in our fieldwork as making it more attractive to institutional investors. In this sense, public actors (acting as sponsors) can be seen as contributing towards encouraging such investors to respond positively to a partial gap in the market created by the withdrawal of some banks from longer-term PF/INFRA financing. There are also public sector lenders in the PF/INFRA space. The main motivation for such involvement would be to resolve a market failure, i.e. providing capital to (narrowly) sub-marginal borrowers (i.e. those borrowers that could not afford debt priced according to their risk). We note that, especially in current market conditions, there is a risk that such actors will displace lending that could have come from commercial lenders.
Secondary market
The European secondary loan market is notably smaller than that in the USA. The USA’s secondary market has been shown to have beneficial impacts on the US primary market. Whilst we do not have evidence to indicate that trading in the European secondary market is inefficient and, whilst noting that the data are very limited, such beneficial impacts on the primary market are less clearly apparent in Europe.

Back office inefficiencies
Back office inefficiencies in the primary and secondary loan markets – driven by KYC requirements, loan transfer restrictions and a more general lack of sophistication in the systems used – increase transaction costs and can even (in extremis) create settlement risk. Whilst these inefficiencies are exacerbated in syndicated loans involving multiple institutional investors (e.g. a debt fund manager investing through multiple debt funds, each of which would require KYC checks), they are not sufficient to deter banks’ involving these investors in loans – indeed, the benefits of the liquidity provided by a strong pool of investors (i.e. enabling a lead bank to successfully syndicate a loan) far outweigh the associated costs. Nevertheless, overcoming these inefficiencies would contribute to a better functioning primary and secondary market. Given the current lack of consistency across the industry in terms of KYC processes it is possible that a more coordinated approach at the EU-level will be required to address these inefficiencies.

Further issues to be covered in analysis of competition at Chapter 4
We now turn to those features of loan syndication that may pose competitive risks (either in terms of breaches in competition law or else those market features that could result in inefficient outcomes). The purpose of these conclusions is to highlight issues to be examined more detail in Chapter 4, building on those already identified in the conclusions to the preceding chapter, where our hypotheses of risks are more fully developed within our competition framework and then tested against the empirical evidence. It follows then that the summary points below should therefore not be considered as our developed competition risk hypotheses, but rather an iteration of the points to be addressed further in Chapter 4. The table below summaries the features of the syndication loan process that may pose risks for competition law or sub-optimal outcomes. We indicate where issues are the same across LBO and PF/INFRA loans, and where they are similar but more pronounced in a certain loan type.
Table 29: Summary of issues to be examined in Competition Framework – LBO and PF/INFRA loan markets

<table>
<thead>
<tr>
<th>Element of process</th>
<th>Feature to be examined under Competition analysis</th>
<th>Applicability to LBO or PF/INFRA loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formation of initial banking group</td>
<td>The borrower/sponsor has to assess its own capacity (i.e. knowledge and resources) to act independently in the process, or whether it needs to engage advisers for part or all of the process. Where there is a lack of separation between the advisers and the potential MLAs, there is clearly scope for conflicts of interest that, without adequate management, could result in sub-optimal outcomes.</td>
<td>Advisors located within banks that also act as MLAs is more a feature of the PF/INFRA space than the LBO segment.</td>
</tr>
<tr>
<td>Appointment of advisers</td>
<td>The borrower/sponsor has to assess its own capacity (i.e. knowledge and resources) to act independently in the process, or whether it needs to engage advisers for part or all of the process. Where there is a lack of separation between the advisers and the potential MLAs, there is clearly scope for conflicts of interest that, without adequate management, could result in sub-optimal outcomes.</td>
<td></td>
</tr>
<tr>
<td>Appointment of lead banking group</td>
<td>Frequency with which borrowers / sponsors engage in the market might have an impact on their ability to influence the syndicate process, in particular their experience in appointing MLAs, and their ability to use future appointments as a means of incentivising MLAs to perform well.</td>
<td>The main drivers of repeat interactions are the sponsors, particularly present in LBOs. By implication, there is greater scope for sponsors/ borrowers who are not highly sophisticated in PF/INFRA segment.</td>
</tr>
<tr>
<td>Appointment of lead banking group</td>
<td>Appointing the lead banks directly without a competitive (e.g. RFP) process may influence the outcome of the syndication process if these banks propose terms that are uncompetitive.</td>
<td>Similar issues across LBO and PF/INFRA.</td>
</tr>
<tr>
<td>Appointing a single MLA to lead the syndication process</td>
<td>The appointment of a single MLA to lead the formation of the initial banking group (which we describe in the Chapter as a more ‘traditional’ model of syndication not common to the west Europe markets, but potentially more relevant to other, more national markets) may invest too much power with a single bank and affect intra-syndicate dynamics. This model may also increase the risk of information sharing between banks as the borrower/sponsor is not negotiating bilaterally with each one.</td>
<td>More applicable to PF/INFRA loans, although cannot rule out with LBO.</td>
</tr>
<tr>
<td>Availability of (independent) price information to market participants</td>
<td>Whilst MLAs and other market participants have a variety of sources of information on the prices of comparable loans from data vendors, those MLAs with a greater flow of transactions may have access to more (and/or better quality) data, providing an informational advantage.</td>
<td>Public pricing information is available in both segments, but the relatively low levels of secondary trading activity in PF/INFRA coupled with the apparent greater diversity in PF/INFRA may increase the risks in that segment.</td>
</tr>
</tbody>
</table>

The availability of price information in public databases may limit (or make more costly) the process of assessing the market rate for a given credit risk – creating a barrier to entry for lenders seeking to build a mandate as an MLA.
<table>
<thead>
<tr>
<th>Element of process</th>
<th>Feature to be examined under Competition analysis</th>
<th>Applicability to LBO or PF/INFRA loans</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General syndication</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information exchange between MLAs and others</td>
<td>Information asymmetries between the MLAs and the potential investors in the loan (and reduced visibility on process for sponsors). Misaligned incentives could result in sub-optimal outcomes for borrower (i.e. affecting the terms of the loan).</td>
<td>Applicable to both segments, but given greater use of underwriting in LBO, and more developed secondary market there, any potential risk is greater there.</td>
</tr>
<tr>
<td>Non-bank investors</td>
<td>Potential vertical integration between sponsors, banks and non-bank investors participating in syndicated loans, and its potential to impact competitive pricing of loans.</td>
<td>Non-bank investors are more present in LBO segment.</td>
</tr>
<tr>
<td>Flex</td>
<td>The borrower pays all costs, including for the banks’ lawyers. This has resulted in sponsors and borrowers choosing the lawyers used. This feature may limit negotiating power of banks in terms of finalising documentation, and also potentially resulting in some degree of document flex. This could mean that loan documentation standards are weaker than optimal.</td>
<td>Applies to both segments, albeit scope for document flex is limited to underwritten transactions.</td>
</tr>
<tr>
<td><strong>Provision of ancillary services</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provision of ancillary services directly related to the loan</td>
<td>MLAs can seek to make the award of connected services, such as hedging, one of the conditions attached to the provision of the loan. Potential risks around the provision of hedging services include the discussion among banks in order to share out the services between them and/or coordination on pricing, and uncompetitive bundling of the services with the initial loan terms which restricts the choice of borrower/sponsors. This would be highest risk should only some sub-set of MLAs have the capability of delivering the service (this could facilitate tacit collusion between these MLAs). Ancillary services directly related to a loan include hedging services and agency services (e.g. acting as facility agent).</td>
<td>There is slightly greater use of such ancillary services in the PF/INFRA segment.</td>
</tr>
<tr>
<td>Provision of ancillary services not directly related to the loan</td>
<td>MLAs can seek to make the award of future services one of the conditions attached to the provision of the loan. Such future services can range from leading any bond issuance undertaken to replace a bridging loan, to providing future M&amp;A or IPO advisory services.</td>
<td>Bridging finance is likely equally applicable. There may be greater scope for services such as M&amp;A or IPO advisory in the LBO segment.</td>
</tr>
</tbody>
</table>

**Post closure**
## EU loan syndication and its impact on competition in credit markets

<table>
<thead>
<tr>
<th>Element of process</th>
<th>Feature to be examined under Competition analysis</th>
<th>Applicability to LBO or PF/INFRA loans</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Secondary trading</strong></td>
<td>Restrictions on transfers may limit liquidity in the secondary market, resulting in sub-optimal economic outcomes. The slowness of settlement processes could increase transaction costs, with equivalent consequences.</td>
<td>Secondary activity is greater in the LBO segment than in PF/INFRA.</td>
</tr>
<tr>
<td><strong>Refinancing and restructuring</strong></td>
<td>Restructuring in situations of distress may confer a degree of bargaining power on the syndicate, since the borrower may lack options. This would not be any more the case than with a bilateral loan.</td>
<td>Similar issues across LBO and PF/INFRA.</td>
</tr>
</tbody>
</table>
4. Analysis of Competition Issues

Introduction

This chapter sets out our analysis of the economic and competition dynamics of the syndicated loan market. The aim of this analysis is to identify features of the loan syndication process and wider market dynamics that pose risks in terms of competition law in particular, and to the competitive functioning of the market more broadly.

The starting point for this analysis is the development of a theoretical framework for how competition law might be contravened and how sub-optimal market outcomes might arise in the loan syndication market. This framework describes the key risks at each stage of the syndication process along with potential safeguards that could be put in place to mitigate these risks. Given the absence of direct case law relating to the syndicated loan market, this framework draws on “first principles” of competition law.

Once these have been identified we consider the extent to which such concerns may become more or less significant across different types of syndication and under different market dynamics. In this framework we consider a broader interpretation of competition concerns – such as competitive dynamics and relationships – than simply potential infringements of competition law.

The competition analysis framework, including the risks and safeguards, is then tested using the evidence presented in Chapters 2 and 3 on the background to the market, as well as further evidence gathered from the lender and borrower/sponsor fieldwork.

We note that the analysis of competition law issues in relation to Articles 101 and 102 is based on our own judgement, and that the European Commission has not taken a position on what is falling within/outside the scope of these Articles as regards syndicated lending.

The chapter structure first sets out an overview framework for the legal and competition analysis, describing the basis for the legal assessment of the compatibility of syndicated loans with Articles 101 and 102, and setting out other considerations for assessing competition. The purpose of this overview is to identify the types of competition concerns that the general nature of the loan syndication process itself may create, and to establish broad criteria along which to evaluate these concerns; this overview does not contain specific references to the evidence, which is brought out in the sections relating to each specific stage of the loan process.

It then focuses in more detail on each main stage of the syndicated loan process, considering the extent to which the general concerns set out in the overview may become more or less significant across different stages of the syndication process and under different market dynamics. This picks up and assesses in more detail the features highlighted in Chapters 2 and 3 as being potential risks (see Table 10 and Table 29). For each stage, the chapter sets out:

- The specific framework for legal and broader economic analysis for that stage, including the main risks and potential safeguards.
- The evidence describing the likelihood and magnitude of the identified risks, and for how/whether the suggested safeguards are implemented in practice.

Where there is sufficient difference between the syndication processes between LBO and PF/INFRA loans, we draw out separately the evidence associated with the risks and safeguards.
Overview framework for legal and competition analysis

Multi-bank lending, including the provision of syndicated loans, by its nature involves a group of banks (and other lenders) who are otherwise actual or potential competitors coming together on commonly agreed terms for the purposes of providing joint funding to a borrower for a particular transaction. Syndicated lending necessarily involves co-operation between the lenders and agreement between the lenders and the borrower on elements such as the required amount of capacity, a single price, a unified term sheet and the allocation of the proportion of the loan between the various lenders. Furthermore, to facilitate this co-operation, the competing lenders may need to exchange certain information for the purposes of arranging the financing for the borrower. What exchange is legitimate and necessary will depend on the stage of the transaction and the way in which the process has been designed by the borrower/its advisors – we discuss this where relevant in the stage-by-stage description below.

There are a number of potential competition concerns that this may give rise to which we consider in this framework. We begin this framework by examining the compatibility of syndicated loans with Article 101 and Article 102 of the Treaty on the Functioning of the European Union (TFEU) (drawing on the Horizontal Guidelines of Article 101 and 102\(^{166}\)).

Compatibility with Article 101

Article 101 (1) TFEU prohibits agreements and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition. Article 101(3) provides for an exemption from the application of Article 101(1) if the pro-competitive benefits (in terms of improvements in production, distribution, technical or economic progress) of the agreement or concerted practice outweigh the restrictive effects provided that (i) those benefits are shared with consumers (ii) the restrictions do not go beyond what is indispensable to achieve the pro-competitive benefits (they are indispensable) and (iii) does not result in the possible elimination of competition.

Agreements or concerted practices which are anti-competitive by object are those that are considered by their very nature to have the potential to restrict competition without having to examine whether there is an actual restrictive effect on competition (see paragraph 24 of the Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements) (the “Horizontal Guidelines”).

Whilst there are various categories of agreements and practices that have been considered anti-competitive by object, each agreement must be examined in its context, in terms of the objectives it seeks to attain, and the legal and economic context in which it operates (See para 25 of the Horizontal Guidelines).

Some of the key aspects that are common to syndicated lending, such as in some cases an agreement between lenders to jointly provide a service at a single price, are arrangements which, in other contexts, have been examined as potential restrictions of competition by object. However, given the context of syndicated lending, to the extent that any potentially restrictive agreement or practice is inherent to the provision of the syndicated lending (as opposed to being extraneous to but facilitated by the syndicated loan process) then an effects-based analysis of such agreements or practices is likely to be much more appropriate. Such restrictions are also sometimes considered to fall outside Article 101 (1) altogether on the basis that they are directly

related to and necessary for the proper functioning of the provision of the financing pursuant to the loan syndication agreement.

It is also relevant to the overall context and to any determination as to whether an agreement or practice which is part of the provision of syndicated lending has an anti-competitive object or effect, to recall that lenders are generally co-operating in line with the instructions or clear mandate of a borrower to discuss the loan and share information and in a borrower's interests to secure funding. Such instruction from the borrower/sponsor, the transparency and/or consent demonstrates a lack of anti-competitive purpose and the absence of anti-competitive intent, which whilst not determinative as to whether an agreement is anti-competitive by object, is a highly relevant factor in the assessment.

This is to be contrasted with potentially restrictive agreements or concerted practices that either might be facilitated by the syndicated lending process or which may occur in the context of the provision of a syndicated lending, but which fall outside the borrowers' instructions or mandate or which are otherwise not inherent to or otherwise a necessary element of the syndicated lending. Such "spillover" practices, depending on their nature, may well be anti-competitive by object (we develop these in more detail in the subsequent stage-specific sections of this chapter).

In considering whether the provision of any particular syndicated loan or the process by which the syndicate is formed has the effect of restricting competition, a key consideration is whether the lenders could have competed individually. As set out in the Horizontal Guidelines (paragraph 30) "co-operation between competitors that, on the basis of objective factors, would not be able to independently carry out the project or activity covered by the co-operation....will normally not give rise to restrictive effects on competition within the meaning of Article 101(1)."

In the case of syndicated lending it is not the case that prospective lenders cannot compete at all – they can and do compete for various different roles. Further, the borrower sets a process for the formation of the initial lending group that will typically ensure competitive tension is maintained. Rather, in syndicated lending, whilst different banks will compete for different roles, ultimately no one bank could provide the required capacity on its own and thus the provision of a multi-bank loan with a unified price on unified terms, based on the selection of banks through a process mandated by a borrower is unlikely to have an anti-competitive effect, in so far as the lenders have not engaged in potentially restrictive practices which are extraneous to that process.

If nonetheless, in any situation it is concluded that the provision of the syndicated loan has the effect of restricting or distorting competition, then such restrictive effects may be compatible with the Treaty in so far as the lenders can establish that the conditions of Article 101(3) are satisfied.

Elements that are inherent to the loan process set up by the borrower, such as the setting of a single price, single term sheet etc. in line with the instructions and mandate of the borrower are thus either outside Article 101(1) or, which is more likely, may benefit from Article 101(3).

**Compatibility with Article 102**

Article 102 prohibits the abuse of a dominant position. Such a dominant position can be enjoyed and abused by one or a group of undertakings (so called "collective dominance"). Dominance is defined as "[A] position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on
the relevant market by giving it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumers” [United Brands v Commission].

In order to establish a collective dominant position, the economic entities must be: “united by such economic links that, by virtue of that fact, together they hold a dominant position vis-à-vis the other operators on the same market.” [Italian Flat Glass]. A position of dominance must be established in respect of a particular relevant market, both product and geographic. Accordingly, before a finding of dominance can be made it is necessary to define precisely the relevant market on which that dominance operates. If dominance can be established, then certain unilateral acts may be considered to abuse its dominant position through either exploiting that position or excluding competition.

There are potentially certain circumstances where a group of lending banks might together have market power in that they jointly have the power to behave to an appreciable extent independently of their competitors and the borrower. This may be in circumstances, for example, where a borrower is in financial difficulties and faces an event of default. In this scenario, given the relationship between the lending banks under the loan agreement there are likely to be sufficient economic links to result in an alignment of their behaviour in relation to the approach to the borrower. Furthermore, it may be the case that the relevant market should be defined very narrowly – market definition consists in identifying the effective alternative sources of supply for the borrower and, in this situation, the options available to a borrower may be very limited as other lenders may be unwilling to refinance and furthermore the existing lenders are likely to have substantial rights to protect their investment.

If the lending banks were to together impose certain conditions on refinancing which were not objectively justified (e.g. to protect their investment or reflect a higher degree of risk in any refinancing), for example tying the purchase of other services to the refinancing and imposing excessive prices as a condition to the lending, then it cannot be excluded that such actions could raise competition law concerns.

Summary of key risks
Based on this assessment of Article 101 and 102 and drawing on wider competition analysis, we summarise the key risks that we will examine further in the specific context of the loan syndication process:

- Horizontal information sharing – for example this may lead to the disclosure of strategic information (such as strategic market practices to be adopted) which may serve to coordinate the pricing policies of the lenders, thereby facilitating a collusive outcome on the market in terms of price in particular, but also quantity and quality.
- Agreements between banks to collude, for example to share markets or customers, limit supply or to rig bidding processes.
- Agreements in relation to ancillary services such as allocating the share of supply and fixing prices.
- Vertical market power held by individual MLAs and/or the lenders may lead to sub-optimal loan terms.
- Syndication may confer market power or dominance to a syndicate in certain (exceptional) circumstances, which may lead to sub-optimal outcomes and may increase the negative impacts of collusive behaviour (for example if lenders agree to increase loan prices on refinancing where the borrower has limited alternatives).
- Misaligned incentives between lenders within a syndicate, and between lenders and borrowers, may give rise to more general sub-optimal outcomes.
In the following sections, we develop for each stage of the loan syndication process a more detailed framework of legal and competition analysis, drawing out whether, and in what circumstances, behaviours are likely to be compatible or not with competition law; what the risks to competitive outcomes are (i.e. expanding on the list above); and what safeguards might be implemented to reduce these risks.

**Criteria for analysing the evidence on potential issues**
The extent to which information sharing and any potential market power would be able to restrict competition through facilitating collusion and abuse of dominance depends on a number of market characteristics and the nature of the information exchanged. In the following sections we discuss any mitigating market features and analyse the evidence relating to the existence of these. These might include:

- The level of concentration in the market – a concentrated market where the cooperating parties have a wide market coverage is more likely to facilitate collusive outcomes.

- Equally, any market features that would facilitate sustainable, tacit collusion amongst market participants through collective bargaining power.

- The availability of substitutes for the borrower and their sophistication – this will affect their ability to switch lenders and their bargaining power vis-à-vis the syndicate and/or MLAs.

- The extent of market transparency – a transparent market (and/or if the information exchange will increase that transparency) is more conducive to collusive outcomes.

- The complexity of the products – complex, non-homogenous products with a large range of prices contribute to a less conducive market for collusive activity.

- The frequency of interaction and information exchange – more frequent information exchanges are more conducive to anti-competitive impacts as they facilitate a better common understanding of the market.

- The nature of the information shared, i.e. data that reduces strategic uncertainty will be more risky (such as pricing).

- The likelihood of the individual lenders being able to compete without the formation of a syndicate. The Horizontal Guidelines in relation to Commercialisation Agreements state that a “commercialisation agreement is normally not likely to give rise to competition concerns if it is objectively necessary to allow one party to enter a market it could not have entered individually or with a more limited number of parties than are effectively taking part in the co-operation, for example, because of the costs involved. A specific application of this principle would be consortia arrangements that allow the companies involved to participate in projects that they would not be able to undertake individually. As the parties to the consortia arrangement are therefore not potential competitors for implementing the project, there is no restriction of competition within the meaning of Article 101(1).”

For cooperative agreements that do have the potential to limit competition, Article 101(3) provides further assessment criteria (we consider these as relevant evaluation criteria here even though it has not been established that information sharing in loan syndication restricts competition). These would be relevant in assessing whether

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167 Article 101(1) first establishes whether co-operation has the potential to limit competition; only once this is established does the assessment under Article 101(3) become relevant – whether the co-operation has pro-competitive benefits which outweigh the competitive restrictions. As our study assesses at a broad level whether there is the potential for competition concerns across the markets as a whole we draw on both elements under Article 101(1) and 101(3), even though in practice for an individual case the assessment under Article 101(3) would only be undertaken if it had been established that the co-operation has the potential to limit competition.
the information sharing in loan syndication could result in the competition problems above.

- Whether the cooperative agreement (or the nature of information exchange) is efficiency enhancing. The Guidelines note that the efficiency gains must not be savings which result only from the elimination of costs that are inherently part of competition, but must result from the integration of economic activities. In this context, some cooperation and information sharing is necessary to (a) ascertain the willingness of lenders to form a syndicate and provide the loan and (b) to agree to a final term sheet and price. Without this, the ability of banks to form syndicates would be severely limited (not to say impossible) which would require borrowers to pursue less efficient loan options (more costly; lower volumes) or may deny them access altogether.

- Indispensability of the information shared. Information sharing that goes beyond that which is strictly necessary to form a syndicate and agree terms would constitute as potentially risky to collusive behaviour. Considerations here would include what limits the borrower puts on discussions between banks before syndication; what information is shared during/within a syndicate, and at which points.

- Pass-on to clients. Efficiency gains obtained by indispensable restrictions on competitive behaviour must be passed onto consumers (in this case borrowers). The lower the market power of the syndicate the greater the likelihood these gains would be passed on.

In addition to market features, as mentioned above there may be various safeguards that could be put in place that could mitigate the risks to competition, which we also draw out in the specific stage assessments below.

**Stage-by-stage analysis of competition issues**

We now turn to the detailed analysis of the competition issues relating to each element of the syndicated loan process. The nature of competition risk varies depending on the stage of the syndication process. We analyse in turn:

- The formation of the lead banking group, consisting of (a) a competitive bidding process between individual banks; (b) a competitive bidding process between ready-made consortia; (c) the direct appointment of a single/relationship bank.

- Post-mandate to loan agreement.

- General syndication phase, including the bargaining power of the syndicate, the selection of participants, information asymmetry and the role of a lead left bookrunner.

- General syndication phase focusing on market flex.

- Ancillary services.

- The use of debt advisors.

- The secondary loan market.

- Default and refinancing.

- Back office processes.

**Competitive bidding process – individual banks**

Our description of the syndication process distinguishes between scenarios with appointment by means of a competitive bidding process, and those where roles are appointed directly by the borrower without a formal bidding process. We begin with the analysis of a competitive bidding process.
Framework for competition analysis

In the case where a competitive RFP process is followed, lenders would compete for the mandate of MLA or other role under the terms of the RFP issued by the borrower/sponsor. The key competition risk at this stage is related to information sharing — information exchange (even if unilateral) between actual or potential competitors may result in a concerted practice which restricts competition where it facilitates alignment of their competitive behaviour (see paragraph 65 Horizontal Guidelines).

Information exchange could occur on two levels: between potential lead banks and the wider market of potential loan participants, and between potentially competing banks.

In the first case, at the pre-RFP stage (i.e. on an ongoing basis) banks’ syndication desks might gather general market intelligence in order to understand potential appetite for participation in potential lending opportunities. However, in gathering general market intelligence potential competing banks must be careful not to exchange specific, detailed information about other banks’ future behaviour which could influence their competitive behaviour — for example detailed information about the banks’ respective lending capacity to particular segments could be used to coordinate their responses to particular future bids (e.g. whether to bid or not in an upcoming RFQ, or how much to bid for).

In addition, in submitting their responses to a specific RFP the lead banks might engage in ‘market sounding’, i.e. solicit informal feedback from potential market participants on their appetite for the deal and the price at which they are willing to invest (provided this is not prohibited by the borrower). These discussions may have efficiency enhancing qualities, as they would reveal the extent of the underwriting risk for the potential lead banks.

Secondly, in cases where the borrower/sponsor’s process does not require that lead banks remain separate during the bidding phase (for example for loans where pricing and appetite are uncertain), there may be a legitimate reason for a bank to gain an understanding of other lenders’ appetite for the transaction — for example whether / how much and at what price level the other potential lenders would be interested in participating. Potentially competing banks might exchange information such as views on their appetite for the loan, views on pricing and views on loan term and structure.

However, it is at this pre-bid stage that any exchange of information has the greatest risk of impacting the competitive outcome of the bidding process by potentially removing uncertainty between competitors. The market soundings or inter-bank information exchanges could become a conduit for pricing information that may influence the banks’ individual responses to the borrower’s RFP, which could compromise the outcome of a superficially competitive auction process. Whilst every exchange must be examined in its specific context, exchange of such strategic intentions with other potential MLAs (in particular) on future conduct are especially likely to lead to an anti-competitive collusive outcome (see paragraphs 72-73 of the Horizontal Guidelines).

One important consideration here is the role of the origination and syndication functions, and the degree of separation between them (e.g. in terms of whether or not there are different individuals or teams conducting each activity). If there is a syndication team within the bank responsible for gathering general market intelligence on lenders’ appetite for loans, then the risk of information sharing is reduced if there is an enforceable separation — in terms of the flow of information — from the origination team (i.e. the function responsible for negotiating the price and other loan terms with the borrower and other lead banks). If the origination team receives no deal-specific information about appetite about individual lenders (some of which may
be competing to act as MLAs), then the risks of that team coordinating its responses to the loan terms with other lenders in a manner not sanctioned by the borrower are reduced.

Whether information exchanges will have a restrictive effect on competition and/or whether it can be considered indispensable under Article 101(3) requires a case by case assessment, but various factors such as the availability of relevant information either publicly or through the lenders’ own prior experience on previous recent transactions in the same or similar segments, and the number of potential lenders/appetite for lending to the segment, are likely to be relevant to the analysis. For example, if sufficient information to enable banks to perform their role as arrangers/underwriters is already available to them, then information exchanges would not be justified. On the other hand, if it is the case that based on the knowledge (or lack thereof) available to the banks, in the absence of some information exchange banks would be less likely to respond to the RFQ or would have to respond on less competitively attractive terms than might otherwise be the case given the difficulties of accurately pricing the risk, then it is potentially the case that the information exchange either does not have an anti-competitive effect or that it satisfies the conditions for exemption under Article 101(3).

Whether or not this is the case will also depend on an analysis of precisely what information is strictly required in this situation, for example will a general indication of interest in a segment within a range be sufficient as compared to a highly specific indication of exact interest at a price. Furthermore, could the necessary insights be provided by potential investors who, whilst they may participate in the wider syndication, will not be competing for a role as an MLA or underwriting. These are all relevant questions on a case by case basis.

A key factor in assessing the compatibility of information exchanges with competition law is whether or not these are sanctioned by the borrower/sponsor. Where such information exchange takes place with the express (and freely given) consent of the borrower, whilst not ultimately being totally determinative as to the anti-competitive effect, is good prima-facie evidence that the exchange is not anti-competitive by object and may further indicate that the exchange was considered and accepted by everyone as necessary in the circumstances. However, there are potential safeguards that could be imposed by the borrower/sponsor to reduce the risks of this information sharing (which we describe below).

If, on the other hand, the process set up by the borrower is designed to prevent the interaction between banks and the exchange of information (for example by keeping bank separate and through the use of NDAs at different stages of the process), then there would be a higher risk of such unsanctioned information exchanges being anti-competitive (as well as being in breach of contractual law).

The information exchange scenario outlined above is to be contrasted with information exchange pre-bid which may amount to a concerted practice and which is not potentially justified by circumstances such as those indicated, or is expressly prohibited by the borrower/sponsor. Lenders could undermine the competitive process by sharing information with one another during the bid process to align their offerings, engaging in cover pricing, encouraging bidders to drop out in return for

\[168\] For example, the case of RBS, which revealed its confidential and commercially sensitive loan pricing information to Barclays in order to restrict competition between the two banks. See [https://www.gov.uk/cma-cases/loan-products-to-professional-service-firms-investigation-into-anti-competitive-practices](https://www.gov.uk/cma-cases/loan-products-to-professional-service-firms-investigation-into-anti-competitive-practices).
compensation, promising each other tranches in the syndication process in exchange for dropping out of the origination, limiting capacity, or even by agreeing to take turns to bid for specific contracts. The same is true for any ‘consolation prizes’ for those banks that are not chosen for the banking group. All these actions would clearly be beyond what is necessary to the syndication process and such information exchange could well be considered as having the object of restricting competition.

Initial banking group formation through to mandate

Similar issues exist in the stage after the bids have been received and before the individual banks have been mandated. At this next stage of the transaction the borrower will evaluate the respective responses to the RFQs and select the preferred banks based on their bids. At this stage of the process banks may decline to participate (and others may then be invited to participate) based on the borrowers’ invitation.

Until the initial bank group is formed and the mandate is granted, the banks are still competing independently for a role/participation in the provision of the loan. Banks may not yet have decided whether they are willing to participate, based on the borrower’s invitation. Information exchange between the banks about the terms of their respective RFQs post bid but pre-mandate could thus still undermine the competitive bidding process and accordingly are likely to fall within Article 101(1) and outside Article 101(3). Such information exchange may be considered a restriction of competition by object – if done without the consent or knowledge of the borrower then this could be further indicative of an anti-competitive intent (which whilst not determinative as to whether a practice is anti-competitive by object is likely to be relevant context in such circumstances).

For example, discussions or agreements directly between the banks at this stage (under an individual RFQ response scenario) concerning their respective willingness to participate or adjust the amount they are willing to lend could potentially lead to agreements or concerted practices to fix prices or restrict supply to the borrower. If a bank or banks are not willing to commit at a certain price but others are willing to increase their hold levels or other banks are willing to participate and can potentially be invited to join, then agreements or practices that undermine this would likely be agreements that have the object of restricting competition.

In some cases, the borrower/sponsor may appoint a single lead arranger bank to set up the initial banking group and negotiate the loan terms with the other banks, instead of this being controlled bilaterally by the borrower/sponsor. In this case, the borrower/sponsor would mandate that the banks share information in order to reach a common loan price and terms. The interaction with the banks should be strictly within the parameters set by the borrower. There is a risk that information shared between the lead bank and other banks involved in setting the terms of the loan could lead to the loan terms moving against the borrower.

Potential safeguards

There are a number of potential safeguards that could be adopted which could reduce the abovementioned risks to competition at the bidding stage. Safeguards could be undertaken by the borrower/sponsor or the lenders.

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169 Cover pricing was the main form of collusion discovered in the construction industry in 2009 — the OFT concluded that between 2000 and 2006 around one hundred construction firms colluded in almost 200 tenders. See https://www.gov.uk/cma-cases/construction-industry-in-england-bid-rigging.

170 We note that the European Commission has not taken a position on the application of Article 101(1) or 101(3) with regard to syndicated lending.
A degree of separation between syndication and origination functions. In the case of ongoing market intelligence gathering by syndication desks (prior to any RFQs), introducing a degree of separation from the origination desks (those responsible for bidding for the loan and deciding on price, structure and hold levels) could reduce the risk that information obtained by the syndication desk regarding other lenders’ appetite is unduly passed onto the origination team and facilitates coordinated bidding in any way. This would mean that the syndication desks provide only consolidated, anonymised views of market appetite for a given borrower/sponsor to the origination desks, such that the latter is not privy to information relating to specific lenders. This would serve the purpose of ascertaining information to assist in assessing underwriting risk etc., whilst avoiding the sharing of specific information. In principle, the greater the degree of separation the better. This may be difficult to achieve in practice, at least in smaller lending institutions where syndication and origination functions could be combined into the same team, and we cannot provide definite views on the degree to which separation should occur across all institutions. However, at the very least, the same individuals should not be involved in syndication and origination functions if the latter involves any market sounding.

Competition law guidance or training for banks about information exchange issues. Tailored training and guidance could be put in place for both origination and syndication functions within banks. The value of the information separation between the syndication and origination desks may not always be understood by banks, i.e. that the primary role of the syndication desk should be simply to decide how to lay off the risk of a loan onto the market, not to help the origination desk in winning a bid for a role in a loan. Clarity on these roles, and on the risks involved in information sharing, could be valuable in raising compliance among banks.

The structure of the bidding process. Borrower/sponsors may be able to structure the bidding process so as to keep lenders separate for as long as possible and reduce the need or potential for any information sharing. This could be achieved not revealing the identities of the lenders invited to respond to the RFP, and by engaging in bilateral negotiations with each lender during the bidding process and only bringing the banks together once final loan terms have been signed and the opportunity for banks to collude in order to move the loan terms against the borrower/sponsor is very limited. Borrower/sponsors could also bring banks together for some discussions, and separate them when negotiating other areas. All communication with other prospective banks should only be at the express consent of the borrower. These separations would need to be enforced by NDAs preventing the exchange of any information. NDAs can be difficult to enforce in practice – sanctions could include the expulsion of the offending bank from the process. Nevertheless NDAs signify the intent to protect the bidding process set up by the borrower, and any breach thereof would be a breach in a contractual obligation and a determined effort on the part of the bank to circumvent the borrower’s wishes (i.e. and therefore not excusable as being part of the syndication process).

Setting clear parameters for information exchange. In some cases, given the nature of the financing some insight into market appetite is needed before banks can respond to an RFP. In these circumstances (with the borrower/sponsor’s clear consent to any interaction a pre-condition), safeguards could be for the borrower/sponsor to identify the potential investors/lenders that could be approached for the purposes of gauging market appetite, which could further specify those likely to act as participants but who would not be bidding to be part of the lead banking group. The borrower/sponsor could also identify what information is strictly necessary for the purposes of banks being able to form a view on the loan and to submit a bid, and specify that no other information is shared. As mentioned above, where possible such communication should be done by the syndication desk.
only, with a consolidated view provided to the origination desk. For example, communications about hold-levels, approval levels and the like would generally be problematic, and so the borrower can seek to mitigate this risk by specifically prohibiting such contacts (although enforcement may be difficult in practice).

- **The implications for investors of information exchange.** Non-bank investors e.g. those investing on behalf of institutional investors who are also involved in trading instruments will face laws (in particular Market Abuse Regulations) about limits on trading activity if in possession of private information relating to a specific listed company. These investors should therefore have in place the necessary compliance structures to avoid receiving and trading on information received from lead banks during any deal-specific discussions.

- **Borrower/sponsor sophistication.** The experience and skills of borrowers/sponsors in coordinating syndicated loans will also mitigate – to some extent – attempts by lenders to collude on pricing and terms. If the borrower/sponsor already has in mind a target price and structure for a loan, he may be able to detect coordinated behaviour among lenders and effectively discipline lenders by removing them from the bidding process and excluding them from future financing opportunities.

The nature of the market may influence the effectiveness of the safeguards. For example, in markets where the number of eligible lead banks is limited it may be more difficult to ensure that they are not aware of the identity of the competing bidders, or to enforce a prohibition on interaction and information sharing. This could be the case in smaller geographic markets (as described in Chapter 3, geographic markets appear to be split between a large west Europe market and smaller, national markets such as Poland) or in product markets where the esoteric nature of the underlying transaction is such that only a few banks have the experience to participate in a syndicated loan, for example in very large or very bespoke PF/INFRA loans.

**Evidence and analysis**

**Evidence for competition law risk or risk of sub-optimal outcomes in LBO segment**

We now turn to the evidence relating to the formation of the lead banking group in the LBO segment to analyse the likelihood of the above-mentioned risks being present, and whether and how the safeguards discussed are in place.

**Pre-RFP market intelligence**

As shown in Chapter 2, our lender fieldwork indicates that lenders commonly engage in the continuous gathering of generic market intelligence from potential investors in order to remain up to date with market appetite and potential candidates for syndicated loans. Lenders argued that no deal-specific information is discussed during this process, and that information sharing is governed by internal compliance rules. This engagement also happens between the lead banks and potential investors, as opposed to between the lead banks themselves. Deal-specific market sounding was characterised as atypical, and lenders were clear that any deal-specific sounding would require explicit borrower/sponsor consent. In its strongest form, such consent should be specific as to who is contacted. Some banks were cautious in defining the boundary between generic and deal sounding, e.g. one stating that if a retail sector transaction was under consideration, and conversation around appetite for retail in general would be dropped from generic soundings. For the most active market participants, with many contemporaneous transactions, that level of restriction may not be possible.

Even so, borrowers/sponsors have concerns about the sounding process: either worried that market soundings could lead to some information or privacy leaks (seven per cent) or potentially enable the lead arranger to gain market information which he
may use to inflate the terms of the loan (29 per cent).171 Around 16 per cent of borrowers/sponsors in the LBO segment stated that they either do not allow market sounding at all or place restrictions on the information that can be shared, and a further 22 per cent did not allow it pre-mandate. One further aspect of this would be where a lender is vertically integrated with a sponsor (e.g. a bank also has a private equity investment arm). Where the sponsors themselves are in a competitive bidding process, this would require additional protocols safeguarding against unwarranted information sharing.

One important safeguard identified is the degree of separation between the syndication and origination desks, such that any investor-specific information is not passed onto origination individuals. Our fieldwork indicates that such functional separation between syndication and origination is not always a feature of lenders’ business models, and thus the risk remains. Many lenders, in particular the larger ones, have separate syndication and origination teams, with some syndication teams being based in central hubs with the origination teams based more locally across regions and countries. However, there does not appear to be a fully functional separation between these (i.e. they are part of the same overall unit within the bank), and in some cases the syndication and origination teams will be structured along product/geographic lines rather than function, such that for a particular product or geography the same team would cover both origination and syndication. Therefore whilst there is no evidence from our fieldwork that detailed information sharing takes place, the absence of specific functional separation safeguards means that this is still a risk.

Information to prepare bids
A feature that influences the need to information sharing is the ability of banks to use existing information sources to formulate their bids for a loan. In the LBO market there is a sufficient amount of information available to lenders so that specific market reads are not necessary when forming their responses to an RFP – indeed all lenders in our fieldwork indicate that they do not engage in specific market reads. As set out in Chapter 2, the information available includes prior deal flow of comparable deals with information on pricing and loan structure, as well as information available to purchase from data vendors. The risk of specific information sharing through market reads is therefore low.

Bidding process
Our fieldwork shows that the bidding processes set up by borrowers and sponsors in the LBO segment are competitive processes in which the borrower/sponsor negotiates bilaterally with each individual bank (usually through the use of a terms grid). There is no opportunity for the lenders to come together to discuss terms collectively until they have been mandated and each has signed a commitment letter with the borrower/sponsor. Therefore sharing strategic information such as pricing and loan structure is not facilitated in any way by the process pre-mandate, i.e. the process does not (and obviously should not) itself give the lenders an opportunity to align their bids in a coordinated way. The majority of lenders in our fieldwork indicated that they do not know who the other bidding banks are. However, this is not the case across the board – lenders have told us that in some cases it is possible to speculate who the competing lenders by the ways in which the loan terms evolve throughout the negotiations. Equally, the borrower/sponsor fieldwork shows a different picture,

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171 Fieldwork question S14 / B12 "Which of the following, if any, best represent(s) your attitude to the MLAs engaging in market sounding activities?"
whereby 55 per cent of those in the LBO segment responding to the questions stated they do allow lenders to know who the participating banks are.172

The key safeguard here is the use of NDAs to ensure that lenders do not reveal to each other that they are participating in an RFP, and to ensure that they do not interact and exchange any information here. There can be issues in enforcing NDAs, for example identifying who the offending banks are or claiming potential damages. Therefore although the process set up by the borrower/sponsor in LBO loans reduces the risk of anti-competitive information sharing, the risk remains that this may happen.

A further mitigating factor is the sophistication of the borrower/sponsor in terms of their ability to control the syndication process and set the terms for the pricing and structure of the loan. Our fieldwork shows that borrowers and sponsors in this segment are sophisticated and even have in-house debt financing teams experienced in pricing loans in the LBO market – this is particularly the case as LBOs are dominated by sponsors who would be private equity houses responsible for undertaking many syndicated loans. Third-party debt advisers can also be used (to provide resources in terms of managing the process or specialist knowledge, e.g. on derivatives) even when the sponsor has its debt financing specialists. We elaborate on borrower/sponsor bargaining power in later sections.

A single MLA/coordinator setting up the syndicate
The likelihood of a single MLA being appointed by the borrower/sponsor to set up the syndicate and negotiate the key loan terms with the rest of the lead banks is low, based on the processes adopted by borrowers and sponsors in the LBO segment. Our lender fieldwork indicates that borrowers/sponsors control the formation of the lead banking group, keeping the individual banks separate until each has agreed the key terms with the borrower/sponsor and signed the initial loan agreement. This separation is again governed by NDAs and therefore the same potential risks related to breaches of NDAs would apply as discussed above.

Evidence for competition law risk or risk of sub-optimal outcomes in PF/INFRA segment

Pre-RFP market intelligence
As PF/INFRA loans are usually club deals (our lender fieldwork indicates that the majority of these loans are club deals, and among borrowers club deals are more common than best-efforts or underwritten deals for PF/INFRA loans173), there is less need for these lenders to engage in generic market intelligence with potential investors in order to inform underwriting risk (although the same issues would remain as with the LBO segment if the loan was to be underwritten).

As with the LBO segment, the borrower/sponsor fieldwork also shows that information market soundings take place. Around 20 per cent of borrowers/sponsors in the PF/INFRA segment responding to this question do not allow market sounding at all or place restrictions on what can be shared, and a further 12 per cent do not allow it pre-mandate, but do allow if post-mandate. A further 24 per cent allow it to ensure the success of the syndication. Concerns were raised by some respondents in that market soundings could lead to some information or privacy leaks (12 per cent) or potentially

172 Fieldwork question S12 / B10 “Do candidate MLAs typically know the identity of the other MLA candidates?” to which 38 per cent responded “Yes, the process of appointment sometimes requires this” and 16 per cent responded “Yes, this is a standard part of our process”.

173 Of the borrowers engaging in PF/INFRA deals, 10 reported using club deals and 8 reported using best efforts (2) or underwritten (6).
enable the lead arranger to gain market information which he may use to inflate the terms of the loan (31 per cent).174

Our lender fieldwork indicates that the same issues apply when banks are involved in PF/INFRA deals as with LBO deals, in that there are not always formal processes for separating the functions of the syndications and originations teams. The absence of this safeguard is not in itself evidence of anti-competitive information sharing, but there would be such a risk where origination and syndication functions are not separated and not subject to enforceable (and enforced) protocols around deal-specific information sharing with the origination team.

**Information to prepare bids**

Our lender fieldwork indicates that banks do not engage in any interaction during the bidding phase when competing for a role in a club in order to inform their views about the price of the loan and the amount they may need to hold. However, given the more bespoke nature of PF/INFRA loans the availability of information to assist in banks forming their views is likely to be lower. For example, lenders indicate that for certain types of loans (very large, bespoke or infrequent types of projects) there would be fewer comparable transactions either from internal deal flow or available from data vendors. Whilst the economic performance of a project could be estimated, we understand that banks’ credit committees require further evidence to assess the credit risk of a loan, in particular comparator transactions.

Therefore there could be a heightened risk that the safeguards set in place by the borrower/sponsors are undermined in PF/INFRA loans, and a greater risk that interaction and information sharing does take place between lenders in the bidding stage.

**Bidding process**

Our lender fieldwork indicates that PF/INFRA club deals are put together in a similar way to LBO loans, whereby the borrower/sponsor invites banks and negotiates with them individually before agreeing the loans terms and inviting the club to get together to discuss documentation. NDAs would be used to protect the process. In these cases the bidding process and use of NDAs provides a safeguard, although as mentioned the risk that these safeguards are undermined could be higher in PF/INFRA segment due to a lack of available information in forming bids.

**A single MLA/coordinator setting up the syndicate**

Our lender fieldwork indicates that, whilst it is not common, there may be times in PF/INFRA deals when a borrower/sponsor will use a single MLA or coordinator to set up the syndicate and play the role of the borrower/sponsor in negotiating terms with the other lead banks. This might be for transactions which need to take place quickly and bilateral negotiations between the borrower/sponsor and banks would require too much time.

Whilst the lender fieldwork indicates that borrowers/sponsors retain control of this process, there remains the possibility that information sharing may occur such that the negotiations of the syndicate could be coordinated and the price and terms of the loan move against the borrower. This remains a risk area.

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174 Fieldwork question S14 / B12 “Which of the following, if any, best represent(s) your attitude to the MLAs engaging in market sounding activities (this refers to the informal scouting of interest - both pre and post- appointment of the MLAs - in participation in the loan from other market participants)”?
Competitive bidding process - consortia

Framework for competition analysis

Where a group of banks come together to submit a joint bid in response to an RFP at the request of a borrower then, provided that the bank group operates within the instructions of the borrower, it is likely that the any information exchange between the banks for the purposes of putting together that proposal and the ultimate agreement that the banks reach as to the terms of that bid, will either fall outside Article 101(1) altogether or satisfy the conditions of Article 101(3). Such an agreement /information exchange would certainly not appear to have the purpose or objective of restricting competition and, taking into account the overall context of the arrangement, would not be anti-competitive by object. Arguably, it should therefore fall outside Article 101(1) altogether. For the purposes of bidding for the particular loan the lenders must co-operate (in order to meet the borrower’s request) rather than competing independently and to the extent that the information exchanged and the agreement reached is inherent to that joint bid then it is directly related and necessary to the joint bidding. Alternatively, such a joint bid may benefit from an exemption under Article 101(3).

To the extent that discussions or agreements go beyond what is required for the purposes of submitting the joint bid then, depending on their nature, such discussions may breach Article 101(1) and indeed may be anti-competitive by object. A borrower can appoint (perhaps informally) a lead bank to bring the consortium together (this would be akin to a club deal, with an MLA). (This might be, for example, where an existing club/consortium exists from previous funding rounds). The lead bank will need to understand each potential participating lender’s potential interest (e.g. willingness to underwrite/ hold) and at what price. The lenders will need to communicate this between each other and ultimately agree. We can usefully illustrate this with a worked example. A borrower wants £500m and – of five banks approached – four offer £100m at 165 bps and one offers £100m at 195 bps. The borrower’s options are as follows:

(a) the borrower can accept a reduced volume of credit (i.e. £400m) from the four banks at 165 bps and one offers £100m at 195 bps. The borrower’s options are as follows:

(a) the borrower can accept a reduced volume of credit (i.e. £400m) from the four banks at 165 bps, (b) the borrower can seek £500m from those four (albeit likely at a margin higher than 165 bps), i.e. the other lenders are willing to accept an increased participation, (c) those four banks approach a sixth bank (not involved in an alternative bid), or (d) if the borrower insists on the participation of the original high-bidding bank (i.e. particular lender(s) is needed for the purposes of the joint bid), then the price would shift to 195 bps because the other banks would not be able to replace it.

As such, discussions or agreements between the lenders that might undermine or distort this process, such as agreements not to invite other lenders to participate, or not to increase their participation (where acting independently they could and would have done so) are likely to have an anti-competitive effect and could in fact be anti-competitive by object.

The risk of a consortium engaging in uncompetitive coordination in order to increase the price of the bid would be influenced by the nature of the bidding process. If the consortium submits its bid as part of a competition with other bids, then the
borrower/sponsor would assess their 'higher priced' bid against other bids (in the same way that it would do so with individual banks' bids). Increases in price above the competitive level would therefore be detectable, and consortia should therefore have an incentive to be competitive.

However, if the banks coming together in a consortium have market power and the consortium is able to engage in practices that inflate the price through information sharing and co-ordination, this may raise competition law concerns. The extent to which a consortium could be considered to enjoy market power would need to be assessed on a case-by-case basis.

**Potential safeguards**

The following safeguards could be applied to reduce the risks of anti-competitive information sharing or coordination and sub-optimal outcomes.

- **Clear parameters for the consortium.** The borrower/sponsor should ensure that there are clear instructions to the consortium as to what they should agree jointly and what information they can share. This would control the extent of the cooperation needed to submit a joint bid. Any variation in these parameters (e.g. if it becomes clear that this is needed to submit a full bid) should be at the consent of the borrower/sponsor.

- **Limits on the interaction between banks.** The borrower/sponsor may split the consortium at any point during the bidding process, for example asking the banks to bid jointly on expertise and syndication strategy, but separately on price. The banks would need to abide by these instructions and cease any communication. The instructions around information sharing and interaction would be supported by NDAs.

- **Impacts of borrower/sponsor instructions.** The borrower/sponsor should consider carefully the impacts of imposing certain criteria on the consortium (such as the need to include certain banks) which may give rise to sub-optimal outcomes.

- **Bidding process.** If consortia are invited to submit bids that compete with other consortia (instead of bidding as the only consortium) then there is scope for the borrower/sponsor to compare bids and maintain competitive pressure.

- **The regulatory regime.** In the case where a borrower/sponsor sets up a process that leads to sub-optimal outcomes, for example by setting parameters that limits the number of competitive bids it will achieve, or limits the competitive tension, the regulatory regime could place some responsibility on the banks responding to the RFP to highlight to the borrower/sponsor that the process may not be in its interests.

- **Tailored competition law training and guidance.** Training could be provided to banks as well as borrowers/sponsors regarding the risks of consortium bidding and the processes to follow in terms of information sharing.

**Evidence and analysis**

**Evidence for competition law risk or risk of sub-optimal outcomes in LBO and PF/INFRA segments**

Our fieldwork shows just under half the borrowers reported they can issue an RFP for funding from consortia as well as individual banks.177 This indicates that such bids are a feature of the market.

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177 Fieldwork question: B6 “Which procedure(s) do you usually follow when the MLA(s) are appointed in this transaction?” to which 40 per cent of borrowers said they issue a competitive RFP for funding from individual banks and 49 per cent they use an RFP for funding from individual banks and consortia.
The main safeguard is that borrowers almost always use a competitive RFP process when appointing the lead banking group (whether this is soliciting bids from individual banks or consortia). Indeed, in the YouGov survey, no borrowers reported directly appointing a consortium without a competitive RFP process.

**Appointment of single/relationship bank**

**Framework for competition analysis**

As an alternative to a competitive bidding process for appointing the MLA or lead banking group, the borrower/sponsor can directly appoint a lender or a number of lenders to act as MLA or coordinator who then arrange the loan lead banking group or club.

In this scenario the appointed MLA(s) or the coordinator in a club deal is likely to be a relationship bank, i.e. a lender who has already worked with the borrower (or is currently providing other services) and thus has insight of the borrower’s risk profile and financing needs. The literature shows that the existence of lending relationships are strongly associated with an increased probability of winning future debt underwriting business from the same customer.\(^{178}\) Such an established relationship could generate a number of benefits by resolving asymmetric information issues between the main lender and borrower.\(^{179}\) Other benefits could include easing the sharing of sensitive information,\(^{180}\) the ability to monitor collateral,\(^{181}\) and the ability to smooth out loan pricing over multiple loans,\(^{182}\) and may translate into lower interest rates on the funding.\(^{183}\)

In the absence of a competitive bidding process when a lead bank is directly appointed, the information exchange issues which are most sensitive in a pre-bid stage are not present in these arrangements, as the lead bank is selected and appointed on an individual basis by the borrower without the need to compete with other banks.

**Risks of subverting the competitive price level**

However, the use of relationship banks rather than a competitive process, can create concerns for the effectiveness of competition and may risk sub-optimal outcomes for the borrower, in particular, around the inherent re-negotiability of loans and potential monopoly power of the lender.\(^{184}\) We consider this issue to be one of general regulation rather than competition law, as the borrower has mandated the appointment of the relationship bank. Dahiya (2003) finds that the cost of borrowing from a relationship lender is lower compared to borrowing from a non-relationship lender. However, the relationship bank could still have some element of “hold-up” power that could enable it to use its position to offer a price which could appear to be more competitive than that of other banks, but is still above a competitive level. This is because as the lender acquires private information over the course of relationship, it

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can use this information to extract monopoly rents from the borrower. To the extent these “lock-in” effects dominate the benefits of relationship, such a relationship would be associated with higher costs of future services that the lender provides.\textsuperscript{185}

**Risks of influencing the syndication process**

Relationship banks may also be able to unduly influence the syndication process in their favour. For example, other banks may wish to participate in the syndicate in order to gain access to the borrower, provide future ancillary banking services and potentially challenge the position of the relationship bank. The existing relationship bank may resist these challenges by influencing the formation of the syndicate to exclude these challenger banks.

The ability of the relationship bank to leverage off its relationship will depend in part on the nature of the market. In smaller geographic markets where the number of relationship banks available to take on the role of MLA or coordinator might be relatively low, the borrower would have limited choice or bargaining power, and likelihood of repeat lending from the relationship bank and further information lock-in would be increased.

In addition, our research with stakeholders shows that the use of relationship banks is likely to be linked to the ‘life-cycle’ of the borrower. For example, as borrowers engage more in the market and become more sophisticated, they may move away from relying on local relationship banks and include an increasing number of international banks in the syndicate. Some borrowers however, may not be able to move out of the local market – such as those in bespoke product or geographic markets which rely on the expertise of local banks, or those what engage very rarely with the syndicated loans market.

**Potential safeguards**

The key issue here is that the process set in place by the borrower (by selecting a single relationship bank without a competitive process) may result in a sub-optimal outcome. This is not directly relevant to competition law but nevertheless is an important economic risk (i.e. the relationship bank may not have market power but may still be able to exert undue influence on the borrower/sponsor).

The extent to which the risks of appointing a relationship bank may arise in practice could be reduced by a number of safeguards:

- **The role of reputation.** The extent to which the MLA is likely to compete based on its reputation (i.e. for appointment by the borrower on other syndicated transactions). A relationship bank that prevented other lenders from joining the syndicate and ended up with an unsuccessful syndication may lose out on future opportunities with the borrower/sponsor. This would depend on the sophistication and monitoring power of the borrower/sponsor, the frequency of loan transactions, and the availability of other relationship banks.

- **The control retained by the borrower/sponsor.** A mitigating factor would be the sophistication of the borrower/sponsor in driving the syndication process and the extent to which they relied on the advice or influence of the relationship bank. For example, if the borrower/sponsor had control over which banks were appointed to the lead banking group or club, then the ability of the relationship bank to exclude challenger banks would be very limited.

- Similarly, the ability of the borrower/sponsor to monitor the MLA’s interaction with participant investors would undermine undue influence or the risks of the

relationship bank manipulating loan terms, i.e. of borrowers/sponsors are engaged with other lenders (both in the lead banking group and participant investors)

- The ability of the borrower to replace the MLA in case of underperformance. This would enhance the disincentives on the MLA to underperform. This would depend on the size of the potential market – in some cases there may be a number of potential MLAs ready to take over, and in some cases the borrower may face time and supply constraints such that a replacement would not be feasible. It would also depend on the sophistication and monitoring power of the borrower/sponsor.

Evidence and analysis

Evidence for competition law risk or risk of sub-optimal outcomes in LBO segment

The extent of single MLAs and the importance of relationship banks

Our borrower fieldwork shows that the use of single MLAs in LBO transactions is not uncommon – just under 30 per cent of borrowers and sponsors in our fieldwork report usually appointing just one MLA. However, such MLAs are very rarely appointed without a competitive process, and so the risks associated with a directly appointed single MLA are unlikely to be extensive in this market (although cannot be ruled out).

Relationships between banks and borrowers/sponsors are clearly important. The majority of sponsors indicated that an existing relationship was important when selecting MLAs – around 45 per cent of sponsor engaged in LBO deals said they tend to approach the same lead bank(s) because their established relationship guarantees the most efficient loan. In addition, 50 per cent of borrowers and sponsors said that all or most of the MLAs approached had a pre-existing relationship with the borrower, and 74 per cent said that the MLAs had a pre-existing relationship with the sponsor. Out of all the sponsors engaging in LBO deals, 94 per cent that the existence of a relationship with the MLAs was either very or quite important when selecting MLAs.

The main advantages of appointing relationship banks are considered by these sponsors to be more competitive pricing on both the loan (70 per cent of sponsors) and on ancillary services (58 per cent), and a better response in the case of refinancing or default (60 per cent). This suggests that the appointment of relationship lenders is likely to be efficiency enhancing.

Repeat interactions and ‘lock-in’

Our dataset shows that it is relatively rare for borrowers to engage in multiple syndicated loans in the LBO segments, at least within an eight year window. Table 13 in Chapter 3 shows that of the 651 borrowers in LBO loans, 88 per cent had only engaged in one deal in the period, with 10 per cent and two per cent participating in two and three deals respectively. (The target companies that are the subject of an LBO may be resold as another LBO, but within our dataset this is not the norm.) Whilst their relationships with lenders are still important (e.g. from other services),

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186 Fieldwork question S11/B9 "Thinking about your MLA appointments, which of the following usually applies?
187 In response to the question: "Which procedure(s) do you usually follow when the MLA(s) are appointed in this transaction?" Only six percent of borrowers/sponsors typically appoint MLAs without a competitive process.
188 Fieldwork question S4 “How would you describe your experience in selecting banks (e.g. lead arrangers) to lead syndicated loans?”
189 Fieldwork question S10 / B8 “Thinking about the banks approached to act as MLA, please say whether all, most, some or none are...”
190 Fieldwork question S41 “When selecting lead arrangers, how important is the existence of an existing relationship?”
the risk of borrower ‘lock in’ discussed in the literature is low (as this relies in repeat loan transactions with the same borrower).

Repeat transactions between lenders and sponsors are more common – Table 15 in Chapter 3 shows that only 56 per cent of sponsors in LBO deals had undertaken only one deal, with 19 per cent having undertaken two deals and 10 per cent over five deals. However, this is also not likely to lead to an information ‘lock in’ effect as the underlying borrower would change from transaction to transaction and there would be no chance for a relationship lender to gain increasing information on a particular borrower, for example on its risk profile.

Safeguards related to the sophistication and control of borrowers/sponsors

The ability of borrowers and sponsors in the LBO segment to control the syndication process and the behaviour of the MLAs is likely to be high given their sophistication and experience (this particularly applies to sponsors – i.e. private equity houses - who are commonly in control of LBO loan transactions). Private equity houses have their own expertise in setting up funding transactions (e.g. internal debt finance teams). They are also often competing themselves for a target in the case of an LBO and therefore have an even greater incentive to ensure competitive loan terms. Private equity houses are also a source of future funding opportunities and as such the reputational incentives on MLAs to perform well should be high.

Our lender fieldwork shows that LBO transactions are controlled by borrowers and sponsors and that these have a direct say in the appointing of the syndicate banks, both lead banks and participants. This applies in terms of participants (i.e. the white list specified by the borrower/sponsor up front) and in terms of the loan shares allocated to participants - lead banks would usually suggest allocations but the final decision is taken by the borrower/ sponsor. This is supported by our lender fieldwork and all the borrower/sponsor fieldwork – of the borrower/sponsors in the LBO segment, 94 per cent said that either the borrower/sponsor (32 per cent) or borrower/sponsor together with MLA (62 per cent) had a role in determining the participating institutions for the syndicate. Six per cent said that the MLAs usually have the decision.191 Therefore, in any circumstances in which a single MLA is appointed it is unlikely to be able to influence the selection of the syndicate in its favour.

The ability of borrower/sponsors to monitor and sanction MLAs

Our borrower/sponsor fieldwork shows that the ability of the borrower/sponsor to ensure that MLAs perform well during a transaction is less clear (although this applies to all MLAs and not just those that are appointed singly). Replacing MLAs that are not performing well does appear to be difficult – 45 per cent of LBO borrowers and sponsors reported being dissatisfied with an MLA, and this included 29 per cent who found it either too costly or contractually difficult to replace them, and seven per cent did not have a suitable replacement.192 The fieldwork did not explore the reasons for this dissatisfaction, which could include inability to successfully syndicate the loan, or other sub-optimal behaviour. Borrowers/sponsors have some control over the performance of MLAs through fees, which are contingent (to some extent) on the successful conclusion of the loan.193

191 Fieldwork question S19 / B17 “Who has ultimate say on which institutions join the syndicate?”
192 Fieldwork question S14 / B12 “Have you ever been dissatisfied with the performance of an appointed MLA during the formation of the syndicate? What actions did you take?”
193 Fieldwork question S33 / B31: “How much, if any, of the MLA’s fees are contingent on successful conclusion of the loan?” 93 per cent of borrowers/sponsors said fees were contingent to some extent, but only 16 per cent said “All” or “A large amount”.

166
The evidence in the LBO segment of the safeguards that could mitigate the risks of a single relationship bank having undue influence on the loan process or terms is mixed – borrower and sponsors in this segment retain control of the process and can exercise reputational pressure on the performance of MLAs, although practically disciplining them for underperformance during a loan is less widespread. The likelihood of having a single MLA in charge of the syndication process in LBOs is however low. We conclude that this is a lower-risk area in LBO loans.

Evidence for competition law risk or risk of sub-optimal outcomes in PF/INFRA segment

The extent of single MLAs and the importance of relationship banks

Our borrower fieldwork shows that the use of single MLAs in PF/INFRA transactions is less common than in LBOs, with only 11 per cent of borrowers and sponsors in our fieldwork report usually appointing just one MLA (compared to just under 30 per cent in LBO). As with the LBO segment, such MLAs are very rarely appointed without a competitive process, and therefore the risks associated with a directly appointed single MLA are unlikely to be extensive in this market (although cannot be ruled out).

Relationships between banks and borrowers/sponsors are also important in the PF/INFRA segment – around 30 per cent of sponsors engaged in PF/INFRA deals said they tend to approach the same lead bank(s) because their established relationship guarantees the most efficient loan. In addition, 50 per cent of borrowers and sponsors said that all or most of the MLAs approached had a pre-existing relationship with the borrower, and 74 per cent said that the MLAs had a pre-existing relationship with the sponsor. Out of all the sponsors engaging in PF/INFRA deals, 94 per cent that the existence of a relationship with the MLAs was either very or quite important when selecting MLAs.

As with LBOs, the main advantages of appointing relationship banks are considered by these sponsors to be more competitive pricing on both the loan and on ancillary services, and a better response in the case of refinancing or default. This suggests that the appointment of relationship lenders is likely to be efficiency enhancing.

Repeat interactions and 'lock-in'

Our dataset shows that it is relatively rare for borrowers to engage in multiple syndicated loans in the LBO segments, at least within an eight year window. Table 13 in Chapter 3 shows that of the 870 borrowers in PF/INFRA loans, 90 per cent had only engaged in one deal in the period, with eight per cent and two per cent participating in two and three deals respectively. Therefore as with the LBO segment the risk of borrower ‘lock in’ discussed in the literature is low (as this relies in repeat loan transactions with the same borrower).

Repeat transactions between lenders and sponsors are more common, but not as much as for LBO segment. Table 15 in Chapter 3 shows that only 74 per cent of

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194 Fieldwork question S11/B9 “Thinking about your MLA appointments, which of the following usually applies?
195 In response to the question: “Which procedure(s) do you usually follow when the MLA(s) are appointed in this transaction?” Only six percent of borrowers/sponsors typically appoint MLAs without a competitive process.
196 Fieldwork question S4 “How would you describe your experience in selecting banks (e.g. lead arrangers) to lead syndicated loans?”
197 Fieldwork question S10 / B8 “Thinking about the banks approached to act as MLA, please say whether all, most, some or none are...”
198 Fieldwork question S41 “When selecting lead arrangers, how important is the existence of an existing relationship?”
sponsors in PF/INFRA deals had undertaken only one deal, with 14 per cent having undertaken two deals and only two per cent over five deals. Repeat transactions with sponsors are not likely to lead to an information 'lock in' effect as the underlying borrower would change from transaction to transaction and there would be no chance for a relationship lender to gain increasing information on a particular borrower, for example on its risk profile.

**Safeguards related to the sophistication and control of borrowers/sponsors**
The ability of borrowers and sponsors in the PF/INFRA segment to control the syndication process and the behaviour of the MLAs likely to be more variable than in the LBO segment, as these market participants are likely to be a more heterogenous group in terms of skills and experience than the private equity houses that dominate the LBO segment. This is evident in the very large proportion only engaging in a single syndicated loan transaction as shown in our data, and in the wide range of potential institutions including corporates, state-owned borrowers, construction companies etc.

Our lender fieldwork shows that PF/INFRA transactions are nevertheless controlled by borrowers and sponsors and that these have a direct say in the appointing of the syndicate banks, both lead banks and participants. This applies in terms of participants (i.e. the white list specified by the borrower/sponsor up front) and in terms of the loan shares allocated to participants - lead banks would usually suggest allocations but the final decision is taken by the borrower/ sponsor. This is supported by the borrower/sponsor fieldwork – of the borrower/sponsors in the PF/INFRA segment, 74 per cent said that either the borrower/sponsor (26 per cent) or borrower/sponsor together with MLA (48 per cent) had a role in determining the participating institutions for the syndicate. A greater proportion than the LBO segment however reported the MLAs as usually having the final say on participants (26 per cent compared to six per cent). In any circumstances in which a single MLA is appointed it could be relatively more able to influence the selection of the syndicate in its favour, but this risk remains low in our view given the rarity with which a single MLA is appointed in the PF/INFRA segment.

**The ability of borrower/sponsors to monitor and sanction MLAs**
Our borrower/sponsor fieldwork shows that the ability of the borrower/sponsor to ensure that MLAs perform well during a transaction is less clear (although this applies to all MLAs and not just those that are appointed singly). Replacing MLAs that are not performing well does appear to be difficult, and a greater proportion of respondents in the PF/INFRA reported being dissatisfied with an MLA (60 per cent of respondents to the question compared to 45 per cent in the LBO segment). This included 24 per cent found it either too costly or contractually difficult to replace them, and 16 per cent did not have a suitable replacement. Interestingly, a far greater proportion of PF/INFRA respondents said that the other MLAs and/or loan participants ensured the MLA performed adequately in the end (20 per cent compared to five per cent in LBO segment). The fieldwork did not explore the reasons for this dissatisfaction, which could include inability to successfully syndicate the loan, or other sub-optimal behaviour. Borrowers/sponsors have some control over the performance of MLAs through fees, which are contingent (to some extent) on the successful conclusion of the loan.

199 Fieldwork question S19 / B17 "Who has ultimate say on which institutions join the syndicate?"
200 Fieldwork question S14 / B12 "Have you ever been dissatisfied with the performance of an appointed MLA during the formation of the syndicate? What actions did you take?"
201 Fieldwork question S33 / B31: "How much, if any, of the MLA's fees are contingent on successful conclusion of the loan?" 93 per cent of borrowers/sponsors said fees were contingent to some extent, but only 16 per cent said "All" or "A large amount".
The evidence in the PF/INFRA segment of the safeguards that could mitigate the risks of a single relationship bank having undue influence on the loan process or terms is again mixed – borrower and sponsors in this segment retain control of the process and can exercise reputational pressure on the performance of MLAs, although practically disciplining them for underperformance during a loan is less widespread. The likelihood of having a single MLA in charge of the syndication process is lower in PF/INFRA than in LBOs. We conclude that this is a lower-risk area in PF/INFRA loans.

Post-mandate to loan agreement

Framework for competition analysis

At this stage the borrower has instructed the banks in the lead banking group to agree a single term sheet /loan agreement for providing the financing. That may include some element of underwriting (in which case, there would be a back-to-back general syndication of the loan). At this stage the lenders need to come together to agree all the terms of the loan (i.e. a single unified price on unified terms for a specified amount) and they do so with the express mandate of the borrower.

Accordingly joint meetings and discussions between the banks for the purposes of agreeing those terms are an essential element of the loan syndication process and provided that the banks are operating within the terms of the mandate granted by the borrower and their actions are designed to achieve that aim, then the loan agreement itself and the discussion and exchanges of information between them which are related to achieving that aim may fall outside Article 101(1) or alternatively benefit from an exemption under Article 101(3).

At this stage of the process banks may still be able to drop out of the syndicate (e.g. if they do not agree with all the unified terms being discussed), which may raise the risk of the loan terms moving against the borrower if, for example, certain banks require a higher price to remain in the syndicate and there are no other banks to take their place. This is not a competition risk per se, but rather a risk of a sub-optimal outcome for the borrower/sponsor which may be driven by the structure of the deal (e.g. if the borrower/sponsor stipulates that a certain lender must be part of the lending group and therefore needs to agree to a price that restructures the transaction or converges at the highest common denominator to ensure that all banks can participate).\textsuperscript{202}

Information exchange at this stage may merit a slightly different approach to that pre-mandate. At the pre-mandate stage where the bids are still independent, information exchange between the lenders without the consent or knowledge of the borrower/sponsor would not be justified. However at this stage, where the banks have been put together and where the MLA(s) (and banks with other lead roles) have a mandate to secure the loan, a unilateral flow of information from one bank to other banks concerning its requirements for continued participation would need to be viewed against this changed context and accordingly may fall outside Article 101(1) or benefit from an exemption under Article 101(3), provided that the communication is no more than is required in the circumstances. In this situation (akin to the situation outlined in a consortium bid) banks must be careful not to go beyond what is required under the borrower’s mandate and reach any agreement or engage in any concerted practice to (artificially) raise the price or to restrict supply. Any such agreement is likely to be viewed as anti-competitive by object.

A related risk at the post-mandate stage (or indeed any stage where the banks are brought together by the borrower) would be that repeat interactions among lenders on

\textsuperscript{202} By ‘highest common denominator’ we refer to the highest price (say for a particular tranche within the loan) or most stringent documentation terms (e.g. nature of covenants around use of free cash flow by the borrower) required by a bank to remain in the syndicate.
transactions may lead to *inadvertent* information sharing, in that lenders might observe each other’s behaviour or strategies and use this knowledge to align their bids in *future* transactions.

**Potential safeguards**

The necessity of bringing the banks together at this stage suggests that the key safeguards are those that govern the type of information that can be legitimately shared. These include:

- **The process for forming the lead banking group.** The information required to be shared during the post-mandate phase will depend on the process undertaken in setting up the initial banking group pre-mandate. If the borrower/sponsor negotiated the key terms of the loan (hold levels, pricing, covenants) with each lead bank bilaterally and signed a commitment letter and initial term sheet with each before bringing them together at the post-mandate stage, then there would be no scope for the banks to agree to fix the pricing and move against the borrower.

- **The involvement of the borrower/sponsor in post-mandate discussions.** All discussions between the banks at this stage should be in line with the mandate, and the outcomes of discussions between the banking group should be communicated to the borrower/sponsor to avoid the risk of anti-competitive information sharing. The involvement of the borrower/sponsor at this stage in controlling the process would be key.

- **Adoption of appropriate strategies by borrowers/sponsors.** One concern highlighted above is that a bank could drop out of the syndicate during the post-mandate discussions of terms and increase the risk that the loan terms move against the borrower. The lenders would have seen due diligence materials at this stage and have the necessary internal approvals around the credit decision (this is part of the final offer made pre-mandate). This should make the risk of such an event low, but this can be further mitigated by the borrower/sponsor employing strategies that factor in redundancy into the process – e.g. by requesting a commitment by each of say five banks to underwrite one-third of a loan (which would build in N+2 redundancy, in that two lenders could be lost without affecting the transaction’s viability or causing a re-opening of negotiations.

- **The frequency of interactions.** In relation to the risks of strategic information being inadvertently shared between the lead banking group members, this could be governed in part by the nature of the process (i.e. by ensuring that there is no need for banks to discuss pricing or hold levels at this stage). The frequency with which the lead banks work together on transactions in the same market will also influence their ability to use any strategic information in an anti-competitive way, e.g. coordinating offers or limiting supply in the future – the more frequent this interaction the more sustainable collusive behaviour would be, as it is easier for participants to monitor the behaviour of each other and to deter deviations from the coordinated agreements.

**Evidence and analysis**

**Evidence for competition law risk or risk of sub-optimal outcomes in LBO and PF/INFRA segments**

*The process of forming the lead banking group and borrower/sponsor control*

The key safeguard influencing the sharing of information and the potential for collusive behaviour among the lead banks as they are brought together in the post-mandate stage is the process used to form the lead banking group and agree terms. In both LBO and PF/INFRA segments, the usual process is for borrower/sponsors to negotiate bilaterally with the lead banks and to control the process such that the key terms are agreed with each bank before the group is put together. Our lender fieldwork shows
that the joint discussions post-mandate are limited to agreeing the loan documentation and syndication strategy.

However, our lender fieldwork does show that in some cases the borrower/sponsor will bring the banks together to discuss the loan terms ahead of signing the final agreement (a few cases like this were provided in the PF/INFRA segment in our lender fieldwork. There does not appear to be any systematic reason for this, rather it is based on the preference of the borrower/sponsor). This could be more likely where the loan is sufficiently bespoke for there to be few benchmarks or precedents such that the borrower/sponsor must discuss and agree the terms with multiple banks rather than bilaterally.

Adoption of appropriate strategies by borrowers/sponsors

Our fieldwork indicates that the adoption of such strategies (i.e. building in a degree of redundancy into the process in case of lenders dropping out) was a normal ambition amongst borrowers/sponsors. In such cases where the agreements between lenders and the borrower/sponsor have already occurred pre-mandate, then the pricing and participation levels will be reasonably well set – this is typically the case in LBO loans and is also common in PF/INFRA loans (as shown in the process description, for example the grid approach adopted by borrower/sponsors). However, if such strategies are not adopted then terms may move against the borrower/sponsor during the post-mandate phase. However, the borrower/sponsor still retains bargaining power through (a) creating some redundancy by approaching many banks and (b) the ability to restructure the loan if the terms move unfavourably.

Our fieldwork shows that in the majority of cases borrowers/sponsors negotiate a common price with the syndicate and are not obliged to agree to a price at the highest common denominator – only four sponsors and no borrowers stated that they set the price at the highest common denominator amongst all propositions to secure the necessary volume. This shows that there is the possibility that the structure of the loan means that the sponsor must agree to a price that is high enough to satisfy all lenders in the syndicate.

Risks from repeated interactions between lenders

There are a number of factors that influence the risk of lenders working together on multiple transactions. First, the larger the number of lenders eligible to bid for a loan, the less chance there is of the same lenders making up the whole lending group on multiple transactions to enable collusive behaviour. As described in Chapter 3, the data show that in the LBO segment there are a large number of eligible lenders to fulfil this role – over 300 lenders were involved in at least one LBO transaction in at least one country during the course of 2010-2017, with around 46 ‘highly active’ lenders being involved in a deal every other month. A similar result is obtained for PF/INFRA, where around 370 lenders had participated in a syndicated loan. This shows that there is a large pool of lenders such that having (all) the same lenders on a deal is unlikely.

That said, there is a smaller set of lead banks that dominate the league tables across the six sample Member States in our study. Around 12 in the LBO segment and eight in the PF/INFRA segment are in the top 20 banks across the sample, (although their positioning in each Member State’s league table depends on whether the bank is a local bank). Therefore it is highly likely that these banks meet each other on a number of loan transactions across the Member States, although the syndicates would be made up of other banks too (e.g. local banks and other less prominent international banks) such that the likelihood of repeated ‘closed’ interactions would be very low.

203 Fieldwork question S28/B26 “How is the final price of the loan typically negotiated per tranche?”
The potential exception would be in markets with a relatively small pool of eligible lenders, such as PF/INFRA in a non-Euro/£ market – such as Poland in our sample, or other smaller, national markets across the EU. The fieldwork shows that the process of MLA appointment adopted by borrowers/sponsors could involve either sometimes or regularly sharing the identities of those banks approached with the other MLAs (this was most commonly cited in Poland, although small sample sizes prevent us from drawing and statistically significant conclusions).204

We have considered data on the composition of the MLA groups across Member States to further explore the issue of multiple interactions. The figure below shows that there are a number of examples of MLAs appearing on the same deals together multiple times. The highest number of deals where two of the same banks are present is in Spain (89), representing 60 per cent of the deals that the first bank has undertaken. High results are also seen in the Netherlands and (at least for the most common pairing) in Poland. This shows that banks can work together on multiple deals, although the presence of other banks on each deal will also be a factor.

**Figure 41: Deals with the same two banks, 2010 - 2017**

<table>
<thead>
<tr>
<th>Country</th>
<th>Banks in same deal</th>
<th>Number of deals together</th>
<th>% of Bank 1 deals</th>
<th>% of Bank 2 deals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td>A + B</td>
<td>89</td>
<td>60%</td>
<td>49%</td>
</tr>
<tr>
<td></td>
<td>B + C</td>
<td>64</td>
<td>36%</td>
<td>61%</td>
</tr>
<tr>
<td></td>
<td>D + B</td>
<td>59</td>
<td>61%</td>
<td>33%</td>
</tr>
<tr>
<td>France</td>
<td>A + B</td>
<td>50</td>
<td>45%</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>C + B</td>
<td>45</td>
<td>30%</td>
<td>36%</td>
</tr>
<tr>
<td></td>
<td>B + D</td>
<td>43</td>
<td>34%</td>
<td>50%</td>
</tr>
<tr>
<td>UK</td>
<td>A + B</td>
<td>45</td>
<td>36%</td>
<td>39%</td>
</tr>
<tr>
<td></td>
<td>B + C</td>
<td>40</td>
<td>34%</td>
<td>35%</td>
</tr>
<tr>
<td></td>
<td>A + C</td>
<td>39</td>
<td>31%</td>
<td>34%</td>
</tr>
<tr>
<td>France</td>
<td>A + B</td>
<td>25</td>
<td>76%</td>
<td>56%</td>
</tr>
<tr>
<td></td>
<td>B + C</td>
<td>22</td>
<td>49%</td>
<td>73%</td>
</tr>
<tr>
<td></td>
<td>A + C</td>
<td>20</td>
<td>61%</td>
<td>67%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>A + B</td>
<td>17</td>
<td>43%</td>
<td>27%</td>
</tr>
<tr>
<td></td>
<td>C + B</td>
<td>17</td>
<td>38%</td>
<td>27%</td>
</tr>
<tr>
<td></td>
<td>C + D</td>
<td>15</td>
<td>33%</td>
<td>44%</td>
</tr>
<tr>
<td>Poland</td>
<td>A + B</td>
<td>6</td>
<td>60%</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td>C + B</td>
<td>3</td>
<td>27%</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>C + A</td>
<td>1</td>
<td>9%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Source: Thomson Reuters Loan Connector database analysis.

There may be a number of reasons for repeat interactions between the same banks across deals. The role of local clearing banks is one, whereby most deals in a Member State would include at least one of the local banks in order to secure cash management services. Repeat interactions are likely to be more common in the PF/INFRA markets, which as we have seen in previous chapters remain relatively more bank-dominated (in the absence of non-bank investors) and where our fieldwork

204 Just under 60 per cent of respondents in Poland said that the appointment process sometimes required this, compared to 45 per cent of respondents in the UK, and under 30 per cent in other Member States. The proportions incorporating this disclosure into their standard process was much lower, not exceeding 20 per cent. In general, sponsors were less likely to disclose such identities than borrowers.
suggests specific expertise may be in more limited supply in certain project areas (e.g. a different set of banks might participate in renewable energy projects than in civil construction). Certain banks may also work more frequently with similar sponsors/advisors (e.g. if the latter approach the same banks over time if they know they are likely to agree to similar terms and facilitate a more efficient process).

The data do not show whether such multiple interactions are ‘engineered’ by MLAs in order to facilitate collusive agreements. However, the fact that they occur presents the risk of tacit collusion between lead banks through observed behaviour and strategy. As discussed the large number of eligible banks able to participate in deals reduces the risk that the same banks are the only ones present in a deal and this reduces the risks of tacit collusion, but there may be circumstances where this risk is more pronounced (i.e. in smaller markets with a stable, limited pool of eligible banks).

**General syndication phase**

**Framework for competition analysis**

In this section we consider competition issues in the appointment of further syndicate participants in the general syndication phase, and in the negotiations between syndicate members. These issues are relevant to underwritten and best effort deals where there is a general syndication phase (as opposed to club deals) and therefore the LBO segment is most relevant here.

The issues relating to market flex, which is a feature of the general syndication phase, are dealt with separately in the following section given the complexity of this topic.

**Bargaining power of the syndicate**

In an underwritten syndicated loan the intention of the lenders is to, at least in part, lay off their exposure through inviting a wider group of lenders to participate in the loan (in contrast to club lending where the lending is multi-bank but the initial group of banks intend to retain the loan themselves). Other investors, including both banks and other non-bank lenders will be invited to participate on the terms agreed between the initial bank group.

In so far as the banks are operating within the borrower/sponsor’s mandate, then provided that such terms have been determined in line with a competitive process which has not been undermined by any actions of the banks, and the differing lenders are not connected to each other, then the process of inviting other investors to participate on the basis of the agreed terms should fall outside Article 101(1) altogether or alternatively benefit from exemption under Article 101(3) on the basis that it is inherent to securing the financing.

It has been noted in some market commentaries that the syndicate as a whole during the general syndication phase may use its bargaining power as the single (joint) provider of the loan to coordinate negotiations and move against the borrower/sponsor when agreeing final terms. This will depend on the process used to develop and agree loan terms – i.e. if this is done between the lead banking group and the borrower/sponsor before the general syndication phase, then there will be little scope for the wider syndicate to influence the loan terms beyond what is permitted in the flex provisions (flex is discussed later). It will also depend on the scope for the wider syndicate members to interact with each other – if their participation is limited to bilateral discussions with the bookrunners about their participation in the loan, then the ability of the syndicate to coordinate its response to the loan terms will be limited.

*The selection of participant lenders*
If MLAs are able to influence the selection of other banks into a syndicate, this could facilitate collusive behaviour by enabling reciprocity. Reciprocity is a practice whereby lenders make agreements between themselves in return for future business. This could include agreements to artificially limit the supply for a loan in return for a certain share in a future loan, or agreements for one bank to award loan shares to another in return for the latter awarding the former loan shares in the future. The FCA’s investment banking market study considered reciprocal arrangements whereby a bank issuing its own financing might award mandates to another bank in part based on return business. Reciprocity may cause competition concerns by facilitating collusive behaviour (such as agreements to limit supply) or by aiding foreclosure by restricting the ability of other lenders to compete in the market.

Reciprocity is only possible if lenders are able to influence the selection of other banks into a syndicate (e.g. through influencing the composition of the white lists drawn up by borrowers/sponsors) – this will depend on the process adopted by the borrower/sponsor for selecting the lead banking group and wider syndicate participants. For example if the borrower/sponsor retains control over which participants are included in the general syndication then the certainty that lenders will have of being able to provide reciprocal loan shares to each other in future transactions will be undermined.

Further, the impacts of reciprocal behaviour will also depend on the nature of the syndicated loan process and wider market. For example, in the case of agreements to limit supply in return for future loan shares, the ability of the colluding lenders to influence the price and loan terms would be limited by the presence of other lenders willing to provide lending capacity at a market price. If the loan terms are agreed between the lead banking group before the general syndication phase, then an MLA’s influence over the selection of general syndicate members would have a limited impact on the loan terms.

The ability of other lenders to compete for loan shares would also affect the outcomes of reciprocal behaviour. In the case of potential foreclosure, the FCA found that although reciprocal behaviour was identified between banks issuing their own financing, there was no evidence that this practice excluded other banks from competing for and winning such mandates, and thus the risks of foreclosure were not considered to be sufficient to warrant further analysis or the proposal of remedies.

Information asymmetries between the MLAs and participant investors
Syndicated lending can create an asymmetric information problem between senior and junior syndicate members if the MLAs have an informational advantage over the syndicate participants (e.g. by having access to better information about the borrower and loan risks prior to the general syndication phase). MLAs could exploit this advantage for economic gains by not sharing all the relevant information about the loan and borrower with the participants during the general syndication phase, for example to present a risky loan in a more favourable light in an attempt to sell down loan shares more successfully (e.g. more quickly for the borrower, with no need to invoke market flex and pay away underwriting fees) and justify its underwriting and bookrunning fees. MLAs might also exploit information asymmetries by retaining a lower share of the risky loan and selling down a larger share to less informed participants.

An extension of this risk may arise if an MLA had any links with certain participant investors (e.g. reciprocal agreements or some form of common ownership), such that

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205 See the UK Case Law summarised in Appendix 5g for further commentary on this.
these participants also had an informational advantage over competing syndicate members.

The level of information asymmetry will depend on how the information on the loan and borrower is shared between the MLAs and the syndicate participants. If borrowers/sponsors have oversight of what information is shared with participants during the general syndication phase and agree that what is shared is sufficient to enable accurate market appetite and pricing, then this will reduce the risk of MLAs exploiting any informational advantages they may have.

In addition, the degree to which the participant investors rely on the information shared by the MLAs will also affect the outcome – if they undertake their own due diligence, ask for more information where they perceive gaps and/or are in contact with the borrower/sponsor then this reduces the risk of the MLAs manipulating the information flow.

The transparency with which information is shared between the MLAs and participant investors is also relevant. Mechanisms to ensure that all participants receive the same information at the same time (such as electronic information portals) will reduce the risk that some participants are better informed than others.

**Use of ‘lead left’ bookrunner**
As described in Chapter 2, a single ‘lead left’ active bookrunner can be appointed from the lead banking group to lead the general syndication process and engage with the market. Whilst the use of a lead left by borrowers/sponsors can be efficiency enhancing, it may lead in time to the restriction in the number of eligible bookrunners for future transactions, and thus raise the risk of sub-optimal loan outcomes (i.e. raise the risk of a situation in which a small number lead left bookrunners could abuse a position of excess bargaining power).

This is due to the fact that the ability to be an effective active bookrunner depends on a bank’s experience in distributing similar loans, its knowledge of and relationship with the investor market, its understanding of market appetite and how to communicate and potentially flex a deal to ensure its success. If there is a trend towards appointing sole lead left bookrunners, this could ultimately reduce the pool of eligible active bookrunners to a few very large banks, with other MLAs increasingly losing bookrunning experience.

Although the use of single ‘lead lefts’ is borrower/sponsor (and advisor) driven, it may eventually undermine competition in the market for active bookrunners and leave the borrower/sponsors with less choice of eligible banks to fulfil this role.

**Potential safeguards**
The following safeguards could be applied to reduce the risks of anti-competitive information sharing or coordination and sub-optimal outcomes.

- **Process and timing for agreeing loan terms.** If loan terms are agreed among the lead banking group before the general syndication phase, then the risk that the general syndicate uses bargaining power to move against the borrower is reduced. Further, the separation of participant lenders would further reduce the risks of coordinated behaviour.

- **Exercise of control over ultimate participation in the syndicate.** If the MLAs do not have a strong influence over which lenders are included in the general participation phase then their ability to engage in reciprocal agreements is limited.
- **Ability of other participants to compete for / participate in the loan.** The risk of foreclosure raised by reciprocal arrangements is reduced if these agreements do not prevent other lenders from competing for or participating in syndicated loans.

- **Control over information-sharing with participants.** If borrowers/sponsors have oversight of the information shared with participant investors this will reduce the risks of MLAs manipulating this information flow. Similarly, mechanisms to ensure that participants receive the same information at the same time will reduce risks of information asymmetry between participant investors. Vertical separation (e.g. through compliance practices) between MLAs and participant investors with whom they have links (e.g. through common ownership) will also serve to mitigate this risk.

- **Use of alternative single bookrunners.** If borrowers/sponsors do not use the same small number of banks to act as sole lead lefts then the number of eligible banks will be more sustainable.

- **Ability of banks to gain bookrunner experience.** If banks are able to gain bookrunner experience and enter the lead left market then the risk of a restriction in supply is reduced.

### Evidence and analysis

**Evidence for competition law risk or risk of sub-optimal outcomes in LBO and PF/INFRA segments**

**Bargaining power of the syndicate**

The key safeguards identified against the general syndicate acting jointly and using its bargaining power to move against the borrower/sponsor are upheld to a large extent in practice. First, our fieldwork with participant lenders shows that these engage in the syndication process once the loan terms have been negotiated and agreed between the lead banking group and the borrower/sponsor. Whilst the participants advise the bookrunners of their appetite for the loan and can push back on terms/pricing they don’t agree with, they do not negotiate terms with the bookrunners together with other participants – indeed participant lenders stressed the existence of NDAs as a pre-condition to them receiving information about the loan. (Bookrunners gather information from individual participants and only if there is a sufficient shortfall in appetite might the bookrunners then invoke flex provisions, discussing these with the borrower/sponsor and other MLAs rather than with the participants. The rules governing flex provisions are set in the initial loan terms and not open to negotiation at the general syndicate phase.)

Our borrower fieldwork does show some scope for the negotiation of terms during the general syndication phase – 13 borrowers (26 per cent) said that loan terms can be re-negotiated during the general syndication phase, compared to 74 per cent who said that the loan terms were finalised before general syndication. This revision of terms may refer to market flex, but it is possible that some broader negotiation does take place during the general syndication phase.

Second, our fieldwork shows that participant investors do not interact with each other to discuss the loan terms and thus the scope for them to coordinate their actions is not facilitated by the loan process. Bookrunners engage bilaterally with participant investors, and the large number of such investors in the market also restricts the opportunities for coordination.

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206 Fieldwork question B18 “the final syndicate is formed. What is the typical process for negotiating the terms of the loan (fees, margin, covenants, adverse situations) where there is a main group of banks involved and further participant lenders?”
The evidence suggests that while the risk of the general syndicate coordinating their behaviour to move against the borrower cannot be eliminated – as some negotiation of terms during this phase is possible – the likelihood of this risk is low given the large number of investor participants and the way in which these engage with the bookrunners during the general syndication phase.

**The selection of participant lenders**

The evidence from our fieldwork indicates that MLAs do have some influence in selecting the participant lenders as part of the general syndication phase. Whilst the evidence presented in Chapter 2 on the loan process shows that the scope for MLAs to influence the selection of other MLAs is very limited (this process being led by the borrower/sponsor), MLAs do have some scope in deciding which banks join the wider syndicate. Our borrower/sponsor fieldwork shows that 18 per cent of borrowers and 10 per cent of sponsors said that the MLAs have the ultimate say on which institutions join the general syndicate (compared with 82 and 90 per cent respectively who said that either the borrower/sponsor alone has the decision or the borrower/sponsor decides together with the MLAs). Therefore there is at least the possibility that MLAs might engage in reciprocal agreements when including lenders in the general syndicate. This is exacerbated by the fact that, although the final loan allocations are generally overseen by the borrower/sponsor there is no exact ‘science’ to allocating loan shares across participants, such that it would be possible for a bookrunner to favour certain participants (subject to the sign off by other MLAs and the borrower/sponsor).

The risk that lenders could use reciprocal arrangements to influence the loan terms is low but still present, based on the fact that these terms are most often, but not always, agreed between the lead banking group and the borrower/sponsor before the general syndication phase (as shown in the process described in Chapter 2 and supported by our lender fieldwork). However, our fieldwork shows that around 26 per cent of borrowers say that loan terms can be re-negotiated during the general syndication phase (74 per cent said that the loan terms were finalised before general syndication). Whilst this may refer to market flex provisions (which are difficult to manipulate as discussed in the following section), in cases where terms are negotiated with the lead banking group and the wider syndicate (and not just among the lead banking group), then there is scope for the MLAs to influence the selection of participant banks with a view to sustaining coordinated agreements or facilitating reciprocity. Given the extent to which terms are agreed before general syndication we do not consider this risk to be significant.

The use of white lists by borrowers/sponsors is a way for them to control which lenders can be approached to participate in the loan. Our lender fieldwork shows that these lists are long (often with hundreds of potential investors) and do not restrict the ability of the bookrunners to find suitable investors to participate in the loan. This shows that there are a large number of potential lenders who are approached and who could participate in the loan, such that the risks of potential foreclosure resulting from any reciprocity are low. Our interviews indicated that other the recent past sponsors

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207 Our fieldwork shows that borrowers and sponsors appoint the MLAs themselves, either directly or through a competitive process – see question S8/B6. The possibility remains that relationship banks who are advising borrowers/sponsors may influence the selection of other MLAs – this is discussed earlier in this chapter.

208 Fieldwork question S19 / B17 “Who has ultimate say on which institutions join the syndicate?”

209 Fieldwork question B18 “the final syndicate is formed. What is the typical process for negotiating the terms of the loan (fees, margin, covenants, adverse situations) where there is a main group of banks involved and further participant lenders?”
had become more relaxed about the inclusion on white lists of non-bank investors vertically integrated with other sponsors.

**Information asymmetries**
The first safeguard reducing the risk of information asymmetry is the oversight that borrowers/sponsors have regarding the information shared with participant investors by the MLAs and bookrunners. Our lender fieldwork shows that the sell-down phase is commenced by the MLAs producing an information memorandum collectively with the borrower/sponsor setting out all the terms of the transaction, and containing information about borrower creditworthiness, investment considerations, a list of terms and conditions, an industry overview, and a financial model.\(^{210}\) Throughout the process of engaging with participants, more information is released as investors demonstrate continuing interest in the loan.

Our fieldwork shows that borrowers and especially sponsors retain close control over the flow of information to potential participants in the loan, as shown in the figure below. This information is mostly either the same as that shared with the MLAs, or it is agreed with the MLAs. This oversight is not across the board however – 24 per cent of borrowers and 14 per cent of sponsors do not have insight into all the information that is shared with participant investors. However, the extent to which this may lead to participant investors not receiving sufficient information is not known – e.g. borrowers and sponsors may have oversight at least of the most relevant information shared to enable investors to make correct decisions about their participation in the loan (i.e. that fact that borrowers/sponsors do not have complete oversight is a risk but does not provide evidence for information manipulation).

\(^{210}\) As described in Chapter 2, there may be both a private and public version of the IM. The private version would include management forecasts whereas the ‘public’ version would not. The motivation for the public version is to enable those investors not wishing to wall-cross to (at least initially) consider participation based upon this document to avoid being brought prematurely onto the private side in way that might restrict ability to trade any securities associated with the offer.
The timing and manner of distributing information to participants is another safeguard. Our lender fieldwork shows that a number of lenders make use of information portals – in particular Debt Domain – to share information among syndicate participants. These portals have the advantage of making the information sharing transparent, and ensuring that participants receive the same information at the same time. The use of Debt Domain is widespread (e.g. publicity from 2013 specified over 150 lead arrangers and agents using it to communicate with participants) but not necessarily used for all transactions.

Our fieldwork also provides some evidence for a further safeguard, in terms of the reliance of participant investors on the information provided by the MLAs and bookrunners. Participant lenders undertake their own due diligence as well as reviewing information received by the MLAs. Participant investors in LBO and PF/INFRA loans are sophisticated (large institutional investors with internal debt teams, CLO managers etc.) and decisions to participate in loans are passed through credit committees with strict requirements about information. These investors will also look at comparable information from internal deal flow or publicly available sources (including but not restricted to any comparable deals recently closed in the primary market or any recent secondary market activity), and they are able to request further information from bookrunners if they perceive there to be gaps in the information necessary to decide on their participation. In addition, once the loan has closed then all syndicate members (MLAs and participants alike) receive the same information about the progress of the loan, and any attempts to manipulate information in the general syndication phase will be noticeable, including any movements in secondary market pricing (i.e. after the loan is closed). Our examination of secondary pricing data (described in Chapter 3 in the section on secondary trading) shows there is no evidence of secondary loan pricing deviating significantly from par in the recent months after the loan close.
The above evidence suggests that the risk of MLAs exploiting information asymmetries cannot be eliminated - in that the various safeguards do not apply fully across the market - but that the risk is likely to be small. There is some evidence to suggest that there may be scope for MLAs to manipulate the information shared with participant inventors outside of borrower/sponsor oversight, and transparent document sharing portals cannot be assumed to be used across the board. However, given the ways in which participant investors gather and use information when deciding on participating in deals, their sophistication and the fact that mis-priced deals would be detectable after loan close, we do not consider the risk of the exploitation of information asymmetries to be significant.

The use of a lead left bookrunner
The use of lead left bookrunners was raised in our lender fieldwork by a small number of lenders (six out of 37). The view was that the use of a single lead left bookrunner is an increasing trend, but only in certain loan types (e.g. where a single message to the market is most helpful, or where the borrower/sponsor prefers to work with only one active bookrunner). The magnitude of this trend is not possible to estimate for the available evidence, but it remains a potential concern for the evolution of the market.

Our fieldwork indicates that in many cases where a borrower/sponsor appoints a lead left bookrunner they will also appoint a ‘lead right’ which would be another MLA shadowing the lead left and ready to take over if necessary. This provides in part a safeguard against the lead left practice resulting in only a few banks capable of undertaking this role.

In addition, at least one lender described how it had transitioned successfully to such lead left roles in the space of a few years, which implies that the market for lead left roles can be entered and mitigates against the risk that borrowers/sponsors are left with a restricted choice for these roles. The magnitude of this risk going forward will depend on the extent to which borrowers/sponsors use left leads in their transactions, and the ability of individual banks to enter into this market.

General syndication phase - Flex

Framework for competition analysis
In this section we consider the negotiations between syndicate members, with particular reference to flex (which can be market or documentation flex). Flex is a contractual feature used only in underwritten transactions. In line with the description in Chapters 2 and 3, this means that this analysis is currently of greater relevance to LBOs (but such flex clauses would not of necessity vary between PF/INFRA and LBO loans, i.e. the clauses are driven by the choice of distribution channel).

The flex terms are negotiated as part of the mandate in an underwritten transaction. The borrowers/sponsors also need to agree that the process around how flex is triggered should be set out clearly in advance by the relevant parties.

The main competition policy risk would be around any discussions between the MLAs on whether the flex should be triggered and any changes, which fall outside the agreed mechanism and where they do not reflect a direct reporting back of the outcomes of the approaches made to potential investors. There is scope for a breach of Article 101 if the bookrunners and underwriters discuss using the flex to increase the price in circumstances where the finance could in fact be raised without such
action being necessary or if they agree to go above a level that is necessary to secure the financing. These actions would be anti-competitive by object.\textsuperscript{211}

As we note in Chapter 2, the borrower pays all costs, including for the banks’ lawyers. This has resulted in sponsors and borrowers choosing the lawyers to be used by MLAs/banks. This feature may limit negotiating power of banks in terms of finalising documentation pre-general syndication. This could result in a greater incidence of documentation flex (stemming from feedback from the institutional investors approached). Even with such documentation flex, this market feature could mean that loan documentation standards are weaker than optimal.

**Potential safeguards**

The main safeguard is to ensure that the details of the flex mechanism and the process to be followed need to be agreed between borrower/sponsors and the book-running banks. After that, the flex process as agreed by the borrower has to be followed, with no communication between lenders concerning the operation of the flex outside of that agreed process.

A further safeguard against the abuse of market flex are the economic disincentives on the bookrunners to use flex unless absolutely necessary.

\textsuperscript{211} ‘Upward flex’ is an increase in the spread relative to LIBOR, or other market interest rate, and is made when the loan margin is too low to clear the market. ‘Reverse flex’ is the opposite, and involves a decrease in the spread which occurs when the loan is oversubscribed and the market clearing spread is lower than the original spread.
Evidence and analysis

Evidence for competition law risk or risk of sub-optimal outcomes in LBO and PF/INFRA segments

The inclusion of flex can be seen as enabling underwriting banks to be more aggressive in developing their offers, in that it provides a degree of flexibility should their reading of the market sentiment be overtaken by events. As we note in Chapters 2 and 3, the book-runner(s) control the marketing process. On the other hand, the borrowers/sponsors obtain regular feedback (characterised by lenders as every few days over a marketing process that would last 2-3 weeks). Investors provide feedback to the MLAs (essentially ‘yes’, ‘no’ or ‘yes, if X changes’). It is the MLAs’ analysis of the third of these that is most critical in the instance of flex (i.e. what needs to be changed to increase participant uptake). In the YouGov survey, borrowers and sponsors provided brief feedback on the marketing and flex processes. Several cited (unprompted) the transparency of the process, none criticised it on these grounds.

In addition, communication channels exist between the investors marketed to and the sponsors (particularly the private equity sponsors) – i.e. the process should not be a wholly ‘black box’ for the sponsors. On the minority of deals where a sponsor is absent, this particular check would likely be missing.

Any flex provisions are agreed in the contract signed by the MLAs with the borrower/sponsor. This is supported by our lender and borrow fieldwork, as well as in industry standards (such as LMA documentation and the Association of Corporate Treasures guidance on the LA documentation). (In current market conditions, some sponsors push to exclude flex provisions.) Once negotiated into the contract, the use of flex is ‘automatic’ in that the bookrunners are free to use it if they feel it is necessary to the success of the syndication process, within the bounds set by the flex clause and provided the contractually agreed criteria have been met. In other words, the MLAs do not require further consent from the borrower/sponsor.

However, before market flex can be activated, MLAs would have to ‘pay away’ fees (either 25 or 50 basis points of the underwriting fee being cited by lenders). Such a fee pay-away acts as a disincentive for bookrunners to activate flex (or abuse it in order to change the economics of the loan to their advantage). Bookrunners also have reputational incentives not to abuse the flex provisions (i.e. that their initial reading of the market was not correct). MLAs can instead take the debt onto their balance sheets, seeking to sell it in the secondary market. However, if they are unable to then sell that debt at or near par, this has been shown to limit future arranging capacity.

It is possible for borrowers/sponsors to agree to changes to the terms outside of the flex provisions. For example, bookrunners may recommend changes to documentation outside the scope of any documentation flex as a means of successfully syndicating the loan rather than using pricing flex. Borrowers/sponsors may well agree to this, which does potentially allow bookrunners some scope to secure changes in terms outside of the agreed flex provisions. In these cases, fees payable are also part of the discussion as to what aspects of the loan need to change, and the reputational incentives still apply. MLA(s) would need to demonstrate that the syndication cannot be successfully concluded on the original terms.

212 Around 10 per cent of sponsors/borrowers stated that they resisted inclusion of any flex provisions. This was a feature of the market also cited by many lenders. No lenders admitted to taking on underwriting mandates without some flex provisions.

In the fieldwork, 42 borrowers/sponsors had recent experience of flex with 93 per cent expressing satisfaction with the outcome of the process. Those that were dissatisfied were disappointed by the degree of movement from the terms (particularly documentation terms) that they had initially agreed and the terms that were eventually settled upon. (Lenders indicated that, where in place, documentation flex would not involve any economic penalty – i.e. documentation flex – within its contractual boundaries - could be effected without incurring the pay-away of fees).

Given the feedback loop when a sponsor is present, the nature of the pain-sharing agreements between borrower and MLAs, the reputational impacts of perceived over-reliance on flex and the inclusion of negotiated flex clauses (when it is applicable) in loan agreements (as described by lenders participating in our fieldwork), we consider the scope for bookrunners to use market flex to increase the pricing of a loan without good reason to generally be low. Where a sponsor is not present, this risk would be less.

In the EU market the borrower pays for the costs of the syndication process, including the banks’ lawyers (this can be compared to the US for example where the banks pay for their own legal costs). A minority of lenders and institutional investors raised the point that borrowers/sponsors influence the selection of the lawyers used by the banks, potentially opening the door for borrower-friendly negotiations particularly around documentation (for example, covenants which place fewer restrictions on the borrower’s future behaviour around e.g. taking on new debt or paying dividends). In an underwritten transaction, this may be partially tempered by institutional investors that seek to push back on the documentation as part of the general syndication phase. Some market participants expressed the view that leveraged deals experiencing documentation flex is the result of borrower/sponsors pushing documentation precedents to (or beyond) the limit. However, in our view, the overall effect of this market feature does look likely to be a contribution towards declining documentation standards, i.e. loan documentation containing sub-optimal creditor protections.

Ancillary services

Framework for competition analysis

As with the other elements of the loan process, we note here that the European Commission has not taken a position on what is falling within/outside the scope of 101(1) and/or what could be exempted under 101(3) as regards ancillary services in this area, and this discussion is based on our own assessment. “Ancillary” services in addition to the main loan facility may be provided by syndicate banks. These might include services directly related to the loan (such as hedging services) or activities such as cash management which are related to the activities being financed rather than the loan itself. The provision of ancillary services may be part of the initial competitive pitch by individual banks, and would be assessed alongside the main terms of the loan. Where the ancillary services were not pre-agreed, then the ability of the borrower to ‘shop around’ would be the key determinant of a competitive outcome. There may be a potential issue around collusion should the lending banks come together and decide how they might divide ancillary business between them.

Lenders may require, as a condition of the loan, that the borrower puts in place certain related services - such as hedging instruments - and include restrictions as to who can provide the services (e.g. that it must be lending bank(s)). Provided that the services in question can be considered to be directly related and necessary to the provision of the loan (as opposed to services that may be required by the borrower but are not connected to the loan itself, such as future M&A advisory activity) then the requirement of the lenders that the borrower purchase such services is unlikely in
itself to give rise to competition concerns. The conditions attached to the requirement may also be considered as directly related and necessary for the transaction or may not appreciably restrict competition (e.g. because there are a substantial number of lending banks who could compete to provide the service).

The conditions attached to the requirement may (exceptionally) also fall outside Article 101(1) altogether on the basis that they are directly related and necessary for the transaction or that they do not otherwise appreciably restrict competition. We note that whether there is an appreciable restriction on competition may depend on the number of participating banks who could provide the service. Where there are many lending banks it is unlikely that a restriction requiring that the related services be purchased from a lending bank would appreciably restrict competition. Alternatively, if the condition does appreciably restrict competition it may satisfy the conditions of Article 101(3). Any determination in respect of Article 101(1) and Article 101(3) requires an analysis of the restriction within its specific context – for example consideration of the purpose of the condition.

However there is a risk that, in an individual bid scenario, banks discuss and/or agree between themselves prior to making their bids that they will each make the provision of certain other services a requirement of their lending (as opposed to each individually responding and – independently - making this a condition of their participation).

Agreements between the lending banks and the borrower/sponsor relating to the fact that certain banks will supply certain related services may fall outside Article 101(1) altogether or benefit from the Article 101(3) exemption. Notably, similar considerations that apply to the setting of a single price and a single term sheet in respect of the provision of the lending may not apply to the provision of the ancillary service. Furthermore, there is a risk (again in an individual bid scenario as opposed to a situation where the borrower has requested a joint bid/single price) that the practice of agreeing a single price and term sheet in respect of the provision of the lending “spills over” into the provision of related services. In contrast to the provision of the syndicated lending it is not necessarily the case that the setting of a single price by a group of banks providing the related service is inherent to the provision of that service and the banks may be able to compete to provide such services on an individual basis. Similarly, there is a risk that the lenders jointly require that the borrower purchase services from them that are unrelated to the loan and in respect of which they can compete individually.

As we note in Chapter 2, MLAs can seek to make the award of connected services, such as hedging, one of the conditions attached to the provision of the loan. Potential risks around the provision of hedging services include the discussion among banks in order to share out the services between them and/or coordination on pricing, and uncompetitive bundling of the services with the initial loan terms which restricts the choice of borrower/sponsors.

MLAs can seek to make the award of future services one of the conditions attached to the provision of the loan. Such future services can range from leading any bond issuance undertaken to replace a bridging loan, to providing future M&A or IPO advisory services.

Potential safeguards
There are a number of potential safeguards that could be adopted which could reduce the abovementioned risks. Safeguards could be undertaken by the borrower/sponsor or the lenders.
EU loan syndication and its impact on competition in credit markets

- **Borrower clarity as to those required services that are to be considered directly related to the loan – and those that are not.** Banks generally compete separately for the provision of related services. Therefore guidance could be provided on the type of services that are likely to be related to the provision of the loan as opposed to those that are extraneous and which therefore the lenders should not generally (jointly) require be purchased from them.

- **Borrower clarity as to services required – and not required.** The borrower can seek to influence this by specifying which other services are required and which services are not required. If the RFQ specifies a particular approach, that approach should be respected by the banks.

- **Borrower clarity as to services needed for the loan.** The cross-sale of ancillary services needs to be carefully managed (or even avoided) in order to limit the risk of impairing competition conditions in neighbouring markets to that of syndicated loans, such as agreements on the provision of future M&A or IPO services.

**Evidence and analysis**

*Evidence for competition law risk or risk of sub-optimal outcomes in LBO and PF/INFRA segments*

As we set out in Chapter 2, various ancillary services are commonly acquired in conjunction with the loan, being:

- Hedging services, i.e. derivatives or other instruments to hedge against interest rate and/or FX exposure.
- Custodianship and/or collateral management services.
- Cash management services.
- FX services, i.e. foreign currency transfer and conversion.

The discussion of such ancillary services with MLAs is relatively commonplace in syndicated lending (and slightly more so in PF/INFRA than in the LBO segment).

**Figure 43: Proportion of borrowers/sponsors negotiating with MLAs/syndicate about ancillary services**

Our focus here is on how those ancillary services are negotiated between borrowers/sponsors and lenders. The chart below focuses only upon those borrowers...
or sponsors that acquired ancillary services, revealing that in the vast majority of cases (albeit not all), negotiation was either in parallel with the negotiations for the loan or else was part of a separate (implicitly competitive) process post-closure of the loan negotiations.

**Figure 44: Provision of ancillary services connected to the loan**

<table>
<thead>
<tr>
<th>Service Provision</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>We negotiate the provision of ancillary services as part of the lead arranger(s) initial bids for the loan</td>
<td>15%</td>
</tr>
<tr>
<td>We negotiate the provision of ancillary services as part of the participant lenders’ roles in the syndicate</td>
<td>25%</td>
</tr>
<tr>
<td>We offer the lead arranger(s) the opportunity to bid for ancillary services after the loan has been finalised</td>
<td>20%</td>
</tr>
<tr>
<td>The lead arranger(s) make the provision of ancillary services to us a condition of the terms of the loan</td>
<td>5%</td>
</tr>
</tbody>
</table>

Source: Analysis of YouGov data, based upon a count of responses from 54 borrowers/sponsors. NB Respondents were not restricted to one response (since different ancillary services could be negotiated using different processes) – therefore the above chart does not sum across all categories to 100 per cent.

This is in line with past analysis based upon the US market where Christenfeld & Goodstein (2013) state “it is not unusual for loan syndicates to require that a derivative be purchased from a member of the lending syndicate” or else for the members be given the opportunity to compete for such services.214

Spain’s Comisión Nacional de los Mercados y la Competencia’s (CNMC’s) investigation into the coordination by various Spanish banks into how interest rate derivatives were priced on various syndicated loans related to project finance in Spain in the period 2006–2016,215, found that it was not possible to conclude on the unlawfulness of the fact that the banks forced clients of the syndicated loan to contract the coverage against the risk of interest rates with the same banks. On the other hand, the CNMC also considered it the case that the banks had failed to demonstrate that it is essential that derivatives are entered into by the banks party to the loan – indeed, the CNMC finding that such a requirement was disproportionate (additional analysis of this case is included at Appendix 5f). We consider such a feature as raising the risk of a borrower/sponsor achieving a sub-optimal outcome. We further note that all of the respondents that cited such provision being a condition of the loan were from Spain.

We note that sponsors (and by extension those deals with a sponsor) are much more likely to offer syndicate members the opportunity to bid for ancillary services after the finalisation of the loan terms, with almost 80 per cent of sponsors making use of that approach (making it the most likely approach adopted by sponsors). Borrowers were

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more likely to roll the negotiation of the provision of ancillary services into the discussion around the loan itself.

As identified in the competition framework above, the MLAs making the provision of an ancillary service a condition of the loan’s provision is not in itself problematic. In our lender fieldwork, the only ancillary service identified as at all likely to be discussed at this stage is the arrangement of hedging, e.g. a hedging letter could be agreed during the pre-mandate stage whereby an agreement to split hedging between all or some of the MLA banks is made. The lender fieldwork indicated that this is, at present, a feature of the PF/INFRA segment but not the LBO one. In addition, where banks agree with the borrower/sponsor the share in the future hedging of the loan during the initial stages of the process, there is more scope for them to discuss pricing and other strategic information and engage in collusive behaviour. In the CNMC case the banks took concerted action aimed at setting the price, above market prices, of the derivatives used as hedges for the interest rate risk associated with syndicated credits including in PF between 2006 and 2016. The banks communicated with each other, before the conversation with the client, to agree on a floor above the market level.216

Another form of coordination at play here is potential cooperation between banks in executing hedging arrangements. In the lender fieldwork, it was claimed that it was normal for hedging services to be delegated by the MLAs to 1–2 banks for execution of the hedging in the market place (on efficiency grounds, e.g. reducing transaction costs). Again in the Spanish case, the CNMC considered that some coordination between lenders was necessary firming up the price the prior agreement of the banks, completely unknown to the client, was an infringement of competition law– (please see elaboration in Appendix 5f).

More generally, the competitive dynamics related to the provision of ancillary services will depend on the way in which these are negotiated and awarded, particularly timing of when the services are discussed and awarded (e.g. in parallel to the loan being negotiated or after the primary loan has been concluded or as part of the negotiation of the initial loan terms), the process under which the services are allocated (via competitive bids from banks or allocated directly by the borrower/sponsor) and whether there is any limitation on bidding to syndicate members or whether they only have the opportunity to bid alongside other market participants.

When ancillary services are included in the initial competitive pitch by prospective lenders and negotiated before the borrower/sponsor has committed to the loan, then this need not raise concerns provided that the borrower/sponsor is using a competitive process (as noted, RFPs are applied by 93 per cent of borrowers/sponsors in the YouGov research) and the borrower/sponsor is sufficiently sophisticated to assess the offers made in order to determine its preferred terms. The problem, as in the CNMC case, was the prior agreement of the banks, completely unknown to the borrower, which is an infringement as it enabled the banks to eliminate the uncertainty resulting from an autonomous action under market conditions, to know the offers from the rest of banks beforehand and to illicitly agree on a price that is more beneficial for them. The conduct had a negative effect, through price fixing, on the quality of the derivatives, i.e. the value of the coverage for the client was negative instead of "at zero cost" as agreed. Clearly, in this case, the borrowers were not able to adequately

216 The Spanish Competition Commission CNMC issued a decision imposing a fine on four of the largest Spanish banks for having agreed to fix the price of interest rate derivatives in the context of syndicated loans from 2006 to 2016. Case S/DC/0579/16 Derivados Financieros.
assess the terms presented to them. This may be exacerbated in markets where the initial pool of lead banks is small.

It would also be possible for local banks, though, to establish a degree of market power in connection with services ancillary to loan where the service is (a) to be provided by a local lender, and (b) the provision of the service is restricted to within the MLA pool. On the other hand, any desire to bring in a local clearing bank into the syndicate (i.e. without including it in the competitive RFP process to act as MLA) to provide commercial cash management services is unlikely to affect the competitive dynamics of the loan itself (although where these services are awarded to an ‘incumbent’ local bank without a competitive process, then this could of course lead to sub-optimal results).

**Ancillary services not directly related to the loan**
The lenders can also seek to bundle services not directly related to the loan into the loan negotiation. This was considered a relevant feature by 35 per cent of the borrowers/sponsors participating in our research, i.e. (unsurprisingly) fewer than with ancillary services connected to the loan, but a substantial fraction.

**Figure 45: Provision of ancillary services not connected to the loan**

A broad mix of services were covered, but particularly focused upon (a) activities connected to further financing (e.g. around replacing a bridging facility), (b) advisory services and (c) investment research. In each case, 50–60 per cent of borrowers/sponsors cited each of these as types of ancillary service that had been provided to them.

As can be seen from the above, in most instances negotiation of the bundled service was part of the loan negotiation. Our lender fieldwork confirmed this, with lenders indicating that terms (including fees) would be part of the discussion at that time. The lender fieldwork also indicated that both “right of first refusal” and “right to match” clauses were in use. As we have described in Chapter 2, the UK’s FCA formed a

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217 For example in the Spanish derivatives cartel case, the majority of clients included small and medium corporations, although larger corporations were also affected, including some very large borrowers.
view\(^{218}\) on the utility of such clauses, determining that “right of first refusal” clauses that effectively prevented the client subject to the right from accepting offers from third parties and failed to identify any client benefit in them – with the important exception of services related to taking out a bridging loan. The FCA has banned the use of such clauses, except when relating to bridging finance, by regulated firms operating in the UK (irrespective of the client’s location).

Both borrowers and sponsors referenced investment research as a service that could be bundled together with the loan negotiation. One further aspect for consideration here is the scope for a conflict of interest for the sponsor. Specifically, whether such investment research related to the borrower of the loan in question or to other existing (or potential) investments relevant only to the sponsor. This is, unfortunately, a level of detail that our research was not able to drill down to. Even so, we believe that the potential conflict here should be considered by sponsors to ensure that any such benefits arising due to the loan syndication process accrue exclusively to the borrowers to avoid sub-optimal outcomes arising.

**Debt advisors**

**Framework for competition analysis**

We have described in Chapter 2 how borrowers and sponsors may use debt and financial advisors in order to assist with all or part of the loan syndication and/or to provide advice on the adequacy of the terms secured. These advisors can provide expertise and/or additional resources to borrowers/sponsors. We note at Chapter 2 how it is a feature of the PF/INFRA segment in particular that such advice can be sourced from a lender that may also participate in the syndicated facility (including as an MLA).

Clearly, this market feature could give rise to significant conflicts of interest, potentially – if those conflicts are not well-managed - undermine the competitive nature of the syndication, and result in sub-optimal outcomes for the borrower/sponsor.

**Potential safeguards**

Potential safeguards are as follows.

- *Capacity of the borrower/sponsor to make own judgements as to outcomes and/or to have access to other advisors.*

- *Training and policies for relevant staff.* This could cover identification and management of conflicts of interest, clarity as to duty of care to provide neutral advice to clients.

**Evidence and analysis**

**Evidence for competition law risk or risk of sub-optimal outcomes in LBO and PF/INFRA segments**

We describe below the comparative use across the LBO and PF/INFRA segments of external advice in assessing loan terms. (We described at Chapter 2 the same data analysed by borrowers and sponsors). This highlights how the vast majority do make use of external advisers to complement in-house knowledge (and internal resources can be highly sophisticated, but this may not apply across the board). Some borrowers/sponsors may make use of more than one of these forms of advisor.

Amongst the PF/INFRA segment sponsors/borrowers, 15 per cent had a relationship bank who is part of the lending group as an advisor – without any other source of external advice. The equivalent proportion was about 8 per cent in the LBO segment. Similarly, borrowers were much more likely to have a bank that was also part of the syndicate as the sole source of external advice (14 per cent of borrowers against 8 per cent of sponsors).

Where the borrower/sponsor is using a bank to provide debt advice (i.e. assessing how satisfactory the terms of the loan are) and securing debt from that same bank, there is potential for conflict. The analysis above, drawing on the views of sponsors and borrowers, indicates that this issue is more common in the PF/INFRA segment (but it is not non-existent in the LBO segment) and could represent a non-negligible fraction of transactions. This accords reasonably well with the views expressed by lenders in our interview programme.

Several of the lenders that we engaged with have such ‘in-house’ advisory teams in the PF/INFRA segment. In all cases where a lender had such a debt advisory team, it was functionally separate to the origination/syndication lending decisions. These banks were well aware of the potential conflict of interest. For example, the advisory unit would have no independent balance sheet capacity, and once mandated would be the other side of a Chinese wall from the origination and syndication units. Processes were described to us around the advisory teams having a duty of care to clients, such that the advice offered would be neutral with regard to debt products and the providers of those. Adherence to such protocols would mitigate the risk of sub-optimal outcomes to borrowers of not having a demonstrably independent advisor.

However, our lender fieldwork indicated that at least a couple of the banks interviewed do adopt a more relaxed take on the ‘bundling’ of such debt advice and the provision of debt to clients. There can be an expectation from the client that a substantial portion of the lending would come from the bank providing the advisory services,
particular if raising the necessary funds for the deal proves difficult. For this reason, at least, such bundling by the bank could be an attractive feature to some borrowers/sponsors, at least for more marginal credits (because it would provide a cornerstone lender early in the process). (It could even be argued that, at least in current market conditions, such a pro-bundling strategy could result in adverse selection problems for the bank). However, there is also clearly scope for a sub-optimal outcome for the borrower. Bundling can be pro-competitive, but the way in which the advisory firm is appointed would then also be important. This could either be through a competitive process (e.g. RFP) or else the sponsor/borrower can approach the advisor directly. There would be a heightened risk that, where an advisor is appointed directly without a competitive process and combines the lending role with the advisory role, that the borrower/sponsor may not receive the best loan outcome.

A different form of concern would be where the advising bank attempted to influence the borrower/sponsor towards a strategy or debt structure that suited its lending arm, i.e. subverting the Chinese wall between the advisory and lending functions, and with this not being fully apparent to the borrower/sponsor. Based upon the description of their policies for managing such situations given to us by lenders, this would represent a significant breach of internal protocols.

**Secondary loan market trading**

**Framework for competition analysis**

Whilst co-ordination between the lead banking group to enable a successful syndication process is inherent to that process, co-operation post syndication could give rise to competition law risks. For example, if underwriting banks were to co-ordinate (subsequent to any coordinated sell-down agreed as part of the original loan negotiations with the borrower/sponsor) in relation to when to sell, what proportion to sell or at what price to sell the debt in the secondary market such co-ordination is unlikely to be justified and could be anti-competitive by object. In these circumstances the consent of the borrower to such activities would not be relevant as the borrower has already received the financing at the price agreed. In these circumstances the potential harm is to the purchasers of the debt in the secondary market.

In addition, as noted in Chapters 2 and 3, borrowers/sponsors can place restrictions on transfers on loans that may limit liquidity in the secondary market, potentially (but not necessarily) resulting in sub-optimal economic outcomes. The slowness of settlement processes could increase transaction costs, with equivalent consequences. The latter issue is discussed further at “back office inefficiencies” below.

**Potential safeguards**

There are a number of potential safeguards that could be adopted which could reduce the abovementioned risks to competition. Safeguards could be undertaken by the borrower/sponsor or the lenders.

- **Guidance and training.** This could cover not only the formation process but also ongoing co-operation between the lending banks post syndication and specifically highlight the risk of co-ordination in relation to secondary market activity.

- **Appropriate restrictions on post-closure sale by MLAs.** There may be a view that some co-ordination might be justified (as per equity markets) for a short period of time after the syndication. However, a borrower could also require that the underwriters hold a proportion of the debt for a period of time post syndication to avoid disruption - which would appear to be the legitimate way for the borrower to protect its interests, rather than co-ordination between the underwriters.
Evidence and analysis

Evidence for competition law risk or risk of sub-optimal outcomes in LBO and PF/INFRA segments

Our fieldwork indicates that hold levels are a wholly standard part of discussions between borrowers and MLAs/syndicate participants. Such hold levels may be time- or tranche- limited (e.g. in the LBO market, lenders will hold revolver facilities – as investors have no appetite for these – but may sell most or all of other tranches).

The only form of co-operation post syndication identified in our lender fieldwork (other than in connection to restructuring, as discussed in the next sub-section) relates to the coordinated sell down of debt post-close. This occurs in a short time-frame, within 2-3 months of closure, i.e. it is not sustained over the course of the loan.

The potential harm is to the purchasers of the debt in the secondary market. One of the key limitations in secondary trading is that the loans are private – the loan documentation contains commercially sensitive information about the borrower and thus is subject to strict confidentiality agreements. One implication is that only a limited number of market participants have access to all the relevant information at any one time. Lenders and investors stressed that the secondary market in loans remains in essence a caveat emptor market, i.e. the buyer needs to conduct its research carefully before the trade date. The buyer can seek information (under NDA) before that date, with the ability to ask for additional information to complete research before finalising the trade. In instances of distressed debt (i.e. where the value is not at or near par), this may even involve buying a small part of a loan in order to access additional information on the borrower before deciding whether (or not) buying more of the loan represents an attractive opportunity. Investors look at other loans (e.g. using data from recent primary market activity as well as any comparable secondary market trades) and other asset classes to assess the value proposition represented by a loan’s pricing (i.e. investors are not under an obligation to buy a particular loan).

These features should act as limitations on any attempt by sellers to manipulate the price of the debt, unless they are able to simultaneously identify unsophisticated buyers of debt. However, as in any market, a significant overhang of supply, even if temporary, could potentially disrupt price formation.

We described (at Chapter 3) how the USA’s secondary market “unambiguously lowers borrowing costs” in the primary market. We were not able to confirm that finding in our analysis of the less developed secondary market in Europe. It is also evident from the fieldwork with sponsors and borrowers that restrictions can be imposed on secondary trading (please see Chapter 3).219 Equally, we were informed by lenders that the restrictive clauses in the LBO market tend to be based on LMA standard (i.e. borrower consent, not to be unreasonable withheld). As we have noted several times, secondary trading in PF/INFRA loans is significantly less (i.e. more banks adopt a take and hold strategy) than in the LBO segment. In our fieldwork, lenders stated it could even take ‘months’ to conclude a transaction in PF/INFRA from when interest in trading was expressed. The lenders described restrictions imposed by PF/INFRA sponsors/borrowers as potentially including: no small transfers; an embargo during the construction period and the transfer being subject to borrower approval (except in case of default). Whilst such restrictions may be reasonably motivated (e.g. restricting

219 Parties must be made aware of any such restrictions in the loan documentation regarding to whom loans can be transferred (by novation) or assigned. There is generally less of an issue where the ‘sale’ is to be by way of participation, although occasionally credit documentation does impose restrictions on participations as well as transfers and assignments.
the dispersion of deal-specific information), these could limit the development and efficiency of the secondary market (at least at the margin). Given that secondary market pricing data are also used in the primary market, this could also affect the development and efficiency of the primary market.

**Default and refinancing**

**Framework for competition analysis**

Where current lending banks are aware that further lending opportunity is in contemplation, e.g. where there is a repeat financing, or refinancing, event – there is a risk that the banks commence discussions about the future lending opportunity prior to an RFQ being issued in circumstances where they may be competing for a role in the future lending. This would apply in both a voluntary refinancing (i.e. because the borrower believes that either its circumstances and/or market sentiment have changed sufficiently materially to motivate starting such a process) and also in an ‘involuntary’ refinancing where the borrower is on a pathway to default.

As we discussed in Chapters 2 and 3, as and when a borrower is in financial difficulties and faces an event of default, then there is a risk that the group of lending banks might together enjoy some sort of market power in that they jointly have the power to behave to an appreciable extent independently of their competitors and the borrower. This would be because the relevant market could then be defined very narrowly as the options available to a borrower may be very limited. This needs to be balanced against the needs of borrower for new capital.

There is a further risk that the lending banks together impose certain conditions on restructuring which are not objectively justified (e.g. to protect their investment or reflect a higher degree of risk in any restructuring). This could involve tying the purchase of other services to the refinancing and imposing excessive prices as a condition to the lending. In such cases, it cannot be excluded that these actions could constitute a breach of competition law.

Voluntary refinancing would not result in additional competition concerns over and above an initial syndicated deal. In PF/INFRA, lenders described how such a voluntary refinancing in the operational phase of a project is typically arranged following the standard syndication process with potential MLAs bidding for roles in the initial lending group and general syndication taking place after the agreement of loan terms. It is the reserve of the borrower whether to seek out such a process, and to agree (or not) to the offer. Therefore, we focus here only on default and restructuring.

**Potential safeguards**

There are a number of potential safeguards that could be adopted which could reduce the abovementioned risks to competition. Safeguards could be undertaken by the borrower/sponsor or the lenders.

- *Competition law guidance or training for banks about information exchange issues.* Tailored training and guidance could be put in place for the relevant functions within banks. In banks, management of portfolio loans will generally be separate from the origination function. The guidance on how to treat customers in a distressed situation would take into account the potential risks identified above.

- *Regulatory regime and banks’ duties to clients.*
Evidence and analysis

Evidence for competition law risk or risk of sub-optimal outcomes in LBO and PF/INFRA segments

Where a bank is seeking to refinance at a certain (higher) price level, it should in the first instance discuss this with the borrower. If the borrower then instructs the bank to speak to other banks, the price level can be discussed among them. Any discussions between banks should be within the consent of the borrower. Any discussion of key terms among the lenders ahead of such a refinancing would be analogous to MLAs sharing information ahead of submitting their competitive bids in the original syndication – i.e. clearly in breach of competition law and not necessary as part of the syndication process. We interviewed several restructuring teams based in lenders (as we have noted previously, these are functionally separate units), and these all professed to having undertaken some form of competition policy training, i.e. safeguards are used here.

An alternative available to a member of the syndicate is to decide to sell its loan share, based upon its analysis of declining credit (syndicate members naturally have regular access to performance data on the borrower and the loan). This would be determined independently and not discussed with other lenders (indeed, there is an incentive for lenders not to have such discussions, as these could impact price). If the potential buyer is on any pre-existing ‘white list’, the borrower would not need to be notified in such circumstances (although the lenders indicated that such notification was standard practice).

Syndicated loans are not financial instruments, and (provided the borrowers are private companies) fall outside the scope of the Market Abuse Regulation. Owners of the loan may have access to material non-public information, and this emphasises the importance of research and due diligence by potential buyers in what remains essentially a caveat emptor market. (Although we have noted at Chapter 3 that the draft NPL regulation could impact upon this.) However, such a transfer of a loan would not affect the fact of the syndicate being in existence (simply changing its composition). We do note, though, that the entry of additional lenders beyond the initial syndicate can complicate the resolution of problems. In particular, distressed debt funds (so called “vulture funds”) are widely seen by both banks and borrowers/sponsors as potential disruptors of negotiations. (We understand from our fieldwork that such funds are often excluded from the ‘white lists’ with this motivation in mind.)

Once there has been a breach in the loan contract, or with the permission of the borrower, a committee will be formed amongst the lenders and vested with a degree of negotiating power. Discussions and negotiations of key terms typically take place between the borrower/sponsor and this committee representing the lenders in the syndicate. Decisions are ultimately taken either unanimously among lenders or by a majority (e.g. 75 per cent). A greater degree of collaboration between lenders is needed in restructuring compared to an initial loan formation, as the borrower/sponsor will not be negotiating bilaterally with individual banks. Whilst this may be efficiency enhancing as time is often pressurised, it equally enhances the risk of banks exercising some form of excess bargaining power. Again, we note that the bank restructuring teams that we interviewed had undertaken some form of competition policy training but clearly any subversion of the proper process would be problematic.

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When restructuring works well, borrowers/sponsors work closely with lenders (in particular relationship lenders) to reach an agreement on mutually agreeable terms to avoid a default and/or keep the project/business a going concern. That said, the lenders would have a legitimate need to protect their investment and terms must by necessity be negotiated jointly. It is also reasonable to expect the pricing to be higher than on the original loan as the credit risk has changed.

We investigated with borrowers and sponsors past experience of any required refinancing entered into or even of default. About one quarter of the sample (N=26) had some such past experience (not necessarily connected to current borrowing). In 38 per cent of these cases, negotiation was conducted only with members of the then syndicate, whereas in the balance (62 per cent) the refinancing negotiations were conducted with a mix of the existing syndicate members and other market participants. The willingness of the market to provide the new finance can be seen as a limit upon any excess bargaining power that the existing group of lending banks may have – on the other hand, there are a significant number of instances where the existing syndicate is the only option, i.e. there is scope to exert market power. We do emphasise, however, that we do not have evidence for its abuse.

A further dimension in this area relates to the potential for lenders to seek to exploit any market power through the bundling in of ancillary services as a condition of refinancing, or, even more baldly, through effecting the loan on 'punitive' terms (e.g. pricing excessively). The bundling in of additional services at the stage of involuntary refinancing would pose a competition concern as, unlike in the original syndication process, the borrower/sponsor would have little choice but to accept. We therefore investigated the basis of negotiation of any ancillary services (such as hedging) alongside the new loan terms, with results as presented below.

**Figure 47: Negotiation of loan terms and ancillary services in restructuring**

As can be seen in Figure 47, in the majority of cases (almost 70 per cent), such negotiations also included other market participants. This should provide market discipline in those instances. However, it is also apparent that in a substantial minority of cases such negotiations took place only with the syndicate members. As with the restructured loan, there may be mitigating circumstances at work here – i.e. the absence of other market participants in the negotiations may be reflective of time constraints or else that market appetite outside the existing syndicate was expected to
be low. However, it is also clear that such distressed circumstances can create the opportunity to price such ancillary services on non-competitive terms.

**Back office inefficiencies**

**Framework for competition analysis**

Certain back office processes in the syndicated lending market are slow and/or inefficient. The focus of attention in our fieldwork has been on how KYC requirements are processed, and how settlement is handled. These factors increase transaction costs and potentially even reduce secondary market activity in consequence: the result would be potentially sub-optimal economic outcomes.

We investigated whether technology (in particular blockchain) could improve efficiency. A blockchain is a digital, distributed transaction ledger, with identical copies maintained on multiple computer systems controlled by different entities. Once entered into a blockchain, information can never be erased. Loans could be stored as smart contracts in the blockchain, together with the collateral ownership information.

With respect to the primary syndicated loan market, blockchain and smart contracts might allow for a syndicated loan to become a digital asset. In this scenario, the borrower, arranger and lenders would agree on the terms of a credit agreement, which would then be coded and entered on the blockchain. An arranger would broadcast that “smart loan” with public keys\(^{221}\) of pre-authorized syndicate institutions. Only those institutions can accept or negotiate terms by broadcasting signed amendments for the arranger to approve. The arranger would accept or reject those conditions and sign the final loan commitments with its digital signature. That signing would cause the borrower’s collateral to be assigned to syndicate members and for funds to be disbursed from syndicate members to the borrower (i.e. automating a process that is currently manual). The “smart loan” would automatically debit funds from the borrower’s account and simultaneously extinguishes loan liability in the blockchain. Because permissions can be set to make the blockchain only available to some, as ownership of the loan changes, those permissions would change in turn. The existence of the loan as a digital asset would obviate the need for each institution to manually create the loan, and instead, could be automated on the blockchain.

Smart contract technology could benefit the borrower consent process, which could be completed on the blockchain, which could additionally facilitate secondary trade activity. Because blockchain requires that every network participant is represented by a digital identity, a token representing a party’s approved information and creditworthiness could be stored on the blockchain.

A further claim for blockchain technology is that it could decrease the amount of time needed for clearing and settlement processes, which usually takes up to 20 days. It has been claimed that Distributed Ledger Transactions (DLT) could reduce this to about seven days by providing a secure database that all participants share across a distributed private network. This could yield immediate savings by reducing manual reviews, data re-entry and systems reconciliation.\(^{222}\) It could also alleviate the hurdles imposed in LBOs by time constraints, considering that the average time required to

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\(^{221}\) Public key cryptography is the way that members in the blockchain identify themselves. Public and private keys make up a blockchain participant’s digital signature.

complete a transaction is roughly 60 days.\textsuperscript{223} A faster settlement window in syndicated loans would reduce the difference between loans and bonds. Investors might be attracted to loans that are senior to bonds, but are currently put off by how long loan trades take to settle.

Additionally, proponents of the blockchain argue that it could enhance the secondary market for syndicated loans. Agent banks exert control in the secondary loan market over where assets trade, where the associated data sits and how customers receive it, and when two organizations trade a loan, they choose between them where it settles. One bank believes that the cost for participants in managing the whole life-cycle of a syndicated loan from origination to pay-off on blockchain could be up to 50 per cent below current trading costs.\textsuperscript{224}

Savings might also come from reduced trade reconciliation cost, lower fees paid to third-party servicers and elimination of associated jobs handling settlement. A commercial DLT platform might charge half what current platforms charge with the added benefit of reduced reconciliation checking and clean data delivered in electronic form.

It is likely that widespread adoption is a pre-condition of applying blockchain technologies, since the first-mover banks may not have sufficient capacity or risk-appetite. This implies a degree of cooperation between (competing) banks in order to progress adoption. It also raises the risk that adopters could seek to sustain any associated advantage at the expense of late adopters.

**Evidence and analysis**

**Evidence for competition law risk or risk of sub-optimal outcomes in LBO and PF/INFRA segments**

There are two main barriers to the potential benefits described above, namely the development of the technology itself, and the potential of blockchain to overcome the real sources of inefficiency in the market.

**The development of the technology**

The first relates to the development of the technology. Whilst some banks have begun working on blockchain and associated (i.e. smart contract) technology and its application to loans, this is still in the early stages and is only beginning to be considered for syndicated loans.\textsuperscript{225} One issue is the bespoke and flexible nature of the loans (which is a key benefit of syndicated lending). In order for, say, smart contracts to be created and executed, standardized forms and procedures would have to be adopted. Increased standardisation may not be appropriate for all deals – indeed at present it is not thought appropriate by the banks we interviewed for LBO, PF and INFRA loans. (PF/INFRA loans in particular are not likely candidates to benefit from smart contracts – the complexity and illiquidity of the loans means that this would add fewer benefits in terms of efficiency or time-savings whilst secondary activity remains quiescent and this may mean that the technology would not be investigated seriously.) This may even create potential for fragmentation of the market (between those ‘simpler’ deals suitable for standardisation, and the rest) may itself limit the appetite to adopt smart debt contracts.

\textsuperscript{223} Evidence suggests that the average period of time from a bank’s commitment to provide funds until the finalisation of the LBO transaction (i.e. the execution of the cash transfer) is 60 days. See ECB (2007) “Leveraged buyouts and financial stability”.


\textsuperscript{225} Fusion LenderComm, from Finastra, was launched in late spring 2018 to aid with agent-to-lender administration. See https://www.finastra.com/solutions/lending/syndicated-lending/fusion-lendercomm.
Some banks are beginning to experiment with using distributed ledger technology in certain administrative processes (e.g. Fusion LenderComm provides such technology). In November 2018, BBVA, MUFG and BNP Paribas used a private blockchain to facilitate completion of a syndicated loan. More generally, those banks engaged in investigating blockchain are often focusing on other lending areas, e.g. trade finance. Some recent German Schuldschein loans (which are a much simpler product) have recently used blockchain in distribution.

There are also risks in using blockchain technology, for example questions around its impact on settlement in times of crisis, and security issues. The use of blockchain technology would need to be embedded in other simpler loan areas before being widely extended to syndicated lending in LBO and PF/INFRA loans.

Drawing on our lender fieldwork there is no sign in the market that such an across-the-board shift towards digitalisation is at all imminent for the market, i.e. it is likely to remain peripheral for at least the short term.

The potential for blockchain to overcome inefficiencies

The nature of the inefficiencies in the market (especially around KYC processes) are unlikely to be fully addressed by blockchain technology, at least in the short term. However, we note that technology need not be the only solution. One alternative would be the pooling of resources by (competing) banks into a utility-style model (without necessarily adopting a novel technological solution in parallel). In particular, a group of five Nordic region banks are currently seeking to pool KYC processes for at least larger corporate clients in a utility-style model in a joint-venture (the Nordic KYC Utility). The stated objective is to shorten the duration of the affected processes. This initiative is subject to competition authority approval. This shows that there is at least some potential in market-based initiatives for resolving KYC issues (assuming that competition authority approval is granted). However, such piecemeal approaches may bring other issues, in particular that they will obviously not be a complete solution, and — because they will in themselves consume time and resources — may create disincentives for such a complete solution.

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226 HSBC completed the world’s first commercially viable trade-finance transaction using blockchain in May 2018.
5. Conclusions

Based on the evidence and analysis presented in the preceding chapters, we now draw conclusions on the competition risks present in the EU loan syndication market. We begin by concluding on the comparability of the LBO and PF/INFRA segments, and then for each we present our further conclusions on the nature of these markets and the risks to competition law and of sub-optimal outcomes arising from the loan syndication process and market features relevant to each segment.

Comparing the LBO and PF/INFRA segments

The evidence gathered for this study shows a number of key differences between the LBO and PF/INFRA segments of the loan syndication market. These are summarised in the table below. As shown in Chapter 4, these differences warrant a separate consideration of the risks to competition law (although some risks are common across both segments).

Table 30 summarises the details of LBO and PF/INFRA loans. A description of the more general characteristics of the markets is presented as an introduction to the conclusions for each market below. The data in the table below is drawn from our analysis of Loan Connector database, and refers to the six sample Member States from 2010–2017, as well as from our fieldwork.

<table>
<thead>
<tr>
<th></th>
<th>LBO</th>
<th>PF/INFRA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total amount borrowed</td>
<td>256,499</td>
<td>242,531</td>
</tr>
<tr>
<td>across sample (€m)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average deal value</td>
<td>343</td>
<td>249</td>
</tr>
<tr>
<td>(€m)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of deals</td>
<td>748</td>
<td>973</td>
</tr>
<tr>
<td>Most frequent loan</td>
<td>5-10 years</td>
<td>More than 10 years</td>
</tr>
<tr>
<td>maturity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price range (margin over</td>
<td>400-500 bps, fair</td>
<td>180-320 bps, with greater variation</td>
</tr>
<tr>
<td>benchmark like Euribor)</td>
<td>across deals.</td>
<td>across deals.</td>
</tr>
<tr>
<td>Number of lenders*</td>
<td>309</td>
<td>363</td>
</tr>
<tr>
<td>Type of lenders</td>
<td>Investment and commercial banks. Geographic market presence relatively less important than PF/INFRA (often based in global/regional hubs). More likely than PF/INFRA to adopt an 'originate to distribute' lending strategy, although majority are still towards the take and hold end of the spectrum.</td>
<td>Investment and commercial banks. (Marginally) more concentrated than LBO market, and more evidence of 'home bias'. More likely to adopt a take and hold lending strategy.</td>
</tr>
<tr>
<td>Number of unique</td>
<td>651</td>
<td>867</td>
</tr>
<tr>
<td>borrowers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of borrowers</td>
<td>Most common borrower type is a company/corporation. Sponsors tend to take the lead on the financing rather than the borrower. Loans fairly homogenous across market in terms of pricing, maturity, loan terms.</td>
<td>Borrower pool is more heterogeneous - most common borrower type is a special purpose vehicle but company/corporation also key. Loans more bespoke in terms of risk, pricing, maturity and loan terms.</td>
</tr>
<tr>
<td>Number of sponsors</td>
<td>312</td>
<td>322</td>
</tr>
</tbody>
</table>
EU loan syndication and its impact on competition in credit markets

### Nature of sponsors

Typically private equity firms, many recurrently engaged in loan market, with notable expertise. Most LBO deals have a sponsor. Mostly multinational companies and infrastructure funds, but also state-owned firms and government bodies. Less likely to engage in multiple market transactions. Minority of PF/INFRA deals have a sponsor.

### Participant investors

Large number of loan participants (up to 100s per deal); some large investors granted ‘early bird’ access to loan but majority participate at sell down phase. Participants limited by white lists specified by borrower/sponsor. Less involvement than in LBO segment, due to club deal nature of market and economics around PF/INFRA loans. Typically prefer operational phase to construction phase of loans. Institutional appetite increasing - becoming more familiar with risks and attracted by long-term maturities.

### Loan process

Typically underwritten deals, with short timelines and commitment of funds necessary ahead of the buyout. Typically club deals, with longer transaction timelines, including refinancing between construction and operational phases.

### Ancillary services required

Hedging seldom mandated. Other services (cash management etc.) loan rather than segment specific. Hedging often mandated as an ancillary service by lenders.

### Secondary trading

Fairly active secondary market. Non-bank lenders particularly active, as well as lead banks (typically for portfolio management). Not an active secondary market, given club deal nature of loan market and bespoke nature of loans.

Note: *The number of lenders does not include all participant lenders as the Loan Connector database primarily records lenders active in the initial arranging/underwriting of the loans.

## Conclusions on risks in the LBO segment

We begin this section with a summary of the main characteristics of the LBO market, followed by our conclusions on the competition law risks.

### Overview of the market

The LBO loan segment is a largely international market, particularly with respect to those loans raised in western European Member States, with most lenders active across all these countries. The market in Poland is qualitatively different than the other five reviewed – being less international, albeit still attracting a good range of foreign lenders in the LBO segment. Poland is smaller than the other markets, with a less mainstream currency and reference interest rate. The occurrence of such features in other markets (i.e. those not researched as part of this study) may make Poland an apposite proxy. A key driver of lender activity are the locations of the sponsors and investors. This results in many syndication and sales teams being based in London regardless of the overall geographic scope of the bank. These lenders might have local offices elsewhere in Europe and teams based in various countries (e.g. responsible for origination and structuring), or undertake origination from the central hub.

Lenders in the LBO segment include both investment and commercial banks. The key skill required by MLAs in this market is the ability to successfully syndicate a loan, and ready access to a broad institutional investor base and a track record of successful syndications are critical considerations in the award of a mandate. The relationships between MLAs and sponsors are also important.

Despite the international nature of the market, there is some evidence of “home bias” in as far as the top ranked lenders tend to be those with a parent in that country. However, this is less prominent in LBOs than in PF/INFRA, and we do not consider that this signals competition being undermined by restricting the pool of potential MLAs,
due to non-local banks being widely active across countries. Indeed, our analysis of the market shares of individual lenders in the LBO segment does not identify the markets as being very highly concentrated, with the HHI for the national markets in the LBO segments strongly confirming this.

There is high demand from non-bank institutional lenders for LBO loans (at least for Term Loan elements within the funding package). Such investors usually participate in the loan in the general syndication stage or else (post closure) via the secondary market, although some institutional investors may be included in the initial formation of the lead banking group as keystone or “early bird” investors.

On the demand side, private equity sponsors are often responsible for decision-making around the syndicated loan (as opposed to the ultimate borrower, which is the target of the LBO). Both borrowers and (in particular) sponsors in the LBO segment are sophisticated, with sufficient expertise to control the syndicate process and assess the price and terms of the loan. Larger sponsors may have dedicated debt-raising teams in-house. Third party debt advisors are also a common feature, providing additional advice on pricing and loan structure to the borrower/sponsor, and even playing a prominent role in the formation of the lead banking group and even the general syndication. In the LBO segment such third party advisors are largely characterised as being independent, even boutique-based.

**Deal structures and processes**

LBO transactions (in contrast to PF/INFRA) strongly tend to involve an underwritten loan coupled with a general syndication or sell down phase. This is driven by timing considerations and the certainty of funds required — the need of the sponsor to have committed funds when bidding for a target within a narrow time window. The initial underwriting phase is followed by a general syndication phase where (part of) the underwriters’ loan shares are sold to other participants.

The formation of the lead banking (underwriting) group in the LBO segment involves the borrower/sponsor and/or their advisor, and a number of lead banks bidding for various MLA positions — this can be done individually or as a ready-made consortium. The process is designed to keep the competing banks separate for as long as possible, with negotiations occurring bilaterally between the borrower/sponsor/advisor and each bank or consortium. Information flows are subject to NDAs.

Once the lead banking group is formed, the banks are brought together to agree the general syndication strategy. The key negotiations during the general syndication phase take place between the (potential) participant lenders and the bookrunners, who relay the market response to the borrower/sponsor and the rest of the lead banking group. In some transactions (e.g. deals that are potentially more difficult to market) a single ‘lead left’ bookrunner could be appointed instead of there being multiple bookrunners. Participants to be approached are often drawn from a white list imposed by the borrower/sponsor (who wish to retain control over who can participate in the loan). Competition risks related to the general syndication phase will be largely limited to LBO loans given the predominant use of club deals in PF/INFRA loans.

At this stage in the process, ancillary services may also be negotiated between the lead banking group and the borrower/sponsor (participant banks may also be involved at this stage but our fieldwork shows that these services are more likely to be awarded to those in the lead group). In the LBO segment ancillary services can include hedging services, cash/collateral services, debt advisory services and M&A services. There is less need for ancillary services as an intrinsic part of the loan (e.g. hedging
services) in the LBO segment compared to the PF/INFRA segment, and therefore the associated risks will be less.

The above describes the primary phase in the syndicated loan market. Loan shares can also be sold on the secondary market, i.e. after the loan has closed. Secondary activity in LBO debt is substantially more important than in PF/INFRA, and therefore any associated risks to competition and market inefficiencies will be more important issues for this sector. Lead banks, participant lenders and non-syndicate lenders can all be involved in the secondary loan market. The borrower/sponsor’s white list (if there is one) carries through to the secondary market, such that any non-syndicate (club) investors would either need to be on the white list or else the borrower/sponsors consent would be needed.

**Pricing and information availability**

LBO loans are systematically perceived as higher risk and are more expensive than Infrastructure and Project Finance loans. LBO margins tend to remain within the 400-500 bps band whereas a larger price variation over time is identifiable for Project Finance and Infrastructure. This pattern holds in each Member State.

Market participants draw on a range of information sources when assessing pricing and other loan terms. Both lenders and borrowers/sponsors have access to information from precedents of internal deal flows, comparator deals in similar sectors/countries, external data on deals they were not involved with from data vendors, and secondary market data. Market participants indicate that these sources together are sufficient in assessing deals, although external data are not always complete (e.g. from data vendors on primary and secondary market) as these are private markets. The homogeneity of LBO loans is a further factor enabling market participants to leverage off existing information.

**Risks to competition law and loan outcomes**

The tables below present a summary and conclusions on the risks of competition law breaches and sub-optimal outcomes across the stages of the loan syndication process in the LBO segment.

For each stage, we present a summary of the risks associated with its various features, the potential safeguards that could mitigate these risks, and our conclusions based on the evidence presented in the report as to the extent to which these safeguards are met in practice and the nature of the risk that remains.

Based on our analysis of the loan syndication market there are few areas where loan syndication processes in itself could represent a potential infringement of Article 101, i.e. where agreements between lenders have as their object or effect the prevention, restriction or distortion of competition; or Article 102 regarding the abuse of a dominant position. This is due both to the manner in which lenders typically cooperate, and to the wider contextual factors of the market. There are however some features which may raise competition risks, some which may benefit from the Article 101(3) exemption by virtue of being efficiency enhancing and indispensable to the pro-competitive benefits of the agreement, and others which may not. We highlight in the tables below where risks are related to the provisions governed by either Article 101 or 102 (even if we have not concluded that these risks pose an infringement of the Articles). We have also identified other areas which, while not directly related to Articles 101 or 102, point to inefficiencies in the market or more general risks for competition – in particular whether they could support collusive behaviour that would enable a group of banks to exert excessive bargaining power against the interests of the borrower/sponsor.
### Appointment of the lead banking group in the LBO segment

**Table 31: Summary and conclusions on risk to competition and sub-optimal outcomes for the formation of the lead banking group**

<table>
<thead>
<tr>
<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
<th>Potential safeguards</th>
<th>Findings and conclusions on safeguards and risks</th>
</tr>
</thead>
</table>
| Competitive bidding process for appointing individual banks to the lead banking group | *Horizontal information exchange with risks of coordinated/collusive behaviour (related to Article 101).*

The key competition risk at this stage is related to information sharing – i.e. information exchange between actual or potential competitors may result in a concerted practice which restricts competition where it facilitates alignment of their competitive behaviour (such tacit collusion, if sustained, could result in market power being exerted). Market soundings or inter-bank information exchanges could become a conduit for pricing information that may influence the banks’ individual responses to the borrower's RFP.

Some information exchange prior to the submission of bids may be necessary given the nature of the financing, such that it either does not have an anti-competitive effect or that it satisfies the conditions for exemption under Article 101(3).

Where such information exchange takes place with the express consent of the borrower is good prima-facie evidence that the exchange is not anti-competitive by object and may further indicate that the exchange was considered and accepted by everyone as necessary in the circumstances. | *A degree of separation between syndication and origination functions, such that syndication desks provide only consolidated anonymised views to origination desks could reduce the risk that information about other lenders’ appetite is unduly passed onto the origination team and facilitates coordinated bidding.*

*Competition law guidance or training for banks about information exchange issues.* | *Safeguards around information sharing are present in the LBO market, in particular with respect to lead banks’ access to information to inform their response to the RFQ: the structure of the bidding process in which the borrower/sponsor negotiates bilaterally with each bank and keeps them separate until the loan terms have been agreed; and the sophistication of borrowers/sponsors in the LBO market and their access to own and independent pricing data to assess the offers made by lead banks.*

However, risks do remain, even though we consider these relatively low in the LBO segment. The boundary between generic and specific sounding would need careful definition to ensure compliance (banks require explicit borrower/sponsor consent to conduct deal-specific soundings in a form whereby this would need to be demonstrable to compliance teams). In its strongest form, such consent should be specific as to who is contacted. There is evidence of generic market soundings by MLAs with investors prior to submitting bids, and whilst these discussions should not involve details of specific transactions information about specific lenders’ appetite etc. may still be communicated back to the origination desks. This risk may be exacerbated where there is no significant functional separation between...
### EU loan syndication and its impact on competition in credit markets

<table>
<thead>
<tr>
<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
<th>Potential safeguards</th>
<th>Findings and conclusions on safeguards and risks</th>
</tr>
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<tbody>
<tr>
<td>In some cases, the borrower/sponsor may appoint a single lead arranger to set up the initial banking group and negotiate the loan terms with the other banks, and would mandate that the banks share information in order to reach a common loan price and terms. The interaction with the banks should be strictly within the parameters set by the borrower, otherwise here is a risk that information shared between the lead bank and other banks involved in setting the terms of the loan could lead to the loan terms moving against the borrower.</td>
<td>approached or specify the information to be shared and discussion (e.g. prohibiting discussions about limiting supply). The implications for investors of information exchange, such as Market Abuse laws about trading on information received about a loan. Borrower/sponsor sophistication regarding their expectations on price and the optimal structure for the bidding process.</td>
<td>the syndication and origination desks. Soundings (even generic soundings) with other MLAs (as opposed to exclusively with institutional investors without connections to MLAs) could be abused so as to facilitate collusive action, even potentially enabling a group of MLAs (particularly one with fewer substitute MLAs) to achieve, and sustain, some degree of collective market power.</td>
<td></td>
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</table>

**Coordinated agreements to limit supply (related to Article 101).** Any agreements between banks to limit supply (e.g. to agree not to participate or prevent other banks participating, or not to increase their participation where acting independently they would have done so) would be anti-competitive conduct related to collusion and coordination.

In addition, although the bidding process is set up to keep lenders apart, the prevention of information sharing is governed by NDAs, which can be difficult to enforce. Therefore although the process set up by the borrower/sponsor in LBO loans reduces the risk of anti-competitive information sharing, the risk remains that this may happen. Equally, once an NDA is signed, it is evident to the counter-party that the breach of that agreement is problematic (i.e. it puts banks on clear notice of borrower/sponsor expectations).

The specific competition policy risks associated with a single lead arranger are not high: borrowers/sponsors control the formation of the lead banking group, keeping the individual banks separate until each has agreed the key terms with the borrower/sponsor and signed the initial loan agreement. In any event, the likelihood of a single MLA being appointed by the borrower/sponsor to set up the syndicate and negotiate the key loan terms with the rest of the lead banks is low in the LBO segment.
### EU loan syndication and its impact on competition in credit markets

<table>
<thead>
<tr>
<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
<th>Potential safeguards</th>
<th>Findings and conclusions on safeguards and risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive bidding process for appointing initial banking group among consortia</td>
<td>Horizontal information exchange with risks of coordinated/collusive behaviour (related to Article 101). Coordinated agreements to limit supply (related to Article 101). Where a group of banks come together to submit a joint bid in response to an RFP at the request of a borrower then, provided that the bank group operates within the instructions of the borrower, it is likely that the any information exchange between the banks for the purposes of putting together that proposal and the ultimate agreement that the banks reach as to the terms of that bid, will either fall outside Article 101(1) altogether or satisfy the conditions of Article 101(3). To the extent that discussions or agreements go beyond what is required for the purposes of submitting the joint bid then, depending on their nature, such discussions may breach Article 101(1) and indeed may be anti-competitive by object. In particular, agreements to limit lending capacity e.g. by not inviting other lenders to participate, or not increasing their participation (where acting independently they could and would have done so) are likely to have an anti-competitive effect and could be anti-competitive by object. Abuse of collective dominance to impose uncompetitive terms and pricing (related to Article 102). If the banks coming together in a</td>
<td>Clear parameters for the consortium: the borrower/sponsor should ensure that there are clear instructions to the consortium as to what they should agree jointly and what information they can share. The borrower/sponsor can place limits on the interaction between bank, e.g. splitting up the consortium during the bidding process to negotiate certain terms bilaterally such as hold levels or price. If consortia are invited to submit bids that compete with other consortia (instead of bidding as the only consortium) then there is scope for the borrower/sponsor to compare bids and maintain competitive pressure. The regulatory regime could place a responsibility on lenders to highlight to the borrower/sponsor where the bidding process may lead to a sub-optimal outcome. Consortia bids appear to be a feature of the LBO market based on borrower/sponsor fieldwork, although no lenders in our sample participated in consortia. The main safeguard for which there is evidence is that borrowers/sponsors almost always use a competitive RFP process when appointing the lead banking group (whether this is soliciting bids consortia) which implies that consortia at least compete and enable the borrower/sponsor to maintain competitive pressure (i.e. including such consortia in the RFP process could be pro-competitive). We do not have any evidence of there being regulations/requirements in place that place responsibility on banks bidding for the RFP to highlight to the borrower/sponsor where the process might not operate in their best interests. This could be a potential safeguard to explore further.</td>
<td></td>
</tr>
<tr>
<td>Element of process</td>
<td>Risk to competition law or sub-optimal outcomes</td>
<td>Potential safeguards</td>
<td>Findings and conclusions on safeguards and risks</td>
</tr>
<tr>
<td>--------------------</td>
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</tr>
<tr>
<td>consortium have market power in the relevant market then there may be the risk of incompatibility with Article 102, subject to a finding that the consortium is able to unduly inflate the price through information sharing and coordination through its position of power.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borrower’s process leading to sub-optimal outcomes. The borrower/sponsor could set up the consortium in a way that facilitates sub-optimal outcomes. For example, by stipulating that a certain bank be involved in the loan where this bank requires a higher price than the other banks in order to participate, this would limit the ability of the consortium to replace this bank and agree a lower price.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct appointment of a single / relationship bank without competitive process.</td>
<td>Borrower’s process leading to sub-optimal outcomes. Abuse of asymmetric information by lead bank. The direct appointment of a bank without a competitive process may result in sub-optimal outcomes for the borrower/sponsor – this is not considered to be a competition law risk as it is part of the structure imposed by the borrower/sponsor, but may have regulatory implications. The single bank could use its relationship with the borrower to create a situation of 'lock-in' and thereby extract rents through imposing higher prices on the borrower compared to a competitive situation.</td>
<td>If a relationship bank competes on reputation for the borrower/sponsor favour then this will limit its ability to negatively influence loan outcomes (depending on the sophistication of the borrower and availability of alternative relationship banks). If borrower/sponsors are not 'locked-in- to their relationship banks then this reduced the scope of these banks to underperform or negatively influence the loan process in their favour. A further safeguard would be the sophistication of the</td>
<td>In the LBO segment there is very little evidence of single MLAs being appointed without a competitive process, and thus the risks associated with a directly appointed MLA will be low in this market. The use of a competitive process also suggests that the value of relationship banks is considered in relation to competitors rather than due to a situation of 'lock-in'. The sophistication of most borrowers and sponsors increases their control of the syndication process and leaves them less susceptible to manipulation by a relationship bank, in particular in terms of selecting other participants.</td>
</tr>
</tbody>
</table>
### EU loan syndication and its impact on competition in credit markets

<table>
<thead>
<tr>
<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
<th>Potential safeguards</th>
<th>Findings and conclusions on safeguards and risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>A single relationship bank may also be able to unduly influence the syndication process in their favour, e.g. by excluding challenger banks from the wider syndicate in order to embed its position. These risks are influenced by the nature of the market - e.g. smaller geographic or product markets the borrower would have limited choice of eligible lead banks, and likelihood of repeat lending from the relationship bank and further information lock-in would be increased. Borrowers at the beginning of their 'life cycle' may also be more susceptible to the influence of relationship banks.</td>
<td>borrower/sponsor in driving the syndication process and the extent to which they relied on the advice or influence of the relationship bank (e.g. in selecting other loan participants). The ability of the borrower/sponsor to monitor the MLA’s interaction with participant investors would also undermine undue influence or the risks of the relationship bank manipulating loan terms. The ability of the borrower to replace the MLA in case of underperformance would reduce the incentives for the MLA to underperform.</td>
<td>The ability of borrowers/sponsors to monitor and sanction MLAs behaviour once appointed is somewhat limited, limiting the applicability of one of the potential safeguards. However, given the repeat nature of interactions between sponsors and lenders and the competitive process used in appointing MLAs we consider it highly likely that poor performance would be punished in any subsequent transactions. Given the evidence on safeguards and the low likelihood of the direct appointment of a single MLA in the LBO segment, we consider this feature of the process to be overall a low risk.</td>
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</tr>
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</table>

**Post-mandate to loan agreement**

*Horizontal information exchange with risks of coordinated/collusive behaviour (related to Article 101).*

At this stage the borrower/sponsor mandates that the lead banks meet and agree final loan terms – these discussions are an essential element of the loan syndication process and provided that the banks are operating within the terms of the mandate granted by the borrower then exchanges of information between them which are related to achieving that aim may fall outside Article 101(1) or alternatively benefit from an exemption under Article 101(3).

*Coordinated agreements to limit supply (related to Article 101).*

Banks must be careful not to go beyond

If the lead banking group is formed such that the key loan terms are discussed and negotiated bilaterally between the banks and the borrower/sponsor ahead of the post-mandate stage, then there will be less risk of the banks discussing these terms at this stage and moving against the borrower. The involvement of the borrower/sponsor in the post-mandate discussions would ensure that the communications were in line with the mandate. The strategy adopted by the borrower/sponsor should provide flexibility for banks to drop out of the

The scope for lenders discussing loan terms so as to move against the borrower at the post-mandate stage is low, given that in the LBO segment the process widely adopted is for the loan terms to be agreed bilaterally between the borrower/sponsor and individual lenders, and that joint discussions between lenders post-mandate should be limited to agreeing the loan documentation and syndication strategy. Borrowers/sponsors also aim to build in latency when obtaining loan commitments from the lead banking group.

There is some, however, evidence that the loan process may not always work in the borrower/sponsor’s favour in terms of it agreeing the overall price to the highest common denominator rather than
Table: EU loan syndication and its impact on competition in credit markets

<table>
<thead>
<tr>
<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
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<th>Findings and conclusions on safeguards and risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>what is required under the borrower’s mandate and reach any agreement or engage in any concerted practice to (artificially) raise the price or to restrict supply. Any such agreement should be viewed as anti-competitive by object.</td>
<td>process to avoid having to agree to terms at the highest common denominator (e.g. by building latency into the process). The timing of information flows to the lenders would also reduce the risk of banks dropping out, i.e. by ensuring that all due diligence is provided before mandate. The risks of inadvertent information sharing and future coordination/collusion would be mitigated the lower the likelihood of repeat interactions between lead banks on syndicated loans. The information gained from such observations would also be influenced by the type of discussions that are held during this interaction (e.g. if pricing and hold strategies are not discussed then it will be more difficult for lenders to observe this information about each other).</td>
<td>negotiating a common price. This is not common and may, anyway, simply reflect the relative attractiveness of the credit itself. The evidence of the multiple interactions between lenders on transactions over time leads us to conclude that there is a definite risk that lenders can observe each other’s behaviours and strategies, which may enable them to engage in some coordination on future loan transactions. We do not have direct evidence that this happens in practice. Given that fact that in most cases the discussions that occur at this stage do not involve detailed information about pricing and hold strategies, the amount of information that lenders are able to observe is likely to be limited. However this remains a risk area.</td>
<td></td>
</tr>
<tr>
<td>Borrower’s process leading to sub-optimal outcomes. The process set up by the borrower/sponsor may lead to sub-optimal outcomes, e.g. if it stipulates that a particular bank(s) must be part of the syndicate and if that bank requires a higher price than the others to participate in the loan.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>A further risk at this stage when banks are brought together by the borrower is that repeat interactions among lenders on transactions may lead to inadvertent information sharing around each other’s behaviour or strategies which could be used to align their bids in future transactions.</td>
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</tbody>
</table>


### General syndication phase in the LBO segment

**Table 32: Summary and conclusions on risk to competition and sub-optimal outcomes for the formation of the general syndication phase**

<table>
<thead>
<tr>
<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
<th>Potential safeguards</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Selection of participant lenders</strong></td>
<td>Leverage of powerful position in syndicate. Collusive behaviour (related to Article 101). If MLAs are able to influence the selection of participant banks into a syndicate, this could facilitate collusive behaviour by enabling reciprocal agreements between lenders in return for future business. Ultimately, this could even enable those banks to exert market power.</td>
<td>The degree of control retained by the borrower/sponsor in selecting the participant lenders will reduce the risk of undue influence of MLAs. Further, the risk of foreclosure raised by reciprocal arrangements is reduced if these agreements do not prevent other lenders from competing for or participating in syndicated loans.</td>
<td>MLAs exercise some influence over the selection of participant lenders. In the majority of cases this influence is controlled by the borrower/sponsor (e.g. through provision of a white list, direct feedback loops between investors and sponsors, regular feedback from the bookrunners), but there remain cases identified by borrowers/sponsors where the MLAs have the effective final say on which lenders participate in the loan. The allocation of loan shares across participants is done by the MLAs and, although subject to signoff by the borrower/sponsor, there remains the possibility than MLAs could favour certain participants in the allocation of loan shares.</td>
</tr>
<tr>
<td><strong>Negotiation of final loan terms</strong></td>
<td>Horizontal information sharing (related to Article 101). In so far as the banks are operating within the borrower/sponsor’s mandate, inviting participant investors to participate in the loan on the basis of the terms agreed between the MLAs and the borrower/sponsor should fall outside Article 101(1) altogether or alternatively benefit from exemption under Article 101(3) on the basis that it is inherent to securing the financing. Abuse of dominance by syndicate (related to Article 102). A risk of sub-optimal outcomes exists if at this general syndication phase the syndicate as a whole uses its bargaining power as the</td>
<td>The process and timing for agreeing loan terms could reduce the risks of the syndicate coordinating and exploiting its bargaining power, i.e. if loan terms are agreed among the lead banking group before the general syndication phase, and if participant lenders are not given cause to interact then responding to MLAs. Borrower/sponsor control over information flows to participant investors, as well as mechanisms to ensure the transparency of these information flows, will reduce the risks associated with asymmetric</td>
<td>The evidence relating to the first safeguards shows that while the risk of the general syndicate coordinating their behaviour to move against the borrower cannot be eliminated – as some negotiation of terms during this phase is possible – the likelihood of this risk materialising is low given that in the vast majority of cases the final loan terms are agreed before the general syndication phase, that participants engage bilaterally with the bookrunners without the opportunity to discuss between themselves the loan (a process protected by NDAs), and, more so, and that there are large number of participant lenders engaging in this phase that effective coordination would be very challenging.</td>
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### EU loan syndication and its impact on competition in credit markets

<table>
<thead>
<tr>
<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
<th>Potential safeguards</th>
<th>Findings and conclusions on safeguards and risks</th>
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</thead>
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<tr>
<td><strong>Single (joint) provider of the loan to coordinate negotiations and move against the borrower/sponsor when agreeing final terms.</strong></td>
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<td>The risk of MLAs exploiting information asymmetries cannot be eliminated. The various safeguards do not apply fully across the market – there may be scope in some cases for MLAs to manipulate the information passed onto participant investors beyond borrower/sponsor oversight; and transparent information sharing portals (e.g. Debt Domain), though widely used, are not used in every transaction.</td>
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<td><strong>Exploitation of information asymmetries.</strong> Information asymmetries may exist between the MLAs and the participant lenders, which the MLAs may exploit to distort the loan terms for their economic gain.</td>
<td></td>
<td>The reliance of participant lenders on information outside of that provided by the MLA will also reduce the risks associated with information asymmetry.</td>
<td>This must be offset with the sophistication of participant investors in terms of their credit quality standards, and their use of information beyond that which is provided by the MLAs to inform their decisions about participating in loans. Further, mispricing of a loan through MLA manipulation should be detected shortly after the loan’s close, e.g. on the secondary market. Such mispricing would also negatively impact upon the MLAs’ reputation.</td>
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<td><strong>Exploitation of vertical relationships.</strong> Any links between the MLAs and particular participant investors could also convey informational advantages onto these participants at the expense of their competitors.</td>
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<td><strong>Market Flex</strong></td>
<td><strong>Horizontal information exchange to impose higher prices (related to Article 101).</strong> There is scope for a breach of Article 101 if the bookrunners and underwriters discuss using the flex to increase the price in circumstances where the finance could in fact be raised without such action being necessary, or if they agree to go above a level that is necessary to secure the financing. These actions would be anti-competitive by object.</td>
<td>The main safeguard is to ensure that the details of the flex mechanism and the process to be followed are agreed between borrower/sponsors and the book-running banks ahead of the general syndication phase. After that, the flex process as agreed by the borrower must be followed, with no communication between lenders concerning the operation of the flex outside of that agreed</td>
<td>Flex terms are agreed between the borrower/sponsor and the MLAs ahead of the general syndication phase, and thus the first key safeguard is met. Borrower and sponsors are sophisticated to negotiate flex provisions and also have access to guidance. A very high majority of relevant borrower/sponsors in our sample reported being satisfied with the transparency of the marketing and flex processes engaged by bookrunners, and the outcomes of the flex.</td>
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EU loan syndication and its impact on competition in credit markets

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<th>Risk to competition law or sub-optimal outcomes</th>
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<th>Findings and conclusions on safeguards and risks</th>
</tr>
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<tr>
<td>Borrower’s process leading to sub-optimal outcomes. The practice of borrower/sponsors paying for the lawyers used by the lead banks also creates risks of sub-optimal outcomes if it weakens the loan documentation (as well as increasing the likelihood of documentation flex being invoked by participant lenders).</td>
<td>process. Economics disincentives on bookrunners could also prevent the unnecessary use of flex.</td>
<td>Bookrunners are subject to fee pay aways before they can use flex, which acts as a disincentive to invoke it unnecessarily. Our conclusion based on the extent to which the safeguards are met is that the risks of bookrunners abusing market flex is low. The market feature whereby borrowers/sponsors dictate the lawyers used by lead banks does – in our view - appear likely to be a contribution towards declining documentation standards, i.e. loan documentation containing sub-optimal creditor protections/outcomes. Another factor here the nature of current market conditions, with significant appetite amongst institutional investors and those managing their money to invest into LBO loans. A reduction in appetite amongst these could change the negotiating dynamic around such protections, i.e. shifting away from cov-lite – however there is no sign of such a shift in the market at present.</td>
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## Ancillary services in the LBO segment

### Table 33: Summary and conclusions on risk to competition and sub-optimal outcomes for the provision of ancillary services

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<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
<th>Potential safeguards</th>
<th>Findings and conclusions on safeguards and risks</th>
</tr>
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<tr>
<td>The allocation of ancillary services across banks, and the pricing of such services.</td>
<td>Lenders individually requiring that a borrower put in place certain ancillary services, and including conditions as to who can provide the services (e.g. only a lending bank), is unlikely to give rise to competition concerns if the ancillary services are directly related and necessary to the provision of the loan, and the conditions are directly necessary to the loan or do not limit competition (e.g. if there are a large number of banks from whom the borrower could chose to provide the services).</td>
<td>Borrower clarity as to those required services that are to be considered related to the loan – and those that are not. Guidance could be provided to banks on the type of services that are likely to be related to the provision of the loan as opposed to those that are extraneous and which therefore the lenders should not generally (jointly) require to be purchased from them.</td>
<td>Our borrower/sponsor fieldwork did not reveal significant differences in the types of ancillary services provided in LBO loans compared to PF/INFRA. The key services discussed are hedging services and cash management. Our lender fieldwork and data suggest that hedging services are more necessary and common in PF/INFRA loans compared to LBO loans.</td>
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<td></td>
<td><strong>Horizontal information sharing to collude on the provision of ancillary services (related to Article 101).</strong> However, there is a risk that, in an individual bid scenario, banks discuss and/or agree between themselves prior to making their bids that they will each make the provision of ancillary services a requirement of their lending (as opposed to each individually responding and – independently - making this a condition of their participation).</td>
<td>Borrower clarity as to services required – and not required. The borrower can seek to influence this by specifying which other services are required and which services are not required. If the RFQ specifies a particular approach, that approach should be respected by the banks.</td>
<td>In the majority of cases from our lender and borrower/sponsor fieldwork, the allocation of ancillary services is decided as part of the initial agreement of loan terms, or as a competitive process after the loan has closed. In both cases the borrower/sponsor would be able to choose between banks’ offers and maintain competitive pressure.</td>
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<td>There is a risk in an individual bid scenario that the practice of agreeing a single price and term sheet in respect of the provision of the lending &quot;spills over&quot; into the provision of related services. It is not necessarily the case that the setting of a single price by a group of banks providing the ancillary service is inherent to the provision of that</td>
<td></td>
<td>However a small minority of borrower/sponsors identified that the MLAs make the provision of ancillary services by them a condition of the loan (the rest negotiate ancillary services as part of the initial loan agreement process, or after the loan close). Whilst competition law precedent (e.g. Spain’s CNMC) has not concluded that it is unlawful for lenders to specify that ancillary services be purchased from them, we do consider such a feature as raising the risk of a borrower/sponsor achieving a sub-optimal economic outcome.</td>
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<th>Risk to competition law or sub-optimal outcomes</th>
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<th>Findings and conclusions on safeguards and risks</th>
</tr>
</thead>
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<tr>
<td>Tying of ancillary services. There is a risk that the lenders jointly require that the borrower purchase services from them that are unrelated to the loan and in respect of which they can compete individually. Where the provision of ancillary services by some lenders is restricted to the syndicate, or some sub-set of it, e.g. an obligation – or strong expectation – that purchase would be from the MLAs, especially if not all MLAs were able or willing to provide or quote for that service, then those particular lenders would be better able to exert bargaining power.</td>
<td></td>
<td>We further note that all of the respondents that cited such provision being a condition of the loan were from Spain. Ancillary services not directly related to the loan (e.g. further financing, investment services) can be negotiated as part of the loan negotiation, with both “right of first refusal” and “right to match” clauses being used. These have been found by the UK regulator as to have no client benefit – unless related to the replacement of bridging finance - and have been banned in the UK, but their use may be continued outside the UK (representing a continued risk to optimal outcome for borrowers/sponsors).</td>
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**Debt advisors in the LBO segment**

**Table 34: Summary and conclusions on risk to competition and sub-optimal outcomes for the role of debt advisors**

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<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
<th>Potential safeguards</th>
<th>Findings and conclusions on safeguards and risks</th>
</tr>
</thead>
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<td>The use of debt advisors which are also involved in the syndicated loan</td>
<td><em>Conflicts of interest and exploitation of information asymmetry.</em> This could give rise to significant conflicts of interest. If these conflicts are not well managed this could undermine the competitive nature of the syndication, and result in sub-optimal outcomes for the borrower/sponsor.</td>
<td>Capacity of the borrower/sponsor to make own judgements as to outcomes and/or to have access to other advisors. Training and policies for relevant staff, e.g. identification and management of conflicts of interest, clarity as to duty of care to provide neutral advice to clients.</td>
<td>The use of advisors who are also part of the syndicate is widespread among borrowers and sponsors, and in some cases with there being no other source of external advice. This issue is less common in the LBO segment that the PF/INFRA segment, but still occurs. Our lender fieldwork shows that where an advisory role is provided by a lending bank, this is functionally separate from the lending role, and adherence to such protocols should mitigate the risk of sub-optimal outcomes to borrowers of not having a demonstrably independent advisor. A different form of concern would be where the advising bank attempted to influence the borrower/sponsor towards a strategy or debt structure that suited its lending arm, i.e. subverting the Chinese wall between the advisory and lending functions, and with this not being fully apparent to the borrower/sponsor. Based upon the description of their policies for managing such situations given to us by lenders, this would represent a significant breach of internal protocols.</td>
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## Secondary loan market trading in the LBO segment

### Table 35: Summary and conclusions on risk to competition and sub-optimal outcomes for secondary trading

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<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
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<td>Coordination by lenders on the sale of the loan on the secondary market</td>
<td>Coordination and collusion in selling on the secondary market to influence supply and price (related to Article 101). Co-operation between lenders post syndication could give rise to competition law risks, e.g. if underwriting banks were to co-ordinate in relation to when to sell, what proportion to sell or at what price to sell the debt in the secondary market, such co-ordination is unlikely to be justified and may well be anti-competitive by object. In these circumstances the potential harm is to the purchasers of the debt in the secondary market. Borrowers’ process leading to sub-optimal outcomes. Restrictions placed by borrowers/sponsors on transfers on loans may limit liquidity in the secondary market, potentially (but not necessarily) resulting in sub-optimal economic outcomes.</td>
<td>Guidance and training to lenders and borrowers/sponsors, covering the formation process and ongoing co-operation between the lending banks post syndication, highlighting the risk of co-ordination in relation to secondary market activity. Appropriate restrictions on post-closure sale by MLAs. A borrower could require that the underwriters hold a proportion of the debt for a period of time post syndication to avoid disruption.</td>
<td>There is no evidence of co-ordinated secondary market activity in our fieldwork, and the safeguard relating to hold levels is widely upheld in practice (indeed, it is a key part of the process). The features of the secondary (i.e. post-closure trading) loan market (which remains a caveat emptor market with implicitly sophisticated buyers) should limit any attempt by sellers to manipulate the price of the debt, unless they are able to simultaneously identify a group of unsophisticated buyers of that debt. The economic benefit to lenders from any coordination may therefore be limited, reducing the plausibility of this risk. There is widespread evidence of borrower/sponsor restrictions on secondary trading, in terms of which institutions are eligible to participate in the loan. Given that secondary market pricing data are also used in the primary LBO segment (albeit not exclusively relied upon), this could also affect the development and efficiency of the primary market.</td>
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Back office inefficiencies

Table 36: Summary and conclusions on risk to competition and sub-optimal outcomes for back office inefficiencies

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<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
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</tr>
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<td>Know-your-client and settlement processes.</td>
<td>Increased transaction costs. Certain back office inefficiencies increase transaction costs and potentially even reduce secondary market activity in consequence, potentially resulting in sub-optimal economic outcomes.</td>
<td>Blockchain technology may have the capacity to improve efficiency by creating the loan as a digital asset, automating the allocation of collateral, expediting the clearing and settlement process and speeding up the approval time for including additional investors (i.e. on the secondary loan market).</td>
<td>There are two main barriers to the potential benefits of blockchain, namely the development of the technology itself, and the potential of blockchain to overcome the real sources of inefficiency in the market. In relation to the first, our fieldwork shows that the technology to apply blockchain to syndicated loans has not been fully developed as yet (notwithstanding early adopters around loan completion) and that there is no sign that an across-the-market shift towards digitalisation is at all imminent. In relation to the second, other solutions to the problems of inefficient processes – in particular KYC – may be available without adopting novel technological solutions, such as banks pooling resources to create a centralised portal for KYC processes across shared clients. Therefore there is at least some potential in market-based initiatives for resolving KYC issues (assuming that competition authority approval is granted). However, such piecemeal approaches may bring other issues, in particular that they will obviously not be a complete solution, and — because they will in themselves consume time and resources — may create disincentives for such a complete solution.</td>
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**Default and refinancing in the LBO segment**

**Table 37: Summary and conclusions on risk to competition and sub-optimal outcomes for default and refinancing**

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<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
<th>Potential safeguards</th>
<th>Findings and conclusions on safeguards and risks</th>
</tr>
</thead>
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| Refinancing in conditions of default | **Horizontal information exchange leading to collusive behaviour (related to Article 101).** There is a risk that the banks commence discussions about the future lending opportunity prior to an RFQ being issued in circumstances where they may be competing for a role in the future lending.  
**Abuse of collective dominance to inflate loan price and terms and to bundle/tie additional services (related to Article 102).** When a borrower faces an event of default, there is a risk that the group of lending banks might together have market power, because the limited options available to the borrower could mean the market is defined very narrowly.  
There is a further risk that the lending banks together impose certain conditions on restructuring which are not objectively justified (e.g., tying the purchase of other services to the refinancing and imposing excessive prices as a condition to the lending). These actions could, in very exceptional circumstances, constitute an abuse of a collectively dominant position. | Competition law guidance or training for banks about information exchange issues and how to treat clients in a distressed situation.  
Regulatory regime and banks’ duties to clients may reduce the likelihood that any abuses take place. | Competition policy training is undertaken by lenders’ restructuring teams. These are functionally separate teams which take over the loan discussions from the origination teams in the case of a default risk, such that discussions between banks regarding the potential restructuring are not undertaken by teams involved in loan origination. Discussions between lenders are only possible under such policies at the instigation of the borrower.  
The discussions and negotiations of potential restructuring in the event of a default are performed collaboratively among the members of the syndicate.  
Whilst this may be efficiency enhancing, as time is often pressurised, it equally enhances the risk of banks exerting excessive bargaining power. We note that the bank restructuring teams that we interviewed had undertaken some form of competition policy training, but clearly any subversion of the proper process would be problematic. The extent to which the proper process had been subverted would need to be assessed on a case by case basis.  
Our fieldwork shows a majority of instances where refinancing discussions involved lenders from outside of the original syndicate. The willingness of the market to provide the new finance can be seen as a limit upon any collective market power that
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<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
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<td>the existing group of lending banks may have. However, there is evidence of a non-trivial number of instances where the existing syndicate is the only option, i.e. there is scope to exert such market power. We do emphasise, however, that we do not have evidence for its abuse.</td>
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<td>In relation to the risk of the syndicate tying ancillary services to the refinancing, the fieldwork shows again that other, non-syndicate members are often involved in these discussions, which would provide market discipline against such coordinated tying behaviour. However, it is also apparent that in a substantial minority of cases such negotiations took place only with the syndicate members. There may be mitigating or efficiency enhancing circumstances, but it is also clear that such distressed circumstances can create the opportunity to price such ancillary services on non-competitive terms, and thus this is also an area deserving future monitoring.</td>
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Conclusions on risks in the PF/INFRA segment

We begin with a summary of the main characteristics of the PF/INFRA market, followed by our conclusions on the competition law risks.

Overview of the market

The market for PF/INFRA loans in western Europe is again largely an international one. In Poland, however, there is relatively less activity by foreign banks than in the LBO segment — most probably stemming from the low deal frequency and use of a non-mainstream currency. The features of Poland’s market that drive this — that it is a smaller market, with non-euro currency — could also reflect the situation in other, smaller Member States.

Our evidence shows that national and project-specific risks are also relatively more important in the PF/INFRA segment compared to LBOs, and therefore local or product-specific presence is considered more valuable by many (although not all) lenders contributing to our study. For this reason, origination and syndication teams are more likely to be based within countries where the bank is active rather than operating centrally.

Banks active in the PF/INFRA sector include both investment and commercial banks. The role of relationship (commercial) banks is arguably higher in the PF/INFRA segment given the value of local expertise and the need for additional services such as cash management which need to be provided locally. This explains the greater degree of “home bias” found in the PF/INFRA segment compared to the LBO segment. Again, we do not consider this home bias to be restricting the pool of potential MLAs in the western European market (non-local banks are readily accessed). However, in Poland (and likely some other Member States outside our sample) the low deal frequency and use of a non-mainstream currency may make the pool of potential MLAs relatively small — with this more of a concern in the PF/INFRA segment than in the LBO one.

That said, our analysis of the market shares of individual lenders does not identify any of the national markets as being very highly concentrated, with the HHI for each of them in the PF/INFRA segment confirming this. In the PF/INFRA segment the HHI scores were higher than the LBO segment but only in Poland (where the HHI score is just below 1000) are there any signs of concentration. It is worth noting that the PF/INFRA segment is more heterogeneous than the LBO one, in that there are credit risks (say related to a particular type of infrastructure construction, such as specific forms of renewable energy) where knowledge could be less well distributed than the HHI-based analysis might suggest (i.e. in certain sectors the market could be more concentrated).

The participation of non-bank institutional investors in the PF/INFRA market is lower than the LBO market, particularly in the construction phase of projects. This is partly because they do not have the appetite for construction risk, and generally prefer tranches/deals where the full commitment is made on day one (i.e. all the money is put to work then). The lower pricing of these loans is also a factor. For this reason the financing of the construction of PF/INFRA is often characterised as being (still) a 'bank market'. However, certain institutional investors have emerged recently with revised (i.e. lower) expectations around yield in what continues to be a low real interest rate regime and displaying increased willing to take on construction risk. This has been facilitated by growing access to internal expertise at such investors (e.g. they have hired individuals or teams with the relevant skills as a pre-condition to increasing such investments).
Debt advisors are also a common feature of the market, providing additional advice on pricing and loan structure to the borrower/sponsor, and at times leading the formation of the club. Whilst such advisors can be independent, borrower/sponsors do engage advisors who are also part of a bank from within the lending group. Whilst our evidence suggests that the majority of these maintain a strict separation between the advisory business and the lending arm, there are cases where the advisory and lending services are explicitly bundled by the bank.

**Deal structures and processes**
The majority of PF/INFRA loans are structured as club deals. This reflects strong, sophisticated sponsors/borrowers able to put together the club coupled to the fact that the timing of most projects is long enough not to necessitate underwritten deals (indeed, underwriting could even act as a negative signal). In some circumstances, such as if a sponsor is in competition for a green- or brown-field site where timing is more pressurised then an underwritten deal may be considered, although this is the exception rather than the norm.

The process of forming the club in PF/INFRA deals is largely similar to the formation of the lead banking group in LBO loans, although there is a higher likelihood of relationship banks being involved at the pre-RFP stage. The borrower/sponsor/advisor typically puts the club together and negotiates directly with each lender, although there are cases where a coordinator might be appointed to form the club and negotiate with lenders on behalf of the borrower/sponsor.

The club banks typically agree and sign final terms with the borrower/sponsor before being brought together to agree documentation; however, there are also cases where the club would negotiate terms together and with the borrower/sponsor before signing the final terms. There is no formal general syndication phase to club deals (though the clubs’ members may sell down some part of the debt post-close). Any negotiation of ancillary services would usually be towards the end of the club formation, although there is evidence of ancillary services being allocated as part of the initial negotiations to form the club. Hedging services are more often a pre-requisite by lenders in PF/INFRA loans and are thus an ancillary service integral to the provision of the loan. Cash management services are also frequently negotiated in PF/INFRA deals.

The role of the secondary market is much smaller than in the LBO segment, due to the fact primary lenders tend to hold their loan shares to maturity.

**Pricing and information availability**
PF/INFRA loans are systematically cheaper in absolute terms than LBO loans (we do not have the data to comment on the relative appeal in risk-return terms). This explains in part the lower appetite for these loans from institutional investors.

As in the LBO segment, market participants draw on a range of information sources when assessing pricing and other loan terms. Given the bespoke nature of some PF/INFRA projects, the availability of external comparator data will be lower in this segment, such that a greater reliance is placed on internal expertise (either past deal flow, or the expertise of individuals). This may raise the likelihood of lenders seeking to engage in forms of market sounding.

**Involvement of state actors**
Public sector actors can act as borrowers/sponsors (e.g. in the context of a public-private partnership, or PPP) and also potentially as lenders in the PF/INFRA segment (unlike the LBO segment where they are absent). The proportion of PF/INFRA
borrowers within the Loan Connector dataset is, however, rather low — at just 2 per cent of the total. Such public sector sponsors are not discretely identifiable.

PPP debt, with its reduced risk (e.g. due to stable, even potentially guaranteed income) and longer maturities, can be seen as contributing towards encouraging investors to respond positively to a partial gap in the market created by the withdrawal of some banks from longer-term PF/INFRA financing.

There are also public sector lenders in the PF/INFRA space. The main motivation for such involvement would be to resolve a market failure, i.e. providing capital to (narrowly) sub-marginal borrowers (i.e. those borrowers that could not afford debt priced according to their risk). We note that, especially in current market conditions, there is a risk that such actors will displace lending that could have come from commercial lenders.

**Risks to competition law and loan outcomes**

The tables below present a summary and conclusions on the risks of competition law breaches and sub-optimal outcomes across the stages of the loan syndication process in the PF/INFRA segment.

For each stage, we present a summary of the risks associated with various features of the stage, the potential safeguards that could mitigate these risks, and our conclusions based on the evidence presented in the report as to the extent to which these safeguards are met in practice and the nature of the risk that remains. We highlight in the tables below where risks are related to the provisions governed by either Article 101 or 102 (even if we have not concluded that these risks pose an infringement of the Articles).\(^{227}\) We have also identified other areas which, while not directly related to Articles 101 or 102, point to inefficiencies in the market or more general risks for competition – in particular whether they could support collusive behaviour that would enable a group of banks to exert excess bargaining power.

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\(^{227}\) We note again that the assessment of the relevance to Articles 101 and 102 are based on our own judgements and that the European Commission has not taken a position on this.
**Appointment of the lead banking group in the PF/INFRA segment**

**Table 38: Summary and conclusions on risk to competition and sub-optimal outcomes for the formation of the lead banking group**

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<tr>
<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
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<th>Findings and conclusions on safeguards and risks</th>
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| Competitive bidding process for appointing individual banks to the lead banking group | Horizontal information exchange with risks of coordinated/collusive behaviour (related to Article 101). The key competition risk at this stage is related to information sharing – i.e. information exchange between actual or potential competitors may result in a concerted practice which restricts competition where it facilitates alignment of their competitive behaviour (such tacit collusion, if sustained, could result in market power being exerted). Market soundings or inter-bank information exchanges could become a conduit for pricing information that may influence the banks’ individual responses to the borrower’s RFP. Some information exchange prior to the submission of bids may be necessary given the nature of the financing, such that it does not have an anti-competitive effect or that it satisfies the conditions for exemption under Article 101(3). Where such information exchange takes place with the express consent of the borrower is good prima-facie evidence that the exchange is not anti-competitive by object and may further indicate that the exchange was considered and accepted by everyone as necessary in the A degree of separation between syndication and origination functions, such that syndication desks provide only consolidated anonymised views to origination desks could reduce the risk that information about other lenders’ appetite is unduly passed onto the origination team and facilitates coordinated bidding. Competition law guidance or training for banks about information exchange issues. The structure of the bidding process to keep lenders separate for as long as possible or to separate them for specific purposes, with the use of NDAs to signal the intent to protect the bidding process from information exchange. The availability of external information to lead banks to help inform views on pricing will also reduce the risks of information sharing. Borrowers/sponsors to set clear parameters for information exchange where some market sounding is necessary for the successful completion of the transaction, e.g. identify specific investors to be Safeguards around information sharing are present in the PF/INFRA segment, in particular with respect to the structure of the bidding process in which the borrower/sponsor negotiates bilaterally with each bank and keeps them separate until the loan terms have been agreed; and the sophistication of many borrowers/sponsors (and their debt advisors) in the PF/INFRA market to assess the offers made by lead banks. However, given the more bespoke nature of PF/INFRA loans the availability of information to assist banks in forming their views is likely to be lower than in the LBO segment. Therefore whilst there is no evidence to suggest that banks in this segment are more likely to engage in specific market sounding or breach NDAs, there is a heightened risk (relative to the LBO segment) that interactions between lenders that cross over the general/specific sounding boundary in the bidding stage. Other risks similar to the LBO segment also remain. The boundary between generic and specific sounding would need careful definition to ensure compliance (banks require explicit borrower/sponsor consent to conduct deal-specific soundings in a form whereby this would need to be
EU loan syndication and its impact on competition in credit markets

<table>
<thead>
<tr>
<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
<th>Potential safeguards</th>
<th>Findings and conclusions on safeguards and risks</th>
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<td>approached or specify the information to be shared and discussion (e.g. prohibiting discussions about limiting supply).</td>
<td>demonstrable to compliance teams). In its strongest form, such consent should be specific as to who is contacted. There is evidence of generic market soundings by MLAs with investors prior to submitting bids, and whilst these discussions should not involve details of specific transactions information about specific lenders’ appetite etc. may still be communicated back to the origination desks. This risk may be exacerbated where there is no significant functional separation between the syndication and origination desks. Soundings (even generic soundings) with other MLAs (as opposed to exclusively with institutional investors without connections to MLAs) could be abused so as to facilitate collusive action, even potentially enabling a group of MLAs (particularly one with fewer substitute MLAs) to achieve, and sustain, some degree of market power.</td>
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<td>The implications for investors of information exchange, such as Market Abuse laws about trading on information received about a loan.</td>
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<td>Borrower/sponsor sophistication regarding their expectations on price and the optimal structure for the bidding process.</td>
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<td>Coordinated agreements to limit supply (related to Article 101).</td>
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<td>Any agreements between banks to limit supply (e.g. to agree not to participate or prevent other banks participating, or not to increase their participation where acting independently they would have done so) would be anti-competitive conduct related to collusion and coordination.</td>
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In some cases, the borrower/sponsor may appoint a single lead arranger to set up the initial banking group and negotiate the loan terms with the other banks, and would mandate that the banks share information in order to reach a common loan price and terms. The interaction with the banks should be strictly within the parameters set by the borrower, otherwise here is a risk that information shared between the lead bank and other banks involved in setting the terms of the loan could lead to the loan terms moving against the borrower.

Coordinated agreements to limit supply (related to Article 101).
Any agreements between banks to limit supply (e.g. to agree not to participate or prevent other banks participating, or not to increase their participation where acting independently they would have done so) would be anti-competitive conduct related to collusion and coordination.

In addition, although the bidding process is set up to keep lenders apart, the prevention of information sharing is governed by NDAs, which can be difficult to enforce. Therefore although the process set up by the borrower/sponsor in PF/INFRA loans reduces the risk of anti-competitive information sharing, the risk remains that this may happen. Equally, once an NDA is signed, it is evident to the counter-party that the breach of that agreement is problematic (i.e. it puts banks on clear notice of borrower/sponsor expectations).

The use of a single MLA to set up a
<table>
<thead>
<tr>
<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
<th>Potential safeguards</th>
<th>Findings and conclusions on safeguards and risks</th>
</tr>
</thead>
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<td>Competitive bidding process for appointing initial banking group among consortia</td>
<td>Horizontal information exchange with risks of coordinated/collusive behaviour (related to Article 101). Coordinated agreements to limit supply (related to Article 101). Where a group of banks come together to submit a joint bid in response to an RFP at the request of a borrower then, provided that the bank group operates within the instructions of the borrower, it is probable that the any information exchange between the banks for the purposes of putting together that proposal and the ultimate agreement that the banks reach as to the terms of that bid, will either fall outside Article 101(1) altogether or satisfy the conditions of Article 101(3). To the extent that discussions or agreements go beyond what is required for the purposes of submitting the joint bid then, depending on their nature, such discussions may breach Article 101(1) and indeed may be anti-competitive by object.</td>
<td>Clear parameters for the consortium: the borrower/sponsor should ensure that there are clear instructions to the consortium as to what they should agree jointly and what information they can share. The borrower/sponsor can place limits on the interaction between bank, e.g. splitting up the consortium during the bidding process to negotiate certain terms bilaterally such as hold levels or price. If consortia are invited to submit bids that compete with other consortia (instead of bidding as the only consortium) then there is scope for the borrower/sponsor to compare bids and maintain competitive pressure. The regulatory regime could place a responsibility on lenders to highlight</td>
<td>Syndicate and negotiate with other banks is more likely to take place in PF/INFRA loans (although it is still not common). Whilst the fieldwork indicates that borrowers/sponsors retain control of this process, there remains the possibility that information sharing may occur such that the negotiations of the syndicate could be coordinated and the price and terms of the loan move against the borrower. The necessity of such information exchange would need to be assessed on a case-by-case basis, but this remains a risk area. Consortia bids appear to be a feature of this market segment based on borrower/sponsor fieldwork, although no lenders in our sample participated in consortia. The main safeguard for which there is evidence is that borrowers/sponsors in PF/INFRA almost always use a competitive RFP process when appointing the lead banking group (whether this is soliciting independent bids or consortia) which implies that consortia at least compete and enable the borrower/sponsor to maintain competitive pressure (i.e. including such consortia in the RFP process could be pro-competitive). We do not have any evidence of there being regulations/requirements in place that place responsibility on banks bidding for the RFP to highlight to the borrower/sponsor where the process might not operate in their best interests. This could be a potential</td>
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### EU loan syndication and its impact on competition in credit markets

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<th>Element of process</th>
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<td>In particular, agreements to limit lending capacity e.g. by not inviting other lenders to participate, or not increasing their participation (where acting independently they could and would have done so) are likely to have an anti-competitive effect and could be anti-competitive by object. Abuse of bargaining power to impose uncompetitive terms and pricing (related to Article 102). If the banks coming together in a consortium have excess bargaining power then there may be the risk of incompatibility with Article 102, if the consortium is able to engage in anti-competitive practices to inflate the price through information sharing and coordination, and thus abuse its position of power. Borrower’s process leading to sub-optimal outcomes. The borrower/sponsor could set up the consortium in a way that facilitates sub-optimal outcomes. For example, by stipulating that a certain bank be involved in the loan where this bank requires a higher price than the other banks in order to participate, this would limit the ability of the consortium to replace this bank and agree a lower price.</td>
<td>to the borrower/sponsor where the bidding process may lead to a sub-optimal outcome.</td>
<td>safeguard to explore further.</td>
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EU loan syndication and its impact on competition in credit markets

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<th>Risk to competition law or sub-optimal outcomes</th>
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<td>Direct appointment of a single / relationship bank without competitive process.</td>
<td>Borrower’s process leading to sub-optimal outcomes. Abuse of asymmetric information by lead bank. The direct appointment of a bank without a competitive process may result in sub-optimal outcomes for the borrower/sponsor – this is not considered to be a competition law risk as it is part of the structure imposed by the borrower/sponsor, but may have regulatory implications. The single bank could use its relationship with the borrower to create a situation of 'lock-in' and thereby extract rents through imposing higher prices on the borrower compared to a competitive situation. A single relationship bank may also be able to unduly influence the syndication process in their favour, e.g. by excluding challenger banks from the wider syndicate in order to embed its position. These risks are influenced by the nature of the market - e.g. smaller geographic or product markets the borrower would have limited choice of eligible lead banks, and likelihood of repeat lending from the relationship bank and further information lock-in would be increased. Borrowers at the beginning of their 'life cycle' may also be more susceptible to the influence of relationship banks.</td>
<td>If a relationship bank competes on reputation for the borrower/sponsor favour then this will limit its ability to negatively influence loan outcomes (depending on the sophistication of the borrower and availability of alternative relationship banks). If borrower/sponsors are not 'locked-in' to their relationship banks then this reduced the scope of these banks to underperform or negatively influence the loan process in their favour. A further safeguard would be the sophistication of the borrower/sponsor in driving the syndication process and the extent to which they relied on the advice or influence of the relationship bank (e.g. in selecting other loan participants). The ability of the borrower/sponsor to monitor the MLA’s interaction with participant investors would also undermine undue influence or the risks of the relationship bank manipulating loan terms. The ability of the borrower to replace the MLA in case of underperformance would incentivise the MLA to perform.</td>
<td>Similar to the LBO segment, the use of single MLAs is not widespread in the PF/INFRA segment and the appointment of these without a competitive process even less so. Similarly, repeat interactions between borrowers and lenders is low. Thus the magnitude of any risks will be small in this market. The sophistication and control of borrowers/sponsors in the PF/INFRA segment is more variable than in the LBO segment given their more heterogeneous nature and expertise, and MLAs on these transactions may be more likely to have the final say on which participants join the syndicate. Therefore in circumstances in which a single MLA is appointed it is likely to be relatively more able to influence the loan in its favour. This risk would be heightened further were the bank acting as MLA also be acting as debt advisor to the borrower/sponsor (see below). However, we note again the rarity with which a single MLA is appointed in the PF/INFRA segment.</td>
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### EU loan syndication and its impact on competition in credit markets

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<td>Post-mandate to loan agreement</td>
<td><strong>Horizontal information exchange with risks of coordinated/collusive behaviour (related to Article 101).</strong> At this stage the borrower/sponsor mandates that the lead banks meet and agree final loan terms – these discussions are an essential element of the loan syndication process and provided that the banks are operating within the terms of the mandate granted by the borrower then exchanges of information between them which are related to achieving that aim will likely fall outside Article 101(1) or alternatively benefit from an exemption under Article 101(3).</td>
<td>If the lead banking group is formed such that the key loan terms are discussed and negotiated bilaterally between the banks and the borrower/sponsor ahead of the post-mandate stage, then there will be less risk of the banks discussing these terms at this stage and moving against the borrower. The involvement of the borrower/sponsor in the post-mandate discussions would ensure that the communications were in line with the mandate. The strategy adopted by the borrower/sponsor should provide flexibility for banks to drop out of the process to avoid having to agree to terms at the highest common denominator (e.g. by building latency into the process). The timing of information flows to the lenders would also reduce the risk of banks dropping out, i.e. by ensuring that all due diligence is provided before mandate. The risks of inadvertent information sharing and future coordination/collusion would be mitigated the lower the likelihood of repeat interactions between lead banks on syndicated loans. The information gained from such observations would also be influenced.</td>
<td>The scope for lenders discussing loan terms so as to move against the borrower at the post-mandate stage is low, given that in the PF/INFRA segment the process widely adopted is for the loan terms to be agreed bilaterally between the borrower/sponsor and individual lenders, and that joint discussions between lenders post-mandate should be limited to agreeing the loan documentation and syndication strategy. Borrowers/sponsors also aim to build in latency when obtaining loan commitments from the lead banking group. There is however some evidence that the loan structure may not always work in the borrower/sponsor’s favour in terms of it agreeing the overall price to the highest common denominator rather than negotiating a common price. This may simply reflect the relative attractiveness of the credit itself. In the PF/INFRA segment there have been cases where the borrower/sponsor does bring lenders together at an earlier stage to discuss loan terms, e.g. in a club deal, and so this safeguard does not apply across the board. The exercise of control of the borrower/sponsor in these cases will therefore be more important i.e. by monitoring the discussions that take place. Whilst evidence gathered throughout the report indicates that borrowers/sponsors are sophisticated in this regard, some risk remains that lenders may engage in discussions outside of the borrowers’</td>
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### EU loan syndication and its impact on competition in credit markets

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<td>repeat interactions among lenders on transactions may lead to inadvertent information sharing around each other’s behaviour or strategies which could be used to align their bids in future transactions.</td>
<td>by the type of discussions that are held during this interaction (e.g. if pricing and hold strategies are not discussed then it will be more difficult for lenders to observe this information about each other).</td>
<td>mandate. Any risk would be heightened considerably where borrowers were inexperienced or unsophisticated. The evidence of the multiple interactions between lenders on transactions over time leads us to conclude that there is a definite risk that lenders can observe each other’s behaviours and strategies, which may enable them to engage in some coordination on future loan transactions. We do not have direct evidence that this happens in practice. Given that fact that in most cases the discussions that occur at this stage do not involve detailed information about pricing and hold strategies the amount of information that lenders are able to observe is likely to be limited. However this remains a risk area, albeit one we consider to be relatively immaterial.</td>
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228
### Ancillary services in the PF/INFRA segment

**Table 39: Summary and conclusions on risk to competition and sub-optimal outcomes for the provision of ancillary services**

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<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
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<tr>
<td>The allocation of ancillary services across banks, and the pricing of such services.</td>
<td>Lenders individually requiring that a borrower put in place certain ancillary services, and including conditions as to who can provide the services (e.g. only a lending bank), is unlikely to give rise to competition concerns if the ancillary services are directly related and necessary to the provision of the loan, and the conditions are directly necessary to the loan or do not limit competition (e.g. if there are a large number of banks from whom the borrower could chose to provide the services).</td>
<td>Borrower clarity as to those required services that are to be considered related to the loan – and those that are not. Guidance could be provided to banks on the type of services that are likely to be related to the provision of the loan as opposed to those that are extraneous and which therefore the lenders should not generally (jointly) require be purchased from them.</td>
<td>Hedging is more frequently required as a condition of the loan in the PF/INFRA segment compared to LBOs given the nature of the project risks. In the majority of cases from our lender and borrower/sponsor fieldwork, the allocation of ancillary services is decided as part of the initial agreement of loan terms, or as a competitive process after the loan has closed. In both cases the borrower/sponsor would be able to choose between banks’ offers and maintain competitive pressure.</td>
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<td><strong>Horizontally information sharing to collude on the provision of ancillary services (related to Article 101).</strong> However, there is a risk that, in an individual bid scenario, banks discuss and/or agree between themselves prior to making their bids that they will each make the provision of ancillary services a requirement of their lending (as opposed to each individually responding and – independently – making this a condition of their participation).</td>
<td>Borrower clarity as to services required – and not required. The borrower can seek to influence this by specifying which other services are required and which services are not required. If the RFQ specifies a particular approach, that approach should be respected by the banks.</td>
<td>However a small minority of borrower/sponsors (in both the PF/INFRA and LBO segments) identified that the MLAs make the provision of ancillary services by them a condition of the loan (the rest negotiate ancillary services as part of the initial loan agreement process, or after the loan close). Whilst competition law precedent (e.g. Spain’s CNMC) has not concluded that it is unlawful for lenders to specify that ancillary services be purchased from them, we do consider such a feature as raising the risk of a borrower/sponsor achieving a sub-optimal economic outcome. We further note that all of the respondents that cited such provision being a condition of the loan were from Spain. Where this feature occurs, we consider this an area of at least moderate competition concern.</td>
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<td>There is a risk in an individual bid scenario that the practice of agreeing a single price and term sheet in respect of the provision of the lending “spills over” into the provision of related services. It is not necessarily the case that the setting of a single price by a group of banks providing the ancillary services.</td>
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<td>service is inherent to the provision of that service, and the banks may be able to compete to provide such services on an individual basis.</td>
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<td>In the PF/INFRA segment it is more common for ancillary services to be allocated by the borrower/sponsor to lending banks at the initial stage of agreeing overall loan terms. The fact that the banks know who is to be providing the services provides them with scope to discuss and collude on pricing (i.e. makes it easier for them to subvert the proper, agreed process), even though the up-front allocation of ancillary services is not in itself an issue in terms of competition law.</td>
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<td>Tying of ancillary services. There is a risk that the lenders jointly require that the borrower purchase services from them that are unrelated to the loan and in respect of which they can compete individually. Where the provision of ancillary services by some lenders is restricted to the syndicate, or some sub-set of it, e.g. an obligation – or strong expectation – that purchase would be from the MLAs, especially if not all MLAs were able or willing to provide or quote for that service, then those particular lenders would be better able to exert bargaining power.</td>
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<td>Restrictions placed by lenders on who can provide hedging services will be more problematic in markets where there is a limited number of lenders in the syndicate with the ability to provide such services, thus restricting borrower/sponsor choice. We do not have evidence of this occurring in practice, but note that smaller national markets (such a Poland in our sample) or else in more bespoke PF/INFRA deal will be more at risk.</td>
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<td>Ancillary services not directly related to the loan (e.g. further financing, investment services) can be negotiated as part of the loan negotiation, with both &quot;right of first refusal&quot; and &quot;right to match&quot; clauses being used. These have been found by the UK regulator as to have no client benefit – unless related to the replacement of bridging finance - and have been banned in the UK, but their use may be continued outside the UK (representing a continued risk to optimal outcome for</td>
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Debt advisors in the PF/INFRA segment

Table 40: Summary and conclusions on risk to competition and sub-optimal outcomes for the role of debt advisors

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<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
<th>Potential safeguards</th>
<th>Findings and conclusions on safeguards and risks</th>
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<tr>
<td>The use of debt advisors which are also involved in the syndicated loan</td>
<td>Conflicts of interest and exploitation of information asymmetry. This could give rise to significant conflicts of interest. If these conflicts are not well managed this could undermine the competitive nature of the syndication, and result in sub-optimal outcomes for the borrower/sponsor.</td>
<td>Capacity of the borrower/sponsor to make own judgements as to outcomes and/or to have access to other advisors. Training and policies for relevant staff, e.g. identification and management of conflicts of interest, clarity as to duty of care to provide neutral advice to clients.</td>
<td>The use of advisors who are also part of the syndicate is widespread among borrowers and sponsors, and in some cases with there being no other source of external advice. This issue is more common in the PF/INFRA segment than LBOs and could represent a non-negligible fraction of transactions. Our lender fieldwork shows that where an advisory role is provided by a lending bank, this is functionally separate from the lending role, and adherence to such protocols should mitigate the risk of sub-optimal outcomes to borrowers of not having a demonstrably independent advisor. There is (limited) evidence that some lenders do bundle – at the request of the borrower/sponsor – the advisory role with a lending role in PF/INFRA. The risks here would be heightened where the advisor is appointed directly without a competitive process and combines the lending role with the advisory role, whereby the borrower/sponsor may not receive the best loan outcome.</td>
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A different form of concern would be where the advising bank attempted to influence the borrower/sponsor towards a strategy or debt structure that suited its lending arm, i.e. subverting the Chinese wall between the advisory and lending functions, and with this not being fully apparent to the borrower/sponsor. Based upon the description of their policies for managing such situations given to us by lenders, this would represent a significant breach of internal protocols. Where such controls were weak, this would be an area of high concern.
### Secondary loan market trading in the PF/INFRA segment

#### Table 41: Summary and conclusions on risk to competition and sub-optimal outcomes for secondary trading

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<thead>
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<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
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<tr>
<td>Coordination by lenders on the sale of the loan on the secondary market</td>
<td>Coordination and collusion in selling on the secondary market to influence supply and price (related to Article 101). Co-operation between lenders post syndication could give rise to competition law risks, e.g. if underwriting banks were to co-ordinate in relation to when to sell, what proportion to sell or at what price to sell the debt in the secondary market, such co-ordination is unlikely to be justified and may be anti-competitive by object. In these circumstances the potential harm is to the purchasers of the debt in the secondary market. Borrowers’ process leading to sub-optimal outcomes. Restrictions placed by borrowers/sponsors on transfers on loans may limit liquidity in the secondary market, potentially (but not necessarily) resulting in sub-optimal economic outcomes.</td>
<td>Guidance and training to lenders and borrowers/sponsors, covering the formation process and ongoing co-operation between the lending banks post syndication, highlighting the risk of co-ordination in relation to secondary market activity. Appropriate restrictions on post-closure sale by MLAs. A borrower could require that the underwriters hold a proportion of the debt for a period of time post syndication to avoid disruption.</td>
<td>There is no evidence of co-ordinated secondary market activity in our fieldwork, and the safeguard relating to hold levels is widely upheld in practice (indeed, it is a key part of the process). The features of the secondary (i.e. post closure trading) loan market (which remains a caveat emptor market with implicitly sophisticated buyers) should limit any attempt by sellers to manipulate the price of the debt, unless they are able to simultaneously identify a group of unsophisticated buyers of that debt. The economic benefit to lenders from any coordination may therefore be limited, reducing the plausibility of this risk. There is widespread evidence of borrower/sponsor restrictions on secondary trading. The lenders described restrictions imposed by PF/INFRA sponsors/borrowers as potentially including: no small transfers; an embargo during the construction period and the transfer being subject to borrower approval (except in case of default). Whilst such restrictions may be reasonably motivated (e.g. restricting the dispersion of deal-specific information), these do limit the development and efficiency of the secondary market. Given that secondary market pricing data are also used in the primary market this could also affect the development and efficiency of the primary market. The size and</td>
</tr>
</tbody>
</table>
Back office inefficiencies in the PF/INFRA segment

Table 42: Summary and conclusions on risk to competition and sub-optimal outcomes for back office inefficiencies

<table>
<thead>
<tr>
<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
<th>Potential safeguards</th>
<th>Findings and conclusions on safeguards and risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know-your-client and settlement processes.</td>
<td><em>Increased transaction costs.</em> Certain back office inefficiencies increase transaction costs and potentially even reduce secondary market activity in consequence, potentially resulting in sub-optimal economic outcomes.</td>
<td>Blockchain technology may have the capacity to improve efficiency by creating the loan as a digital asset, automating the allocation of collateral, expediting the clearing and settlement process and speeding up the approval time for including additional investors (i.e. on the secondary loan market).</td>
<td>There are two main barriers to the potential benefits of blockchain, namely the development of the technology itself, and the potential of blockchain to overcome the real sources of inefficiency in the market. In relation to the first, our fieldwork shows that the technology to apply blockchain to syndicated loans has not been fully developed as yet (notwithstanding early adopters around loan completion) and that there is no sign that an across-the-market shift towards digitalisation is at all imminent. In relation to the second, other solutions to the problems of inefficient processes – in particular KYC – may be available without adopting novel technological solutions, such and banks pooling resources to create a centralised portal for KYC processes across shared clients. Therefore there is at least...</td>
</tr>
</tbody>
</table>
### Default and refinancing in the PF/INFRA segment

**Table 43: Summary and conclusions on risk to competition and sub-optimal outcomes for default and refinancing**

<table>
<thead>
<tr>
<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
<th>Potential safeguards</th>
<th>Findings and conclusions on safeguards and risks</th>
</tr>
</thead>
</table>
| Refinancing in conditions of default | Horizontal information exchange leading to collusive behaviour (related to Article 101). There is a risk that the banks commence discussions about the future lending opportunity prior to an RFQ being issued in circumstances where they may be competing for a role in the future lending. Abuse of collective dominance to inflate loan price and terms and to bundle/tie additional services (related to Article 102). When a borrower faces an event of default, there is a risk that the group of lending banks might (in very exceptional circumstances) together be collectively dominant, because the limited options available to the borrower could mean the market is defined very narrowly. There is a further risk that the lending banks together impose certain conditions on clients in a distressed situation. | Competition law guidance or training for banks about information exchange issues and how to treat clients in a distressed situation. Regulatory regime and banks’ duties to clients may reduce the likelihood that any abuses take place. | Competition policy training is undertaken by lenders’ restructuring teams. These are functionally separate teams which take over the loan discussions from the origination teams in the case of a default risk, such that discussions between banks regarding the potential restructuring are not undertaken by teams involved in loan origination. Discussions between lenders are only possible under such policies at the instigation of the borrower. The discussions and negotiations of potential restructuring in the event of a default are performed collaboratively among the members of the syndicate. Whilst this may be efficiency enhancing, as time is often pressurised, it equally enhances the risk of banks acting with excess bargaining power. We note that the bank restructuring teams that we interviewed had undertaken some form of competition policy training, but clearly any subversion of
<table>
<thead>
<tr>
<th>Element of process</th>
<th>Risk to competition law or sub-optimal outcomes</th>
<th>Potential safeguards</th>
<th>Findings and conclusions on safeguards and risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>restructuring which are not objectively justified (e.g. tying the purchase of other services to the refinancing and imposing excessive prices as a condition to the lending). These actions could constitute an abuse of a collectively dominant position.</td>
<td></td>
<td>the proper process would be problematic. The extent to which the proper process had been subverted would need to be assessed on a case by case basis.</td>
<td></td>
</tr>
<tr>
<td>Our fieldwork shows a majority of instances where refinancing discussions involved lenders from outside of the original syndicate. The willingness of the market to provide the new finance can be seen as a limit upon any collective market power that the existing group of lending banks may have. However, there is evidence of a non-trivial number of instances where the existing syndicate is the only option, i.e. there is scope to exert such market power. We do emphasise, however, that we do not have evidence for its abuse.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>In relation to the risk of the syndicate tying ancillary services to the refinancing, the fieldwork shows again that other, non-syndicate members are often involved in these discussions, which would provide market discipline against such coordinated tying behaviour. However, it is also apparent that in a substantial minority of cases such negotiations took place only with the syndicate members. There may be mitigating or efficiency enhancing circumstances, but it is also clear that such distressed circumstances can create the opportunity to price such ancillary services on non-competitive terms, and thus this is also an area deserving future monitoring.</td>
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</table>
Critical safeguards

We now draw upon the above analysis to identify the most important safeguards to ensure competitive outcomes in the loan syndication process.

- **Banks’ duty of care to clients.** There are two important safeguards here.
  - Borrowers may source debt advice from the same lender that they wish to act as MLA (or, at least, consider acting as an MLA). The critical safeguard here would be the adequate training and policies for the relevant staff at the potential MLAs. In particular, the training would need to cover topics such as the identification and management of conflicts of interest, and provide clarity as to duty of care to provide neutral advice to clients.
  - MLAs should ensure that there are not alternative options that could be put to the borrower, including inviting other lenders not previously involved in the process to participate (subject to obtaining borrower or sponsor consent), or considering a re-structuring of the loan, before aligning loan pricing or terms upwards to a highest common denominator. If the particular lender asking for the higher price is needed for the purposes of the joint bid (e.g. as explicitly required by the borrower), the price should be set at an acceptable level. The borrower (and its advisors, if relevant) can promote a beneficial outcome through ensuring a competitive bidding process (i.e. approaching more banks), building latency into the process and maintaining bilateral negotiations with individual lenders (or lender consortia) through to mandate award.

- **Avoidance of unwarranted information exchange.** In loan origination banks (and any other market players capable of forming the lead banking group) may need to exchange pricing information for the potential syndication while remaining competitors in the origination. The key safeguard would be that there are enforceable (and enforced) protocols around how – and in what form – any deal-relevant information obtained by the syndication function from other potential participants (who may also be competitors in the origination) may be transferred to the same bank’s origination function in order to avoid anticompetitive alignment of prices.

- **Promotion of unbundled price competition.** Ancillary services not directly related to the loan (e.g. future M&A advisory services) can be negotiated as part of the loan negotiation, with both “right of first refusal” and “right to match” clauses being used. In the absence of market power, such a bundled offering may be pro-competitive but these have been found by the UK regulator as to have no client benefit – except when related to the replacement of bridging finance - and have been banned in the UK. It is advisable for syndicates to limit the cross-sale of ancillary services in order to avoid the risk of impairing competitive conditions in neighbouring markets to that of syndicated loans, and this should be kept outside the loan syndication process when these services are not directly linked to the loan.
# 1. Appendix: Glossary of Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATI</td>
<td>Computer-Assisted Telephone Interview</td>
</tr>
<tr>
<td>CDO</td>
<td>Collateralized Debt Obligations</td>
</tr>
<tr>
<td>CLO</td>
<td>Collateralised Loan Obligation</td>
</tr>
<tr>
<td>Cov-lite</td>
<td>Covenant-lite</td>
</tr>
<tr>
<td>CSDR</td>
<td>Central Securities Depositories Regulation</td>
</tr>
<tr>
<td>EFSI</td>
<td>European Fund for Strategic Investments</td>
</tr>
<tr>
<td>EIB</td>
<td>European Investment Bank</td>
</tr>
<tr>
<td>Euribor</td>
<td>Euro Inter Bank Offered Rate</td>
</tr>
<tr>
<td>G-SIB</td>
<td>Globally Systemic Important Bank</td>
</tr>
<tr>
<td>IM</td>
<td>Information Memorandum</td>
</tr>
<tr>
<td>INFRA</td>
<td>Infrastructure</td>
</tr>
<tr>
<td>LBOs</td>
<td>Leveraged Buy-Outs</td>
</tr>
<tr>
<td>LIBOR</td>
<td>London Inter Bank Offered Rate</td>
</tr>
<tr>
<td>M&amp;A</td>
<td>Mergers and Acquisitions</td>
</tr>
<tr>
<td>MiFID 2</td>
<td>Markets in Financial Instruments Directive 2</td>
</tr>
<tr>
<td>MLA</td>
<td>Mandated Lead Arranger</td>
</tr>
<tr>
<td>NDA</td>
<td>Non-Disclosure Agreement</td>
</tr>
<tr>
<td>OTC</td>
<td>Over-the-counter</td>
</tr>
<tr>
<td>PE</td>
<td>Private Equity</td>
</tr>
<tr>
<td>PF</td>
<td>Project Finance</td>
</tr>
<tr>
<td>RFP/RFQ</td>
<td>Request for Proposal/Request for quotation</td>
</tr>
<tr>
<td>S&amp;P</td>
<td>Standard &amp; Poor’s</td>
</tr>
<tr>
<td>SME</td>
<td>Small to Medium-sized enterprise</td>
</tr>
<tr>
<td>SPV</td>
<td>Special Purpose Vehicle</td>
</tr>
<tr>
<td>TFEU</td>
<td>Treaty on the Functioning of the European Union</td>
</tr>
</tbody>
</table>
2. Appendix: Defining LBO, Project Finance and Infrastructure in the Thomson Reuters Loan Connector data

Our focus upon syndicated lending in particular market segments (LBO, Project Finance and Infrastructure) meant that we had to determine what data from the Thomson Reuters database fell within our research interest.

In the Loan Connector database, various labels are applied to private equity sponsor-related activity, including refinancing and recapitalizations. Our definition for LBO includes deals directly labelled as 'LBOs', as well those labelled as SBO (sponsored buyout) and MBO (management buyout, albeit representing a very small fraction of LBO deals).

Infrastructure is treated as a wholly subset of project finance and specifically includes projects in the following areas (in accordance with Loan Connector naming conventions):
- Electric/Cogeneration/Coal-fired/Gas-fired Electric/Geothermal/Hydroelectric
- Electric/Other
- Electricity transmission
- Gas/Oil Field Development Gas/Oil Processing Gas/Oil Storage
- Healthcare Infrastructure
- Infrastructure - Airports
- Infrastructure - Bridges/Tunnels
- Infrastructure - City Development
- Infrastructure - City Roads
- Infrastructure - Mass Transit
- Infrastructure - Ports
- Infrastructure - Toll Roads
- Other Pipelines Pulp & Paper Mills
- Recycling/Resource Recovery
- Telecommunications
- Water Facilities

The selection of the above project categories was based on the definitions provided by the exiting literature and working papers in the field. A recent publication from AFME for instance generally defines infrastructure as projects related to rail, roads, ports, telecoms, whereas the European Fund for Strategic Investments (EFSI) also includes items such as broadband infrastructure, energy infrastructure and transport infrastructure as typical projects. Other sources also include gas and electricity networks in their definition, as well as wind and water infrastructure.

Having specified the projects related to the infrastructure category, the project finance loan segment described in Chapter 3 is thus defined as the residual part of the whole project finance category, excluding infrastructure deals.

Once data were downloaded from Loan Connector based on these criteria, some cleansing and refining was required in relation to: currency conversion, the presence of amended tranches and (exclusively) bilateral tranches. The approach we followed in dealing with these aspects is described below.

Loan Connector provides data on tranche and deal amounts either in national currency or in US dollars. In those cases where the amount was expressed in a currency different than euro, we applied the monthly exchange rates provided by Eurostat. More specifically:

- We converted national currency figures to euro for our core sample of six Member States. This guarantees more precision as it avoids a double conversion process (i.e. from national currency to US dollar and from US dollar to euro);
- We converted US dollar figures to euro for statistics related to the EU28 group, given the larger number of national currencies involved.

On the amendment feature, Loan Connector provides information on whether a tranche was amended during the life of the loan. Amendments are typically triggered by a change or extension in terms. As a result, the sample includes duplicated tranches (with the same identifier) every time a tranche is subject to an amendment. In order to address this issue, we kept in the sample only the original tranches when these were amended. The rationale was to make a consistent choice over the whole sample and see results based on the original conditions of loan issuance.

Loan Connector includes (some) bilateral loans (i.e. there is a sole lender) as well as syndicated loans. Therefore, deals that appear in the Loan Connector dataset as exclusively bilateral (i.e. comprising only bilateral tranches, all of which are with the same lender), and which Loan Connector lists as having a “Bilateral” distribution method, have been excluded from our analysis. However, some bilateral tranches are still part of the data set used in our analysis where (a) they are part of deals including also non-bilateral tranches or (b) the deal include only bilateral tranches but with different lenders.
3. Appendix: Mechanics of secondary loan market transfers

We describe here in more detail the types of transfer that can take place in the secondary loan market.

There are several mechanisms available for trading loans on the secondary market which differ in the degree to which they transfer the rights and obligations of the existing lender to a third party (i.e. buyer). Starting from the most to least “complete” transfers these are:

- Novation.
- Legal assignment.
- Equitable assignment.
- Sub-participation.

With the first two methods, i.e. novation and legal assignments, the third party enters into a direct contractual relationship with the borrower (i.e. joining the syndicate ex post), while with the other two the third party’s involvement in the loan is (to a larger or lesser extent) intermediated by the existing lender.

**Novation** is a complete transfer of the lender’s obligations as well as rights specified in the loan agreement to a third party. Effectively, the buyer replaces the existing lender by taking on a position in the loan identical to that of the existing lender. All the current syndicate members as well as the borrower need to consent to a novation. That said, loan agreements usually include conditions, which – if satisfied - mean that the syndicate members and the borrower cannot withhold their consents. The original loan agreements also often include a separate schedule with the form of the transfer certificate. Thus, for any transfer by novation the transfer certificate is often already prepared and could be straightforwardly executed. The parties required for the execution (once the borrower’s consent is obtained) are the agent bank, the buyer and the existing lenders.

In general, **assignment** is a transfer of rights but not obligations. It is often accompanied by an indemnity that the new lender will also assume those obligations “as if named as a lender under the facility agreement”. As opposed to a transfer by novation, assignment generally does not require obtaining the consent of the borrower (or other syndicate members). **Legal assignment** is more complete and requires the transfer: to be unconditional, to cover the whole of the existing lender’s share of the debt, to be in writing and signed by the existing lender, and to be disclosed in writing to the borrower (and other lenders, if the loan agreement specifies so). If any of those conditions is not satisfied, the transfer is an **equitable assignment**. The main difference between legal assignment and equitable assignment is that the assignee (i.e. the new

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231 LMA (2016) “Guide to secondary loan market transactions”.

232 There is some inconsistent evidence in the literature as to whether consent is required in the case of assignments:

- S&P (2014) “A Syndicated Loan Primer” says consent is ‘typically’ required, but that the consent cannot be withheld unless there is a reasonable objection. This is equivalent to what the LMA (2016) guidelines say on novation.
- Thomson Reuters glossary (cited below) states that assignments generally do not require consent. Our interpretation is that assignments (as we define above) do not require consent. We are of the view that the S&P statement that consent is ‘typically’ required is the result of their using the terminology slightly differently, namely by grouping novation and assignment together, and collectively referring to them as assignment.
lender) often cannot bring any action against the borrower or other syndicate members and has to join the assignor (i.e. the existing lender).233

Sub-participations are agreements between an existing lender (‘the grantor’), and a third party (‘the participant’), which are independent from the primary loan agreement. Sub-participations generally do not require the borrower’s consent, and could be kept confidential (however, borrowers/sponsors can make effecting such silent sub-participation more difficult). The general idea behind sub-participations is for the existing lender to mitigate the risk of the borrower defaulting on debt. The two main types of sub-participations are: funded and risk participations. In the first, the participant deposits money with the grantor, and agrees that it will be serviced and repaid only if the borrower services and repays the loan to the grantor. In the latter case, the participant does not deposit any money with the grantor upfront, but agrees to do so in certain circumstances (e.g. if the borrower defaults on any interest payments). In exchange for bearing that risk, the participant receives a fee from the grantor. In either case, although the participant is not in any contractual agreement with the borrower, the participant may obtain rights of subrogation, i.e. in case of the borrower’s default the participant has the right to use any legal remedies available to the grantor against the borrower.

The majority of academic literature in this area relates to the US market, for which assignment is seen to constitute the majority of secondary loan trading (see, for example, Gupta et al. (2008)234 and Bushman and Wittenberg-Moerman (2009)235). Assignment is also the most common form of secondary loan trading in several EU Member States, though it does vary on a country-by-country basis dependent on the precise legal context of that country. Table 44 below describes the most common forms of secondary loan trading for each of our sample Member States.

<table>
<thead>
<tr>
<th>Member State</th>
<th>Most common form of secondary loan trading</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td>The assignment and transfer by assumption of contract.</td>
</tr>
<tr>
<td>ES</td>
<td>Transfer of contractual position.</td>
</tr>
<tr>
<td>FR</td>
<td>Assignment.</td>
</tr>
<tr>
<td>NL</td>
<td>By Dutch law, only rights under a contract can be assigned by way of assignment, so assignments are rarely used. Instead, loans are typically transferred by way of a transfer of rights and an assumption of obligations.</td>
</tr>
<tr>
<td>PL</td>
<td>Assignment.</td>
</tr>
<tr>
<td>UK</td>
<td>Where debt is traded at par, novation is the usual method of transfer. Where distressed debt is traded, assignment or participation is the usual method.</td>
</tr>
</tbody>
</table>

Source: Clifford Chance (2014).236

235 NB. Gupta et al. define only two types of transfer mechanism: assignment and participation. Thus it is our understanding that novation is grouped under assignment in their classification.
236 Clifford Chance (2014) “Loan trading across the globe”. 
4. Appendix: Regulatory interventions

CRD IV

Basel III is a package of reforms put together by the Basel Committee on Banking Supervision (BCBS), largely in response to what is now seen as insufficient prudential regulation responsible for the escalation of the recent financial crisis. The Basel III package was implemented in the European Union via the Capital Requirements Directive IV (CRD IV) and the Capital Requirements Regulation (CRR), effectively replacing the previous Capital Requirements Directives (2006/48/EC and 2006/49/EC). Broadly, CRD IV and the CRR impose requirements in three areas: capital, leverage and liquidity. The key areas of change from CRD III (and Basel II) are the liquidity coverage ratio (LCR), net stable funding ratio (NSFR), leverage ratio and also increased requirements on the quality and quantity of capital. The CRR became applicable as of 1 January 2014, whilst the CRD had to be transposed by Member States by 31 December 2013 – albeit that some provisions were gradually phased in by as late as January 2018.

Capital requirements

The capital requirements stipulate the ratio between the qualifying capital of a bank and the sum of its risk-weighted assets’ value. This requirement acts as a buffer against potential future losses and is a measure of the difference between the value of an institution’s assets and liabilities. All banks are also required to hold a capital conservation buffer and a countercyclical capital buffer, to ensure that they accumulate a sufficient capital base in prosperous times to enable them to absorb losses in the event of a crisis. The capital requirements set by CRD IV are more stringent than those in its predecessor, and the impacts on the syndicated loan market are likely to manifest primarily through the appetite for lending.

Leverage requirements

The leverage ratio is the ratio between the qualifying capital (Tier 1 capital) of a bank and the sum of the gross (not risk-weighted) assets’ value. It is designed to restrict a bank’s total indebtedness and contain the build-up of leverage in the banking sector. This ratio applied as a strict rule from 1 January 2018. Article 429(5) (c) of the CRD IV imposes an absolute prohibition on the ability of lenders to “net” a loan against deposits for the purpose of calculating the leverage ratio. Industry associations have commented that the prohibition of netting would negatively affect appetite to participate in the loan market.

Liquidity requirements

The liquidity cover ratio (LCR) requires banks and investment firms to hold high quality assets in quantities sufficient to meet their anticipated cash outflows (including undrawn lending commitments) over a 30 day stressed period. Under the LCR, the institution must therefore hold a ‘pool’ of high quality liquid assets which is at least equal to total net cash outflows. Article 412 of the CRR sets out the general LCR framework, and the LCR Delegated Regulation sets out rules governing which assets qualify as high quality liquid assets (HQLA) and how cash outflows and inflows should be calculated. Loans are not eligible for inclusion in this liquid asset pool, although corporate bonds under certain haircuts could be included.

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237 Netting is a type of a quasi-security, arising when both parties hold debt of the other. It allows the debtor to apply the amount owed to it by the other party (the creditor) against the amount the debtor owes to the creditor, enabling the debtor to reduce or extinguish its liability.


239 It should also be noted that although both banks and investment firms are subject to the general liquidity requirement under Article 412(1), only banks are directly subject to the detailed LCR set by the LCR Delegated Regulation.
The net stable funding ratio (NSFR) recommended by Basel III and implemented in the EU in January 2018, requires banks to hold stable funding in excess of a required amount in order to fund "illiquid" assets (i.e. those assets which are not deemed capable of being liquidated within a 12 month period). This means that many loan facilities with maturities of more than one year — in other words, most syndicated loan facilities — would need to be funded by stable funding. The amount of funding required depends on the asset held, any off-balance sheet contingent exposures incurred and/or activities pursued by the relevant institution.

**Solvency II**

Solvency II is an EU Directive that seeks, amongst other things, to establish new risk-based capital requirements for most insurers and reinsurers. Under Solvency II, affected firms must hold sufficient capital reserves to meet any expected future contractual liabilities, known as “technical provisions”.

In addition to holding capital to cover technical provisions, firms must also hold enough capital to comply with both a "minimum capital requirement" (MCR) and a "solvency capital requirement" (SCR). The MCR sets the minimum threshold for capital that a firm is required to maintain, meaning anything below is deemed "insolvent" for regulatory purposes. The SCR reflects a level of funds which should allow the insurer to absorb significant losses in a range of scenarios and continue to meet its obligations to clients.

Solvency II would have implications for the loan market through impacting the investment strategy of some loan market investors, i.e. regulated insurers and reinsurers.

Under previous legislation, insurers were only permitted to count assets against their capital requirements that were on a pre-determined list. The Solvency II requirements are not as prescriptive, and assets are now assessed in compliance with broader principles relating to general prudence, security and overall liquidity.²⁴⁰

Under the new rules, insurers are given greater freedom to invest. However, insurers also have to assess various categories of risk in relation to the specific asset held and hold additional capital to cover these. For example, the capital charge for an exposure to debt varies depending on the duration of the debt and the rating of the counterparty, similar to CRD IV.

**MiFID 2**

The MiFID 2 package regulates investment firms carrying out investment business throughout the EEA. The package seeks to provide a European-wide legislative framework for regulating the operation of financial markets in the EU. The legislation has several core objectives, including:

- increased investor protection;
- alignment of regulation across the EU in certain areas;
- increased competition across the financial markets; and
- introduction of reinforced supervisory powers.

Both MiFID and MiFIR were published on 12 June 2014 with an implementation date of 2018.


5. Appendix: Competition case law review — Introduction

The following appendices contains the list of cases reviewed by Euclid Law, covering the six Member States of interest to the study, and also Italy. Here we present the synthesis of these cases.

Introduction

The analysis was focused on competition policy issues around five categories of potential mischief:

- Bid-rigging/information exchange between bidders during the course of tender process, with particular focus on persuading rivals to drop out in return for a role on sub-contract/future contract.
- Information exchange in circumstances where some discussion between competitors is necessary and efficiency-enhancing, but which goes beyond what is necessary (including between buyers and sellers where they are also competitors).
- Abuse of dominance by contract counterparty/bidder as a result of market power conferred by contract or during contract negotiation process (e.g. because of contractual/commercial constraints on replacement).
- Abuse of dominance by bundling but where there may be efficiency justifications (but no technical efficiencies).
- Agreement or understanding between contract sellers as to the exercise of contractual rights to vary contractual terms (e.g. price) pursuant to an existing contract.

Cases in these categories were sought across all industries. In addition, relevant cases were sought specifically in three segments: loans specifically, wholesale banking and in financial services as a whole.

These issues apply at different stages of the syndicated loan’s life cycle, as summarised below.

Table 45: Competition law issues by phase of syndication

<table>
<thead>
<tr>
<th>Syndication phases</th>
<th>Competition law issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre RFQ</td>
<td><strong>Information exchange between banks</strong> can be anti-competitive.</td>
</tr>
<tr>
<td></td>
<td>➢ E.g.: specific, detailed information about other banks future intentions, which could influence their competitive behaviour vis-à-vis the borrower</td>
</tr>
<tr>
<td>Post RFQ responses but pre-bid</td>
<td></td>
</tr>
</tbody>
</table>
### Individual bid scenario

**Information exchange between banks** could adversely impact the competition process, if beyond what is strictly required to have an understanding of the market’s appetite for the transaction.

- E.g.: a lender understanding whether, how much and at what price level the other potential lender would be interested in participating.

**Agreement or Understanding between banks on related services**

- E.g.: agreement between banks to make the provision of services a requirement of their lending when the service is not directly related and necessary to the provision of the loan.

### Consortium bid scenario

**Information exchange between banks** on terms they are willing to participate could adversely impact the competition process, if beyond what is strictly required for the purposes of submitting a joint bid.

**Agreement between banks on related services**

- E.g.: the lenders jointly require that the borrower purchase services from them that are unrelated to the loan and in respect of which they could compete individually.

**Agreements to limit supply**

- E.g.: discussions or agreements between banks not to invite other banks to participate or not to increase their participation.

### Post RFQ responses but pre-mandate

**Information exchange between prospective participating banks** can lead to price fixing or restriction of supply if without the express consent of the borrower.

- E.g.: prospective banks exchange information on the terms of their respective RFQ, their respective willingness to participate or adjust the amount they are willing to lend.

**Only in circumstances where it is established that there could be market power (e.g. if a market is defined very narrowly, in distress situations or refinancing)**:  

**Excessive bargaining power which could lead to an abuse**

- E.g.: a group of leading banks can use anti-competitive practices against a borrower in financial difficulties and facing an event of default, or if the market can be defined very narrowly due to the limited options available to the borrower.

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241 We note that we are not aware of any competition authority which has defined the market so narrowly.
**Abuse of market power** through the imposition of refinancing conditions which are not objectively justified.
- E.g.: lenders tie the purchase of other services to the refinancing
- E.g.: lenders impose excessive prices as a condition to the lending

<table>
<thead>
<tr>
<th>Post mandate but pre-finalised agreed terms</th>
<th>Information exchange, beyond the borrower’s mandate can lead to price fixing or restriction of supply.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>E.g.: A flow of information to other banks concerning its requirements for continued participation, if beyond what is required under the borrower’s mandate, specifically exchanging information on price and margin to achieve a better outcome for the group as a whole.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>During syndication (in relation to flex clauses)</th>
<th>Exchange of information, especially with regard to the operation of any flex and outside the agreed process.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>E.g.: discussions between the banks on how or whether the flex should be triggered and the level of the price which fall outside the agreed mechanism and where they do not reflect a direct reporting back of the outcome of the banks approaches to potential investors</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Post-syndication</th>
<th>Co-ordination between underwriting banks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>E.g.: underwriting banks coordinate in relation to the time, proportion and price to sell the debts in a secondary market without proper justification</td>
</tr>
</tbody>
</table>

**Cases directly relevant to loan syndication**

The case law review revealed that in only one Member State within the scope of the review, the Netherlands, had the specific issue of syndicated loan market activity and its compatibility with Article 101/Article 102 (or Member State equivalent competition law provisions) been examined.242 The NMA concluded that, whilst there were structural issues impacting the competitiveness of the markets in the period under examination, its review did not reveal any evidence giving rise to concerns about breaches of competition law.

In the UK the FCA considered syndicated loan markets as part of a wider market study into investment and corporate banking243. The FCA did not identify any specific competition law concerns with these markets but did note generally in respect of syndication that it has benefits for borrowers where it enables greater access to investors. The FCA examined whether the size or composition of syndicates (for example because the syndicate is too large) might lead to material detriment through inefficiencies but concluded there was evidence of such.

The FCA also considered whether certain reciprocal arrangements between banks might cause competition concerns and specifically any foreclosure concerns. The reciprocal arrangements under examination concerned a practice whereby a bank

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issuing its own financing might award mandates to another bank in part based on return business. The FCA found that this practice was most common in bank financing and in particular in covered bonds. However the FCA found no evidence that this practice excluded other banks from competing for such mandates at the time of its review.

The FCA raised concerns about certain cross-selling activities restricting costumers’ future choices and ultimately decided to prohibit certain provisions included in appointments and mandates (which could include a mandate/appointment relating to loan syndication) which give banks rights to future appointments on primary market and mergers and acquisitions transactions.

**Cases related to bid-rigging**

In so far as the review of cases related to bid rigging is concerned we note that in several Member States there have been cases where, unsurprisingly, a feature of the bid-rigging arrangement is a mechanism to “compensate” any agreed loser of a bid/tender process, either by way of assistance in winning future bids or through appointment as a sub-contractor on the then bid in question. In some cases the compensation payment has been more direct e.g. by way of a direct payment between competitors or by way of another mechanism such as payment of a higher rent.

Syndicated loan markets may display similar characteristics to those present in these cases in so far as the way in which banks are appointed to the various roles within a syndicate may facilitate a compensation mechanism. The frequency with which similar groups of banks participate in tenders in respect of loan origination or are otherwise involved in participating in syndicated loans together could facilitate compensation arrangements between them, either through arrangements related to future tenders or to the allocation of roles on a syndication (or a combination of the two). This might be further facilitated by the arrangements agreed with the borrower for the allocation of fees as between the various banks depending on their roles in the syndication process. The extent to which collusion might be facilitated or frustrated is likely to depend on various factors, notably the regularity and predictability of tenders, the number and stability of the group of banks participating in tenders in any particular market, the degree of engagement of the borrower or sponsor and the tender design and the terms of appointment of the MLA(s).

**Cases related to information exchange**

Several of the cases reviewed also demonstrate that, where competitors come together for legitimate purposes, such as a response to a regulatory change or other legitimate co-operation, then the frequency of contact and familiarity resulting from such proximity can sometimes result in information being exchanged and agreements being reached that go beyond what is necessary to achieve the legitimate purposes at hand.

In syndicated loan markets competing banks have frequent and close contact and co-operation with each other through both the individual syndicated loans that they participate in together and through trade bodies such as the LMA. In certain circumstances there may also be a need for contacts between banks to ascertain

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245 Decision 13-D-09 of 17 April 2013 relating to practices implemented in a public procurement for the reconstruction of watchtowers at the Prison of Perpignan http://www.autoritedelaconcurrence.fr/user/standard.php?id_rub=483&id_article=2074&lang=en
appetite for participation in syndications. What might be necessary and in the interests of the borrower, in terms of contacts, information exchange and other forms of cooperation between competing banks and at what stage may also vary from transaction to transaction and depending on market conditions.

In this context there are various ways in which the arrangements between competing banks might extend beyond what is necessary to achieve the legitimate aims for example:

- discussions preceding the submission of bids which might alter the competitive outcome of the bid;
- discussions and arrangements relating to other products/services offered by the banks to the borrower;
- discussions and arrangements during the syndication process which might alter the outcome of the syndication process for the borrower e.g. inappropriate discussions relating to operation of a market flex arrangement; and
- discussions related to other lending opportunities outside the particular transaction in question.

Awareness of appropriate boundaries may be more difficult to embed and monitor where multiple individuals have frequent contact with competitors and where what is necessary and appropriate may vary depending on numerous factors.

Cases relevant to abuse of dominance

The case law review did not reveal any cases where a dominant position was found to result from an appointment or grant of a contractual right on a transactional basis akin to the appointment of MLA(s) for the purposes of origination and syndication of loans. In the cases reviewed those entities found to have abused a dominant position were found to have had sustained market power and customers had limited ability to switch to alternative suppliers.

In syndicated loans markets the scenario where a customer is most likely to have limited ability to switch to alternative lenders is in the event of a default by the borrower. In such a situation there may be a potential for existing lenders to abuse that position by, for example, extracting excessive prices or tying/bundling other services into any further financing arrangements.
5a. Appendix: Competition case law review — France
Identification of relevant cases

<table>
<thead>
<tr>
<th>No</th>
<th>Case Title</th>
<th>Case Reference</th>
<th>Date of closure/decision</th>
<th>Market Sector</th>
<th>Legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Opinion on competition conditions in the real estate bank guarantee sector</td>
<td>15-A-09</td>
<td>9 July 2015</td>
<td>Real estate bank guarantees</td>
<td>Articles L. 420-1 and L. 420-2 of the commercial code</td>
</tr>
<tr>
<td>2</td>
<td>Decision related to prices and associated conditions applied by banks and financial institutions for processing cheques submitted for encashment purposes</td>
<td>10-D-28</td>
<td>20 September 2010</td>
<td>Banking</td>
<td>Article L. 420-1 of the commercial code and article 101 TFEU</td>
</tr>
</tbody>
</table>

Category A. Bid-rigging/information exchange between bidders during the course of tender process, with particular focus on persuading rivals to drop out in return for a role on sub-contract/future contract.

<table>
<thead>
<tr>
<th>No</th>
<th>Case Title</th>
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<th>Date of closure/decision</th>
<th>Market Sector</th>
<th>Legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Decision related to practices in the sector of operating tables</td>
<td>10-D-04</td>
<td>26 January 2010</td>
<td>Operating tables</td>
<td>Article L. 420-1 of the commercial code, article 101 TFEU</td>
</tr>
</tbody>
</table>
EU loan syndication and its impact on competition in credit markets

<table>
<thead>
<tr>
<th>No</th>
<th>Case Title</th>
<th>Case Reference</th>
<th>Date of closure/decision</th>
<th>Market Sector</th>
<th>Legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Decision related to practices identified in the context of a call for tenders launched by the General Council of the Alpes-Maritimes for landscaping work on a road junction</td>
<td>10-D-10</td>
<td>12 March 2010</td>
<td>Agriculture</td>
<td>Article L. 420-1 of the commercial code</td>
</tr>
<tr>
<td>3</td>
<td>Decision related to practices identified in the context of a call for tenders launched by the General Council of the Alpes-Maritimes for landscaping work on a road junction</td>
<td>11-D-07</td>
<td>24 February 2011</td>
<td>Industrial painting</td>
<td>Article L. 420-1 of the commercial code</td>
</tr>
<tr>
<td>4</td>
<td>Decision related to practices implemented in a public procurement for the reconstruction of watchtowers at the Prison of Perpignan</td>
<td>13-D-09</td>
<td>17 April 2013</td>
<td>Prison watchtowers</td>
<td>Article L. 420-1 of the commercial code</td>
</tr>
<tr>
<td>5</td>
<td>Decision related to practices implemented in a public procurement for the reconstruction of watchtowers at the Prison of Perpignan</td>
<td>16-D-02</td>
<td>27 January 2016</td>
<td>Transport</td>
<td>Article L. 420-1 of the Commercial code</td>
</tr>
<tr>
<td>6</td>
<td>Decision related to practices implemented in the market for land assistance of public land agency of Ouest Rhône-Alpes</td>
<td>16-D-27</td>
<td>2 December 2016</td>
<td>Construction</td>
<td>Article L. 420-1 of the Commercial code</td>
</tr>
</tbody>
</table>

Category B. Information exchange in circumstances where some discussion between competitors is necessary and efficiency-enhancing, but which goes beyond what is necessary (including between buyers and sellers where they are also competitors)

<table>
<thead>
<tr>
<th>No</th>
<th>Case Title</th>
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<th>Legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Decision related to delivery</td>
<td>15-D-19</td>
<td>15 December 2015</td>
<td>Delivery services</td>
<td>Article L. 420-1, 101</td>
</tr>
</tbody>
</table>
**Category C. Abuse of dominance by contract counterparty/bidder as a result of market power conferred by contract or during contract negotiation process (e.g. because of contractual/commercial constraints on replacement)**

<table>
<thead>
<tr>
<th>No</th>
<th>Case Title</th>
<th>Case Reference</th>
<th>Date of closure/decision</th>
<th>Market Sector</th>
<th>Legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Decision related to related to the launch of overseas DTT</td>
<td>15-D-01</td>
<td>5 February 2015</td>
<td>Telecoms</td>
<td>Article L. 420-2, 102 TFUE</td>
</tr>
</tbody>
</table>

**Category D. Abuse of dominance by bundling but where there may be efficiency justifications (but no technical efficiencies)**

<table>
<thead>
<tr>
<th>No</th>
<th>Case Title</th>
<th>Case Reference</th>
<th>Date of closure/decision</th>
<th>Market Sector</th>
<th>Legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Opinion related to crossed usage of client databases in the context of convergence between fixed-line and mobile telecoms</td>
<td>10-A-13</td>
<td>14 June 2010</td>
<td>Telecoms</td>
<td>Article 101 and 102 TFEU</td>
</tr>
</tbody>
</table>

**Category E. Agreement or understanding between contract sellers as to the exercise of contractual rights to vary contractual terms (e.g. price) pursuant to an existing contract**
Summary of decisions

Segment 3. Financial services, including insurance


- Following a referral from French consumer organisation UFC-Que Choisir, the FCA issued an opinion which recommends that more information on the guarantee rate be provided by real estate borrowers. However, separating credit offers and guarantee offers appears difficult to implement in practice.
- The market needs greater transparency as there is a structurally limited choice for borrowers in terms of real estate credit guarantees.
- The FCA recommends that consumers be better informed on bank guarantee rates in order to encourage banking institutions to choose the most competitive guarantee bodies. Transparency of rates could be planned for the transposition of the directive on real estate credit.

Decision 10-D-28 of 20 September 2010 on prices and associated conditions applied by banks and financial institutions for processing cheques submitted for encashment purposes.

- The FCA opened ex officio proceedings into the competitive situation concerning the prices and associated conditions applied by banks and financial institutions for processing cheques submitted for encashment purposes.
- The exemptability of the CEIC is examined below as regards the first two conditions provided for by article L 420-4 of the Commercial Code and article 81 EC: while the banks’ agreement that enabled the switch to the ECHANGE IMAGE CHÈQUES (EIC) contributed to the achievement of economic progress, i.e. the implementation of a dematerialised system for exchanging cheques, the parties do not demonstrate, however, that the establishment of a fee such as the “Commission d’échange image-chèque” (“CEIC”) was necessary to bring about these efficiency gains.
- The FCA analysed the arguments put forward by the parties to demonstrate the necessity of the CEIC through several stages:
  - the framework of the agreement (The context of the euro changeover, The required consensus for establishing a new interbank payment system, Factoring in the individual incentives of the banks to agree to dematerialised cheque exchanges)
  - the lack of demonstration by the parties that, at the time of the CIR negotiations.
  - introduction of a fixed fee per transaction was not in any event liable to offset the treasury losses claimed.
  - an economic assessment of the switch to the EIC will be presented for each of the banks.
  - CEIC was not adjusted at the end of the three-year period stipulated in the agreement of 3 February 2000.

246 http://www.autoritedelaconcurrence.fr/user/standard.php?id_rub=607&id_article=2690
The parties have not proved that the introduction of a clearing mechanism, in the form of a fixed interbank fee paid per transaction by the remitting bank to the issuing bank, was necessary to give all the banks the essential incentives to switch to the EIC. Consequently, this practice cannot be exempted.

**Category A. Bid-rigging/information exchange between bidders during the course of tender process, with particular focus on persuading rivals to drop out in return for a role on sub-contract/future contract.**

**Decision 10-D-04 of 26 January 2010 on practices in the sector of operating tables**

Upheld by the Paris Court of Appeal, 28 October 2010

- ALM and Maquet are two manufacturers of operating tables which belong to the same group and offered separate bids.
- According to the FCA, two companies agreed to coordinate their offers and exchanged information prior to the date of the call for tenders.
- The bids were not independent but concerted which mislead public purchasers.
- As a consequence, ALM and Maquet agreed to offer distinct bids which were not independent using various methods simulating the autonomy of offers and companies.
- The FCA imposed a fine of EUR 750,000 to ALM and EUR 750,000 to Maquet.

**Decision 10-D-10 of 12 March 2010 related to practices identified in the context of a call for tenders launched by the General Council of the Alpes-Maritimes for landscaping work on a road junction**

- The two companies SAS La Nouvelle Sirolaise de Construction SARL Provence Jardins shared information before the end of the tender process.
- The FCA considered that it amounts to a collusion between bidders and constitutes an infringement of article L. 420-1 of the French commercial code.

**Decision 11-D-07 of 24 February 2011 related to the industrial painting sector**

- Four companies rigged bids for procurement contracts in the sector of painting services for naval equipment and engineering structures between 2005 and 2006.
- The companies exchanged information on their prices before the submission of tenders and submitted sham bids
  - In practice, before submitting tenders, companies informed each other of their prices by fax, phone or electronic means. Sham bids were submitted to the contracting entities in order to leave an impression of genuine competition and to secure projects for one of the companies which appeared consequently as the best bidder.
- Contractors were misled and overcharged.
- Purchasers calling for tenders were misled through these practices which contributed to the restriction of competition and drove up prices. When some invitations to tender proved unsuccessful, new tenders had to be organized, involving new costs.

Decision 13-D-09 of 17 April 2013 relating to practices implemented in a public procurement for the reconstruction of watchtowers at the Prison of Perpignan

- The FCA fined 4 companies of the Eiffage group and the Vilmor company for entering into an anticompetitive agreement within the framework of a public procurement for the reconstruction of watchtowers at the prison of Perpignan.
- Eiffage Construction Roussillon and Vilmor Construction had exchanged information before submitting their bids in response to the invitation to tender. This took the form of a cover bid by Vilmor Construction that was designed to make Eiffage Construction Roussillon’s bid appear more attractive. For its part, Eiffage Construction Roussillon agreed to pay extra rent for the land that was adjacent to the site of the works and belonged to a property development company, in which the CEO of Vilmor Construction was one of the main partners.
- The contracting authority was misled as to the intensity of competition.
- The FCA imposed fines of € 960,000 to four companies in the Eiffage group and € 5,000 to Vilmor Construction.

Decision 16-D-02 of 27 January 2016 related to practices in the school bus transport sector in Bas-Rhin

- Members of a group of companies sought to limit competition between them, and also vis-à-vis non-member companies through a non-aggression pact between the members of the cartel.
- Such practices had the object of distributing the school bus routes contracts among members to the detriment of the public purchaser.

Decision 16-D-27 of 2 December 2016 related to practices implemented in the market for land assistance of public land agency of Ouest Rhône-Alpes

- The object of the agreement was market sharing through an exchange of sensitive information prior to the award of the markets.
- The FCA imposed to EURL SETIS and Groupe Degaud a fine of €40,000.

Category B. Information exchange in circumstances where some discussion between competitors is necessary and efficiency-enhancing, but which goes beyond what is necessary (including between buyers and sellers where they are also competitors)

Decision 15-D-19 of 15 December 2015 related to Delivery services

- In this case, the FCA found two anticompetitive agreements in the delivery service industry (through roundtable discussions during the trade council’s meetings, Bilateral discussions between companies consolidated the agreement).
- The principal agreement concerns 20 companies as well as the professional trade associations TLF (transport and logistics trade association) and involved, during the period between 2004 and 2010, repeated collusions between competitors regarding annual price increases.

252 http://www.autoritedelaconcurrence.fr/user/standard.php?id_rub=483&id_article=2074&lang=en
• A smaller-scale agreement involving 15 of the same companies as well as TLF was also fined.
• It concerned defining a common method for passing on the costs of a “diesel surcharge” during the course of seven annual price increase campaigns held between September 2004 and September 2010, the delivery service and express delivery service companies shared, within a multi-party context, in particular during TLF meetings, sensitive business information relating to their annual pricing increases.
• This process of sharing information was often backed up by communications between two or more of the companies involved.
• By way of example, during the 2006-2007 trade negotiations, the majority of the companies that had initially envisaged a price increase of approximately 5%, after sharing information, increased their demands to a higher level – around 7%
• The FCA imposed an overall penalty of €672 million.

Category C. Abuse of dominance by contract counterparty/bidder as a result of market power conferred by contract or during contract negotiation process (e.g. because of contractual/commercial constraints on replacement)

Decision 15-D-01 of 5 February 2015 related to the launch of overseas DTT

• In 2010 France télévision published nine calls for tender for the award of DTT broadcasting contracts in the overseas territories and communities (five-year contracts).
• Three operators responded to these calls for tender including TDF, the incumbent terrestrial Hertzian broadcaster and OMT, the leading alternative overseas telecommunications operator.
• Before and during the competitive dialogue required under tender regulations, TDF did not publish any technical and pricing information concerning access to its infrastructures. This information was however necessary for its competitors to respond to the calls for tender. The nine contracts were awarded to TDF.
• The FCA imposed a fine to TDF of €4.2 million.
• The case is pending (appeal before the French Supreme Court).

Decision 15-D-06 of 21 April 2015 related to practices implemented by Booking.com B.V., Booking.com France SAS and Booking.com Customer Service France SAS in the online hotel booking sector

• The FCA noted that:
  o In a given market, when a platform with market power implements a parity clause, competing platforms are encouraged to implement similar clauses in order to guard against the risk of have higher retail prices on their sales channel than their competitors.
  o It is not excluded that the fact for Booking.com, or any other platforms, to impose parity clauses to hotels could be considered as an exclusionary practice which could amount to an individual or collective abuse of dominance under Articles 102 TFEU and 420-2 of the Commercial Code.
  o In conclusion, it appears that these practices raise competition concerns and may be qualified as anti-competitive under Articles L. 420-1 of the

256 http://www.autoritedelaconcurrence.fr/user/standard.php?id_rub=607&id_article=2533
257 http://www.autoritedelaconcurrence.fr/pdf/avis/15d06.pdf
http://www.autoritedelaconcurrence.fr/user/standard.php?id_rub=607&id_article=2535
Commercial Code and Article 101, § 1 TFEU and / or Articles L. 420-2 of the Commercial Code and 102 TFEU.

- Booking.com thus committed to amend the price parity clause and remove any clause imposing parity obligations in terms of the availability of rooms or commercial conditions. This is not only in relation to competing platforms but also hotels’ direct offline channels as well as some of their online channels.

**Category D. Abuse of dominance by bundling but where there may be efficiency justifications (but no technical efficiencies)**

Opinion 10-A-13 of 14 June 2010 related to crossed usage of client databases in the context of convergence between fixed-line and mobile telecoms 258

- The considered that crossed usage of client databases is possible, even for Orange and that bundling offers by Orange should be assessed on a case-by-case basis.
- The convergence movement between fixed-lines and mobiles is leading to the appearance of a “universal” operator model, resulting in the emergence of new commercial practices.
- This evolution is prompting operators to make crossed usage of their client databases and to propose “all in one” bundled offers, referred to as convergence offers.
- The FCA issued recommendations in order to improve the market fluidity.
- The main risks of such offers are the following:
  - the generalisation of bundling offers could further increase the cost for a consumer to change operators,
  - bundling offers may lead to a risk of foreclosure, no longer only of customers, but also of households,
  - concerning entry barriers in the mobile market, the generalization of convergence offers could distort competition for the benefit of the three existing mobile operators, and to the detriment of other operators.
- The FCA recommends the adoption of measures in order to improve the market fluidity and to prevent foreclosure risks. The measures could relate to the commitment terms, the re-commitment conditions for customers subscribing for a bundling offer, synchronizing the terms of the subscriptions for the high speed and mobile services, the standardisation of certain functionalities in order to ensure interoperability, as well as the portability of the current and future convergent services.
- As for efficiency justifications, the FCA notes that even though not directly related to competition law, certain measures are favourable to consumers, and tend to ease the process of changing operators. It could also improve the market fluidity and prevent foreclosure.

**Category E. Agreement or understanding between contract sellers as to the exercise of contractual rights to vary contractual terms (e.g. price) pursuant to an existing contract**

None.

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5b. Appendix: Competition case law review — Germany
Identification of relevant cases

<table>
<thead>
<tr>
<th>Platform- Bundeskartellamt (BKA)</th>
<th>Period- 2010-2017</th>
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<tbody>
<tr>
<td><strong>No</strong></td>
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<tr>
<td>Segment 1. Loan product search</td>
<td>- Syndication loan, loan agreement, bank facility, multilateral loan, club deal, syndicated deal, corporate lending, loan (search terms)</td>
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<td>-(Kreditsyndizierung, Syndizierung, syndizierter Kredit, Kreditkonsortium, Konsortialkredit, Kreditvertrag, Darlehensvertrag, Bankeinrichtung, Bankenfazilität, multilaterales Darlehen, multilateraler Kredit, Club Deal, Firmenkreditgeschäft, Unternehmenskredit)</td>
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<td>Segment 2. Wholesaale Banking services</td>
<td>- Market studies/Investigations/cases, relevant to categories A-E, and the loan syndication process.</td>
</tr>
<tr>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Segment 3. Financial services, including insurance</td>
<td>- Market studies/Investigations/cases relevant to categories A-E, and the loan syndication process.</td>
</tr>
<tr>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Category A. Bid-rigging/information exchange between bidders during the course of tender process, with particular focus on persuading rivals to drop out in a role on sub-contract/future contract.</td>
<td>- bid suppression and the promise of a sub-contract, collusive tendering, subcontractor collusion, cover pricing, contractual offer, collusion between bidders, tender, information exchange (search terms)</td>
</tr>
<tr>
<td></td>
<td>-(Angebotsabsprache, Angebotsmanipulation, Angebotsentschädigung, Untervertragzusage, Ausschreibungsabsprache, Unterlieferanten, Scheinangebot, Vertragsangebot, Absprache zwischen den Bietern)</td>
</tr>
<tr>
<td>1</td>
<td>Bid-rigging in the ophthalmological industry</td>
</tr>
<tr>
<td>2</td>
<td>Collusion in the TV and film production industry</td>
</tr>
<tr>
<td>3</td>
<td>Bid-rigging in the rail industry</td>
</tr>
</tbody>
</table>

**Category B. Information exchange in circumstances where some discussion between competitors is necessary and efficiency-enhancing, but which goes beyond what is necessary (including between buyers and sellers where they are also competitors)**

- Exchange of commercially sensitive information, concerted practice, price-fixing, coordinating commercial and promotional strategies between competitors, information exchange between bidders, efficiency enhancing discussions between competitors.
  - (Informationsaustausch, Austausch von Informationen, Austausch sensibler Geschäftsinformationen, abgestimmtes Verhalten, Preisfestsetzung, Preisabsprache, Koordinierung von Strategien, Informationsaustausch zwischen den Biedern, Effizienzsteigerung durch die Gespräche)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Date</th>
<th>Sector</th>
<th>Article</th>
</tr>
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<tbody>
<tr>
<td>4</td>
<td>Joint marketing of pine wood</td>
<td>9 July 2015</td>
<td>Pine Wood</td>
<td>Article 32(1) of the GWB &amp; Article 101 of the TFEU</td>
</tr>
<tr>
<td>5</td>
<td>Cooperation in the fast connection broadband market</td>
<td>4 November 2014</td>
<td>Telecommunications</td>
<td>§ 1 of the GWB &amp; Article 101 of the TFEU</td>
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</table>

**Category C. Abuse of dominance by contract counterparty/bidder as a result of market power conferred by contract or during contract negotiation process (e.g. because of contractual/commercial constraints on replacement)**

- Exploitative abuses, excessive pricing, price discrimination, contractual abuses, vertical restraints, contractual power, abuse of dominance, market power conferred by contract.
  - (Ausbeutungsmissbrauch, überhöhte Preise, Preisdiskriminierung, missbräuchliche Vertragsvorschriften, vertikale Beschränkungen, Marktmacht, Missbrauch einer beherrschenden Stellung, Missbrauchs einer marktbeherrschenden Stellung, Marktstärke)

None

**Category D. Abuse of dominance by bundling but where there may be efficiency justifications (but no technical efficiencies)**

- Abuse of dominance, market power, bundling and appetite, tying, efficiencies and bundling, validations for tying and bundling.
  - (Missbrauch einer beherrschenden Stellung, Missbrauchs einer marktbeherrschenden Stellung, Marktmacht, Bündelung, Appetite, Bindung, Knüpfen, Kopplungsbindung, Effizienz, Validierung)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Date</th>
<th>Sector</th>
<th>Article</th>
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<tr>
<td>6</td>
<td>Deutsche Bahn</td>
<td>24 May 2016</td>
<td>Rail Transport</td>
<td>§ 19 of the GWB &amp; Article 102 of the TFEU</td>
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</table>

**Category E. Agreement or understanding between contract sellers as to the exercise of contractual rights to vary contractual terms (e.g. price) pursuant to an existing contract**

- Abuse of dominance, agreement to vary contract price/terms, change of existing terms, alterations to existing contract (Vereinbarung die Preisen/die Bedingungen zu verändern, Veränderung von bestehenden Bedingungen, Abweichungen des bestehenden Vertrags)

Jurisdictional Review

Segment 1. Loan product search
None.

Segment 2. Banking services
None.

Segment 3. Financial services, including insurance
None.

Category A. Bid-rigging/information exchange between bidders during the course of tender process, with particular focus on persuading rivals to drop out in return for a role on sub-contract/future contract.

1. Bid-rigging in the ophthalmological industry
   - A number of ophthalmologist associations colluded in the tender process for the supply of ophthalmological products organised by AOK Bayern, a health insurance company.
   - The companies’ conduct consisted of proposing a joint offer (instead of individual ones) and thus considered a restriction of competition.
   - The investigation closed due to the application of a lex specialis provision of § 73c(3)(1)(4) SGB V allowing for collective offers in the field of medical products.

2. Collusion in the TV and film production industry
   - Two German TV and film studios colluded and exchanged commercially sensitive information, which influenced their participation in tender processes.
   - The companies exchanged information related to: prices, costs, content of offers, details on their participation in tenders and other commercially sensitive information.
   - The companies colluded in two tender processes.
   - The communications took place prior to and during the tender proceedings.

3. Bid-rigging in the rail industry
   - Four German rail product manufacturers colluded in tenders organized by Deutsche Bahn, a holder of German railway infrastructure.
   - The collusion consisted of coordinating the companies’ participation in tenders and the content of their offers, particularly prices and volumes.
   - The information was exchanged via phone, e-mail and during personal meetings.

Category B. Information exchange in circumstances where some discussion between competitors is necessary and efficiency-enhancing, but which goes beyond what is necessary (including between buyers and sellers where they are also competitors)
4. Joint marketing of pine wood

- Baden-Württemberg State exchanged commercially sensitive information and conducted marketing agreements with private and corporate holders of forests in order to jointly market pine wood.
- The exchange of information and the agreements related to production volumes, product ranges, prices and time schedules of sales.
- The BKA found that Baden-Württemberg, as an owner of forests, is a competitor of private and corporate holders of forests.
- The exchange of information and agreements resulted in a restriction of competition- by fixing prices and production quotas.
- Such agreements bring efficiencies by improving the marketing of pine wood. However, this was true only with respect to the forest holders of less than 100ha. Baden-Württemberg went beyond this threshold by having contacted larger forest holders.

5. Cooperation in the fast connection broadband

- Telefónica Germany GmbH & Co. OHG and Telekom Deutschland GmbH intended to implement an agreement, which would help them offer faster broadband connection. They reported their intended agreement to the BKA asking for validation.
- The cooperation involved the exchange of commercially sensitive information and the potential restriction of infrastructure competition.
- The BKA concluded that the agreement did not restrict competition, as the cooperation to develop faster broadband connection could not be achieved without the exchange of information.
- The BKA did not assess the efficiency reached by the cooperation, however, it reserved its right to do so if the exchange would exceed the objectives reported.

Category C. Abuse of dominance by contract counterparty/bidder as a result of market power conferred by contract or during contract negotiation process (e.g. because of contractual/commercial constraints on replacement)
None.

Category D. Abuse of dominance by bundling but where there may be efficiency justifications (but no technical efficiencies)

6. Deutsche Bahn

- Deutsche Bahn, a holder of the German railway infrastructure, established with private railway operators agreements giving the latter access to its infrastructure.
- Deutsche Bahn bundled the agreement on tariffs with the agreement on sales cooperation.
- The extent of obligations imposed by Deutsche Bahn on railway operators was extensive. This was considered to be the abuse of Deutsche Bahn's dominant position.

Category E. Agreement or understanding between contract sellers as to the exercise of contractual rights to vary contractual terms (e.g. price) pursuant to an existing contract
None.
## 5c. Appendix: Competition case law review — Italy
### Identification of relevant cases

<table>
<thead>
<tr>
<th>Platform - Autorita Garante Della Concorrenza E Del Mercato (AGCM)</th>
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</thead>
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<tr>
<td>Period - 2010-2017</td>
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<table>
<thead>
<tr>
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<th>Date of closure/decision</th>
<th>Market Sector</th>
<th>Legislation</th>
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<tr>
<td>- Syndication loan, loan agreement, bank facility, multilateral loan, club deal, syndicated deal, corporate lending, loan (search terms)</td>
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<tr>
<td>1</td>
<td>Banca Popolare di Vicenza</td>
<td>PS10363</td>
<td>12 September 2016</td>
<td>Finance</td>
<td>Article 101 TFEU &amp; Law No. 287/90, Section 3</td>
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<tr>
<td>2</td>
<td>Mortgage interest rate collusion</td>
<td>I777</td>
<td>4 March 2016</td>
<td>Finance</td>
<td>Article 101 TFEU &amp; Law No. 287/90, Section 2</td>
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<td><strong>Segment 2. Wholesale Banking services</strong></td>
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<tr>
<td>- Market studies/Investigations/cases relevant to categories A-E and the loan syndication process.</td>
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<td><strong>Segment 3. Financial services, including insurance</strong></td>
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<tr>
<td><strong>Category A. Bid-rigging/information exchange between bidders during the course of tender process, with particular focus on persuading rivals to drop out in return for a role on sub-contract/future contract.</strong></td>
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<td>- bid suppression and the promise of a sub-contract, collusive tendering, subcontractor collusion, cover pricing, contractual offer, collusion between bidders, tender, information exchange (search terms)</td>
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<td>3</td>
<td>Public school cleaning services</td>
<td>I785</td>
<td>20 January 2016</td>
<td>Home Services</td>
<td>Article 101 TFEU &amp; Law No. 287/90, Section 2</td>
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<td>4</td>
<td>Asbestos</td>
<td>-</td>
<td>18 November 2015</td>
<td>-</td>
<td>Article 101 TFEU &amp; Law No. 287/90,</td>
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</table>

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EU loan syndication and its impact on competition in credit markets

Section 2

5 Public Transport Insurance Sector

I744 26 March 2015 Vehicle Insurance Article 101 TFEU & Law No. 287/90, Section 2

6 Vending Operators

I783 14 June 2016 Food and Beverages Article 101 TFEU & Law No. 287/90, Section 2

7 Sky, Mediaset Premium, Lega

I790 20 April 2016 Media Article 101 TFEU & Law No. 287/90, Section 2

8 Telecom Italia

I761 23 December 2015 Telecom Article 101 TFEU & Law No. 287/90, Section 2

9 Gerling, Faro, Navale and Primogest

I731 3 October 2011 Healthcare Article 101 TFEU & Law No. 287/90, Section 2

Category B. Information exchange in circumstances where some discussion between competitors is necessary and efficiency-enhancing, but which goes beyond what is necessary (including between buyers and sellers where they are also competitors)

- exchange of commercially sensitive information, concerted practice, price-fixing, coordinating commercial and promotional strategies between competitors, information exchange between bidders, efficiency enhancing discussions between competitors

None

Category C. Abuse of dominance by contract counterparty/bidder as a result of market power conferred by contract or during contract negotiation process (e.g. because of contractual/commercial constraints on replacement)

- exploitative abuses, excessive pricing, price discrimination, contractual abuses, vertical restraints, contractual power, abuse of dominance, market power conferred by contract

None

Category D. Abuse of dominance by bundling but where there may be efficiency justifications (but no technical efficiencies)

- abuse of dominance, market power, bundling and appetite, tying, efficiencies and bundling, validations for tying and bundling

- Banca Popolare di Vicenza (see above, No1)


Jurisdictional Review

Segment 1. Loan product search

1. Banca Popolare di Vicenza

- Customers who wished to obtain a soft loan, were forced to become shareholders so as to finance capital increase transactions.
- In order to obtain the "shareholder loans" - characterised by concessional financial terms when compared to ordinary loan products - consumers were conditioned:
  i) to purchase the Bank’s minimum share packages (equal to 100 shares) and
  ii) not to sell these share packages in order to continue to benefit from the concessional financial terms.
- The ICA noted that the practices carried out by Banca Popolare di Vicenza considerably limited consumers’ freedom to choose in relation to financing products.
  o that is, subscription to the Bank’s securities (securities could not be negotiated or liquidated, given the non-listed nature of the company Banca Popolare di Vicenza, and which could not be disinvested during the loan period under the penalty of losing the soft financial terms provided).
- By obliging consumers to open even a shareholders’ bank account linked to the loan with the same Bank, Banca Popolare di Vicenza implemented a practice whereby loans have been bound to bank accounts which is prohibited by the Consumer Code.

2. Mortgage Interest Rate Collusion

- The ICA imposed a series of fines on several Banks belonging to Federazione Cooperative Raiffeisen and Federazione Trentina della Cooperazione, for two distinct anti-competitive agreements aimed at setting a minimum mortgage interest rate among Banks in the provinces of Bolzano and Trento.
- In essence, the mentioned Banks agreed to coordinate their commercial policies, also through the exchange of sensitive information (interest rates and other economic conditions of the loans), with the aim to limit competition in the mortgage market in the province of Bolzano.
- The collusion was carried out for about seven years (2007-2014).

Segment 2. Wholesale banking services

None.

Segment 3. Financial services, including insurance

None.
Category A. Bid-rigging/information exchange between bidders during the course of tender process, with particular focus on persuading rivals to drop out in return for a role on sub-contract/future contract.

3. Public school cleaning services

- CNS (Consorzio Nazionale Servizi società cooperative), Manutencoop Facility Management, Roma Multiservizi and Kuadra, all provide cleaning services in public schools.
- The ICA ascertained the existence of an anti-competitive agreement that conditioned the outcome of the public tender called by Consip, the Public Administration’s purchasing organization.
- Through this agreement, the four companies – two of which are the largest operators on the market – actually annulled the competition in Consip’s tender allocating the most interesting lots among each other and winning the maximum number allowed.
- Although formally participating autonomously, the CNS and the consortium Manutencoop Facility Management agreed on a strategy - concurring with the other parties involved in order to achieve shared aims and thus alter the outcome of the tender.
- To this end, they also made use of subcontracts for the protection of their respective market positions.
- CNS subcontracted to Roma Multiservizi, with reference to the lots in Lazio, in exchange for the latter’s commitment not to participate in the tender.

4. Asbestos

- The Italian Antitrust Authority (IAA) adopted a decision against 12 undertakings for their participation in a bid-rigging cartel.
- The cartel related to tenders conducted by the Italian Ministry of Defence for the disposal of hazardous materials (asbestos) present in the military arsenals located in the cities of Taranto, La Spezia and Augusta.
- The 12 undertakings colluded to agree on the allocation of tender lots between 2011 and 2013.
- This conduct led to market-sharing and the preservation of the companies’ positions, as well as to a steady reduction of the rebates offered to the Italian Ministry of Defence.

5. Public Transport Insurance Sector

- These companies entered into an anti-competitive agreement concerning 58 tenders in the Italian vehicle insurance market for public transport.
- 15 local public transport companies throughout Italy invited insurance companies to participate in public tenders.
- The ICA found that Generali and UnipolSai either did not participate in these calls for tenders (39 cases) or that they were the only insurers to bid when the calls were issued by transport companies they were already insuring (19 cases).
- In 18 out of the 58 tenders under investigation, the call for tenders allowed participants to offer prices higher than the reference price. Nevertheless, no bids were made for these calls.
• This conduct was facilitated by contacts/exchanges of information among the undertakings concerned in the context of an ad hoc working group on public transport set up by ANIA (the Italian insurance companies association), allowed each insurance company to keep its customers and negotiate directly with them, without competing with other insurers on the market.

6. Vending Operators

• The ICA fined the main vending operators in the food and beverage sector and on their category association.
• The agreement aimed at maintaining high prices and at preserving the companies’ profitability- allocating the market and customers, as well as coordinating sale prices.
  o In practice, the companies defined each other as “competing friends,” avoiding submitting offers to each other’s customers on the occasion of calls for tenders on the basis of a “non-belligerence agreement.” The latter provided for a compensation mechanism based on giving back customers of equivalent value (in terms of allocation) to each “competing friend” in case of possible subtractions of customers within the ambit of the companies’ commercial activity.

7. Sky, Mediaset Premium, Lega

• The ICA imposed fines on Sky and RTI/Mediaset Premium, the main television operators in the pay-tv market, and on the Italian Football League (Lega Calcio) and its advisor Infront.
• The parties entered into a bid-rigging agreement concerning the award of the Serie A broadcasting rights for the following three years (2015-2018). The parties agreed to alter the outcome of the tenders for the A, B and D lots, following the presentation of their bids.
• Lega Calcio - advised and supported by Infront – instead of awarding to Sky the broadcasting rights in line with the submitted bids, engaged in a negotiation with the bidders, aimed at altering the outcome of the tender. As RTI/Mediaset Premium would not be awarded any lots on the basis of their bids, they were ready to join the collusive agreement since the very first moment.

8. Telecom Italia

• The ICA imposed a cumulative fine on seven companies - Alpitel, Ceit Impianti, Sielte, Sirti, Site, Valtellina and Telecom Italia - for an anti-competitive agreement.
• The Companies agreed to coordinate their economic offers and contractual terms in relation to the tenders for the selection of suppliers made by the companies Wind and Fastweb; and in relation to information regarding the supply of corrective maintenance services.
• The anti-competitive conducts consisted in the agreed coordination of contractual economic terms and information transmitted to the regulator, with the aim to limit competition and prevent competing operators from providing other ancillary technical services.
• The fined Companies had numerous meetings and contacts in order to agree on the economic offers to be submitted to Wind Tele comunicazioni and Fastweb for the end-to-end corrective maintenance disaggregate
service; and, in general, to identify a single communication plan concerning the conditions for supplying the service.

- The ICA found that the investigated conducts were capable of altering OLO’s and stakeholders’ incentives, prejudicing market competition.

9. Gerling, Faro, Navale and Primogest

- Gerling (from Talanx, a German multinational), Faro, Navale (UGF) and Primogest (a multi-firm agency) divided up tenders for healthcare liability coverage in Campania.
- The agreement, lasting from 2003 to 2008, affected 18 procedures and 9 different procurement entities.

**Category B. Information exchange in circumstances where some discussion between competitors is necessary and efficiency-enhancing, but which goes beyond what is necessary (including between buyers and sellers where they are also competitors)**

None.

**Category C. Abuse of dominance by contract counterparty/bidder as a result of market power conferred by contract or during contract negotiation process (e.g. because of contractual/commercial constraints on replacement)**

None.

**Category D. Abuse of dominance by bundling but where there may be efficiency justifications (but no technical efficiencies)**

Banca Popolare di Vicenza (see above, No1)

**Category E. Agreement or understanding between contract sellers as to the exercise of contractual rights to vary contractual terms (e.g. price) pursuant to an existing contract**

None.
5d. Appendix: Competition case law review — Poland
Identification of relevant cases

<table>
<thead>
<tr>
<th>Platform- Urząd Ochrony Konkurencji i Konsumenta (UOKiK)</th>
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<tr>
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<tr>
<td>-(syndykacja, konsorcjum kredytowe, konsorcjum, kredyt, pożyczka, instrument finansowy, club deal, konsorcja, korporacyjne, dla przedsiębiorstw, biznesowy)</td>
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<td>- Market studies/Investigations/cases, relevant to categories A-E, and the loan syndication process.</td>
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<tr>
<td>1</td>
<td>Consumer mobility in the national market for savings and settlement accounts274</td>
</tr>
<tr>
<td>Segment 3. Financial services, including insurance</td>
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<tr>
<td>- Market studies/Investigations/cases relevant to categories A-E, and the loan syndication process.</td>
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<tr>
<td>Category A. Bid-rigging/information exchange between bidders during the course of tender process, with particular focus on persuading rivals to drop out in return for a role on sub-contract/future contract.</td>
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<td>- bid suppression and the promise of a sub-contract, collusive tendering, subcontractor collusion, cover pricing, contractual offer, collusion between bidders, tender, information exchange (search terms)</td>
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<td>- (zmowa przetargowa, przetargowa, zmowa, przetarg, oferent, oferujący, wspólny udział, manipulacja, blokowanie, ustalanie cen, oferta, zaproszenie)</td>
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<tr>
<td>2</td>
<td>Bid-rigging in the market for municipal waste collection275</td>
</tr>
<tr>
<td>3</td>
<td>Bid-rigging in the market for military textiles277</td>
</tr>
</tbody>
</table>

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276 Ustawa o ochronie konkurencji i konsumentów (Dz. U. Nr 50, poz. 331 ze zm.)  
Category B. Information exchange in circumstances where some discussion between competitors is necessary and efficiency-enhancing, but which goes beyond what is necessary (including between buyers and sellers where they are also competitors)

- exchange of commercially sensitive information, concerted practice, price-fixing, coordinating commercial and promotional strategies between competitors, information exchange between bidders, efficiency enhancing discussions between competitors (wymiana informacji, informacja handlowa, poufna informacja, poufny, uzgodnione praktyki, ustalanie cen, koordynacja, uzgodnienie, uzgadnianie, uzgodnienie strategii, strategia, efektywność, zwiększenie efektywności, poprawienie efektywności, poprawa efektywności, polepszenie efektywności, połączenie)

4 Collusion in the telecommunications

<table>
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<th>Date</th>
<th>Industry</th>
<th>Article</th>
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<tbody>
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<td>DOK -8/2011</td>
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5 Market sharing in the insurance

<table>
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<tr>
<td>RBG -28/2011</td>
<td>30 December 2011</td>
<td>Insurance</td>
<td>Article 6(1)(3) of the UOKiK</td>
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Category C. Abuse of dominance by contract counterparty/bidder as a result of market power conferred by contract or during contract negotiation process (e.g. because of contractual/commercial constraints on replacement)

- exploitative abuses, excessive pricing, price discrimination, contractual abuses, vertical restraints, contractual power, abuse of dominance, market power conferred by contract

- (wyzysk, nadużycie cenowe, zawyżone ceny, nadmierne ceny, dyskryminacja cenowa, klauzule umowne, warunki umowy, siła przetargowa, nadużycie pozycji dominującej, pozycja negocjacyjna)

6 Abusive enforcement of the contract for street lighting operation

<table>
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<td>RKT -17/2010</td>
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<td>Articles 9(1) and 9(2)(6) of the UOKiK</td>
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7 Unfair terms in the contract for street lighting operation

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<th>Industry</th>
<th>Article</th>
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<td>RGD. 36/2011</td>
<td>30 December 2011</td>
<td>Street Lighting</td>
<td>Article 9(1) of the UOKiK</td>
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8 Exploitative conduct of housing cooperatives

<table>
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<th>Article</th>
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<td>RKR-1/2016</td>
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<td>Housing</td>
<td>Articles 9(1) and 9(2)(3) of the UOKiK</td>
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Exploitative conduct of housing cooperatives

RLU – 13/2012
14 August 2012
Housing
Articles 9(1) and 9(2)(5) of the UOKiK

Unfair terms in the contracts for fuel gas supply

DOK 1/2012
13 April 2012
Fuel gas
Article 9(2)(5) of the UOKiK & Article 102 of the TFEU

Category D. Abuse of dominance by bundling but where there may be efficiency justifications (but no technical efficiencies)

-abuse of dominance, market power, bundling and appetite, tying, efficiencies and bundling, validations for tying and bundling (pakietyzacja, sprzedaż pakietowa, pakiet, łączenie, wiązanie, efektywność i pakiety, efektywność, zgodność z prawem, zgodna z prawem)

None

Category E. Agreement or understanding between contract sellers as to the exercise of contractual rights to vary contractual terms (e.g. price) pursuant to an existing contract

-Abuse of dominance, agreement to vary contract price/terms, change of existing terms, alterations to existing contract (ustalanie zmian w umowie, ustalanie zmian w warunkach, zmiana warunków, zmiana umowy, modyfikacje umowy, modyfikacje warunków)

None

Jurisdictional Review

Segment 1. Loan Product search

None.

Segment 2. Wholesale Banking services

1. Consumer mobility in the national market for savings and settlement accounts

Segment 3. Financial services, including insurance

None.

Category A. Bid-rigging/information exchange between bidders during the course of tender process, with particular focus on persuading rivals to drop out in return for a role on sub-contract/future contract.

2. Bid rigging in the market for municipal waste collection

https://decyzje.uokik.gov.pl/bp/dec_prez.nsf/43104c28a7a1be23c1257eac006d8dd4/a7af1b9c191c1681c1257ec6007b99ac/$FILE/decyzja%20SM%20Podlasie5bip.pdf.

https://decyzje.uokik.gov.pl/bp/dec_prez.nsf/43104c28a7a1be23c1257eac006d8dd4/2d3e060324b0a95cc1257ec6007b991b/$FILE/decyzja%20DOK%201%202012%20z%2013.04.2012%20%5BPGNiG%5D%20wersja%20BIP.pdf.
Four companies active in the market for municipal waste collection colluded prior to and during multiple tender processes. The mechanism of collusion consisted of submitting incomplete offers for tenders, refusing to submit required documents, overestimating proposed prices and other failures, which led to the exclusion of some competitors from tender processes. The collusion was supported by the fact that the companies were intertwined in terms of capital. They shared premises and the employees could cooperate and collude on the terms of their offers and on their participation in tenders.

3. **Bid rigging in the market for military textiles**

Three companies active in the market for military textiles engaged in bid-rigging prior and during multiple tender processes. The mechanism for collusion consisted of positioning and withdrawing offers. The parties agreed on the offered prices and ensured that their prices are differentiated. If their offers were placed on the top and took following positions, bidders with lower prices dropped out by failing to submit required documents. The existence of collusion was supported by the fact that the companies reciprocally subcontracted the services provided as a result of tenders. They cooperated on many projects and recommended each other to customers. In addition, the companies used the same insurers and they concluded their respective insurance agreements at the same time. The signatures present in the forms were similar.

**Category B. Information exchange in circumstances where some discussion between competitors is necessary and efficiency-enhancing, but which goes beyond what is necessary (including between buyers and sellers where they are also competitors)**

4. **Collusion in the telecommunications**

Four mobile retailers created a consortium in order to develop the Polish market for mobile TV services based on DVB-H technology. The consortium was reported to the UKE (Office of Electronic Communications). It was approved since it aimed at achieving following efficiencies on the wholesale market: joint testing, setting up a common technology standard, developing new business models, improving knowledge of DVB-H technology, creating a wholesale company providing DVB-H services. The companies were allowed to bid jointly for the 470-790 MHz frequencies. The companies went beyond what was necessary to achieve these objectives. They colluded on retail level in order to foreclose a competitor, which did not participate in the consortium. The anti-competitive collusion at the retail level started prior the bid for the 470-790 MHz frequencies and continued after. The employees of the companies met, exchanged communications and set-up a common strategy towards their other competitors.

5. **Market sharing in the insurance**

The UOKiK stated that an insurance broker and an insurance company engaged in illegal exchange of information and allocated consumers.
• The companies claimed that their relationship is vertical and they achieve efficiencies in terms of improved distribution. The UOKiK disagreed and stated that the insurance broker had its own insurance offer.

Category C. Abuse of dominance by contract counterparty/bidder as a result of market power conferred by contract or during contract negotiation process (e.g. because of contractual/commercial constraints on replacement)

6. Abusive enforcement of the contract for street lighting operation

• EnergiaPro S.A., an electricity company, concluded an agreement with Opole Municipality, the owner of street lighting network, according to which EnergiaPro S.A. operated the street lighting system of Opole.
• EnergiaPro S.A. became dominant in the market for street lighting services as a result of the agreement concluded with Opole Municipality.
• The abuse consisted of imposing on Opole an obligation to pay the costs of repairing the lighting system, whose failures were not connected to breakdowns of light points, which was not covered by the agreement.

7. Unfair terms in the contract for street lighting operation

• ENERGA-OPERATOR S.A., an owner of street lighting network in Bytów Municipality, concluded with the latter the agreement to operate and to maintain the street lighting system.
• ENERGA-OPERATOR S.A. was dominant in the market for street lighting services, as the owner of street lighting network.
• The abuse consisted of imposing on Bytów unfair terms of agreement, which limited its freedom to choose an electricity provider and to organise tenders in this regard. This prevented Bytów from meeting its regulatory obligations and breached its right to independently choose an electricity provider.

8. Exploitative conduct of housing cooperatives (RKR- 1/2016)

• Housing cooperatives ("spółdzielnia mieszkaniowa") are the entities of Polish law, which are created by future residents, in order to collectively satisfy their housing needs. Housing cooperatives are in charge of the real estate construction and/or its maintenance.
• Nowatorska Spółdzielnia Mieszkaniowa was dominant in the market for managing 155 buildings in Nowy Targ.
• Nowatorska Spółdzielnia Mieszkaniowa abused its dominant position by including differentiated and discriminative terms and charges in its agreements with telecommunications operators.

9. Exploitative conduct of housing cooperatives (RLU – 13/2012)

• Similar case to RKR- 1/2016.
• The housing cooperative - Spółdzielnie Mieszkaniowa „Podlasie” - abused its dominant position by denying a telecommunication operator access to its buildings.
10. Unfair terms in the contracts for fuel gas supply

- PGNiG, a dominant company in the retail market for fuel gas supply, abused its position by imposing on its consumers’ long termination periods, which locked them in existing contracts.
- PGNiG’s practices exploited its consumers and prevented the development of retail market for fuel gas supply.

Category D. Abuse of dominance by bundling but where there may be efficiency justifications (but no technical efficiencies)

None.

Category E. Agreement or understanding between contract sellers as to the exercise of contractual rights to vary contractual terms (e.g. price) pursuant to an existing contract

None.
5e. Appendix: Competition case law review — Netherlands
Identification of relevant cases

<table>
<thead>
<tr>
<th>Platform</th>
<th>Autoriteit Consument &amp; Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period</td>
<td>2010-2017</td>
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</table>
### EU loan syndication and its impact on competition in credit markets

#### Segment 1. Loan product search
- Syndication loan, loan agreement, bank facility, multilateral loan, club deal, syndicated deal, corporate lending, loan (search terms)

<table>
<thead>
<tr>
<th>No</th>
<th>Case Title</th>
<th>Case Number</th>
<th>Date of closure/decision</th>
<th>Sector</th>
<th>Legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NMa: syndicated loans(^{285})</td>
<td>-</td>
<td>25 January 2010</td>
<td>Finance</td>
<td>Market Study</td>
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<tr>
<td>2</td>
<td>Municipal pawnshops(^{286})</td>
<td>ROT 15/2993 en ROT 15/2994</td>
<td>28 January 2016</td>
<td>Finance</td>
<td>-</td>
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<td>3</td>
<td>Dutch SME loan market(^{287})</td>
<td>14.0889.25</td>
<td>30 June 2015</td>
<td>Finance</td>
<td>Market Study</td>
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#### Segment 2. Wholesale Banking services
-- Market studies/Investigations/cases relevant to categories A-E and the loan syndication process.

<table>
<thead>
<tr>
<th>No</th>
<th>Case Title</th>
<th>Case Number</th>
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<th>Sector</th>
<th>Legislation</th>
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</thead>
<tbody>
<tr>
<td>4</td>
<td>Brink’s(^{288}) (appeal)</td>
<td>7512</td>
<td>13 August 2015</td>
<td>Finance</td>
<td>Article 6 and 24 (Mededingingswet)</td>
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<td>5</td>
<td>Switching banks and tying(^{289})</td>
<td>-</td>
<td>30-03-2010</td>
<td>Finance</td>
<td>Market Study</td>
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#### Segment 3. Financial services, including insurance
-- Market studies/Investigations/cases relevant to categories A-E and the loan syndication process.

<table>
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<tr>
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<td>6</td>
<td>Enforcement auction(^{290})</td>
<td>6538/7237/7268</td>
<td>03 July 2017</td>
<td>Housing Market</td>
<td>Article 6 (Mw)</td>
</tr>
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<td>7</td>
<td>Taxi transport(^{291})</td>
<td>7130-7131</td>
<td>05 March 2013</td>
<td>Transport</td>
<td>Article 6 (Mw)</td>
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EU loan syndication and its impact on competition in credit markets

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<thead>
<tr>
<th>Category</th>
<th>Company/Industry</th>
<th>Code</th>
<th>Date</th>
<th>Sector</th>
<th>Article/Commitments</th>
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<td>Demolition companies Rotterdam</td>
<td>7249</td>
<td>20 December 2012</td>
<td>Construction</td>
<td>Article 6 (Mw)</td>
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<td>Southern Dutch construction companies</td>
<td>6494 &amp; 6836</td>
<td>04 September 2010</td>
<td>Construction</td>
<td>Article 6 (Mw)</td>
</tr>
</tbody>
</table>

**Category B. Information exchange in circumstances where some discussion between competitors is necessary and efficiency-enhancing, but which goes beyond what is necessary (including between buyers and sellers where they are also competitors)**

- exchange of commercially sensitive information, concerted practice, price-fixing, coordinating commercial and promotional strategies between competitors, information exchange between bidders, efficiency enhancing discussions between competitors

| 10 | Federation Textielbeheer Nederland | 7245 | 29 December 2011 | Healthcare | Binding Commitments |
| 11 | Forklift truck batteries | 7615-11 | 05 July 2017 | Tech and Construction | Article 6 (Mw) |
| 12 | Prefab concrete garage boxes | 14.0409.31 | 17 February 2016 | Building and Construction | Article 6 (Mw) |
| 13 | Concrete mortar sector | 15.0959.29 | 29 June 2016 | Construction | Article 6 (Mw) |
| 14 | Destruction fields First year onion sets | 6987 | 18 December 2012 | Food | Article 6 (Mw) |
| 15 | KPN, T-Mobile and Vodafone (appeal) | (C-8/08) | 26 October 2011 | Telecommunications | Article 81(1) EC & Article 6 |
| 16 | Readmaps | 7244 | 31 August 2015 | Media | Article 6 (Mw) |

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**Category C. Abuse of dominance by contract counterparty/bidder as a result of market power conferred by contract or during contract negotiation process (e.g. because of contractual/commercial constraints on replacement)**

- Exploitative abuses, excessive pricing, price discrimination, contractual abuses, vertical restraints, contractual power, abuse of dominance, market power conferred by contract

<table>
<thead>
<tr>
<th>No.</th>
<th>Counterparty/Bidder</th>
<th>Date</th>
<th>Sector</th>
<th>Article</th>
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<tr>
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<td>Dutch Railways NS</td>
<td>16.0691.31</td>
<td>29 June 2017</td>
<td>Transport Article 6 &amp; Article 24 (Mw)</td>
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<tr>
<td>18</td>
<td>KPN misuse of position in tendering (objection) 301</td>
<td>11.007.37</td>
<td>20 June 2014</td>
<td>Telecommunications Article 24 (Mw)</td>
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<tr>
<td>19</td>
<td>AstraZeneca 302</td>
<td>7069/1832</td>
<td>24 September 2014</td>
<td>Pharmaceuticals Article 24 (Mw)</td>
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</table>

**Category D. Abuse of dominance by bundling but where there may be efficiency justifications (but no technical efficiencies)**

- Abuse of dominance, market power, bundling and appetite, tying, efficiencies and bundling, validations for tying and bundling

<table>
<thead>
<tr>
<th>No.</th>
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<th>Date</th>
<th>Sector</th>
<th>Article</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Sandd complaint against TNT (appeal) 303</td>
<td>6207</td>
<td>26-09-2013</td>
<td>Finance Article 6 and 24 (Mw)</td>
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<td>21</td>
<td>Bundling of telecom services 304</td>
<td>-</td>
<td>July 2017</td>
<td>Telecommunications Market Study</td>
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</table>

**Category E. Agreement or understanding between contract sellers as to the exercise of contractual rights to vary contractual terms (e.g. price) pursuant to an existing contract**

- Abuse of dominance, agreement to vary contract price/terms, change of existing terms, alterations to existing contract

None

**Jurisdictional Review**

**Segment 1. Loan product search**

1. **Netherlands Competition Authority (NMa): limited choice for undertakings when seeking syndicated loans (study)**
   - The NMa analysed the market for syndicated loans and club deals.
   - The NMa found that the number of banks that are active in the Dutch market for syndicated loans has fallen.

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• The primary reason for this drop is the decrease in the number of mergers and acquisitions that have taken place in the Dutch banking industry. In addition, as a result of the financial crisis, foreign banks have withdrawn from this market to focus on their home markets instead.
• NMa noted how a return of these foreign players, that used to be active on the Dutch market, might positively affect competition because it would increase the number of players.
• Banks that are still active on this market have become more prudent when it comes to giving individual undertakings substantial loans, in part because they have limited resources.
• The number of international syndicated loans has seen a slight increase, which may prove to aid market recovery.
• Undertakings that have experience with syndicated loans benefit because this knowledge strengthens their bargaining positions, and it enables them to better assess what loan conditions are in line with market conditions.
• The NMa found no indications of violations of the Dutch Competition Act on the market for club deals and syndicated loans.

2. **District Court of Rotterdam rules in appeal of municipal pawnshops**

• The District Court of Rotterdam overturned the decisions of the Netherlands Authority for Consumers and Markets (ACM) that contained binding instructions on municipal pawnshops with regard to pawn contracts.
• In this case, the ACM imposed two binding instructions on the municipal pawnbroker in Amsterdam (Stadsbank van Lening) and one in The Hague (Gemeentelijke Kredietbank).
• ACM disagreed with the way these two municipal pawnbrokers extended pawn loans if consumers were unable to repay these loans at the end of their pawn contracts.
• The two pawnbrokers demanded that customers pay interim interest payments.
• According to ACM, such demands would violate not only the regulations but also the spirit of the law.
• The court held that ACM had interpreted the statutory standard incorrectly, and that the business practices of said municipal pawnbrokers are in accordance with the regulations.
• Another of the court’s considerations was that it had been stated in parliamentary history that the conditions of the municipal pawnbrokers would remain largely unaltered in the transition to the new scheme as of July 1, 2014.
• The court ruled that ACM only incorrectly interpreted the statutory standards with regard to one aspect of the new pawnshop rules, which is demanding immediate repayment of the pawn loan when extending the contract. The court’s verdict does not apply to the other pawnshop rules such as the interest rate and the minimum loan term.

3. **Dutch SME loan market (market study)**

• ACM investigated competition among banks active in the Dutch market for SME loans.
• Period: January 2007 to September 2014
• ACM concluded that there is insufficient competition among banks in this market. In addition, the margin calculation has revealed that competition has decreased in recent years. There are a number of reasons as to why banks experience relatively little competitive pressure in this market:

1. Barriers to entry in the Netherlands are high.
2. Increased capital requirements reduce the opportunities for the three major banks to exert competitive pressure on each other.
3. SMEs shop around and switch to a very limited extent.
4. There is a risk of tacit coordination among banks
5. Competitive pressure from alternative forms of financing is currently still limited

Segment 2. Wholesale Banking services

4. Brink’s (appeal)
   • The ACM reassessed Brink’s complaint about possible unfair competition by Geldservice Nederland (GSN).
   • Brink’s stated that the partnership of banks for the counting and processing of banknotes and the joint purchasing of cash transportation hinders competition.
   • The GSN partnership is an initiative of ABN AMRO Bank, Rabobank and ING Bank.
   • These banks want to realize savings through cooperation, such as fewer counting centres and more efficient journeys by money cars. Because there is less cash in circulation, it is efficient for banks to centrally regulate the counting and processing of banknotes.
   • ACM believes that the cooperation between the banks in GSN does not restrict competition
   • ACM rejects Brink’s objections and maintains its decision.

5. Switching Banks and tying (market study)
   • A majority of small and medium-sized business owners (SMBs) stated that the switching process was not that ‘complex’.
   • Only on a limited scale do banks coerce SMBs into purchasing one or more additional financial products when they take out a business.
   • These are the most important findings of a study into tying among banks, carried out by Dutch market research firm TNS NIPO, which had been commissioned by the NMa.
   • The study found that at least one out of four small-business owners that take out a commercial mortgage, a business line of credit or any other form of business loan is either coerced (5-8 per cent) or encouraged (18-23 per cent) to purchase an additional financial product.
   • Most of the time, these additional products include business insurances or merchant accounts. The NMa currently does not have any indications pointing to a breach of the Dutch Competition Act.
   • The market study had been launched because of media reports, tip-offs and indications SMBs about tying arrangements by banks when offering business loans.

Segment 3. Financial services, including insurance
None.

Category A. Bid-rigging/information exchange between bidders during the course of tender process, with particular focus on persuading rivals to drop out in return for a role on sub-contract/future contract.
6. Enforcement auctions (appeal)

- The Trade and Industry Appeals Tribunal (CBb) annulled fines for the traders in the Execution Auctions.
- The ACM imposed fines on more than 70 traders on execution auctions, for involvement in a system of prohibited cartel agreements in the period 2000-2009.
- Traders cooperated with at least 200 executory auctions to frustrate price formation and thus kept the price for the property at the official auction as low as possible.
- The ACM noted the cooperation between traders on more than 2,300 foreclosure auctions as one continuous violation.
- The CBb held that the ACM has not shown that the cooperation in all those foreclosure auctions was always aimed at frustrating price formation.

7. Tender for taxi transport

- The Taxi company RMC signed two agreements with two other taxi companies, IJsselsteden and BIOS, in which they made agreements about which of them would register in the Rotterdam region for tenders for contractual taxi transport. RMC and IJssel cities came to a definition of "home markets" that they would respect reciprocally.
  - In practice; they worked out who could approach which customer and then they would discuss whether or not to register.
- RMC and IJsselsteden also agreed that they would not work as sub-contractors for other companies.
- In the agreement between RMC, BIOS and a joint subsidiary, the parties included the clause that they would not bid for contracts in the Rotterdam region for which one of the taxi companies involved already arranged the transport.
- They also agreed to consult with each other to divide new assignments in advance.

8. Demolition Companies Rotterdam

- Between 2005 and 2009, two Rotterdam-based demolition firms engaged in bid-rigging activities in four tenders for demolition contracts in Rotterdam.
- Hofstede and Struijk distorted the tender procedures of these four projects by way of cover pricing.
  - In Practice, one firm places a bid, known to the other firm, even though it does not have any actual interest in the contract. Its bid is higher than that of the other firm, thereby eliminating mutual competition.
- The firms’ real objective behind these cover bids is, with an eye to future tenders, to remain on the client’s long list.

9. Southern Dutch construction companies

- The NMa imposed individual fines on three executives of two construction companies based in the southern Dutch province of Limburg.
- Manipulation of tender.
- Companies deliberately misled clients by way of cover pricing.
- The construction companies in question are Janssen de Jong Infra BV and contracting and road-construction company Aannemings- en Wegenbouwbedrijf Limburg BV.
Category B. Information exchange in circumstances where some discussion between competitors is necessary and efficiency-enhancing, but which goes beyond what is necessary (including between buyers and sellers where they are also competitors)

10. Federation Textielbeheer Nederland

- The Federation of Textile Management Netherlands (FTN) is a trade association for textile care providers.
- NMa's investigation revealed that the FTN regularly gave its members advice on how to pass on specific costs for textiles to health care institutions. Since the members of the FTN represent virtually the entire market, such advice can produce a noticeable price effect that would directly disadvantage customers in this specific case healthcare institutions.
- In addition, FTN repeatedly commented negatively on a current tender for textile care organized by 14 healthcare institutions.
- In consequence of this members of the FTN decided not to register, as a result the client's search for the company with the best price-quality ratio is made more difficult.
- The FTN deleted the words "coordinate and coordinate the activities of its members" from its statutory objective. The FTN revokes its advice to pass on specific costs for textile care.

11. Forklift truck batteries

- The ACM imposed fines on importers of batteries for forklift trucks, among other vehicles, and on their trade association BMWT.
- These companies and the association agreed on using a so-called 'lead surcharge.' The objective of this 'lead surcharge' was to incorporate in a structural manner the widely fluctuating price of lead into the retail price of batteries.
- The companies also shared competition-sensitive information among each other.

12. Prefab concrete garage boxes

- Van Bon Coldstores Beneden-Leeuwen (now H & S Coldstores) and Kloosbeheer exchanged competition-sensitive information.
- Both companies examined since December 2005 whether they could merge or cooperate intensively. At the same time, however, far-reaching agreements were also made about existing customers, tariffs and capacity. The merger talks lasted more than four years and ultimately led to nothing.

13. Concrete mortar sector

- A number of concrete motor companies made extensive and far-reaching commitments for structural changes.
- One of the risks was that competition-sensitive information could be exchanged through intensive cooperation between competing concrete mortar companies.
  - For example, there are concrete mortar plants that are managed and used by competing companies. This can lead to less competition. Within three years, therefore, partnerships will be terminated between concrete mortar companies that together have a market share of 40%
or more in a specific area. These concrete mortar plants can no longer be operated together.

- Another risk is if a company carries out work together with a competitor.
- The concrete companies promise to do so and this must also be reported to the client.
- If there are business contacts between the competitors, this must be registered.

14. **Destruction fields First year onion sets**

- Seven companies who cultivate, process and market first-year onion sets in 2009 violated the prohibition of cartels by making agreements about the destruction of parts of already sown fields.
- In order to agree on the destruction of onion sets and to ensure that the cartel participants complied with the agreements, competition-sensitive information was exchanged by the companies concerned.

15. **KPN, T-Mobile and Vodafone**

- A meeting took place in June 2001 between five Dutch mobile phone operators (T-Mobile Netherlands, KPN Mobile, Orange Nederland, Vodafone Libertel and Telfort Mobile BV).
- The operators allegedly exchanged information about the commission paid to dealers for post-paid subscriptions.
- The case came before the ECJ on a preliminary reference from a Dutch court.
- The national court sought guidance on whether there can be a breach of Article 81(1) even where there is only a single instance of shared sensitive information.
- The Dutch Trade and Industry Appeals Tribunal (CBb) confirmed that the companies engaged in cartel activities in 2001.
- ‘In this matter, we are supported by the ECJ, which has made it clear that mobile operators are never allowed to exchange information about the dealer remuneration levels, not even once’,.

16. **Readmaps (objection)**

- ACM maintains that the reading directory companies have made anti-competitive agreements.
- On 7 November 2013, ACM fined 13 companies that distribute reading folders because they had cartel agreements.
- These companies had divided the market among themselves. They agreed not to recruit each other’s customers and made agreements about each other’s work area. The various reading directory companies regularly exchanged information about this.

**Category C. Abuse of dominance by contract counterparty/bidder as a result of market power conferred by contract or during contract negotiation process (e.g. because of contractual/commercial constraints on replacement)**

17. **Dutch Railways NS**

- Dutch Railways NS abused its dominant position in the 2014 tender process for the public-transport contract in the southern Dutch province of Limburg.
• ACM fined NS for two violations.
  (i) The first violation is that NS submitted a lossmaking bid in the 2014 tender process for the public-transport contract in the province of Limburg.
  (ii) The second violation is a combination of several related actions:
    o NS used confidential information that it had obtained from a former director of rival operator Veolia, which operated the regional rail services in Limburg at the time of the regional tender process. At the time, this director was working indirectly for NS.
    o NS put its competitors at a disadvantage by responding slowly and providing incomplete answers in response to their requests for access to certain services and facilities at stations.
    o NS passed on confidential information about its competitors Veolia and Arriva to its own subsidiary Abellio, through which NS participated in the tender process. Furthermore, NS withheld useful information about passenger revenues from its competitors, while its own subsidiary Abellio was allowed to use said information.

18. KPN misuse of position in tendering (Decision on objection)

• KPN objected to the decision to impose a fine for violations of the Telecommunications Act.
• In the framework of a tendering procedure for fixed government telephony, KPN had charged the government lower tariffs than those charged to other comparable large corporate customers.
• With this, KPN abused its position because KPN had significant market power on this market, it had to charge the same rates to comparable customers. For that reason KPN had to publish the tariffs that it charged to the government for this service.

19. AstraZeneca

• The undertaking allegedly abused a dominant position with respect to the drug Nexium.
• However, the NMa could not sufficiently determine that AstraZeneca enjoyed a dominant position.
• Further, it could not be established that a sufficiently substantial group of patients that were prescribed the expensive branded drug Nexium outside of hospitals could also have benefited from a cheaper generic version of the drug.

Category D. Abuse of dominance by bundling but where there may be efficiency justifications (but no technical efficiencies)

20. Sandd complaint on abuse of dominant position TNT (appeal)

• The complaint addresses four possible violations of the Dutch Competition Act by TNT: predatory pricing, tying and bundling, exclusive long-term contracts, and price discrimination.
• The NMa did not find any indications of tying and bundling nor any exclusivity provisions (provisions in a contract prohibiting customers from buying services from competitors) between TNT and its customers. In addition, the NMa considered the durations of the contracts to be reasonable.
• Finally, the NMa has established that TNT did not engage in selective price-cutting.
21. **Bundling of telecom services**

- ACM notes that the importance of fixed-mobile bundles is increasing. The number of consumers with such bundles is growing. In addition, ACM sees increasing integration between ISPs and content providers.
- Although bundling can be advantageous for consumers, ACM also sees a number of risks to competition in the longer term. Partly as a result of bundling, consumers will switch less quickly, making it difficult for smaller providers to grow.
- Ultimately it may even lead to departures from the market, resulting in a decrease in competition. ACM will monitor these developments closely.
- The ongoing market analysis will devote explicit attention to the role played by fixed-mobile bundles and the competition potential for smaller providers.

**Category E. Agreement or understanding between contract sellers as to the exercise of contractual rights to vary contractual terms (e.g. price) pursuant to an existing contract**

None.
5f. Appendix: Competition case law review — Spain
Identification of relevant cases

<table>
<thead>
<tr>
<th>Platform- National Commission of the Markets and the Competition)</th>
<th>Period- 2010-2017</th>
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<td><strong>No</strong></td>
<td><strong>Case Title</strong></td>
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<tr>
<td>Segment 1. Loan product search</td>
<td>-Syndication loan, loan agreement, bank facility, multilateral loan, club deal, syndicated deal, corporate lending, loan (search terms)</td>
</tr>
<tr>
<td>1</td>
<td>Sanction proceedings against Banco Bilbao Vizcaya Argentaria, Banco Sabadell, Banco Santander and Caixabank</td>
</tr>
<tr>
<td>Segment 2. Wholesale Banking services</td>
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<td>Category A. Bid-rigging/information exchange between bidders during the course of tender process, with particular focus on persuading rivals to drop out in return for a role on sub-contract/future contract.</td>
<td>-bid suppression and the promise of a sub-contract, collusive tendering, subcontractor collusion, cover pricing, contractual offer, collusion between bidders, tender (search terms)</td>
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<tr>
<td>2</td>
<td>Road tendering</td>
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<td>3</td>
<td>Engineering companies</td>
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<td>4</td>
<td>Railway Bearings</td>
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<td>5</td>
<td>Waste cartel</td>
</tr>
</tbody>
</table>

### EU loan syndication and its impact on competition in credit markets

#### Jurisdictional review

**Segment 1. Loan product search**

1. **Financial derivatives**
   - The Comisión Nacional de los Mercados y la Competencia (the “CNMC”) fined four banks, Banco Bilbao Vizcaya Argentaria S.A. (“BBVA”), Banco Bilbao Vizcaya Argentaria S.A. (#S/0482/13).

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<thead>
<tr>
<th>Category</th>
<th>Type</th>
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<th>Date</th>
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<th>Article 1 Law 15/2007 &amp; 101 TFEU</th>
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<td>- exchange of commercially sensitive information, concerted practice, price-fixing, coordinating commercial and promotional strategies between competitors, information exchange between bidders, efficiency enhancing discussions between competitors (search terms)</td>
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</table>

[^3]: <https://www.cnmc.es/expedientes/s040412>
[^4]: <https://www.cnmc.es/expedientes/s050013>
[^5]: <https://www.cnmc.es/expedientes/s044612>
Sabatell S.A. ("Sabatell"), Banco Santander S.A. ("Santander") and CaixaBank S.A. ("CaixaBank") for a single and continuous infringement of the provisions of Article 1 of Law 15/2007, and Article 101 of the Treaty on the Functioning of the European Union ("TFEU"), consisting of a concerted action aimed at setting the price, above market prices, of the derivatives used as hedges for the interest rate risk associated with syndicated credits in project finance between 2006 and 2016.

- The CNMC separately analysed two conducts: i) the coordination to set the economic conditions of the derivatives for interest rate risk coverage of syndicated loans related to project finance and ii) the link between derivatives for the coverage of the interest rate and the syndicated banks by forcing the client to contract with them.

  - Regarding the first conduct, the CNMC considered that the banks coordinated to set a price above the one agreed in the contract with the client in both interest rate swaps and collars derivatives.
    - The derivative contracts were set at "zero cost" or "no cost" or "market value", i.e. at the time of contracting, none of the parties must make any disbursement, given that the price of the purchase and sale of options are the same. "Market value" refers to the fact that the price of the options purchased and sold (in the case of the collar) is made at market prices and that therefore there is no type of margin charged by the financial institution.
    - In the case of collars, the operation of contracting and fixing the caps and floors was as follows: the debtor of the syndicated credit went to the notary to sign while the representatives of the banks were in communication through teleconference from their respective entities to carry out the calculation of caps and floors. In general terms, the agent bank performed the calculations and offered values that needed to be accepted (or rejected) by the debtor of the syndicated credit and by the rest of the banking entities.
    - The banks communicated with each other, before the conversation with the client, to agree on a floor above the market level.
    - The CNMC concluded that the banks coordinated to set economic conditions for the coverage of risk of adulterated interest rates, with implicit margins imposed in a multilateral and concerted manner, and higher to what was agreed with the client in the contract "under market conditions", amounting to a restriction by object.

  - As for the second conduct, the CNMC considered that it was not possible to conclude on the unlawfulness of the fact that the banks forced clients of the syndicated loan to contract the coverage against the risk of interest rates with the same banks.

- According to the banks, coordination amongst competitors to jointly fix the price of derivatives in the context of a syndicated loan is common practice in all jurisdiction. Indeed, the banks confirmed the existence of a coordination.
  - Sabatell justified the coordination amongst banks by the fact that they are interested in controlling the level of the floor of the derivatives offered by each of them due to the guarantee system that comes with this type of contract. Absent a single floor or fixed rate fixed by all banks, there would be non-proportional settlements between banks, the incentive to offer higher floor and fixed rates, instability and uncertainty of cash-flow, and it would discourage banks from participating in the
EU loan syndication and its impact on competition in credit markets

Sabadell also considered that agreeing on the level of the floor allows banks to improve the production and distribution of financing services and does not affect competition outside these operations.

- According to Santander, the coordination is explained by the nature of syndicated coverage and the need of proportionality between banks, i.e. banks are in favour of having the floor level and the fixed rate at the same level for all banks, in case of expiration of voting rights. If the floor or fixed rate was negotiated between the client and each bank, there would be a clear incentive for banks to set a higher level than the other entities.

- According to an expert report submitted by one of the parties, it is usual market practice for banks to agree on the same conditions for both the syndicated loan and its coverage. The experts explained that it cannot be assumed that the banks acted in such way to harm the client given that the concentration of prices is usual in this kind of operations.

The CNMC considered that, although coordination is necessary to set the price and eliminate the differences between banks due to different calculation methods, in this case, it is the prior agreement of the banks, completely unknown to the client, which is considered as an infringement, and not the final negotiation with the client through teleconference. This is due to the fact that it is the first agreement which enables the banks to eliminate the uncertainty resulting from an autonomous action under market conditions, to know the offers from the rest of banks beforehand and to illicitly agree on a price that is more beneficial for them.

- The CNMC rejected the parties’ arguments that the practices could be considered as ancillary restrictions to derivative contracts, i.e. the legal exemption of article 1.3 of Law 15/2007 or 101.3 of the TFEU. Fixing prices higher than the ones agreed with the client did not allow "consumers or users to participate equally in their benefits", and the parties failed to demonstrate that it is essential that derivatives are entered into by the banks party to the loan – indeed, the CNMC considering such a requirement to be disproportionate.

- Finally, although it was not necessary to prove anti-competitive effects, the CNMC noted that the conduct had a negative effect, through price fixing, on the quality of the derivatives, i.e. the value of the coverage for the client was negative instead of "at zero cost" as agreed.

- The banks announced that they will appeal the fine of 91 million euros imposed by the CNMC.314

- The CNMC’s decision is the first infringement decision by an EU competition authority in connection with a product related to syndicated lending.315

Segment 2. Wholesale Banking services

None.

Segment 3. Financial services, including insurance

None.

314 MLex press round-up, 16 April 2018, http://www.expansion.com/empresas/banca/2018/04/15/5ad327b7e2704e59188b45a8.html
Category A. Bid-rigging/information exchange between bidders during the course of tender process, with particular focus on persuading rivals to drop out in return for a role on sub-contract/future contract.

1. Road Tendering

- 46 companies in the construction sector agreed to allocate and fix prices on government tenders for roadway maintenance works.
- The companies were in contact with each other and met to exchange information on the discounts off the base price that they planned to propose.
  - In practice, they would agree on the amount of the winning reduction and of the rest of the bids. These discounts (between 1% and 6%) were much smaller than those normally applied in competitive conditions (15% to 30%). The winning bidder thus obtained a higher budget at the expense of the Administration having to pay a higher price and would pay economic compensation to the rest of the competitors in the tender for having modified their offers.

2. Engineering companies

- Companies in question operated in the civil engineering field, offering post-tensioning and geotechnical systems.
- Together they are the main operators on the market and, in some cases, they are subsidiaries of large construction companies.
- The following infringements took place: On the post-tensioning systems markets, agreements to share out contracts for post-tensioning systems including various large projects and supply of bars.
- The companies held periodic meetings amongst themselves (sometimes monthly) in order to proceed with the sharing out of potential contracts and the monitoring of the sharing arrangements.
- Quotas were defined per company, which reflected their weight on the market, and potential contracts were shared out by reference to these quotas. Companies colluded on the price to be submitted to customers seeking the services in order to ensure the designated company would obtain the contract. Mechanisms were also defined for compensation between companies by reference to the quotas.

3. Railway Bearings

- The CNMC fined companies SCHAEFFLER, SKF and NSK, which are manufacturers of industrial bearings for railway vehicles, for constituting a cartel in the supply of these products to Spanish railway operator Renfe, almost the exclusive buyer of this type of products.
- The companies agreed to fix prices and share the Spanish market for industrial bearings for railway vehicles, which affected the tenders called by Renfe in 2004, 2007 and 2011.
- The cartel was organised and developed through meetings and telephone calls between the managers of the companies, which were carried out at the same time as the announcement of each tender. The managers contacted each other through meetings or by telephone, so as to agree on the offers to be submitted, fixing prices and distributing the mentioned tenders, at all times maintaining the allocation of supply of each reference of the product that historically had been supplied to Renfe by each of these companies.

4. Waste cartel
• The case concerned a national agreement for the distribution of the waste management and urban sanitation market.

• This agreement consisted of commitments to respect the respective clients; the distribution of new clients; the exchange of commercially sensitive information (clients, offers submitted to them, etc.); distribution of public tenders by means of the submission of joint offers or the non-concurrence of one part of the tender; use of sectorial associations to implement market distributions or coordinate actions; and collective recommendations issued by sectorial associations to persuade their associates to respect the overall market distribution agreement in the scope of their actions.

5. Modular construction

• The CNMC issued a decision concluding that nine undertakings had engaged in fixing prices and had entered into agreements to share customers and rig tenders organised by both private and public bodies in the Spanish market for modular constructions.

• The authority found that the anticompetitive practices had been taking place from 2008 to 2013 and affecting the territory of different Spanish autonomous regions.

Category B. Information exchange in circumstances where some discussion between competitors is necessary and efficiency-enhancing, but which goes beyond what is necessary (including between buyers and sellers where they are also competitors)

6. AENA Commercial services

• Self-drive car rental companies and authorised dealers at airports in several cities in Spain exchanged commercially sensitive information between April 1996 and September 2012 in collaboration with the public company in charge of airport management (AENA).

• The fined public company sent monthly reports that contained invoicing, the number of contracts and the conditions of the self-drive car rental companies that operated in 31 airports in their network.

• This allowed the involved companies to have an accurate knowledge of market quotas, the number of disaggregated contracts, and the evolution of their competitors, which facilitated coordination, as uncertainty was eliminated.

7. Car manufacturers

• The CNMC fined 21 companies and two consulting companies as a result of a cartel in the market for the distribution and marketing of motor vehicles and in the provision of after-sales services.

• The infringing companies implemented a systematic exchange of confidential and commercially sensitive information, both current and future, which was highly disaggregated and which covered almost all of the activities carried out by the sanctioned companies through their distribution and after-sales network.

• The exchanges of information were structured around three areas or exchange forums, although it was all part of a complex agreement.

Category C. Abuse of dominance by contract counterparty/bidder as a result of market power conferred by contract or during contract negotiation
process (e.g. because of contractual/commercial constraints on replacement)

8. Agedi/Aie Radio

- The intellectual property rights management entities AGEDI and AIE were fined for fixing inequitable rates and for applying more advantageous terms to some operators than to others.
- AGEDI and AIE were responsible for abusing their dominant position by setting unfair and discriminatory rates in relation to phonogram’s radio broadcasting in Spain.

9. Endesa Instalación

- Endesa Distribución abused its dominant position in the electrical installations market reserved for the distributor between 2009 and 2012.
- The abuse consisted of inappropriate charges for the execution of installations for new network extensions, in cases where the distributor company would be in charge of executing such installations, only charging the extension rights in force thus abusing its dominant position in the reserved electrical installations market in the distribution areas it managed.

**Category D. Abuse of dominance by bundling but where there may be efficiency justifications (but no technical efficiencies)**

None.

**Category E. Agreement or understanding between contract sellers as to the exercise of contractual rights to vary contractual terms (e.g. price) pursuant to an existing contract**

None.
5g. Appendix: Competition case law review — United Kingdom

Identification of relevant cases

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<thead>
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<th>Platform</th>
<th>Competition Market Authority &amp; LexisNexis</th>
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<tbody>
<tr>
<td>Period</td>
<td>2010-2017</td>
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### EU loan syndication and its impact on competition in credit markets

<table>
<thead>
<tr>
<th>No</th>
<th>Case Title</th>
<th>Case Reference</th>
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<tbody>
<tr>
<td>1</td>
<td>Royal Bank of Scotland Group plc v Barclays Bank plc[^316]</td>
<td>CE/8950-08</td>
<td>20 January 2011</td>
<td>Finance</td>
<td>Chapter I of the CA98 &amp; Article 101 of the TFEU</td>
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<tr>
<td>2</td>
<td>Payday lending market investigation[^317]</td>
<td>-</td>
<td>13 August 2015</td>
<td>Finance</td>
<td>Order under Enterprise Act 2002</td>
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</table>

#### Segment 2. Wholesale Banking services
- Market studies/Investigations/cases relevant to categories A-E and the loan syndication process.

| 3  | Dahabshiil Transfer Services Ltd v Barclays Bank plc; Harada Ltd and another v Barclays Bank plc[^318] | [2013] EWHC 3379 (Ch.) | 5 November 2013 | Banking services | Chapter 2 of the CA98 & Article 102 of the TFEU |

#### Segment 3. Financial services, including insurance
- Market studies/Investigations/cases relevant to categories A-E and the loan syndication process.

| 4  | FCA statement of objections to four asset management firms[^319]           | -                    | 29 November 2017      | Finance       | Chapter I of the CA98 & Article 101 of the TFEU |
| 5  | Private motor insurance market investigation[^320]                          | -                    | 18 March 2015          | Finance       | Market Investigation                             |
| 6  | Private motor insurance: exchange of data[^321]                             | CE/9388/10           | 2 December 2011        | Transport     | Chapter I of the CA98 & Article 101 of the TFEU |

[^316]: https://assets.digital.cabinet-office.gov.uk/media/555de2a0e5274a74ca000023/CE8950_08_dec.pdf.
### Category A. Bid-rigging/information exchange between bidders during the course of tender process, with particular focus on persuading rivals to drop out in return for a role on sub-contract/future contract.

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<thead>
<tr>
<th>Category</th>
<th>Industry</th>
<th>Case Ref</th>
<th>Date</th>
<th>Authority</th>
<th>Article of the TFEU</th>
</tr>
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<tbody>
<tr>
<td>7</td>
<td>Supply of products to the furniture industry (drawer wraps)</td>
<td>CE/9882-16</td>
<td>27 March 2017</td>
<td>Household goods, furniture and furnishings</td>
<td>Chapter I of the CA98 &amp; Article 101 of the TFEU</td>
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<tr>
<td>8</td>
<td>Galvanised steel tanks for water storage (Main Cartel)</td>
<td>CE/4327-04</td>
<td>19 December 2016</td>
<td>Building and Construction</td>
<td>Chapter I of the CA98 &amp; Article 101 of the TFEU</td>
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<td>9</td>
<td>Access control and alarm systems</td>
<td>CE/9248-10</td>
<td>6 December 2013</td>
<td>Fire, police and security</td>
<td>Chapter I of the CA98 &amp; Article 101 of the TFEU</td>
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<tr>
<td>10</td>
<td>Bid rigging in the construction industry (appeal)</td>
<td>[2011]CAT 3 (Kier Group plc and Others v OFT)</td>
<td>11 March and 27 April 2011</td>
<td>Construction</td>
<td>Chapter I of the CA98 &amp; Article 101 of the TFEU</td>
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### Category B. Information exchange in circumstances where some discussion between competitors is necessary and efficiency-enhancing, but which goes beyond what is necessary (including between buyers and sellers where they are also competitors)

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<td>11</td>
<td>Conduct in the ophthalmology sector</td>
<td>CE/9784-13</td>
<td>20 August 2015</td>
<td>Healthcare and medical equipment</td>
<td>Chapter I of the CA98 &amp; Article 101 of the TFEU</td>
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<td>12</td>
<td>Dairy retail price initiatives</td>
<td>CE/3094-03</td>
<td>26 July 2011</td>
<td>Retail and service</td>
<td>Chapter I of the CA98 &amp;</td>
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</tbody>
</table>

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323 https://assets.publishing.service.gov.uk/media/58db91e440f0b606e3000046/ce-9691-12-main-cartel-decision.pdf.
326 https://assets.publishing.service.gov.uk/media/55d5989f40f0b609ff000009/Conduct_in_the_ophthalmology_sector_decision_v2.pdf.
### EU loan syndication and its impact on competition in credit markets

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<tr>
<td>13 Galvanised steel tanks for water storage (information exchange decision)</td>
<td>CE/9691/12 19 December 2016 Building and construction Chapter I of the CA98 &amp; Article 101 of the TFEU</td>
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<tr>
<td>14 Airline passenger fuel surcharges for long-haul flights</td>
<td>CE/7691-06 19 April 2012 Transport Chapter I of the CA98 &amp; Article 101 of the TFEU</td>
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<tr>
<td>15 Health and fitness clubs</td>
<td>MP - G &amp; C/0004 10 September 2013 Recreation and leisure Chapter 2 of the CA98 &amp; Article 102 of the TFEU</td>
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<td>16 Domestic bulk LPG suppliers: unfair contract terms</td>
<td>MP-SIP18-21, MP-SIP23 1 March 2012 Oil and gas refining and petrochemicals Chapter 2 of the CA98 &amp; Article 102 of the TFEU</td>
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<td>17 Vehicle service, maintenance and repair platforms</td>
<td>CE/9496-11 9 September 2014 Communications Chapter 2 of the CA98 &amp; Article 102 of the TFEU</td>
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<td><strong>Dahabshiil Transfer Services Ltd v Barclays Bank plc; Harada Ltd and another v Barclays Bank plc (See above, No 3)</strong></td>
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328 [https://assets.publishing.service.gov.uk/media/58db746440f0b606e300003c/ce-9691-12-information-exchange-decision.pdf](https://assets.publishing.service.gov.uk/media/58db746440f0b606e300003c/ce-9691-12-information-exchange-decision.pdf).


Jurisdictional Review

Segment 1. Loan product search

1. Royal Bank of Scotland Group plc v Barclays Bank plc
   - Loans to large professional services firm
   - RBS staff provided pricing data to counterparts at Barclays
   - Barclays used the provided information to determine the pricing on its own loans.
   - Notably, the provided information detailed a proposed structure for two new loan facilities

Segment 2. Wholesale banking services

2. Investment and corporate banking market study
   - In 2015-2016, the FCA carried out a market study in relation to investment and corporate banking services, focusing on primary markets and related activities provided in the UK. It published a final report in October 2016.
   - While the FCA found that the universal banking model of cross-selling and cross-subsidisation from lending and corporate broking services to primary market services worked well for large corporate clients, it found that there were some practices that could have a negative impact on competition, particularly for smaller clients.
   - It made note of two key points relevant to loan syndication: reciprocity and restrictive contractual clauses:
     - Reciprocity is a practice whereby a bank issuing its own financing awards mandates to another bank partly based on how much business it will receive in return. The FCA analysed book-runner and co-manager roles awarded to reciprocal and non-reciprocal banks and concluded that reciprocity did not appear to be excluding non-reciprocal banks from competing because they could win mandates. It decided not to carry out further analysis by fees earned. The FCA did not propose any remedies related to reciprocity.
     - The FCA noted that banks used clauses in contracts, mandates or engagement letters that forced clients to award or offer future primary market services to that bank. It found that these clauses were restricting a client’s ability to use an alternative bank or adviser on a subsequent transaction. In June 2017, the FCA published a separate policy statement following the final report on its market study. The FCA

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19 | IDEXX Laboratories Ltd | CE/9322/10 | 1 November 2011 | Agriculture, environment and natural resources | Chapter 2 of the CA98 & Article 102 of the TFEU

Category E. Agreement or understanding between contract sellers as to the exercise of contractual rights to vary contractual terms (e.g. price) pursuant to an existing contract
- agreement to vary contract price/terms, change of existing terms, alterations to existing contract, horizontal agreement to vary contractual terms (search terms)
decided that “right of first refusal” clauses (i.e. a contractual right to be given the opportunity to enter into a business transaction with a company before anyone else can, the client subject to the right is prevented from accepting offers from third parties) should be banned; and “right to match” clauses (i.e. the right for the firm to be approached following a third-party offer, to match that offer with the client ultimately deciding which firm to select to provide the services) are acceptable. The ban will apply to agreements entered into from 3 January 2018.

3. Dahabshiil Transfer Services Ltd v Barclays Bank Plc; Harada Ltd and another v Barclays Bank Plc

- Barclays was in a dominant position in the market for banking services.
- Each of the Claimants carries on a “money service business”, defined as “an undertaking which by way of business operates a currency exchange office, transmits money (or any representations of monetary value) by any means or cashes cheques which are made payable to customers.”
- Following an internal review in late 2012 and early 2013, Barclays decided that it wished to reduce its exposure to this sector. The implementation of that decision forms the background to the present applications.
- They were subsequently given notice by Barclays of its intention to withdraw banking services from their businesses.
- The claimants contended that, Barclays had acted unlawfully because it was alleged to be in a dominant position in the market for the provision of banking services (Article 102 TFEU & Chapter II - Abuse of dominance).
- They sought interim injunctions to restrain Barclays from withdrawing its services.

Segment 3. Financial services, including insurance

4. FCA statement of objections to four asset management firms

- The FCA alleged that four firms shared information by disclosing the price they intended to pay in relation to one or more of two Initial Public Offerings (IPOs) and one placing, shortly before the share prices were set.
- The sharing generally occurred on a bilateral basis and allowed firms to know the others’ plans during the IPO or placing process when they should have been competing for shares.

The FCA’s main allegations were as follows:

- In 2015, Newton Investment Management Limited (‘Newton’) and Hargreave Hale Ltd and River & Mercantile Asset Management LLP disclosed and/or accepted information about the price they intended to pay for shares in relation to one IPO and a placing;
- In 2014 Artemis Investment Management LLP and Newton shared information about the price they intended or were willing to pay for shares in relation to another IPO.

5. Private motor insurance market investigation

- The CMA published its final report into the private motor insurance market which said that it would:
ban agreements between price comparison websites (PCWs) and insurers which stop insurers from making their products available more cheaply on other online platforms;
ensure there was better information for consumers on the costs and benefits of no-claims bonus protection.

6. Private motor insurance: exchange of data

- The OFT accepted formal commitments from six insurance companies and two IT software and service providers to limit the data they exchange between them.
- The commitments ensured that the companies would exchange pricing information through the analysis tool only if that information met certain principles agreed with the OFT.
- These principles required the information, if less than six months old, to be anonymised, aggregated across at least five insurers and already 'live' in broker-sold policies.

**Category A. Bid-rigging/information exchange between bidders during the course of tender process, with particular focus on persuading rivals to drop out in return for a role on sub-contract/future contract.**

7. Supply of products to the furniture industry- drawer wraps

- BHK UK and TATL exchanged competitively sensitive information prior to tendering
- Bid rigging occurred during the tender process and parties would ‘back off’ from, each other’s customers
  - *In practice when BHK was approached by a TATL customer, BHK would inform TATL by telephone and it would be agreed that BHK would either i) quote high in order not to win order, (ii) decline*
- Pricing information was shared for the purposes of submitting tactical quotes to customers, thus enabling the parties to maintain their respective customer bases; putting less downward pressure on prices than would otherwise be expected.

8. Galvanised steel tanks for water storage (main cartel)

- The practices in this case were bid-rigging and market sharing by way of customer allocation. The parties agreed which customers ‘belonged’ to which party and agreed benchmark prices for a range of tanks.
- Agreements were made and reinforced in regular meetings attended by the parties’ representatives, as well as in bilateral exchanges concerning particular bids.
- The fixing of the Parties’ prices, rigging of bids and allocation of customers in relation to the supply of CGSTs could not be said to have contributed to improving the production or distribution of goods, or promoting technical or economic progress.

9. Access control and alarm system

- Infringements comprised of three separate bilateral collusive tendering arrangements.
In practice, when bidding for these contracts, Cirrus shared its proposal with one of O'Rourke, Owens or Jackson with the aim that they would submit higher bids, thereby enabling Cirrus to win the contracts.

Parties exchanged confidential pricing information.

10. Bid rigging in the construction industry (appeal)

Corporations engaged in bid-rigging activities on 199 tenders, mostly in the form of ‘cover pricing’, (which occurs when a company obtains a price from a competitor in the tender process).

Certain instances involved bidders paying an unsuccessful bidder an agreed sum (compensation payment).

When communicating with one another regarding a compensation payment, the Parties disclosed, and received, information regarding their respective bidding intentions.

Even where the Parties did not exchange details of their tender prices, the exchange of information regarding the level of compensation to be paid also had an influence on the pricing of the contracts.

Category B. Information exchange in circumstances where some discussion between competitors is necessary and efficiency-enhancing, but which goes beyond what is necessary (including between buyers and sellers where they are also competitors)

11. Conduct in the ophthalmology sector

A membership organisation was formed to represent the interests of 37 limited liability partnerships (LLPs) and their 200 consultant members.

The platform provided members with a number of services including access to CESP Limited negotiated contracts with private medical insurers.

Information provided to members is for efficiency purposes but went beyond legal boundary as the organisation recommended that its members refused to accept lower fees offered by an insurer, and that they charged insured patients higher self-pay fees.

Further, infringements included;
- Circulating amongst its members’ detailed price lists for ophthalmic procedures.
- Sharing of consultants’ future pricing and business intentions.

12. Dairy retail price initiatives


This co-ordination was achieved by supermarkets indirectly exchanging retail pricing intentions with each other via the dairy processors - so called A-B-C information exchanges.

Efficient supply chains required a degree of communication.

Certain meetings/interactions were held for legitimate market discussions.

13. Galvanised steel tanks for water storage (information exchange decision)
• By way of a separate decision, this information exchange took place at a single meeting, in the context of a market which was already subject to a long-running cartel involving price fixing, bid rigging and market sharing by way of customer allocation (the main cartel)
• Balmoral was not a party to the main cartel infringement, and members of the main cartel were forced to compete with Balmoral Tanks for the supply of CGSTs.
• Balmoral Tanks attended a meeting at which it disclosed and received commercially sensitive information.

14. Airline passenger fuel surcharges for long-haul passenger flights
• BA and VAA co-ordinated their surcharge pricing on long-haul flights to and from the UK through the exchange of pricing and other commercially sensitive information.
• The contact between the Parties allowed each to make its decisions on PFS changes with foreknowledge of its main UK competitor's reaction.
• There were two channels of communication between the Parties in respect of the PFS changes; one at a communications level and the other at a commercial level.
• Interactions between the company's senior managers involved joint industry wide media initiatives on behalf of their airlines.

Category C. Abuse of dominance by contract counterparty/bidder as a result of market power conferred by contract or during contract negotiation process (e.g. because of contractual/commercial constraints on replacement)

15. Health and fitness clubs- consumer enforcement case
• Companies which operated in the health and fitness sector were using similar unfair contract terms or business practices, namely tying consumers into minimum membership periods with limited rights to cancel should their circumstances change and/or using misleading debt collection practices (unreasonable contract terms-customers were commercially constrained by the contract).
• OFT secured an enforcement order which prevented Ashbourne Management Services Limited (AMS), a gym management company, and its directors from recommending, using or relying on certain unfair contract terms and prohibited a number of its former debt collection practices which amounted to unfair commercial practices.

16. Domestic bulk LPG suppliers- consumer enforcement case
• In the Off-Grid Energy Market Study, the OFT received complaints that some people may be locked into domestic bulk LPG contracts with significant and unavoidable price increases.
• The concerns raised by the OFT varied by supplier and primarily related to two areas:
  • improved and/or clearer termination/switching/cancellation rights.
  • consistency with the Competition Commission (CC) Orders.

17. Vehicle service, maintenance and repair platforms
• Certain provisions in Epyx's contracts restricted its service, maintenance and repair platforms, customers - particularly those that manage vehicle fleets - from evaluating, developing, marketing and using alternative systems
• Epyx offered commitments that would relax or remove these contractual restrictions, giving Epyx's customers the freedom to work with, develop and sponsor alternative systems while also enjoying more frequent opportunities to switch supplier.

**Category D. Abuse of dominance by bundling but where there may be efficiency justifications (but no technical efficiencies)**

**18. BskyB**

• BSkyB was in a dominant position (Media Industry).
• The alleged anticompetitive behaviour was bundling practices of sports and film channels.
• OFT disagreed with this argument and closed the case.

**19. IDEXX Laboratories Ltd**

• There were no grounds for action related to abuse of dominance, since it was unlikely that INDEXX’s bundling of animal diagnostic testing equipment and external laboratory tests would foreclose competitors.

**Category E. Agreement or understanding between contract sellers as to the exercise of contractual rights to vary contractual terms (e.g. price) pursuant to an existing contract**

None.
### 6. Motivation and description of fieldwork

**Table 46: Motivation of information sought from lenders (through structured interview-based fieldwork)**

<table>
<thead>
<tr>
<th>Question category</th>
<th>Information sought</th>
<th>Relevance to study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview of activity in syndicated lending</td>
<td>Market-positioning and strategy, segments covered (LBO/PF/INFRA and geographic), geographic location of decision-making</td>
<td>Contextual understanding of answers to other questions. Contribution to consideration of market segmentation.</td>
</tr>
<tr>
<td>Transaction mechanics</td>
<td>Step by step description of deal process, including details on:</td>
<td></td>
</tr>
<tr>
<td>1. Origination of transaction to bank, functionality of different teams in the bank and interaction between these</td>
<td>Contextual understanding of answers to other questions.</td>
<td></td>
</tr>
<tr>
<td>2. Processes and governance around internal and external information flow</td>
<td>Understanding information exchange throughout origination and syndication process.</td>
<td></td>
</tr>
<tr>
<td>3. Appointment as MLA and formation of bank group</td>
<td>Understanding nature of the appointment process (e.g. competitive), use/nature of any market soundings, scope for (abuse of) dominance.</td>
<td></td>
</tr>
<tr>
<td>4. Role in general syndication (where applicable)</td>
<td>Understanding information exchange, market flex and any subsequent negotiation/allocation.</td>
<td></td>
</tr>
<tr>
<td>5. Basis for price-setting of loan</td>
<td>Understanding nature and availability of information sources used.</td>
<td></td>
</tr>
<tr>
<td>6. Activity in and price-setting of any ancillary services</td>
<td>Understanding scope for bundling, timing and nature of such ancillary services.</td>
<td></td>
</tr>
<tr>
<td>Secondary trading</td>
<td>Scale of activity, functional location within bank</td>
<td>Understanding role in primary market price formation, scope for abuse of informational advantage by MLAs, impact on MLA incentives.</td>
</tr>
<tr>
<td>Market evolution</td>
<td>Evolution of non-bank lenders and investors</td>
<td>Understanding broader competitive dynamics.</td>
</tr>
<tr>
<td></td>
<td>Market inefficiencies and the scope for technological or regulatory</td>
<td>Identifying market features that might generate sub-optimal economic</td>
</tr>
</tbody>
</table>
Refinancing and restructuring  Functional location of restructuring within bank and description of processes in restructuring and scope for sale  Understanding scope for abuse of informational advantage by MLAs, impact on MLA incentives

Table 47: Motivation of information sought from non-bank lenders and investors (through structured interview-based fieldwork)

<table>
<thead>
<tr>
<th>Question category</th>
<th>Information sought</th>
<th>Relevance to study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview of activity in syndicated lending</td>
<td>Market-positioning and strategy, segments covered, geographic location of decision-making</td>
<td>Contextual understanding of answers to other questions. Contribution to qualitative interpretation of market segmentation.</td>
</tr>
<tr>
<td>Transaction mechanics</td>
<td>Step by step description of deal process, including details on:</td>
<td></td>
</tr>
<tr>
<td>1. Origination of transaction</td>
<td>Contextual understanding of answers to other questions, nature and form of interaction with MLAs/borrowers/sponsors.</td>
<td></td>
</tr>
<tr>
<td>2. Processes and governance around internal and external information flow</td>
<td>Understanding information exchange throughout origination and syndication process.</td>
<td></td>
</tr>
<tr>
<td>3. Role and approach to general syndication</td>
<td>Understanding information exchange, market flex and any subsequent negotiation/allocation.</td>
<td></td>
</tr>
<tr>
<td>4. Approach to loan pricing</td>
<td>Understanding nature and availability of information sources used.</td>
<td></td>
</tr>
<tr>
<td>Secondary trading</td>
<td>Scale of activity and role</td>
<td>Understanding role in primary market price formation, scope for abuse of informational advantage by MLAs.</td>
</tr>
<tr>
<td>Market evolution</td>
<td>Evolution of non-bank lenders and investors</td>
<td>Understanding broader competitive dynamics.</td>
</tr>
<tr>
<td></td>
<td>Market inefficiencies and the scope for technological or regulatory change to resolve these</td>
<td>Identifying market features that might generate sub-optimal economic outcomes.</td>
</tr>
<tr>
<td>Refinancing and restructuring</td>
<td>Differentiation in processes between refinancing and origination, in restructuring and</td>
<td>Understanding scope for abuse of informational advantage by MLAs, impact on MLA incentives.</td>
</tr>
</tbody>
</table>
Table 48: Motivation of information sought from borrowers (through survey-based fieldwork)

<table>
<thead>
<tr>
<th>Question category</th>
<th>Information sought</th>
<th>Relevance to study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market experience</strong></td>
<td>Quantity and type(s) of transactions involved with</td>
<td>Contextual understanding of answers to other questions.</td>
</tr>
<tr>
<td><strong>Substitutes for syndicated loans</strong></td>
<td>Availability of substitutes and reasons for selection of syndicated loan</td>
<td>Contribution to qualitative interpretation of market segmentation.</td>
</tr>
<tr>
<td><strong>Process</strong></td>
<td>1. Approach to appointment of MLA, e.g. number of banks approached and relationship of these to borrower</td>
<td>Understanding nature of the appointment process (e.g. competitive), use/nature of any market soundings, scope for (abuse of) dominance.</td>
</tr>
<tr>
<td></td>
<td>2. Approach to formation of syndicate, e.g. identification of lenders, nature of approach</td>
<td>Understanding role vis-à-vis MLAs on selection and process.</td>
</tr>
<tr>
<td></td>
<td>3. Approach to setting of terms, including experience with flex</td>
<td>Understanding frequency and views of market flex.</td>
</tr>
<tr>
<td></td>
<td>4. Approach to assessing satisfaction with outcomes, e.g. use of independent advisers</td>
<td>Understanding use of third party advisors, particularly if any potential conflicts of interest involved.</td>
</tr>
<tr>
<td></td>
<td>5. Approach to negotiating any ancillary services</td>
<td>Understanding scope of bundling, timing and nature of such ancillary services, both those directly linked to loan and not.</td>
</tr>
<tr>
<td></td>
<td>6. Nature of fees, i.e. scale of contingent elements</td>
<td>Understanding MLAs’ incentive structure.</td>
</tr>
<tr>
<td><strong>Market evolution</strong></td>
<td>Market inefficiencies and the scope for resolution of these</td>
<td>Identifying market features that might generate sub-optimal economic outcomes.</td>
</tr>
<tr>
<td><strong>Restructuring</strong></td>
<td>Experience and satisfaction with outcomes</td>
<td>Understanding scope for abuse of informational advantage by MLAs.</td>
</tr>
</tbody>
</table>
### Table 49: Motivation of information sought from sponsors (through survey-based fieldwork)

<table>
<thead>
<tr>
<th>Question category</th>
<th>Information sought</th>
<th>Relevance to study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market experience</strong></td>
<td>Quantity and type(s) of transactions involved with, including with stapled finance</td>
<td>Contextual understanding of answers to other questions.</td>
</tr>
<tr>
<td><strong>Substitutes for syndicated loans</strong></td>
<td>Availability of substitutes and reasons for selection of syndicated loan</td>
<td>Contribution to qualitative interpretation of market segmentation.</td>
</tr>
<tr>
<td><strong>Process</strong></td>
<td>1. Approach to appointment of MLA, e.g. number of banks approached and relationship of these to borrower and actions to replace MLA</td>
<td>Understanding nature of the appointment process (e.g. competitive), use/nature of any market soundings, scope for (abuse of) dominance.</td>
</tr>
<tr>
<td></td>
<td>2. Approach to formation of syndicate, e.g. identification of lenders, nature of approach</td>
<td>Understanding role vis-à-vis MLAs on selection and process.</td>
</tr>
<tr>
<td></td>
<td>3. Approach to setting of terms, including experience with flex</td>
<td>Understanding frequency and views of market flex.</td>
</tr>
<tr>
<td></td>
<td>4. Approach to assessing satisfaction with outcomes, e.g. use of independent advisers</td>
<td>Understanding use of third party advisors, particularly if any potential conflicts of interest involved.</td>
</tr>
<tr>
<td></td>
<td>5. Approach to negotiating any ancillary services</td>
<td>Understanding scope of bundling, timing and nature of such ancillary services, both those directly linked to loan and not.</td>
</tr>
<tr>
<td></td>
<td>6. Nature of fees, i.e. scale of contingent elements</td>
<td>Understanding MLAs’ incentive structure.</td>
</tr>
<tr>
<td></td>
<td>7. Views on balance of bargaining power between borrowers, sponsors and lenders</td>
<td>Contextual understanding of answers to other questions.</td>
</tr>
<tr>
<td><strong>Market evolution</strong></td>
<td>Market inefficiencies and the scope for resolution of these</td>
<td>Identifying market features that might generate sub-optimal economic outcomes.</td>
</tr>
<tr>
<td><strong>Restructuring</strong></td>
<td>Experience and satisfaction with outcomes</td>
<td>Understanding scope for abuse of informational advantage by MLAs.</td>
</tr>
</tbody>
</table>
Table 50: Detailed borrower and sponsor questions

<table>
<thead>
<tr>
<th>Sponsor (S) and Borrower (B) question reference</th>
<th>Question</th>
<th>Answer options</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1; B1</td>
<td>What are your current funds under management (to nearest €100m)?</td>
<td>Open</td>
</tr>
<tr>
<td>S3; B2</td>
<td>Considering your business, which of the following types of debt financing have you (i.e. your firm) engaged in in the past 3 years?</td>
<td>Loan with a single bank (i.e. a bilateral loan)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Loan with a group of banks (i.e. a syndicated loan or a club deal)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Private placement of debt</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bond financing</td>
</tr>
<tr>
<td>S4</td>
<td>How would you describe your experience in selecting banks (e.g. lead arrangers) to lead syndicated loans?</td>
<td>We tend to approach the same lead bank(s) because our established relationship guarantees the most efficient loan.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>We tend to approach the same lead bank(s) due to lack of suitable alternatives.</td>
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<tr>
<td></td>
<td></td>
<td>We select the most relevant lead bank(s) based on the nature of the specific loan and the banks' expertise.</td>
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<tr>
<td></td>
<td></td>
<td>We aim to use different banks in order to ensure competitive bids.</td>
</tr>
<tr>
<td>S5; B3</td>
<td>Where you do use syndicated loans, how close a substitute for syndicated lending are each of the following usually (1 being not a close substitute to 5 being the closest possible - if the option was not a substitute, mark separately as NA)?</td>
<td>Bilateral lending</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bond financing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Private placement of debt (including Schuldscheine, etc.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other (please specify)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>There were no substitutes to syndicated borrowing</td>
</tr>
<tr>
<td>Sponsor (S) and Borrower (B) question reference</td>
<td>Question</td>
<td>Answer options</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
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</tr>
<tr>
<td>S6; B4</td>
<td>Compared with the closest substitute in the previous question, what were the reasons for choosing to take out a syndicated loan?</td>
<td>Only means of securing necessary volume of lending</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cheapest source of funding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>More flexible loan terms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Less risk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Faster</td>
</tr>
<tr>
<td></td>
<td></td>
<td>More privacy of the transaction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To maintain or make use of relationships with a number of banks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-availability of substitutes</td>
</tr>
<tr>
<td>S7; B5</td>
<td>Which of the following best describes the typical syndicated loan transaction your organisation engages in? <strong>We use throughout the term ‘mandated lead arranger’ to include all lead banks such as agents, bookrunners, underwriters etc.</strong></td>
<td>Other (please specify)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Club deal without a mandated lead arranger (MLA)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Club deal with MLA also appointed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fully underwritten deal with one MLA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fully underwritten deal with more than one MLA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Best efforts deal with one MLA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Best efforts deal with more than one MLA</td>
</tr>
<tr>
<td>S8; B6</td>
<td>Which procedure(s) do you usually follow when the MLA(s) are appointed in this transaction?</td>
<td>We appoint the MLA directly without receiving competing bids</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Request proposal for funding from various individual banks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Request proposal for funding from various individual banks and also pre-formed, pre-determined groups of banks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Issue a public request for proposals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other (please specify)</td>
</tr>
<tr>
<td>Sponsor (S) and Borrower (B) question reference</td>
<td>Question</td>
<td>Answer options</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>S9; B7</td>
<td>How many candidate banks do you typically approach to act as the MLA(s)?</td>
<td>One</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 – 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 – 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 – 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>More than that</td>
</tr>
<tr>
<td>S10; B8</td>
<td>Thinking about the banks approached to act as MLA, please say whether all, most, some or none are...</td>
<td>The banks approached are ones with whom the borrower had a pre-existing relationship</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The banks approached are ones with whom the sponsor had a pre-existing relationship</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The banks approached are based in the country of the borrower</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The banks approached are based in the country of the sponsor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The banks approached are based in neither the same country as the borrower nor the sponsor</td>
</tr>
<tr>
<td>S11; B9</td>
<td>Thinking about your MLA appointment, which of the following usually applies?</td>
<td>We usually appoint one MLA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>We appoint more than one MLA if the complexity of the transaction requires this</td>
</tr>
<tr>
<td></td>
<td></td>
<td>We appoint more than one MLA if the transaction is to be fully underwritten and a single MLA was not able to bear the risks on its own</td>
</tr>
<tr>
<td></td>
<td></td>
<td>We appoint more than one MLA if each lead arranger is well-placed to execute different tasks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other (please specify)</td>
</tr>
<tr>
<td>S12; B10</td>
<td>Do candidate MLAs typically know the identity of the other MLA candidates?</td>
<td>No, as there are specific NDAs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not to our knowledge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes, the process of appointment sometimes requires this</td>
</tr>
<tr>
<td>Sponsor (S) and Borrower (B) question reference</td>
<td>Question</td>
<td>Answer options</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>----------</td>
<td>----------------</td>
</tr>
<tr>
<td>S13; B11</td>
<td>Which of the following, if any, best represent(s) your attitude to the MLAs engaging in market sounding activities (this refers to the informal scouting of interest - both pre and post-appointment of the MLAs - in participation in the loan from other market players)?</td>
<td>Yes, this is a standard part of our process&lt;br&gt;It could lead to some privacy and information leaks concerns&lt;br&gt;We do not have much choice but to allow it in order to ensure the success of the syndication&lt;br&gt;It allows the lead arranger to gain market information which he may use to inflate the terms of the loan&lt;br&gt;We do not allow market sounding pre-appointment of the MLA, but allow it post-appointment&lt;br&gt;We do not allow it at all&lt;br&gt;We place restrictions on the amount/type of information that can be discussed between banks (please specify)&lt;br&gt;Other (please specify)</td>
</tr>
<tr>
<td>S14; B12</td>
<td>Have you ever been dissatisfied with the performance of an appointed MLA during the formation of the syndicate? What actions did you take?</td>
<td>Yes, and we replaced the MLA with another bank&lt;br&gt;Yes, but there was not another suitable bank to replace it with&lt;br&gt;Yes, but it was to contractually difficult or too costly in terms of other resources to replace the MLA&lt;br&gt;Yes, but the other MLAs and/or loan participants ensured the MLA performed adequately in the end.&lt;br&gt;No, all the MLAs have been satisfactory</td>
</tr>
<tr>
<td>S15; B13</td>
<td>What institutions are usually approached to be part of the general syndicate?</td>
<td>Commercial banks&lt;br&gt;Investment banks&lt;br&gt;Mutual funds&lt;br&gt;Insurance companies&lt;br&gt;Pension funds&lt;br&gt;Multilateral financial institutions</td>
</tr>
<tr>
<td>Sponsor (S) and Borrower (B) question reference</td>
<td>Question</td>
<td>Answer options</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>----------</td>
<td>----------------</td>
</tr>
<tr>
<td>S16; B14</td>
<td>How would you best characterise those institutions typically considered to participate in the loan? Please indicate in terms of all / most / some / none your views of the following characterisations:</td>
<td>EU agencies, National public sector agencies, Other (please specify), The institutions approached are ones with whom the borrower has a pre-existing relationship, The institutions approached are ones with whom the sponsor has a pre-existing relationship, The institutions approached are based in the country of the borrower, The institutions approached are based in the country of the sponsor, The institutions approached are based in the country of the MLA, The institutions approached are based in neither the same country as the borrower, nor sponsor nor MLA, The institutions approached are ones with whom the sponsor has a pre-existing relationship, The institutions approached are based in the country of the borrower, The institutions approached are based in the country of the sponsor, The institutions approached are based in the country of the MLA, The institutions approached are based in neither the same country as the borrower, nor sponsor nor MLA</td>
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<tr>
<td>S17; B15</td>
<td>And how would you best characterise those institutions that actually do participate in the loan? Please indicate in terms of all / most / some / none your views of the following characterisations</td>
<td>Candidate participants are relationship lenders and approached directly by the borrower/sponsor (or their advisors)</td>
</tr>
<tr>
<td>S18; B16</td>
<td>What procedure is typically used when forming the bank syndicate (i.e. including participant lenders)?</td>
<td>Candidate participants are relationship lenders and approached directly by the borrower/sponsor (or their advisors)</td>
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<tr>
<td>Sponsor (S) and Borrower (B) question reference</td>
<td>Question</td>
<td>Answer options</td>
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<td></td>
<td>Candidate participants are approached by the MLAs who agree terms with them.</td>
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<td>Competitive procedure between candidate participants</td>
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<td>Some of the participant lenders are approached, while others compete for a position</td>
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<td></td>
<td>A &quot;roadshow&quot; was organised where the loan is marketed to interested parties</td>
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<td></td>
<td>Other (please specify)</td>
<td></td>
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<tr>
<td>S19; B17</td>
<td>Who has ultimate say on which institutions join the syndicate?</td>
<td>The borrower and the sponsor (or their agent) do</td>
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<tr>
<td>B18</td>
<td>We now turn to the stage where participant lenders negotiate and agree terms with the lead arranger(s), before the final syndicate is formed. What is the typical process for negotiating the terms of the loan (fees, margin, covenants, adverse situations) where there is a main group of banks involved and further participant lenders?</td>
<td>We negotiate and agree the terms with the lead banks/lenders and finalise all or nearly all of the term sheet before further syndication to participant banks.</td>
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<tr>
<td>S20; B19b</td>
<td>At the stage during participant lender negotiation and before the final syndicate is formed, what kinds of information are typically shared between your firm and the participant lenders?</td>
<td>The same information as that is shared with the lead arranger(s)</td>
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<tr>
<td>S21; B19</td>
<td>How do you negotiate key terms with MLAs? Please rate the following:</td>
<td>We use past precedent to secure the best terms available</td>
</tr>
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</table>
### EU loan syndication and its impact on competition in credit markets

<table>
<thead>
<tr>
<th>Sponsor (S) and Borrower (B) question reference</th>
<th>Question</th>
<th>Answer options</th>
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<tbody>
<tr>
<td></td>
<td>We rely on advisers to secure the best terms available</td>
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<td></td>
<td>We rely on a competitive process (i.e. involving multiple lenders) to secure the best terms available</td>
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<td></td>
<td>There is not much negotiation as we agree on relatively standard loan terms</td>
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<td></td>
<td>Other (please specify)</td>
<td></td>
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<tr>
<td>S22; B20</td>
<td>What terms are liable to change between mandate and final syndication? Please check all that apply on LIKERT scale (no change, minor change, medium change, major change)</td>
<td>Margin</td>
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<td>Fees</td>
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<td></td>
<td>Covenants</td>
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<td></td>
<td>Terms of ancillary services</td>
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<td></td>
<td>No terms are negotiated with participant banks</td>
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<td></td>
<td>Other (please specify)</td>
<td></td>
</tr>
<tr>
<td>S23; B21</td>
<td>Are formal flex processes used by the lead arranger(s) in order to close the syndication?</td>
<td>Yes / No</td>
</tr>
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<td></td>
<td>If yes, were you satisfied with the outcomes of the flex process in terms of risk-sharing with leading lenders? (Yes/No and explain)</td>
<td>Yes/No - Open</td>
</tr>
<tr>
<td></td>
<td>The terms of the loan are not flexed, as we generally explicitly prohibit this in the mandate letter/other official documents</td>
<td></td>
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<td></td>
<td>There is usually no need for market flex but there can be provision for this in the contract</td>
<td></td>
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<tr>
<td>S24; B22</td>
<td>Did the negotiation with the lead arranger and/or participant institutions include arrangements about provisions of ancillary services related to the loan (e.g. hedging services, insurance, advisory services etc)?</td>
<td>Yes/No</td>
</tr>
<tr>
<td></td>
<td>If yes, why / how?</td>
<td>We negotiate the provision of ancillary services as part of the lead arranger(s) initial bids for the loan</td>
</tr>
<tr>
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<td></td>
<td>We negotiate the provision of ancillary services as part of the participant lenders' roles in the syndicate</td>
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<tr>
<td>Sponsor (S) and Borrower (B) question reference</td>
<td>Question</td>
<td>Answer options</td>
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<td></td>
<td>We offer the lead arranger(s) the opportunity to bid for ancillary services after the loan has been finalised</td>
<td></td>
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<tr>
<td></td>
<td>The lead arranger(s) make the provision of ancillary services to us a condition of the terms of the loan</td>
<td></td>
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<tr>
<td>If no to the first question, what was the process?</td>
<td>We are able to make our own arrangements for ancillary services wholly independently of the loan syndication process</td>
<td></td>
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<td></td>
<td>We are able to make our own arrangements for ancillary services independently of the loan syndication process, but in the first instance gave the leading banks in the syndicate the right to bid</td>
<td></td>
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<tr>
<td></td>
<td>We are able to make our own arrangements for ancillary services independently of the loan syndication process, but awarded the business to the leading banks in the syndicate</td>
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<td></td>
<td>Ancillary services are usually not relevant to our transactions</td>
<td></td>
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<tr>
<td>S25; B23</td>
<td>If you answered yes at S24; B22, which ancillary services do you typically agree to purchase?</td>
<td>Hedging services</td>
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<td></td>
<td>Insurance</td>
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<td>Advisory services</td>
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<td>Custodianship and related services</td>
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<td></td>
<td>Cash/collateral management</td>
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<td></td>
<td>Foreign exchange services</td>
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<td></td>
<td>Other (please specify)</td>
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<tr>
<td>S26; B24</td>
<td>Do the negotiations with the lead arrangers and/or other participant institutions ever include arrangements about provisions of services not connected to the scope of the loan (i.e. cross-selling, such as participation in another loan)?</td>
<td>Yes/No</td>
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<tr>
<td></td>
<td>We negotiate the provision of other, unrelated services as part of the lead arranger(s) initial bids for the loan</td>
<td></td>
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<td></td>
<td>We negotiate the provision of other, unrelated services as part of the participant lenders' role in the syndicate</td>
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<tr>
<td></td>
<td>We offer the lead arranger(s) the opportunity to bid for other, unrelated services after the loan had been finalised</td>
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<tr>
<td>Sponsor (S) and Borrower (B) question reference</td>
<td>Question</td>
<td>Answer options</td>
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<tr>
<td>S27; B25</td>
<td>If yes to S26; B24, exactly what kind of provisions were made?</td>
<td>Arrangement in another loan</td>
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<td>Participation in another loan</td>
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<td>Underwriting of other security</td>
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<td>Advisory services</td>
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<td>Custodianship and related services</td>
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<td>cash/collateral management</td>
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<td>Insurance</td>
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<td>Foreign exchange services</td>
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<td></td>
<td>Investment research and financial analysis</td>
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<tr>
<td></td>
<td></td>
<td>Hedging services</td>
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<td></td>
<td></td>
<td>Other (please specify)</td>
</tr>
<tr>
<td>S28; B26</td>
<td>How is the final price of the loan typically negotiated per tranche?</td>
<td>Highest common denominator amongst all participant propositions to secure the necessary volume</td>
</tr>
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<td>Negotiate common price</td>
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<td></td>
<td>Negotiate common price, based on initial talks between MLAs and us as the borrower</td>
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<td>The borrower/sponsor/adviser sets the price and requests interest from lenders</td>
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<tr>
<td>S29; B27</td>
<td>In your view, what are the main factors affecting the current pricing of syndicated loans?</td>
<td>Interest rate environment</td>
</tr>
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<td>The risk profile of the borrower / sponsor</td>
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<td>The nature of risk of the project</td>
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<td>Market liquidity</td>
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<td>Appetite among non-bank lenders</td>
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<td>Regulatory changes</td>
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<td>Sponsor (S) and Borrower (B) question reference</td>
<td>Question</td>
<td>Answer options</td>
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</table>
| S30; B28                                      | How do you assess the price and terms on loans to ensure that these are satisfactory? | - We use a predetermined benchmark price, based on our own assumptions and negotiate a price close enough to that.  
- We use a predetermined benchmark price, based on some industry standard and negotiate a price close enough to that.  
- We are willing to accept a higher than expected loan price, if the other terms of the loan (maturity, covenants, etc.) are good enough to compensate.  
- We are sometimes not very satisfied with the loan price, however we are not able to negotiate a lower one.  
- Other (please specify). |
| S31; B29                                      | Receive any additional help in assessing price/terms?                      | - No, we assess the terms internally.  
- Yes, we rely on an external financial advisor.  
- Yes, we rely on a relationship bank (who is part of the syndicate) to advise us.  
- Yes, we rely on a relationship bank (who is not part of the syndicate) to advise us.  
- Yes, we rely on some other institution (please specify). |
| S32; B30                                      | Do the loan agreements include any provisions preventing secondary trading of the loan? | - Always/Sometimes/Seldom/Never/We sometimes have provisions limiting secondary trading rather than prohibiting it.  
- Secondary market trading could complicate the repayment procedure, as the identity of the secondary lender may be ambiguous.  
- It could complicate a potential defaulting procedure.  
- We have some concerns about the distribution of our confidential information.  
- There are specific lenders we do not want to borrower from.  
- Other reason (specify). |
<p>| S33; B31                                      | How much, if any, of the MLA's fees are contingent on successful           | All.                                                                                                                                              |</p>
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer options</th>
</tr>
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<tbody>
<tr>
<td>conclusion of the loan?</td>
<td>A large amount&lt;br&gt;A reasonable amount&lt;br&gt;A small amount&lt;br&gt;None</td>
</tr>
<tr>
<td>In terms of the operation of the syndicate post-closure, has there been any default on the loan terms or need for refinancing?</td>
<td>Y / N</td>
</tr>
<tr>
<td>If Yes at S34; B32, please assess the following statements:</td>
<td>We negotiated with the original syndicate only&lt;br&gt;We negotiated with the original syndicate and other market participants</td>
</tr>
<tr>
<td>If Yes at S34; B32 were ancillary services bundled in at this stage?</td>
<td>We negotiated the new terms and the provision of ancillary services with the original syndicate only&lt;br&gt;We negotiated the new terms and the provision of ancillary services with the original syndicate and other market participants&lt;br&gt;We had no choice but to accept the provision of all ancillary services by the syndicate members.</td>
</tr>
<tr>
<td>How, overall, would you rate the success of the loan syndication transaction in meeting your financing needs?</td>
<td>LIKERT scale</td>
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<tr>
<td>In your view, are you aware of any risks to competition in the SL market arising from MLA or lender behaviour?</td>
<td>Open-ended</td>
</tr>
<tr>
<td>What, if any, improvements in the functioning of the SL market would you like to see?</td>
<td>Open-ended</td>
</tr>
<tr>
<td>Was there was stapled financing?</td>
<td>Often/Sometimes/Never/Not applicable (i.e. if not an LBO deal)</td>
</tr>
<tr>
<td>If yes, how did the final terms executed match up?</td>
<td>The final terms were more borrower-friendly, with the bank(s) offering the stapled financing&lt;br&gt;The final terms were more borrower-friendly, with a different lender/ syndicate&lt;br&gt;The final terms were the same, with the bank(s) offering the stapled financing</td>
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<tr>
<td>Sponsor (S) and Borrower (B) question reference</td>
<td>Question</td>
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<td>S41</td>
<td>When selecting lead arrangers, how important is the existence of an existing relationship?</td>
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<td>S41</td>
<td>What benefits do you achieve from acting with the same institutions on multiple transactions?</td>
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<tr>
<td>S42</td>
<td>How do you consider the balance of power in a syndication to be evolving between sponsors, borrowers and lenders?</td>
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</table>
Abstract

Debt is a critical source of finance for the European economy. The syndicated loan market is a major contributor of debt finance, particularly in terms of large-scale debt.

This study by Europe Economics investigates whether the syndicated loans market in six selected countries – France, Germany, the Netherlands, Poland, Spain and the United Kingdom – is working well and efficiently. This research focused on two, important, segments within the overall syndicated lending market – loans supporting Leveraged Buy-outs (LBOs) and those financing project and infrastructure investment.

Our work identifies some areas of potential competition concern, particularly around aspects of information exchange between lenders, the provision of ancillary services (such as hedging) by banks that are part of the syndicate, the combination of advisory and debt arranging activities and in refinancing situations. We describe how these risks differ between the LBO and PF/INFRA segments. We identify those features in the market and within market participants that can influence the likelihood of these risks being actualised.

We also identify an area of inefficiency in the loan syndication market, not directly related to the competition policy risks, around settlement processes, which could be another area for future regulatory attention.
Collusion in Markets with Syndication*

John William Hatfield
McCombs School of Business
University of Texas at Austin

Scott Duke Kominers
Harvard Business School &
Department of Economics
Harvard University

Richard Lowery
McCombs School of Business
University of Texas at Austin

Jordan M. Barry
School of Law
University of San Diego

July 30, 2018

Abstract

Many markets, including the markets for IPOs and debt issuances, are syndicated, in that a bidder who wins a contract will often invite competitors to join a syndicate that will fulfill the contract. We model syndicated markets as a repeated extensive form game and show that standard intuitions from industrial organization can be reversed: Collusion may become easier as market concentration falls, and market entry may in fact facilitate collusion. In particular, price collusion can be sustained by a strategy in which firms refuse to join the syndicate of any firm that deviates from the collusive price, thereby raising total production costs. Our results can thus rationalize the apparently contradictory empirical facts that the market for IPO underwriting exhibits seemingly collusive pricing despite its low level of market concentration.

JEL Classification: D43, L13, G24, L4

Keywords: Collusion, Antitrust, IPO underwriting, Syndication, Repeated games

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# 1 Introduction

The fees that investment banks collect for initial public offerings (IPOs) strongly suggest collusive behavior, with investment banks apparently coordinating on fees of 7% of issuance proceeds for moderately sized IPOs (*Chen and Ritter*, 2000). At the same time, the number of investment banks running moderately sized IPOs is quite large, and there appears to be a nontrivial amount of entry and exit in the market (*Hansen*, 2001); this presents a puzzle, as standard industrial organization intuitions would therefore suggest that pricing should be competitive.

One possible explanation lies in the structure of the IPO underwriting market. The market for running IPOs is syndicated; once the bid to run an IPO is accepted, the winning investment bank must then organize a syndicate to complete the IPO. In this paper, we show that syndication can explain how collusion may be maintained in the presence of many small firms. We show that the presence of syndication can reverse the standard intuition regarding the effect of market concentration—below a certain level of concentration, the scope for collusion in a syndicated market increases as concentration declines: colluding firms can punish a firm that undercuts the collusive price by immediately refusing to participate in that firm’s syndicate. This type of in-period punishment is not available in non-syndicated markets. Moreover, these in-period punishments become more powerful as a market becomes less concentrated; when the market is comprised of many small firms, joint production lowers production costs dramatically.

Figure 1 shows the behavior of IPO spreads over the last forty years.\(^1\) In the late 1970s, spreads for IPOs tended to be quite high, exceeding 7%. In the early 1980s, spreads for IPOs with proceeds in excess of $20 million began to fall below 7%. However, over the course of the late 1980s, and particularly through the 1990s, spreads for IPOs with proceeds between $20 and $100 million became increasingly clustered at 7%. This clustering continues in the

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\(^1\)The spread on an IPO is the difference between the price that the underwriters pay for the issuer’s stock and the price that investors pay, expressed as a percentage of the price investors pay.
Figure 1: This animation shows the relationship between IPO proceeds and spreads over time for IPOs with proceeds less than $100 million. Proceeds (in millions of dollars) are plotted on the horizontal axis and spreads (i.e., the percentage of the proceeds that goes to the underwriters) are plotted on the vertical axis. The movie shows a rolling twelve-month window of data. Over time, spreads become increasingly concentrated at exactly 7%. Click anywhere on the figure to start the animation. A description of the data used for this figure can be found in Appendix A.

2000s. Notably, the IPO market largely ceased to operate following the 2007-2008 financial crisis, and very few IPOs took place; nevertheless, those that did still paid the 7% spread.\footnote{The 7% spread has recently attracted the attention of Commissioner Robert J. Jackson Jr. of the Securities and Exchange Commission who, noting that “middle-market entrepreneurs still have to pay 7% of what they’ve created to access our public markets,” has become concerned that this “IPO tax” has discouraged firms from going public (\textit{Jackson}, 2018).}

Yet, as first documented by \textbf{Hansen} (2001), the market for IPOs since the 1990s appears “competitive,” in the sense that many firms were active in the market; indeed, the largest four firms together only make up between 40% and 50% of the market in this period, as depicted in Figure 2.

We model a market with syndication as a repeated extensive form game: In each period, firms compete on price for the opportunity to complete a single project and, upon being selected, the chosen firm may invite additional firms to join in the production process. Recruiting additional firms is valuable because production costs are convex in the amount
Figure 2: The Herfindahl-Hirschman index (HHI) of, and the market share of the largest four firms in, the market for IPOs. The U.S. Department of Justice defines an industry with an HHI of less than .15 to be an “unconcentrated market” (Department of Justice and Federal Trade Commission, 2010, p. 19). A description of the data used for this figure can be found in Appendix A.

of production done by a single firm. Each invited firm then decides whether to join the syndicate. The project is then completed by the syndicate members, payoffs are realized, and play proceeds to the next period.

We show that, in markets with syndication, less concentrated markets may have prices that are farther from the marginal cost of production. In particular, the highest price that can be sustained under equilibrium play is a U-shaped function of market concentration: When markets are very concentrated, collusion can be sustained as in many standard industrial organization models: after a firm undercuts on price, all firms revert to a “competitive” equilibrium in which firms earn no profits in every subsequent period.\(^3\) However, when many small firms are present, completing the project alone becomes very costly, and thus collusion can be sustained by in-period punishments: after a firm undercuts on price, other firms

\[^3\text{See, for instance, Tirole (1988).}\]
can punish the undercutting firm in the same period by refusing to join its syndicate (and thus dramatically increasing the undercutting firm’s costs of production). Of course, such behavior by other firms must itself be incentive compatible. Thus, firms that reject offers of syndication from a firm that undercut on price must be rewarded in future periods. Moreover, firms that turn down more attractive syndication offers receive greater rewards in subsequent periods.

In repeated normal form games, punishments can be enforced using the simple penal codes of Abreu (1986), under which only one punishment strategy is needed for each player, regardless of the timing or nature of the deviation. However, as noted by Mailath et al. (2016), in the analysis of repeated extensive form games it is necessary to consider more complex responses to deviations.\(^4\,5\) In particular, in our setting, it is key that firms punish a price undercutter in-period by refusing the undercutter’s offers of syndication; to do this, we must construct strategies that simultaneously punish a firm that undercuts on price and reward firms which refuse to join a price undercutter’s syndicate.\(^6\,7\)

\(^4\) It is not sufficient to consider the repeated version of the reduced normal form game, as the equilibria of that game will not necessarily correspond to subgame-perfect equilibria of the original repeated extensive form game.

\(^5\) Nocke and White (2007) were the first to use the theory of repeated extensive form games to study collusion, showing that vertical mergers can facilitate collusion under certain circumstances. Byford and Gans (2014) consider collusion via market segmentation by considering a repeated extensive form game with market segment entry decisions followed by production decisions; they, however, restrict attention to a class of equilibria in which agents’ decisions regarding production can not depend on past play, eliminating the extensive-form considerations which are central to our work here. See also the work of Atakan and Ekmekci (2011), who consider how reputation may be built in a repeated extensive form game with initial uncertainty about one player’s type.

\(^6\) To our knowledge, we are the first to model syndication, i.e., subcontracting, in a repeated extensive form game. There is, however, a large literature on horizontal subcontracting in the context of one-shot interactions, starting with the work of Kamien et al. (1989); see also the work by, among others, Spiegel (1993) and Shy and Stenbacka (2003).

\(^7\) Brock and Scheinkman (1985) consider an unrelated model of Bertrand competition with capacity constraints. In their model, the stage game is a normal form game in which firms announce prices, with the lowest-priced firm making sales to the limit of its capacity before the next-lowest-priced firm makes sales, and so on. The highest sustainable price may be non-monotonic in the number of firms, as adding a firm makes the stage-game Nash equilibrium outcome less profitable for all firms (in addition to the usual effect that adding a firm reduces the profits to each colluding firm by dividing the profits of collusion among one more participant). (Note that Brock and Scheinkman (1985) restrict their analysis to punishment strategies that are stage-game Nash equilibria, which are not necessarily optimal.)

The Brock and Scheinkman (1985) model is fundamentally different from ours: In their model, firms only interact in one step, in which they compete, while in ours firms also collaborate through a second, post-pricing step via the syndication process. Due to the syndication process in our model, there always exists a zero-profit
Our baseline model considers the case of symmetric firms; we extend our results to markets with heterogeneous firms. As in the case with symmetric firms, firms can collude even when the market is very fragmented; indeed, heterogeneity itself can increase firms’ ability to collude. Moreover, the entry of small firms enhances the scope for collusion in markets with syndication, again counter to standard results in the theory of industrial organization.\footnote{Both Rosenthal (1980) and Chen and Riordan (2008) also consider models in which entry can increase prices; however, entry can increase prices in their settings for very different reasons than those examined here.}

Whether spreads on IPOs are set in a competitive or collusive manner has been debated in the finance literature since Chen and Ritter (2000) first documented the clustering of IPO spreads at 7\%. Abrahamson et al. (2011) documented that the spreads for IPOs are significantly higher in the United States than in Europe, and cited this as evidence that pricing in the U.S. underwriting market is collusive; Lyandres et al. (2016) also provide empirical results consistent with implicit collusion. Kang and Lowery (2014) presented and estimated a formal model of why collusion would lead to the observed clustering on spreads, using insights on collusive behavior from Athey et al. (2004);\footnote{Kang and Lowery’s work also helps to explain why, under collusion, spreads may not change with IPO size or changes over time in the cost of performing an IPO.} moreover, while spreads are constant up to a threshold of approximately $100 million, they decline for the largest IPOs in a manner consistent with the model of Rotemberg and Saloner (1986). By contrast, Hansen (2001) claims that the clustering of IPO spreads is likely to be the result of efficient contracting, documenting the apparent relative ease of entry and lack of concentration in the market.\footnote{Torstila (2003) documents the clustering of spreads at lower levels in countries other than the United States, arguing that this provides evidence that clustering does not imply collusive behavior.}

Our work helps reconcile the apparently conflicting evidence: we show that collusion in IPO markets is possible despite—and in fact may be facilitated by—low levels of market concentration.

There also is a related debate over whether the pricing of the IPO securities themselves is collusive. IPO shares generally gain about 15\% on their first day of public trading, suggesting \footnotemark\footnote{(subgame perfect) Nash reversion equilibrium of the stage game; thus, the fundamental driver of their result that the highest sustainable price can be non-monotonic in industry concentration is not present in our model.}
that issuers are “leaving money on the table” (Loughran and Ritter, 2004). Some authors argue that underpricing is a means for underwriters to extract rents from issuers—likely a feature of an uncompetitive market (Biais et al., 2002; Cliff and Denis, 2004; Loughran and Ritter, 2004; Liu and Ritter, 2011; Kang and Lowery, 2014). On the other hand, other authors argue that issuers may desire underpricing, and thus underpricing can occur even when underwriters compete aggressively (Rock, 1986; Allen and Faulhaber, 1989; Benveniste and Spindt, 1989; Chemmanur, 1993; Brennan and Franks, 1997; Stoughton and Zechner, 1998; Lowry and Shu, 2002; Smart and Zutter, 2003). While our work does not address the issue of underpricing directly, it does show that underwriters could collude in the market for IPOs, even though—or even because—the market is highly fragmented.

Finally, while we motivate our model via the market for IPO underwriting services, our results have wider ramifications. Many other financial markets are syndicated, including the markets for debt, reinsurance, and private equity. Motivated by our work, Cai et al. (2018) investigate the effects of market concentration on interest rates (i.e., prices) in the syndicated loan market. Consistent with our theory, they find robust evidence that prices are indeed U-shaped in market concentration.

Meanwhile, numerous lawsuits have alleged that private equity firms used strategies similar to those that we describe here to support collusion.11 These lawsuits12 claim that firms “monitored compliance through . . . detailed ‘scorecards’ that listed the deals they worked on, who else was involved in those deals, and the resulting favors that they owed others and that others owed them.”13 Indeed, Officer et al. (2010) found that shareholders in firms bought out through leveraged buyouts (LBOs) received approximately 40% lower premiums in club deals (i.e., syndicated LBOs) compared to sole-sponsored LBOs. The plaintiffs observed that

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11 This behavior was also the subject of a multi-year criminal investigation by the Department of Justice.
13 For example, in one ‘instance, when Apollo co-founder Leon Black expressed his anger at Goldman Sachs’ ‘lack of reciprocity’ for two deals he had invited Goldman Sachs to join, Goldman Sachs executives reviewed their scorecard and readily agreed that they ‘truly need[ed] to involve [Apollo] soon in a principal deal [via syndication].’”
“KKR bragged to its investors in 2005: ‘Gone are the days when buy-out firms fought each other with the ferocity of cornered cats to win a deal.’” Moreover, the plaintiffs argued that “Every time a Defendant’s club signaled that it had a proprietary deal . . . the other Defendants refused to submit a better offer—even when . . . this enabled [an acquiring] club to purchase [a target] at such a low price, it amounted to [in the words of one Defendant] ‘highway robbery.’” Plaintiffs offered evidence that defendants refused to work with outsiders (i.e., potential entrants and spoilers of collusion) who wanted to challenge allegedly collusive deals. The plaintiffs also argued that in exchange “for not competing for large LBOs,” defendants were “offered an invitation to participate in that LBO” or a future LBO “with its co-conspirators” explicitly “as a reward.” Indeed, firms “invited into a current deal understood that they were required to invite their co-conspirators into a subsequent deal.”\textsuperscript{14,15}

Outside of the finance industry, syndication through horizontal subcontracting is also common. Examples include construction, transportation, communications, and military procurement.\textsuperscript{16} Moreover, antitrust authorities have noted that collusive behavior seems to be more common in industries in which horizontal subcontracting is prominent; this experience has led them to heighten scrutiny of these industries.\textsuperscript{17} Our model thus has implications for understanding pricing behavior and firms’ ability to collude in a number of different industries.

The remainder of the paper is organized as follows: Section 2 introduces our model of a market with syndicated production. Section 3 characterizes the highest price sustainable via collusion in such markets. Section 4 considers how the highest price sustainable via collusion

\textsuperscript{14}The punishments described here clearly rely on the syndicated nature of the industry. Although they use somewhat different punishment strategies than those that are exactly optimal in our model, these syndication punishments nevertheless play a similar role as in our model.

\textsuperscript{15}Following seven years of litigation, defendants settled the aforementioned lawsuit for approximately $600 million.

\textsuperscript{16}For a discussion of industries where horizontal subcontracting is important, see Spiegel (1993), Aronstein et al. (1998), Gil and Marion (2012), and Marion (2015).

\textsuperscript{17}See the US Antitrust Guidelines for Collaboration among Competitors (Federal Trade Commission, 2000) and the Department of Justice primer on “Price Fixing, Bid Rigging, and Market Allocation Schemes: What They Are and What to Look For” (Department of Justice, 2015), as well as the EU Guidelines on the Applicability of Article 101 of the Treaty on the Functioning of the European Union to Horizontal Co-operation Agreements (European Commission, 2011).
depends on market conditions. Section 5 extends the model to allow for contracting over production shares. Section 6 explores the effect of firm heterogeneity and market entry on the highest sustainable price. Section 7 concludes.

2 Model

We introduce a model of price competition in markets with syndication. There is a finite set of long-lived identical firms $F$ and an infinite sequence of short-lived identical buyers $\{b_t\}_{t \in \mathbb{N}}$; we let $\varphi \equiv \frac{1}{|F|}$ be the market concentration. Time is discrete and infinite; firms discount the future at the rate $\delta \in (0, 1)$.

Each firm $f$ is endowed with a production technology with a cost function $c(s, m)$, where $s$ is the quantity of production done by firm $f$ and $m$ is the mass of the productive capacity controlled by firm $f$. We assume that the cost function is strictly increasing and strictly convex in the production done by the firm and strictly decreasing and strictly convex in the productive capacity of the firm. We also assume that a firm which does not engage in production incurs no costs, i.e., $c(0, m) = 0$ for all $m$, and that production becomes arbitrarily costly as the productive capacity of the firm goes to 0, i.e., $\lim_{m \to 0} c(s, m) \geq \infty$ for all $s > 0$. Finally, we assume that the cost function is homogeneous of degree one.\footnote{This last assumption is stronger than is generally necessary for our analysis but it greatly simplifies our presentation here. It is enough for our results that, as we proportionately increase the production required and the productive capacity, the cost function increases at a slower rate, i.e., $\frac{\partial^2 c(s, sm)}{\partial s^2} \leq 0$ for all $s, m > 0$; in the homogeneous case, this expression holds with equality. Economically, this implies that larger firms are weakly more efficient, in the sense that one firm with productive capacity $sm$ can complete a production share $s$ at a (weakly) lower cost than multiple firms with combined productive capacity $sm$.}

We let the total productive capacity in the economy be given by $k > 0$; in this section, we assume that the total productive capacity is evenly divided among the firms, so that the cost of producing $s$ for any one firm is $c(s, \varphi k)$.

In each period $t$, the firms and the buyer $b_t$ play the following extensive-form stage game:

**Step 1:** Each firm $f \in F$ simultaneously makes a price offer $p^f_t \in [0, \infty)$. All offers to the
buyer are immediately and publicly observed.\textsuperscript{19}

**Step 2:** The buyer accepts at most one offer; the buyer’s action is immediately and publicly observed. If no offer is accepted, the stage game ends.

**Step 3:** If the offer from some firm is accepted, then that firm becomes the *syndicate leader*, \( \ell \). Firm \( \ell \) then simultaneously\textsuperscript{20} offers each *non-leader firm* \( g \in F \setminus \{ \ell \} \) a fee \( w_g^\ell \). These offers are immediately and publicly observed.\textsuperscript{21}

**Step 4:** Each firm \( g \in F \setminus \{ \ell \} \) either accepts or rejects the fee \( w_g^\ell \) from \( \ell \). We call the set of firms that accept \( \ell \)'s offer, along with the firm \( \ell \), the *syndicate* \( G_\ell \). At the end of the period, all agents observe the syndicate.\textsuperscript{22}

The buyer \( b_t \) has a fixed *value* of \( v > c(1,1) \) for the finished product.\textsuperscript{23} Thus, the payoff to the buyer \( b_t \) is \( v - p_f^\ell \) if he accepts the price offer from firm \( f \) and 0 if he does not accept any offer.

If the buyer \( b_t \) does not accept any offer, then each firm \( f \in F \) obtains a payoff of 0. If firm \( \ell \) becomes the syndicate leader, i.e., the buyer \( b_t \) accepts the offer of firm \( \ell \), then production is performed efficiently *ex post* by the members of \( \ell \)'s syndicate, and so each member of the syndicate performs an equal share of production.\textsuperscript{24} Thus, the stage game payoffs for the firms after a successful offer to the buyer from firm \( \ell \) are as follows:

1. The payoff for \( \ell \) is \( p_\ell^f - c\left(\frac{1}{|G_\ell|}, \varphi k\right) - \sum_{g \in G_\ell \setminus \{ \ell \}} w_g^\ell \), i.e., the price paid by the buyer less the cost of \( \ell \)'s production less the fees paid to other firms.

\textsuperscript{19}Our analysis would be unchanged if we instead assumed that only the winning bid and bidder was publicly observed, as the strategies we construct to support the highest sustainable price given in Theorem 1 do not depend on the bids of the non-winning bidders. Moreover, if firms have access to a public randomization device, it is not necessary for our analysis that the winning bid be observable.

\textsuperscript{20}The assumption of simultaneous offers simplifies the analysis; our results, however, are robust to an alternative specification of the game in which the syndicate leader makes sequential offers, which are accepted or rejected as they are received.

\textsuperscript{21}In Section 5, we consider the case where an offer specifies not only a fee but also the share of production done by the firm.

\textsuperscript{22}Consequently, all agents know which syndication offers were accepted.

\textsuperscript{23}We assume that \( v > c(1,1) \) to avoid the trivial case where no trade is efficient.

\textsuperscript{24}In Section 5, we consider a “complete contracting” version of the model in which a syndicate offer specifies a firm’s production share as well as its fee.
2. The payoff for \( g \in G_t \setminus \{ \ell \} \) is \( w_t^g - c\left( \frac{1}{|G_t|}, \phi_k \right) \), i.e., the fee paid to \( g \) less the cost of \( g \)'s production.

3. The payoff for \( h \in F \setminus G_t \) is 0.

The IPO Industry Interpretation of the Model

Our setup closely reflects the IPO process: After a would-be issuer decides to have an IPO, underwriting firms compete in a “bake-off” to be the lead manager, or syndicate leader, for the IPO, in a process analogous to the bidding in Steps 1 and 2 of our game. The winning spread for a given IPO is publicly observable and is easily available including, for example, in the commonly used Securities Data Company (SDC) database.

After being selected, the lead underwriter recruits other banks—many or all of which may have competed for the IPO—to help place the IPO shares, represented in Steps 3 and 4 of our game. Each underwriter—both the lead underwriter and other syndicate members—“places” shares with important investors with which it has an ongoing relationship. The placement process is the motivation for how we model the costs of production; each underwriter’s “book” of investors corresponds to that firm’s productive capacity in our model. As investors are risk-averse and want diversified portfolios, it is more costly for an underwriter to place a large number of shares of one issuer with its set of important investors than for a large set of underwriters to distribute those shares among all of their investors; this motivates our assumption that costs are convex in the amount of production performed. Similarly, a well-functioning syndicate, operating with access to the investor books of all of its members, would be expected to have the same ability to place shares with investors as a single firm operating with the same combined book of business. This circumstance motivates our assumption that

\begin{footnote}
\footnotesize
\item[25] In some cases, large IPOs may in fact have multiple lead managers who may be selected at the bake-off stage.
\item[26] The SDC database documents 4,576 U.S. IPOs conducted between 1970 and 2014 in which the issuer sold between $20 and $100 million worth of stock. Of these, 4,438—97%—were syndicated.
\item[27] Syndicate membership is also registered publicly and may be found in the SDC database; the syndicate may also be listed on the IPO “tombstone” used to advertise and commemorate the IPO.
\end{footnote}
the cost function is homogeneous of degree 1. Since total productive capacity corresponds to the set of institutional investors, we model total productive capacity as unchanging with market structure.\textsuperscript{28} However, in Section 6.3, we consider the possibility of entry by a new investment bank that brings new productive capacity to the market.

3 Optimal Collusion

We now characterize the highest price sustainable via collusion in markets with syndication. A price $p$ is sustainable if there exists a subgame perfect Nash equilibrium in which, along the equilibrium path, the buyer accepts a price offer of $p$ in every period.

When the market is very concentrated, i.e., there are a small number of firms, any price (less than or equal to $v$) can be sustained by “grim trigger” strategies in which deviations from the collusive price are punished in subsequent periods by play in which every firm obtains 0 profits. This type of equilibrium is standard in the analysis of markets with Bertrand competition; in such markets, however, once there are enough firms in the market, no price above the cost of production can be sustained.

In markets with syndication, as in Bertrand competition markets, grim trigger strategies lose their bite as the number of firms in the market grows. However, unlike in the standard Bertrand competition model, markets with syndication admit a second method of maintaining collusion: if a firm becomes a price deviator—i.e., if a firm bids lower than the price mandated by the collusive equilibrium—other firms can punish that firm “in period” by refusing offers of syndication. This raises the cost of production for that firm, as it must now complete the project on its own instead of engaging in (more efficient) syndicated production. To incentivize firms to not join the price deviator’s syndicate, we need to promise them rewards in future periods; reverting to “perfect competition” after a price deviation does not accomplish

\textsuperscript{28}To more completely capture our institutional setting, we could extend the model to include a single time-0 “investor recruitment stage” in which firms compete to form links with institutional investors. It is straightforward to show that the extended game has an equilibrium which produces symmetric, collusive link formation and delivers the same price and the same profits as the equilibrium (of the original game) that provides the highest sustainable price given in Theorem 1.
this goal, as all firms would earn 0 profits in all future periods. For this reason, reverting to “perfect competition” in periods after a price deviation is not the best continuation plan to sustain collusion. Instead, an optimal continuation plan should simultaneously reward firms for refusing offers of syndication while punishing the price deviator. In particular, the higher the price deviator’s syndication offer to a firm \( g \), the higher the continuation payoff needed to induce \( g \) to reject the offer of syndication; “the reward should fit the temptation” (Mailath et al., 2016). It is also important to punish a firm if it accepts an offer of syndication from the deviating firm: to do this, we do revert to perfect competition if any firm accepts a price deviator’s offer of syndication. This punishes both the initial deviator and any firm which joins the syndicate as harshly as possible; these strategies make recruiting a syndicate sufficiently costly that lone production is a more attractive option than recruiting a syndicate.\(^29\)

Unlike grim trigger strategies, syndicate punishment strategies become more powerful as the market becomes less concentrated, as the cost of completing the project alone becomes increasingly expensive. Consequently, the preceding observations imply that, in general, the highest sustainable price is not monotone in market concentration: At high levels of market concentration, firms can collude at the monopoly price, as in the standard Bertrand competition model. When market concentration is sufficiently low, syndicate punishments again enable firms to collude at the monopoly price. However, at intermediate levels of market concentration, there are no subgame-perfect Nash equilibrium strategies which sustain the monopoly price.\(^30\)

We now formally derive the highest sustainable price.

\(^29\)Cai et al. (2018) noted that there is anecdotal evidence for syndication “blacklists” in the syndicated loan market, which suggests that the types of punishment strategies constructed here are employed in practice.\(^30\)The syndication structure is essential for our result that pricing is non-monotonic in market concentration; a model in which the buyer directly contracts with individual firms to complete parts of a larger project exhibits pricing that is (weakly) decreasing in the number of firms. Thus, our non-monotonicity result is not driven exclusively by the fact that firm capacity is decreasing as the number of firms increases.
Figure 3: The highest sustainable price $p^*$ as a function of market concentration $\varphi$. Here, $c(s, m) = \frac{s^2}{m}$, $k = 1$, $\delta = \frac{3}{4}$, and the maximum price that the buyer is willing to pay is $v = 25$. For sufficiently concentrated industries, the monopoly price can be sustained through grim trigger strategies. The highest sustainable price is lower for intermediate industry concentration levels, but as market concentration goes to 0 the highest sustainable price reaches the buyer’s value $v$. The cost of efficient production (i.e., when the syndicate includes all firms) is 1 for all market concentrations $\varphi$.

**Theorem 1.** For $\delta \geq \frac{1}{2}$, the highest sustainable price, $p^*$, is given by\(^{31}\)

$$p^* = \begin{cases} v & \varphi \in [1 - \delta, 1] \\ \min \left\{ \frac{(1-\delta)c(1, \varphi k) - \varphi c(1, k)}{1-\delta - \varphi}, v \right\} & \varphi \in (0, 1 - \delta). \end{cases}$$

Moreover, $p^*$ is quasiconvex in $\varphi$ and $\lim_{\varphi \to 0} p^* = v$.\(^{32}\)

Figure 3 plots the highest sustainable price $p^*$ as a function of $\varphi$. We call an equilibrium in which, along the equilibrium path, the buyer accepts an offer of the highest sustainable price $p^*$ and firms engage in efficient joint production an **optimal collusion equilibrium**. In an optimal collusion equilibrium, the combined per-period profits for all firms are given by $p^* - c(1, 1)$. An optimal collusion equilibrium maximizes industry profits; the buyer accepts

\(^{31}\)Our result also obtains for some discount factors less than $\frac{1}{2}$, but assuming that $\delta \geq \frac{1}{2}$ greatly simplifies our presentation here.

\(^{32}\)We could also consider non-stationary equilibria, i.e., equilibria in which the prices offered to the buyers varies with time. However, in any such equilibrium, the offered price will never be above $p^*$. 

14
the highest sustainable price, and efficient joint production ensures that costs are as low as possible.

In the rest of this section, we show that the $p^*$ defined in Theorem 1 can be sustained as a subgame-perfect Nash equilibrium of the game defined in Section 2 and, moreover, $p^*$ is the highest sustainable price. For ease of exposition, we set $k = 1$ throughout the rest of this section.

### 3.1 Bertrand Reversion Nash Equilibrium

We first describe the *Bertrand reversion Nash equilibrium* of the stage game, i.e., the subgame-perfect equilibrium in which all firms make zero profits and the buyer obtains the good at the lowest possible cost of production. In this equilibrium, each firm $f$ offers a price $p^f_t = c(1,1)$, which is exactly the cost of producing the good under full participation in the syndicate. The buyer then chooses each firm as syndicate leader with equal probability. The syndicate leader then offers each non-leader firm $g$ a fee $w^g_t = c(\varphi,\varphi)$ equal to $g$’s cost of production (assuming all syndication offers are accepted). Each firm $g \in F \setminus \{f\}$ accepts this offer. Under this behavior, each firm in the syndicate other than $f$ then incurs production costs of $c(\varphi,\varphi)$ and thus breaks even. Moreover, the syndicate leader also breaks even as he obtains $c(1,1) = |F|c(\varphi,\varphi)$ from the buyer, he incurs production costs of $c(\varphi,\varphi)$, and he pays $(|F| - 1)c(\varphi,\varphi)$ in total to the syndicate, leaving him with exactly 0 in profit.\(^{33}\)

If any firm makes an offer other than $c(1,1)$ to the buyer, the buyer chooses the lowest offer.\(^{34}\) Firms’ responses to syndication offers do not depend on the set of offers made to the buyer. If the syndicate leader offers a fee of $c(\varphi,\varphi)$ to each other firm, then each other firm accepts this offer. If the syndicate leader offers a fee other than $c(\varphi,\varphi)$ to any firm, then within-period continuation play can follow any profile of actions for the other firms $g \neq f$ that constitutes a Nash equilibrium of the within-period continuation.

\(^{33}\)Recall that $c(\cdot,\cdot)$ is homogeneous of degree one.

\(^{34}\)If there are multiple lowest offers, the buyer chooses each with equal probability.
Note, however, that regardless of the equilibrium play after a fee other than $c(\varphi, \varphi)$ has been offered to some firm, the syndicate leader $f$’s profits are no greater than $p^f - c(\varphi, \varphi) - (|F| - 1)c(\varphi, \varphi) \leq c(1, 1) - |F|c(\varphi, \varphi) = 0$. This follows as no offer greater than $c(1, 1)$ will be accepted by the buyer, and no firm will accept a syndication offer of less than $c(\varphi, \varphi)$, which is its minimal cost of production as a member of a syndicate. Thus, the syndicate leader will not wish to deviate from the strategy prescribed above. Given his play, other firms will not wish to deviate from their prescribed strategies either.

Our first result shows that the Bertrand reversion Nash equilibrium strategies just described in fact constitute a subgame-perfect Nash equilibrium of the stage game in which each firm obtains its lowest individually rational payoff.

**Proposition 1.** There exists a subgame-perfect Nash equilibrium of the stage game, i.e., the Bertrand reversion Nash equilibrium, in which each firm obtains a payoff of 0, its lowest individually rational payoff.

In the analysis of repeated normal form games, reverting to the stage game equilibrium described in Proposition 1 would be sufficient to punish any off-equilibrium behavior. That is, the Bertrand reversion Nash equilibrium can be used to implement the simple penal codes of Abreu (1986). However, as noted by Mailath et al. (2016), simple penal codes are insufficient to characterize the set of equilibrium payoffs in repeated extensive form games. Nevertheless, as we will show, the Bertrand reversion equilibrium is a key component in constructing the equilibrium that supports the highest sustainable price.

### 3.2 Maintaining Collusion with Grim Trigger Strategies When the Market Is Concentrated

We first show that the monopoly price $v$ is sustainable when firms are patient and the number of firms is sufficiently small. Moreover, under these conditions, collusion can be
sustained via “grim trigger” strategies: after a deviation in either step of the stage game, play in all subsequent periods reverts to the Bertrand reversion Nash equilibrium described in Section 3.1.

**Proposition 2.** If the discount factor is sufficiently high, i.e., $\delta \geq 1 - \varphi$, then there exists a subgame-perfect Nash equilibrium in which every firm offers the monopoly price, i.e., $p_f^t = v$ for any $v \geq c(1,1)$, for all $f \in F$ and for all $t$.

To prove Proposition 2, we construct an equilibrium in which, in every period, each firm bids the monopoly price $v$; the short-lived buyer then accepts one such offer (choosing each offer with equal probability). If the offer from firm $\ell$ is accepted, $\ell$ offers a fee $w^g_\ell = c(\varphi, \varphi)$ to each other firm $g \in F \setminus \{\ell\}$; each other firm $g$ then accepts and joins the syndicate.

If a firm offers a lower price in the first step, i.e., becomes a **price deviator**, the buyer chooses this lower offer. Then, the price deviator makes a syndication offer to every other firm; every other firm accepts the offer of syndication if the price deviator offers $c(\varphi, \varphi)$ to each firm.\footnote{If the syndicate leader offers a fee other than $c(\varphi, \varphi)$ to any firm, then within-period continuation play can follow any profile of actions for the other firms $g \neq \ell$ that constitutes a Nash equilibrium of the within-period continuation game.} However, in every subsequent period following such a deviation, play reverts to the Bertrand reversion Nash equilibrium described in Section 3.1. Finally, if any firm chooses to not accept an offer of syndication with fee $c(\varphi, \varphi)$, play also reverts to the Bertrand reversion Nash equilibrium. Thus, in each period, the syndicate leader has profits of

$$v - c(\varphi, \varphi) - (|F| - 1)c(\varphi, \varphi) = v - |F|\varphi c(1, 1) = v - c(1, 1)$$

and each other member of the syndicate has profits of

$$c(\varphi, \varphi) - c(\varphi, \varphi) = 0.$$
its offer of syndication, as accepting leads to (weakly) higher profits than rejecting. It is also clear that the buyer in each period is acting optimally. Thus, to ascertain whether this is an equilibrium, we need only check whether each firm is willing to offer the monopoly price in the first step, or would rather offer an infinitesimally lower price to the buyer and have its offer accepted with certainty. The expected discounted value of the current payoff and all future payoffs from following the equilibrium strategies is

\[
\sum_{t=0}^{\infty} \delta^t \varphi(v - c(1, 1)) = \frac{\varphi}{1 - \delta}(v - c(1, 1)).
\]

This expression is greater than \(v - c(1, 1)\) so long as \(\varphi > 1 - \delta\). Meanwhile, the expected discounted value of all future payoffs from offering an infinitesimally lower price is

\[v - c(1, 1)\]

Proposition 2 is the analogue in our setting to the familiar result that, in models of Bertrand competition, collusion at any price can be maintained by grim trigger strategies when the industry is sufficiently concentrated. However, in the standard model of Bertrand competition, collusion cannot be maintained at any price when \(\delta < 1 - \varphi\); in the next section, we show that this is not true in our setting.

### 3.3 Maintaining Collusion with Syndicate Punishments

In this section, we first provide an intuitive description of an equilibrium which sustains the price \(p^*\) defined in Theorem 1. We then give a formal construction of the strategy profile, and show that the strategy profile constitutes a subgame-perfect Nash equilibrium. Finally, we show that no subgame-perfect Nash equilibrium can sustain a price higher than \(p^*\).

The key idea is to construct strategies that exploit syndicate boycotting to enforce higher prices. Play begins in the cooperation phase, in which each firm offers the same price \(p^*\) and a firm, upon having its offer accepted, engages in efficient syndication. Play continues in the
cooperation phase so long as no one deviates. If some firm deviates in the first step—i.e., offers a lower price to the buyer in order to guarantee that it wins the bid—we call such a firm a \textit{price deviator}. Because of the efficiency gains from syndicated production, the price deviator will wish to induce the non-leading firms to join its syndicate, and thus will be willing to offer each firm a fee above its cost of production as an inducement. By the same token, if the non-leading firms refuse to join the price deviator’s coalition, that will raise the deviator’s cost of production. This has the effect of punishing the price deviator in-period, which discourages firms from deviating on price in the first place. Thus, the optimal collusion plan will promise future-period rewards to non-leading firms that reject above-cost syndication offers from the price deviator. For this reason, Bertrand reversion after a price deviation is not necessarily the best continuation plan to sustain collusion. Moreover, to make rejecting the price deviator’s syndication offer as attractive as possible, it is also important to punish a firm if it joins a price deviator’s syndicate. To do so, we do use Bertrand reversion, as it punishes both the initial deviator and any firm that joins the syndicate as harshly as possible. Thus, whenever any firm deviates by accepting a price deviator’s syndication offer—or rejecting a non-price deviator’s equilibrium syndication offer—play enters the \textit{Bertrand reversion phase}, in which firms play the Bertrand reversion Nash equilibrium each period.

After a period in which a firm $f$ is a price deviator, but no firm joins its syndicate, we enter a \textit{collusive punishment phase} which both punishes the price deviator and rewards those firms that refused to join the price deviator’s syndicate. In the collusive punishment phase, each firm offers the same price $q$ to the buyer. The higher that $q$ is, the higher total industry profits will be, which permits larger rewards to firms that reject a price deviator’s syndication offer. At the same time, behavior during such a collusive punishment phase must itself be subgame-perfect. This imposes a constraint on how high $q$ can be: If the price $q$ is too high, the price deviator or another firm will wish to price-deviate in this phase, and so the collusive punishment phase will not be subgame-perfect.

Moreover, the continuation payoff to a firm other than the price deviator during a collusive
punishment phase may depend on the offer that was made to that firm by the price deviator. In particular, “the reward should fit the temptation” (Mailath et al., 2016)—the larger the fee offered to the firm by the price deviator, the greater the continuation payoff offered to that firm to induce it to reject the offer of syndication.

Thus, to characterize the highest sustainable price, we specify a subgame-perfect Nash equilibrium that exploits the possibility of in-period punishments. This equilibrium is composed of three types of phases: In the cooperation phase, each firm offers \( p \) to the short-lived buyer, who then chooses each firm with equal probability; afterwards, an efficient syndicate is formed. If any firm \( f \) price-deviates, but no other firm joins its syndicate, then we enter a collusive punishment phase with continuation values \( \psi \), in which the continuation values are determined by the syndication offers. In a collusive punishment phase with continuation values \( \psi \), each firm offers a specific price \( q \) to the short-lived buyer, who then chooses each firm with equal probability; we call \( q \) the collusive punishment price. The winning bidder then efficiently syndicates production; in so doing, it offers each non-leading firm \( g \) a fee equal to its assigned continuation value, \( \psi^g \), plus \( g \)'s production cost, \( c(\phi, \phi) \). Finally, if any firm deviates from equilibrium play with respect to accepting or rejecting offers of syndication, play enters the Bertrand reversion phase, in which firms play the Bertrand reversion Nash equilibrium each period.

By making future play conditional on offers of syndication, firms are incentivized to punish price deviators in-period by refusing to join their syndicates. This then reduces the incentive for firms to deviate on price, since each firm is aware that, if it deviates on price, it will have to engage in lone production. Since lone production becomes costlier as the market becomes more fragmented, reducing market concentration may make it easier to sustain collusion at a given price.

We now give a formal construction of the strategy profile that sustains \( p^* \). The equilibrium is constructed as follows:

- There are three phases of equilibrium play:
1. In the cooperation phase,

- every firm submits the same bid $p = p^*$,
- the short-lived buyer accepts one such offer of $p^*$, choosing each offer with equal probability,
- every firm, if it becomes the syndicate leader $\ell$, offers a fee $c(\varphi, \varphi)$ to every non-leading firm $g \in F \setminus \{\ell\}$ to join the syndicate, and
- every non-leading firm accepts the offer by the syndicate leader $\ell$ to join the syndicate.

2. In the collusive punishment phase with continuation values $\psi$,

- every firm submits the same bid $q = \min\{c(1, \varphi), v\}$,
- the short-lived buyer accepts one such offer of $q$, choosing each offer with equal probability,
- every firm, if it becomes the syndicate leader $\ell$, offers a fee $c(\varphi, \varphi) + \psi^g$ to every non-leading firm $g \in F \setminus \{\ell\}$ to join the syndicate, and
- every non-leading firm accepts the offer by the syndicate leader $\ell$ to join the syndicate.

3. In the Bertrand reversion phase, agents play the Bertrand reversion Nash equilibrium.

- Under equilibrium play, play continues in the same phase. In the cooperation phase or a collusive punishment phase, some firm $f$ may price-deviate in the first step, in which case the buyer accepts this offer, or deviate with respect to the prescribed set of syndication offers. If so, future play depends on the syndication offers that are made.

Given the fees $\{w^h\}_{h \in F \setminus \{f\}}$ offered by $f$, we say that a set $H \subseteq F \setminus \{f\}$ is internally consistent if, for all $h \in H$, we have that $w^h - c\left(\frac{1}{|H|+1}, \varphi\right) \geq 0$; that is, a set $H$ is internally consistent if every firm in $H$ weakly prefers to accept its syndication offer
(ignoring payoffs in future periods), assuming that only the firms comprising $H$ accept their syndication offers. Note that, trivially, the empty set is internally consistent. Furthermore, there is a largest internally consistent set in the superset sense. This follows from the fact that, if both $H$ and $\hat{H}$ are internally consistent, then $H \cup \hat{H}$ is internally consistent. To see this, note that for all $h \in H$, we have that $w^h - c\left(\frac{1}{|H|+1}, \varphi\right) \geq 0$, implying that $w^h - c\left(\frac{1}{|H\cup\hat{H}|+1}, \varphi\right) \geq 0$, as the cost function is decreasing in the production share; similarly, for all $\hat{h} \in \hat{H}$, we have that $w^{\hat{h}} - c\left(\frac{1}{|H\cup\hat{H}|+1}, \varphi\right) \geq 0$, and so $H \cup \hat{H}$ is internally consistent by definition. Let $\tilde{H}$ denote the largest internally consistent set given the fees $\{w^h\}_{h \in F \setminus \{f\}}$.

In equilibrium, future play will depend on the surplus that can be captured by the largest internally consistent set $\tilde{H}$, which is given by $\sum_{h \in \tilde{H}} \left( w^h - c\left(\frac{1}{|\tilde{H}|+1}, \varphi\right) \right)$. Based on this sum, we categorize the set of offers made by a deviating firm $f$ into three cases: 

**Uniformly Low Offers**: $\sum_{h \in \tilde{H}} \left( w^h - c\left(\frac{1}{|\tilde{H}|+1}, \varphi\right) \right) = 0$. In this case, rejecting the syndication offer is a best response for each non-leading firm, as the fee offered is weakly less than each non-leading firm’s cost of production (given that other firms are rejecting their syndication offers). Thus, every non-leading firm rejects its offer of syndication and play enters the Bertrand reversion phase.

**Insufficient Offers**: $0 < \sum_{h \in \tilde{H}} \left( w^h - c\left(\frac{1}{|\tilde{H}|+1}, \varphi\right) \right) \leq \frac{\delta}{1-\delta} (q - c(1, 1))$. In this case, absent dynamic rewards and punishments, some non-leading firms may be tempted to accept their syndication offers. All non-leading firms do reject their syndication offers. 

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37 In fact, rejecting its syndication offer is a best response for each non-leading firm even if every (other) firm in $\tilde{H}$ accepts its offer of syndication.
offers and play proceeds going forward in a collusive punishment phase with

\[ \psi^h = \begin{cases} 
  \frac{w^h - c\left(\frac{1}{|H|+1}, \varphi\right)}{\sum_{g \in \tilde{H}} \left( w^g - c\left(\frac{1}{|H|+1}, \varphi\right) \right)} (q - c(1, 1)) & h \in \tilde{H} \\
  0 & h \in F \setminus \tilde{H}.
\end{cases} \]

**Sufficient Offers:** \( \sum_{h \in \tilde{H}} (w^h - c\left(\frac{1}{|H|+1}, \varphi\right)) > \delta \frac{\delta}{1-\delta} (q - c(1, 1)) \). In this case, play will enter the Bertrand reversion phase in the next period regardless of each non-leading firm’s behavior. In period, each non-leading firm \( h \) accepts its syndication offer if and only if the firm is in \( \tilde{H} \). Thus, each firm accepts its syndication offer if and only if that offer is (weakly) profitable within-period, given the actions of other firms. This is optimal, as future profits will be 0 for every firm, regardless of its actions, as play enters the Bertrand reversion phase.

Finally, if any firm accepts or rejects a syndication offer contrary to the prescribed play, we proceed to the Bertrand reversion phase.

Figure 4 provides an automaton representation of the subgame-perfect Nash equilibrium described here.

It is immediate that the conjectured equilibrium delivers a price of \( p^* \) in each period. We now verify that the prescribed strategies constitute a subgame-perfect Nash equilibrium.

**Responding to Syndication Offers**

We first show that the prescribed actions regarding accepting or rejecting syndication offers are best responses. It is immediate that, after equilibrium play in either the cooperation phase or a collusive punishment phase, it is a best response for each non-leading firm to accept its syndication offer.\(^{38}\) It is also immediate that, in the case of uniformly low offers,

\[^{38}\text{This follows as each syndication offer provides the firm with non-negative surplus and, if the firm rejects the syndication offer, play continues to the Bertrand reversion phase, in which the firm’s future payoffs are 0.}\]
it is a best response for each non-leading firm to reject its syndication offer.

Finally, it is immediate that, in the case of sufficient offers, each non-leading firm plays a best response; each non-leading firm only accepts its syndication offer if accepting provides a non-negative payoff in this period, and play continues to the Bertrand reversion phase regardless of the firm’s actions.

To show that, in the case of insufficient offers, it is a best response for each non-leading firm to reject its offer of syndication.

- First, consider a firm $h \in \hat{H}$. We first calculate the total payoff for $h$ from accepting its offer. This is given by

$$w^h - c\left(\frac{1}{2}, \varphi\right) \leq w^h - c\left(\frac{1}{|\hat{H}|+1}, \varphi\right).$$

\[\text{To see this, consider two cases: If } \hat{H} = \emptyset, \text{ then } w^h - c\left(\frac{1}{2}, \varphi\right) < 0 \text{ for all } h \in H \text{ (as otherwise } \{h\} \text{ would be internally consistent)}; \text{ thus, given that no other firm is accepting, every firm strictly prefers rejecting. If } \hat{H} \neq \emptyset, \text{ since } \sum_{h \in \hat{H}} \left(w^h - c\left(\frac{1}{|\hat{H}|+1}, \varphi\right)\right) = 0, \text{ we must have that } w^h - c\left(\frac{1}{|\hat{H}|+1}, \varphi\right) \leq 0 \text{ for all } h \in H; \text{ thus, given that no other firm is accepting, every firm weakly prefers rejecting.}\]
because play reverts to the Bertrand reversion phase if \( h \) accepts its offer, in which case \( h \) will earn 0 future profits.\(^{40}\) Meanwhile, the total payoff for \( h \) in the continuation game from rejecting the offer is

\[
\frac{\delta}{1 - \delta} \psi^h = \frac{\delta}{1 - \delta} \left( \sum_{g \in \tilde{H}} \left( w^g - c \left( \frac{1}{|H| + 1}, \varphi \right) \right) \right) \\
\geq w^h - c \left( \frac{1}{|H| + 1}, \varphi \right),
\]

where the inequality follows from the fact that \( \sum_{g \in \tilde{H}} \left( w^g - c \left( \frac{1}{|H| + 1}, \varphi \right) \right) \leq \frac{\delta}{1 - \delta} \left( q - c(1, 1) \right), \) as we are in the insufficient offers case.\(^{41}\)

- Second, we consider a firm \( h \in F \setminus (\tilde{H} \cup \{ f \}) \). The total payoff for \( h \) from accepting its offer is given by

\[
w^h - c \left( \frac{1}{2}, \varphi \right) \leq w^h - c \left( \frac{1}{|H| + 1}, \varphi \right) < 0,
\]

where the second inequality follows from the fact that \( \tilde{H} \) is the largest internally consistent set.\(^{42}\) Meanwhile, the total the total payoff for \( h \) in the continuation game from rejecting the offer is 0, regardless of the actions of other non-leading firms.

Thus, it is a best response for every non-leading firm to reject its syndication offer in the insufficient offers case.

\(^{40}\)Note that, since the equilibrium calls for each firm to reject its offer of syndication, \( h \) expects that, if it accepts its offer of syndication, it will be the only firm to join the syndicate and thus will have production costs of \( c \left( \frac{1}{2}, \varphi \right) \).

\(^{41}\)Note that, since the equilibrium calls for each firm to reject its offer of syndication, \( h \) expects that, if it rejects its offer of syndication, play will shift to a collusive punishment phase.

\(^{42}\)Note that, since the equilibrium calls for each firm to reject its offer of syndication, \( h \) expects that, if it accepts its offer of syndication, it will be the only firm to join the syndicate and thus will have production costs of \( c \left( \frac{1}{2}, \varphi \right) \).
Responding to Price Offers

It is immediate that each short-lived buyer \( b_t \) is acting optimally as \( b_t \) always chooses one of the lowest price offers less than or equal to its reservation price \( v \).

Deviating on Price or Syndication Offers in the Collusive Punishment Phase

We begin by verifying that, during a collusive punishment phase, no firm has an incentive to price-deviate or, if selected as the syndicate leader, not make the prescribed syndication offers. First, consider the payoff to a deviating firm \( f \) that is selected as syndicate leader and then makes uniformly low or insufficient offers. No other firm will join \( f \)’s syndicate, and \( f \) will receive a payment of at most \( q \) from the buyer. Thus, firm \( f \)’s profit in-period is at most \( q - c(1, \varphi) \leq c(1, \varphi) - c(1, \varphi) = 0 \) as \( q = \min\{v, c(1, \varphi)\} \). Moreover, firm \( f \)’s profits in every future period will be 0. Therefore, firm \( f \)’s total profits from making uniformly low or insufficient offers are at most 0. On the other hand, firm \( f \) enjoys a continuation value \( \psi^f \geq 0 \) by not deviating; consequently, it is not profitable for \( f \) to deviate and make uniformly low or insufficient offers.

Second, consider the payoff to a deviating firm \( f \) that is selected as syndicate leader and then makes sufficient offers during a collusive punishment phase. Note that sufficient offers require that the price deviator provide the firms in \( \tilde{H} \) with dynamic compensation totaling at least \( \frac{\delta}{1 - \delta}(q - c(1, 1)) \) above their costs of production (assuming that, as the equilibrium specifies, all the firms in \( \tilde{H} \) accept and all the firms not in \( \tilde{H} \) reject). Thus, the in-period payoff to the deviating firm \( f \) is at most

\[
\frac{q}{\text{Price}} - (|\tilde{H}| + 1)c\left(1 + \frac{1}{|\tilde{H}| + 1}, \varphi\right) - \frac{\delta}{1 - \delta}(q - c(1, 1)) \leq q - c(1, 1) - \frac{\delta}{1 - \delta}(q - c(1, 1))
\]

\[
= \left(1 - \frac{\delta}{1 - \delta}\right)(q - c(1, 1))
\]

\[
\leq 0,
\]
where the last inequality follows as $\delta \geq \frac{1}{2}$. In future periods, play reverts to the Bertrand reversion Nash equilibrium, and so firm $f$’s future payoffs will be 0. Thus, $f$’s total payoff from deviating is less than or equal to 0. By contrast, if firm $f$ continues with equilibrium play, it receives a non-negative payoff. Thus, not deviating is a best response for firm $f$.

**Deviating on Price or Syndication Offers in the Cooperation Phase**

Finally, we verify that, during the cooperation phase, no firm has an incentive to price-deviate or, if selected as the syndicate leader, not make the prescribed syndication offers. First, consider the payoff to a deviating firm $f$ that is selected as syndicate leader and then makes uniformly low or insufficient offers. No other firm will join $f$’s syndicate, and $f$ will receive a payment of at most $p^*$ from the buyer. Thus, firm $f$’s profit in-period is at most $p^* - c(1, \varphi)$. Moreover, firm $f$’s profits in every future period will be 0. Therefore, firm $f$’s total profits from making uniformly low or insufficient offers are at most $p^* - c(1, \varphi)$. On the other hand, firm $f$ enjoys profits each period of $\varphi(p^* - c(1,1))$ by not deviating. Consequently, it is not profitable for $f$ to deviate and make uniformly low or insufficient offers so long as

$$\frac{1}{1 - \delta} \varphi(p^* - c(1,1)) \geq p^* - c(1, \varphi),$$

which holds as $p^* \leq \frac{(1-\delta)c(1,\varphi) - \varphi c(1,1)}{1-\delta-\varphi}$ by construction.

Second, consider the payoff to a deviating firm $f$ that is selected as syndicate leader and then makes sufficient offers during the cooperation phase. Recall that sufficient offers require that the price deviator provide the firms in $\tilde{H}$ with dynamic compensation totaling at least $\frac{\delta}{1-\delta}(q - c(1,1))$ above their costs of production. Thus, the in-period payoff to the deviating firm $f$ is at most

$$\frac{p^*}{\text{Price}} - \frac{c(1,1)}{\text{Total cost of production when all firms participate}} - \frac{\delta}{1 - \delta} \left( q - c(1,1) \right).$$  

(1)
In future periods, play reverts to the Bertrand reversion Nash equilibrium, and so firm \( f \)'s future payoffs will be 0. Thus, \( f \)'s total payoff from deviating is less than or equal to that given by (1). By contrast, if firm \( f \) continues with equilibrium play, firm \( f \) enjoys profits each period of \( \varphi(p^* - c(1, 1)) \). Consequently, it is not profitable for \( f \) to deviate and make sufficient offers so long as

\[
\frac{1}{1 - \delta} \varphi(p^* - c(1, 1)) \geq p^* - c(1, 1) - \frac{\delta}{1 - \delta} (q - c(1, 1)),
\]

which reduces to

\[
p^* \leq \frac{(1 - \delta)c(1, 1) + \delta(q - c(1, 1)) - \varphi c(1, 1)}{1 - \delta - \varphi}.
\]

There are now two cases to consider, depending on \( q = \min\{c(1, \varphi), v\} \): In the first case, \( q = c(1, \varphi) \). Thus, as \( p^* = \min\{\frac{(1-\delta)c(1, \varphi) - \varphi c(1, 1)}{1-\delta-\varphi}, v\} \leq \frac{(1-\delta)c(1, \varphi) - \varphi c(1, 1)}{1-\delta-\varphi} \), it is not profitable for \( f \) to deviate by making sufficient offers so long as

\[
\frac{(1 - \delta)c(1, \varphi) - \varphi c(1, 1)}{1 - \delta - \varphi} \leq \frac{(1 - \delta)c(1, 1) + \delta(c(1, \varphi) - c(1, 1)) - \varphi c(1, 1)}{1 - \delta - \varphi}
\]

\[
(1 - \delta)c(1, \varphi) \leq (1 - \delta)c(1, 1) + \delta(c(1, \varphi) - c(1, 1))
\]

\[
(2\delta - 1)c(1, 1) \leq (2\delta - 1)c(1, \varphi),
\]

which holds since \( \delta \geq \frac{1}{2} \) and \( c(1, 1) < c(1, \varphi) \).

In the second case, \( q = v \), which implies that \( p^* = v \).\(^{43}\) Thus, it is not profitable for \( f \) to deviate by making sufficient offers so long as

\[
v \leq \frac{(1 - \delta)c(1, 1) + \delta(v - c(1, 1)) - \varphi c(1, 1)}{1 - \delta - \varphi}
\]

\[
(1 - \delta - \varphi)v \leq \delta v + (1 - 2\delta - \varphi)c(1, 1)
\]

\[
(2\delta + \varphi - 1)c(1, 1) \leq (2\delta + \varphi - 1)v.
\]

\(^{43}\)Note that when \( 1 - \delta - \varphi > 0 \), we may calculate that \( p^* \geq q \), as \( \frac{(1-\delta)c(1, \varphi) - \varphi c(1, 1)}{1-\delta-\varphi} - c(1, \varphi) = \frac{\varphi(c(1, \varphi) - c(1, 1))}{1-\delta-\varphi} > 0 \), and so \( \min\{\frac{(1-\delta)c(1, \varphi) - \varphi c(1, 1)}{1-\delta-\varphi}, v\} - \min\{c(1, \varphi), v\} \geq 0 \).
This holds since \( \delta \geq \frac{1}{2}, \varphi > 0, \) and \( v \geq c(1,1). \)

Thus, for \( \delta \geq \frac{1}{2}, p^* \) can be sustained.

**Maximality of \( p^* \)**

It now remains to show that no price higher than \( p^* \) can be sustained. There are two cases to consider, depending on whether \( p^* = v \) or \( p^* = \frac{(1-\delta)c(1,\varphi)-\varphi c(1,1)}{1-\delta-\varphi} \): In the former case, no price greater than \( p^* = v \) can be sustained as no buyer will accept an offer higher than \( v \).

In the latter case, suppose there existed an equilibrium in which the buyer accepted an offer of \( p > p^* \) each period. We show that at least one firm is not playing a best response: The total industry profits generated each period are at most \( p - c(1,1) \), and so the total expected industry profits are at most \( \frac{1}{1-\delta}p - c(1,1) \). Thus, there must exist at least one firm \( f \) with total expected profits of at most \( \frac{1}{1-\delta}p - c(1,1) \). If firm \( f \) deviated by offering a price of \( p - \epsilon \) and engaging in lone production, \( f \)'s in-period profits approach \( p - c(1,\varphi) \) as \( \epsilon \to 0 \). No matter the behavior of other firms in subsequent play, \( f \) can guarantee itself non-negative profits in each subsequent period.

Therefore, firm \( f \) has profits of deviating of at least \( p - c(1,\varphi) > \frac{1}{1-\delta}p - c(1,1) \), its profits from not deviating, as \( p > p^* = \frac{(1-\delta)c(1,\varphi)-\varphi c(1,1)}{1-\delta-\varphi} \).

**Behavior of \( p^* \)**

We now show that \( p^* \) is quasiconvex. In the region where \( p^* \) is less than \( v \), we have that the second derivative of \( p^* \) with respect to \( \varphi \) is given by

\[
\frac{\partial^2 p^*}{\partial \varphi^2} = \frac{(1-\delta)\frac{\partial c(1,\varphi)}{\partial \varphi^2}}{1-\delta-\varphi} + \frac{2}{1-\delta-\varphi} \left( \frac{1-\delta}{(1-\delta-\varphi)^2} \frac{\partial c(1,\varphi)}{\partial \varphi} \right)
\]

which is positive at any critical point of \( p^* \): The first term is positive as the cost function is convex in its second argument and the second term must be 0 at any critical point. Thus, \( p^* \)

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\[\text{For example, } f \text{ could offer a price of } c(1,\varphi) \text{ and, if chosen by the buyer, offer a syndication fee of 0 to all other firms and, if not chosen, reject all syndication offers.}\]
is quasiconvex over the region where $p^* < v$. It is then immediate that $p^*$ is quasiconvex over its entire domain as it is the minimum of a quasiconvex function and a constant.

Finally, given that, for $\varphi < 1 - \delta$,

$$p^* = \min\left\{\frac{(1 - \delta)c(1, \varphi) - \varphi c(1, 1)}{1 - \delta - \varphi}, v\right\}$$

it is immediate that $\lim_{\varphi \to 0} p^* = v$ as $\lim_{\varphi \to 0} c(1, \varphi) = \infty$ by assumption.

## 4 Prices, Profits, and Capacity

We now consider the question of how the highest sustainable price and industry profits in an optimal collusion equilibrium vary as a function of the productive capacity $k$. In standard industrial organization models, industry profits are increasing in the productive efficiency of firms. However, in our setting, this is not necessarily the case: for a large class of cost functions, industry profits in an optimal collusion equilibrium are strictly decreasing in the productive capacity $k$.

**Proposition 3.** If $c(s, \varphi) - c(s, 1)$ is convex in $s$ for all $\varphi \in (0, 1 - \delta)$,\(^{45}\) then the highest sustainable price $p^*$ and industry profits in an optimal collusion equilibrium are decreasing in productive capacity $k$.

Increasing the productive capacity affects the highest sustainable price, $p^*$, through two channels: First, it lowers the cost of efficient joint production, making collusion more profitable. Second, it also lowers the cost of lone production, making price deviation and lone production more profitable. Since the sustainability of collusion depends on the relative profitability of these two options—recall from our derivation of $p^*$ in Section 3.3 that $p^*$ is chosen so that price-deviating and then engaging in lone production is unprofitable—increasing capacity could potentially make collusion easier or harder to sustain. When the difference between the

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\(^{45}\)For instance, all cost functions of the form $c(s, m) = s \left(\frac{\alpha}{m}\right)^\alpha$, where $\alpha > 0$, satisfy this condition.
cost of lone production \((c(s, \varphi))\) and the cost of efficient joint production \((c(s, 1))\) is increasing and convex in the quantity produced \(s\), the second effect dominates. This makes collusion harder to sustain and thus the highest sustainable price falls with productive capacity.

Intuitively, one might expect that increasing the productive capacity \(k\) would enhance industry profits in an optimal collusion equilibrium, as it lowers the cost of production \(c(1, k)\). However, as described above, when the difference between the cost of lone production \((c(s, \varphi))\) and the cost of efficient joint production \((c(s, 1))\) is increasing and convex in the quantity produced \(s\), the highest sustainable price \(p^*\) falls as productive capacity increases. Moreover, as productive capacity increases, the highest sustainable price (and thus industry revenues) drops faster than the cost of efficient production. Thus, industry profits decline as productive capacity increases.

### 5 Contracting over Production Shares

We now consider a model in which each syndication offer to a non-leading firm \(g\) specifies not only the fee that \(g\) will receive but also the share of production that \(g\) will complete. Under this form of contracting, in Step 3 of the extensive form stage game, the syndicate leader \(\ell\) offers each other firm \(g\) a contract \((s^g_t, w^g_t)\). If \(g\) accepts this syndication offer, it will receive a fee of \(w^g_t\) from \(\ell\) (as before) and will produce a production share \(s^g_t\). The stage game payoffs in this case (where, as before, the set of firms who accept the offer of syndication is denoted by \(G_t\)) are given by

1. The payoff for \(\ell\) is \(p^\ell_t - c(1 - \sum_{g \in G_t \setminus \{\ell\}} s^g_t, \varphi k) - \sum_{g \in G_t \setminus \{\ell\}} w^g_t\), i.e., the price paid by the buyer less both the cost of \(\ell\)'s production and the fees paid to other firms.

2. The payoff for \(g \in G_t \setminus \{\ell\}\) is \(w^g_t - c(s^g_t, \varphi k)\), i.e., the fee paid to \(g\) less the cost of \(g\)'s production.

3. The payoff for \(h \in F \setminus G_t\) is 0.
Surprisingly, the highest sustainable price in this game is the same as in the case described in Theorem 1, in which firms are unable to contract over production shares.

**Theorem 2.** If syndication offers specify both production shares and fees, then for \( \delta \geq \frac{1}{2} \), the highest sustainable price is given by \( p^* \), as defined in Theorem 1; moreover, \( p^* \) is quasiconvex in \( \varphi \) and \( \lim_{\varphi \to 0} p^* = v \).

We give a full proof of Theorem 2 in Appendix B.3. To prove that \( p^* \) is sustainable when syndication offers specify production shares, we construct an equilibrium that sustains \( p^* \); this equilibrium is very similar to the one constructed in Section 3. In particular, the equilibrium has the same set of phases and the circumstances under which play transitions from one phase to another are comparable.

The sustainability of collusion depends on the relative profitability for each firm of colluding versus price-deviating and then engaging in lone production. Recall from our derivation of \( p^* \) in Section 3.3 that \( p^* \) is chosen so that price-deviating and then engaging in lone production is unprofitable. Because price-deviating and then engaging in lone production does not involve multi-firm syndicates, changing the contracting structure between syndicate leaders and non-leading firms does not affect \( p^* \) directly.

Changing the contracting structure does make recruiting syndicate members after a price deviation easier. Thus, one might worry that collusion might not be sustainable because a different type of deviation would become attractive: price-deviating and then building a syndicate. However, so long as \( \delta \geq \frac{1}{2} \), it is still more costly for a price deviator to make sufficient offers (and thus recruit a syndicate) than to engage in lone production; see Appendix B.3 for details.
6 Heterogeneous Firms

We now extend the model of Section 5 to consider the case in which firms’ productive capacities differ.\textsuperscript{46} Thus, for each \( f \in F \), let \( \kappa_f \) be the productive capacity controlled by firm \( f \). It will be helpful to define \( \kappa_{\text{max}} \) as the largest share of productive capacity controlled by a single firm, i.e., \( \kappa_{\text{max}} \equiv \max_{f \in F} \{ \kappa_f \} \). Moreover, the total productive capacity is given by \( k = \sum_{f \in F} \kappa_f \).

6.1 Equilibrium Characterization

We now characterize the highest sustainable price as a function of the firms’ productive capacities, which we denote \( \hat{p}^*(\kappa; \delta) \). To prove that \( \hat{p}^*(\kappa; \delta) \) is sustainable, we construct an equilibrium that sustains \( \hat{p}^*(\kappa; \delta) \); this equilibrium is very similar to the one constructed in Section 5.

In our constructed equilibrium, if a firm is small enough, it is allocated no surplus in the cooperation phase. This is because, if a firm is small enough, the highest sustainable price will be less than that firm’s cost of production. Accordingly, it will not be profitable for that firm to price-deviate and then engage in lone production. Therefore, no surplus is needed to disincentivize this firm from price-deviating and then engaging in lone production. This frees up additional surplus that can be allocated to larger firms that will be tempted to price-deviate and then engage in lone production. We call firms that obtain positive surplus in an equilibrium supporting the highest sustainable price \( \hat{p}^*(\kappa; \delta) \) collusion beneficiaries and denote the set of collusion beneficiaries as \( \hat{F} \).

To prevent a collusion beneficiary \( f \) from undercutting on price and engaging in lone production, \( f \)’s profits from colluding must be large enough that \( f \) prefers to adhere to the equilibrium. Consider an equilibrium that sustains the price \( p \) and let \( r^f \) denote the

\textsuperscript{46}Here, modeling syndication contracts as specifying both a fee and a production share is natural, since efficient production requires firms with different productive capacities to perform differing production shares.
fraction of surplus allocated to $f$. In an equilibrium, $f$ must not be tempted to engage in lone production, so the following constraint must hold:

$$\frac{1}{1 - \delta} r^f (p - c(1, k)) \geq p - c\left(1, \kappa^f\right).$$

(2)

Maximizing price subject to constraint (2) for each collusion beneficiary, along with the constraints that $r^f \geq 0$ for all firms and that $\sum_{f \in F} r^f = 1$, yields the highest sustainable price $\hat{p}^*(\kappa; \delta)$, as expressed in Theorem 3.

**Theorem 3.** If syndication offers specify both production shares and fees, firms may have heterogeneous production capacities, and $c(1, \kappa^{\text{max}}) \leq v$, then the highest sustainable price $\hat{p}^*(\kappa; \delta)$ is given by the $\hat{p}^*(\kappa; \delta)$-maximizing solution to

$$\hat{p}^*(\kappa; \delta) = \begin{cases} v & \varphi \in [1 - \delta, 1] \\ \min\left\{ \frac{(1 - \delta) \hat{\varphi}(\kappa; \delta) \sum_{f \in F} r(1, \kappa^f) - \hat{\varphi}(\kappa; \delta) c(1, k)}{1 - \delta - \hat{\varphi}(\kappa; \delta)}, v \right\} & \varphi \in (0, 1 - \delta), \end{cases}$$

$$\hat{F}(\kappa; \delta) = \left\{ f \in F : \hat{p}^*(\kappa; \delta) \geq c(1, \kappa^f) \right\},$$

$$\hat{\varphi}(\kappa; \delta) = \frac{1}{|\hat{F}(\kappa; \delta)|},$$

so long as $\delta \geq \hat{\delta}(\kappa; \delta) \equiv \frac{\hat{p}^*(\kappa; \delta) - c(1, k)}{\hat{p}^*(\kappa; \delta) - c(1, k) + \min\{\hat{p}^*(\kappa; \delta), c(1, \kappa^{\text{max}})\} - c(1, k)} \in \left[\frac{1}{2}, 1\right]$.  

We give a full proof of Theorem 3 in Appendix B.4. To prove that $\hat{p}^*(\kappa; \delta)$ is sustainable when firms are heterogeneous, we construct an equilibrium that sustains $\hat{p}^*(\kappa; \delta)$; this equilibrium is very similar to the one constructed in Section 5. In particular, the equilibrium has the same set of phases and the circumstances under which play transitions from one phase to another are comparable.

In the cooperation phase of our constructed equilibrium, each firm submits a bid of $\hat{p}^*(\kappa; \delta)$. However, the amount of surplus received by each firm now depends on that firm’s

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47 When $c(1, \kappa^{\text{max}}) > v$, the highest sustainable price is simply $v$; this corresponds to the case where price-deviating and engaging in lone production is not profitable in-period for any firm.
productive capacity. Larger firms, i.e., firms with a larger productive capacity, receive a greater share of surplus, as the cost of lone production is lower for a larger firm. After a price deviation, if every non-leading firm rejects the price deviator’s offer of syndication play enters a collusive punishment phase. The price in this collusive punishment phase is given by \( \min\{c(1, \kappa_{\text{max}}), v\} \). This ensures that no firm has an incentive to deviate and engage in lone production (as the cost of lone production will be no less than the price). Finally, there is also a Bertrand reversion phase, in which the price is the cost of efficient joint production \( c(1, k) \). Play enters this stage whenever any firm deviates with respect to accepting or rejecting offers of syndication.

To understand how the highest sustainable price \( \hat{p}^*(\kappa; \delta) \) varies, note that the highest sustainable price depends on the average cost for lone production among the collusion beneficiaries, \( \hat{\varphi}(\kappa; \delta) \sum_{f \in \hat{F}} c(1, \kappa_f) \). To see why this is the case, suppose the productive capacity of a collusion beneficiary \( f \) decreases, increasing \( f \)’s cost of lone production; then constraint (2) slackens, and firm \( f \) could be allocated a smaller amount of surplus and still not be tempted to price-deviate and engage in lone production. Hence, we can reallocate some of firm \( f \)’s profits to other firms, thereby making collusion relatively more attractive for these firms and thus raising the highest sustainable price. Since this is true for every collusion beneficiary, constraint (2), which depends on each collusion beneficiary’s cost of lone production, must hold with equality for each collusion beneficiary. Summing constraint (2) across all the collusion beneficiaries, we can then derive the expression for the highest sustainable price given in Theorem 3.

The restriction on the discount factor \( \hat{\delta}(\kappa; \delta) \) ensures that undercutting on price and recruiting a syndicate is not profitable—i.e., that the binding constraint on the highest sustainable price remains the profits available from price-deviating followed by lone production. The restriction on \( \hat{\delta}(\kappa; \delta) \) is analogous to the \( \frac{1}{2} \) threshold for \( \delta \) when firms are symmetric.\(^{48}\)

\(^{48}\)The expression for \( \hat{\delta} \) does not immediately reduce to \( \frac{1}{2} \) in the case of symmetric firms, as the expression is derived allowing for the possibility that there is at least one firm obtaining no surplus.
6.2 Effects of Heterogeneity

Using Theorem 3, we can now characterize the effects of a small degree of heterogeneity.

**Proposition 4.** If syndication offers specify both production shares and fees, $\kappa$ is given by $\kappa^f = (\varphi k)_{f \in F}$ for some $k$, $\delta > \hat{\delta}(\kappa; \delta)$, and $\hat{p}^*(\kappa; \delta) < v$, then there exists an $\epsilon > 0$ such that, for every distribution of productive capacities $\bar{\kappa} \neq \kappa$ such that $|\bar{\kappa}^f - \kappa^f| < \epsilon$ for all $f \in F$, we have that

$$\hat{p}^*(\bar{\kappa}; \delta) > \hat{p}^*(\kappa; \delta).$$

To provide intuition for Proposition 4, consider the example illustrated in Figure 5. When the 12 firms are nearly homogenous, each firm is a collusion beneficiary, so that $\hat{F}(\bar{\kappa}; \delta) = F$. Accordingly, by Theorem 3, the highest sustainable price is linearly increasing in the average cost of lone production across all firms, $\varphi \sum_{f \in F} c\left(1, \bar{\kappa}^f\right)$. Moreover, since the cost of lone production by a firm is convex in that firm’s productive capacity, this sum is increasing in the degree of heterogeneity—the larger firms’ production cost savings are smaller than the increased costs for the smaller firms, raising the average cost of lone production. However, when some firms are very small, their costs of lone production rise above the highest
sustainable price. Hence, these firms are no longer a threat to price-deviate and engage in lone production, so they are allocated no surplus; they are no longer collusion beneficiaries and $F$ no longer equals $\hat{F}(\bar{\kappa}; \delta)$. The six larger firms now comprise the set of collusion beneficiaries $\hat{F}(\bar{\kappa}; \delta)$. Thus, in Figure 5, the relevant average becomes the average cost of lone production across the six large firms. This average is decreasing in the degree of heterogeneity in this example, as additional heterogeneity increases each large firm’s productive capacity. Thus, as the degree of heterogeneity increases above a certain point ($\epsilon \approx \frac{1}{24}$), the highest sustainable price is decreasing in the degree of heterogeneity.

We can also use Theorem 3 to understand the effects of mergers among firms: In our setting, a merger can either increase or decrease the highest sustainable price, depending on how capacity is allocated among firms pre- and post-merger. Moreover, the effect on the merging firms’ profits is also ambiguous: it is easy to construct examples in which the merged entity’s profits are higher post-merger, but it is also easy to construct examples in which the merged entity’s profits are lower post-merger.

### 6.3 Market Entry

We now consider the effect of entry by a small firm on the highest sustainable price. When a firm enters the market, there are three possible effects: First, it may become easier for a price deviator to form a syndicate, making collusion more difficult. However, when the discount factor is high enough, a price-deviator will find forming a syndicate more costly than engaging in lone production, so this effect does not affect the highest sustainable price. Second, the new entrant may itself price-deviate and engage in lone production; this may make collusion more difficult. But, for a small enough entrant, the cost of lone production is higher than the highest sustainable price when the entrant is not present, and so the entrant will not price-deviate and engage in lone production. Third, the additional productive capacity of the entrant reduces the cost of joint production, which makes collusion at the current price more

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49Similarly, if entrants are unable to bid but instead can only participate in the syndicate, the highest sustainable price will increase after entry.
Figure 6: The highest sustainable price \( \hat{p}^*((\kappa, \kappa^f); \delta) \) as a function of entrant size \( \kappa^f \). Here, \( c(s, m) = \frac{s^2}{m}, \delta = \frac{3}{4} \), and there are 8 incumbent firms each with productive capacity \( \frac{1}{8} \). The dashed line denotes the highest sustainable price without entry.

profitable. This last effect always has bite, and so entry by a small enough entrant raises the highest sustainable price.

**Proposition 5.** If syndication offers specify both production shares and fees, \( \delta > \hat{\delta}(\kappa; \delta) \), \( \hat{p}^*(\kappa; \delta) < v \), and \( \lim_{m \to 0} c(s, m) = \infty \) for all \( s > 0 \), then there exists an \( \epsilon > 0 \) such that entry by a firm \( f \) with productive capacity \( \kappa^f < \epsilon \) will increase the highest sustainable price, i.e.,

\[
\hat{p}^*((\kappa, \kappa^f); \delta) > \hat{p}^*(\kappa; \delta).
\]

Figure 6 depicts the highest sustainable price for a simple economy as a function of the size of the entrant. When no entrant is present, the highest sustainable price is 15; however, for small entrants, the highest sustainable price is (slightly) higher than 15. This happens because an entrant of sufficiently small capacity does not have the productive capacity to profitably undercut the collusive price and engage in lone production. Moreover, the entrant’s capacity makes collusion more profitable for the incumbent firms, as it decreases the cost of joint production. This makes collusion relatively more attractive to the incumbent firms,
compared to price-deviating and engaging in lone production. Thus, entry by a sufficiently small firm will facilitate collusion as opposed to hampering it. In particular, our result here implies that the existence of a “competitive fringe” of small firms does not necessarily hamper the ability of larger firms to collude and sustain high prices.

However, for a sufficiently large entrant, collusion will become more difficult. An entrant with enough productive capacity can profitably undercut the collusive price by price-deviating and engaging in lone production; this occurs when $\kappa^f$ becomes approximately $\frac{1}{16}$ in Figure 6. Thus, when the entrant has sufficient production capacity, some industry profits must be allocated to the entrant in order to make colluding a more rewarding option for the entrant than price-deviating and engaging in lone production. Allocating some profits to the entrant leaves fewer industry profits for the other firms, making collusion relatively less attractive to them. This makes collusion more difficult, reducing the highest sustainable price.

7 Conclusion

Our results show that, in markets with syndication, classical industrial organization intuitions are not always valid: Decreasing market concentration can raise prices, as it strengthens firms’ ability to punish a deviator in-period by refusing offers of syndication.\footnote{Although here we work in a complete information environment, in ongoing work, we show that our conclusions are largely robust to relaxing our assumption that syndication offers are public.} Moreover, entry can also raise prices; a small entrant cannot credibly threaten to disrupt the collusive equilibrium, but does make collusion more profitable (and thus more attractive) to incumbent firms. Thus, our analysis suggests that some standard antitrust remedies—such as breaking up firms or facilitating entry—are of questionable use in thwarting collusion in markets with syndication.

Our analysis also adds to the ongoing scholarly debate on whether the IPO underwriting market is collusive and, if so, how collusion persists despite low market concentration in the industry. Our results offer potential insight into other features of the financial industry
as well: For example, regulatory barriers routinely restrict participation in certain types of investments to investors that meet net worth or financial sophistication requirements. One might predict that the industry would oppose such restrictions, on the grounds that higher capacity (i.e., more investors) reduces the total cost of production. However, our work shows that increased capacity may reduce industry profits by making collusion more difficult. Our analysis thus suggests that the financial sector may actively support such restrictions, as they can facilitate collusion.

Finally, our work also highlights the importance of considering the full extensive form of firm interactions in industrial organization settings. Many industries are characterized by repeated, complex interactions that are best modeled as repeated extensive form games, such as IPO underwriting, debt origination, municipal auctions followed by horizontal subcontracting between bidders, and real estate transactions with agent selection. Further exploring repeated extensive form games is thus crucial to understanding subtle but important strategic interactions in these, and many other, markets.
References


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### A Data

The data on IPOs used in Figures 1 and 2 comes from the Securities Data Company (SDC) database. Data are from 1976–2013. We make the usual exclusions, dropping real estate
investment trusts (REITs), American depositary receipts (ADRs), and unit offerings, as in the work of Chen and Ritter (2000) and Kang and Lowery (2014). For Figure 1, we additionally drop any observation that is missing data for the “price at close of offer/1st trade” for all IPOs from December 1985 forward. Prior to December 1985, such data are not recorded, while after this date, IPOs with this field missing appear to frequently be duplicate entries or non-standard deals; this filter eliminates 1930 out of 11982 IPOs.

B Proofs

B.1 Proof of Proposition 2

We construct a subgame-perfect Nash equilibrium where every firm offers the monopoly price as follows:

- There are two phases of equilibrium play:

1. In the cooperation phase:
   - Every firm submits the same bid $p = v$,
   - The buyer accepts the lowest price offer so long as one such offer is less than or equal to $v$. If there are multiple such offers, the buyer accepts each such offer with equal probability. If there are no such offers, the buyer rejects all the offers.
   - Every firm, if it becomes the syndicate leader, offers every other firm $c(\varphi, \varphi)$ to join the syndicate, and
   - Every other firm accepts this offer.

2. In the Bertrand reversion phase, agents play the Bertrand reversion Nash equilibrium.

- Under equilibrium play, play continues in the same phase. If, in the cooperation phase,
any firm $f$ deviates in the first step or deviates with respect to the prescribed set of offers, then play proceeds to the Bertrand reversion phase. Moreover, if any firm accepts or rejects a syndication offer contrary to the prescribed play, we proceed to the Bertrand reversion phase.

It is immediate that along prescribed path of play every firm offers $v$ for all $t$.

It is also immediate that play in the Bertrand reversion phase is subgame-perfect, as play is a subgame-perfect Nash equilibrium of the stage game (Proposition 1).

In the cooperation phase, an argument analogous to that used to prove Proposition 1 shows that offering $c(\varphi, \varphi)$ to each other firm minimizes the syndicate leader’s production costs; moreover, only by offering $c(\varphi, \varphi)$ to each other firm can the syndicate leader possibly obtain positive profits in the future. Thus, offering $c(\varphi, \varphi)$ to each other firm is the optimal action by the syndicate leader during the cooperation phase.

It is immediate that the buyer is acting optimally given the price offers.

Finally, we consider whether any firm will wish to be a price deviator. The expected profits from the equilibrium strategy are given by

$$\frac{1}{1 - \delta} \varphi(v - c(1, 1)).$$

Again using an argument analogous to that used to prove Proposition 1, we have that offering $c(\varphi, \varphi)$ to each other firm minimizes the syndicate leader’s production costs; thus, a price deviator’s production costs are given by $c(1, 1)$. Moreover, as we revert to Bertrand competition after a price deviation, profits in all future periods will be 0. Thus, the profits from deviating on price are bounded by

$$v - c(1, 1).$$

Thus, so long as $\delta \geq 1 - \varphi$, the strategies described here constitute a subgame-perfect Nash equilibrium.
B.2 Proof of Proposition 3

We first show that industry profits in the optimal collusion equilibrium are decreasing in $k$. It is easy to verify that price is now given by:

$$p^* = \frac{(1 - \delta)c(1, k\varphi) - \varphi c(1, k)}{1 - \delta - \varphi}.$$

Industry profits per period are thus

$$\Pi \equiv \frac{(1 - \delta)c(1, k\varphi) - \varphi c(1, k)}{1 - \delta - \varphi} - c(1, k) = \frac{1 - \delta}{1 - \delta - \varphi}k\left(c\left(\frac{1}{k}, \varphi\right) - c\left(\frac{1}{k}, 1\right)\right).$$

where the equality follows from the fact that the cost function is homogeneous of degree 1. Differentiating profits with respect to $k$, and then multiplying by $\frac{1 - \delta - \varphi}{1 - \delta}$ gives

$$\frac{1 - \delta - \varphi}{1 - \delta} \frac{\partial \Pi}{\partial k} = \left(c\left(\frac{1}{k}, \varphi\right) - c\left(\frac{1}{k}, 1\right)\right) - \frac{1}{k} \left(c_s\left(\frac{1}{k}, \varphi\right) - c_s\left(\frac{1}{k}, 1\right)\right)$$

Letting $g(x) = c(x, \varphi) - c(x, 1)$ and $x = \frac{1}{k}$, we have that

$$\frac{1 - \delta - \varphi}{1 - \delta} \frac{\partial \Pi}{\partial k} = g(x) - xg'(x)$$

$$= g(x) - g(0) - (x - 0)g'(x)$$

$$< 0,$$

where the second equality follows from the from the fact that $c(0, y) = 0$ for all $y \geq 0$, and the inequality follows from the convexity assumption of the theorem.

Since both the cost of efficient joint production and industry profits in the optimal collusion equilibrium are decreasing in $k$, the highest sustainable price must be decreasing in $k$. 
B.3 Proof of Theorem 2

To show that \( p^{\star} \) is the highest sustainable price, we construct an equilibrium of the following form:\(^{51}\)

- There are three phases of equilibrium play:

1. In the cooperation phase,
   - every firm submits the same bid \( p = p^{\star} \),
   - the short-lived buyer accepts one such offer of \( p^{\star} \), choosing each offer with equal probability,
   - every firm, if it becomes the syndicate leader \( \ell \), offers a fee \( c(\varphi, \varphi_k) \) to every non-leading firm \( g \in F \setminus \{\ell\} \) for agreeing to perform \( \varphi \) of production, and
   - every non-leading firm accepts the offer by the syndicate leader \( \ell \) to join the syndicate.

2. In the collusive punishment phase with continuation values \( \psi \),
   - every firm submits the same bid \( q = \min\{c(1, \varphi_k), v\} \),
   - the short-lived buyer accepts one such offer of \( q \), choosing each offer with equal probability,
   - every firm, if it becomes the syndicate leader \( \ell \), offers a fee \( c(\varphi, \varphi_k) + \psi^g \) to every non-leading firm \( g \in F \setminus \{\ell\} \) for agreeing to perform \( \varphi \) of production, and
   - every non-leading firm accepts the offer by the syndicate leader \( \ell \) to join the syndicate.

3. In the Bertrand reversion phase, agents play the Bertrand reversion Nash equilibrium.\(^{52}\)

\(^{51}\)It is immediate that, when \( \varphi \in [1 - \delta, 1] \), we can sustain collusion exactly as in the proof of Theorem 1.
\(^{52}\)Here, in the Bertrand reversion Nash equilibrium, the syndicate leader offers every other firm \( c(\varphi, \varphi_k) \) for agreeing to perform \( \varphi \) of the production.
• Under equilibrium play, play continues in the same phase. In the cooperation phase or a collusive punishment phase, some firm $f$ may price-deviate in the first step, in which case the buyer accepts this offer, or deviate with respect to the prescribed set of syndication offers. If so, future play depends on the sum over the non-leading firms of the (positive) difference between the syndication fee $w^g$ offered to each firm $g$ and the cost to that firm of doing $s^g$ of the project, $\sum_{g \in F \setminus \{f\}} (w^g - c(s^g, \varphi k))^+$.

Based on this sum, we categorize the set of offers made by a deviating firm $f$ into three cases: uniformly low offers, insufficient offers, and sufficient offers. Future play in each case is as follows:

**Uniformly Low Offers:** $\sum_{g \in F \setminus \{f\}} (w^g - c(s^g, \varphi k))^+ = 0$. In this case, rejecting the syndication offer is a best response for each non-leading firm, as the fee offered is weakly less than each non-leading firm’s cost of production. Thus, every firm rejects the offer of syndication and play enters the Bertrand reversion phase.

**Insufficient Offers:** $0 < \sum_{g \in F \setminus \{f\}} (w^g - c(s^g, \varphi))^+ \leq \frac{\delta}{1 - \delta} (c(1, \varphi k) - c(1, k))$. In this case, absent dynamic rewards and punishments, some non-leading firms may be tempted to accept their syndication offers. All non-leading firms do reject their syndication offers and play proceeds going forward in a collusive punishment phase with

$$\psi^h = \begin{cases} 
\frac{(w^h - c(s^h, \varphi k))^+}{\sum_{g \in F \setminus \{f\}} (w^g - c(s^g, \varphi k))^+} (c(1, \varphi k) - c(1, k)) & h \neq f \\
0 & h = f.
\end{cases}$$

**Sufficient Offers:** $\sum_{g \in F \setminus \{f\}} (w^g - c(s^g, \varphi k))^+ > \frac{\delta}{1 - \delta} (c(1, \varphi k) - c(1, k))$. In this case, play enters the Bertrand reversion phase in the next period; in period, each firm $h$ accepts if and only if $w^h \geq c(s^g, \varphi k)$.

Finally, if any firm accepts or rejects a syndication offer contrary to the prescribed play, we proceed to the Bertrand reversion phase.

53Here, $(x)^+ \equiv \max\{0, x\}$.  

49
The proof that this strategy profile is a subgame-perfect Nash equilibrium and that it attain the highest sustainable price of any subgame-perfect Nash equilibrium then follows as in the discussion following Theorem 1.

B.4 Proof of Theorem 3

To find $\hat{p}^*(\kappa; \delta)$, we solve the problem

$$\max_{p,r}\{p\}$$

subject to the constraints

$$\frac{1}{1-\delta} r^f(p - c(1,k)) \geq p - c(1,\kappa^f) \quad \text{for all } f \in F$$

$$r^f \geq 0 \quad \text{for all } f \in F$$

$$\sum_{f \in F} r^f = 1.$$ 

We transform this problem by letting $\pi^f = r^f(p - c(1,k))$ be the continuation value for $f$ from adhering to the equilibrium strategy in the cooperation phase, and so obtain the problem

$$\max_{\pi} \left\{ \sum_{f \in F} \pi^f \right\}$$

subject to the constraints

$$\frac{1}{1-\delta} \pi^f \geq \sum_{g \in F} \pi^g + c(1,k) - c(1,\kappa^f) \quad \text{for all } f \in F$$

$$\pi^f \geq 0 \quad \text{for all } f \in F.$$ 

The first constraint is the no lone deviation constraint. This is a convex optimization problem, and moreover it is immediate that it satisfies Slater’s condition. Thus, by Theorem 7.16 of Sundaram (1996), there exists a vector of continuation payoffs $\pi$ and Lagrangian multipliers
\( \lambda \) and \( \mu \) that satisfy the Kuhn-Tucker conditions, i.e., for all \( f \in F \),

\[
1 + \frac{\delta}{1 - \delta} \lambda^f - \sum_{g \in F} \lambda^g + \mu^f = 0
\]

\( \lambda^f \geq 0 \) and \( \lambda^f \left( \frac{1}{1 - \delta} \pi^f - \sum_{g \in F} \pi^g - c(1, k) + c\left(1, \kappa^f\right) \right) = 0 \)

\( \mu^f \geq 0 \) and \( \mu^f \pi^f = 0 \).

Let the set of firms for which \( \lambda^f \neq 0 \) be denoted \( \hat{F}(\kappa; \delta) \); thus, for each \( f \in \hat{F}(\kappa; \delta) \), we have that

\[
\frac{1}{1 - \delta} \pi^f - \sum_{g \in F} \pi^g - c(1, k) + c\left(1, \kappa^f\right) = 0.
\]

Summing over firms in \( \hat{F}(\kappa; \delta) \), we obtain

\[
\frac{1}{1 - \delta} \sum_{f \in \hat{F}(\kappa; \delta)} \pi^f = \sum_{f \in \hat{F}(\kappa; \delta)} \left( \sum_{g \in F} \pi^g + c(1, k) - c\left(1, \kappa^f\right) \right)
\]

\[
\frac{1}{1 - \delta} (p - c(1, k)) = \sum_{f \in \hat{F}(\kappa; \delta)} \left( p - c(1, k) + c(1, k) - c\left(1, \kappa^f\right) \right)
\]

\[
p = \frac{(1 - \delta) \tilde{\varphi}(\kappa; \delta) \sum_{f \in \hat{F}(\kappa; \delta)} c\left(1, \kappa^f\right) - \hat{\varphi}(\kappa; \delta)c(1, k)}{1 - \delta - \hat{\varphi}(\kappa; \delta)}
\]

where \( \hat{\varphi}(\kappa; \delta) = \frac{1}{|\hat{F}(\kappa; \delta)|} \). Note that if \( \lambda^f \neq 0 \), then we can rewrite \( \frac{1}{1 - \delta} \pi^f - \sum_{g \in F} \pi^g - c(1, k) + c\left(1, \kappa^f\right) = 0 \) as \( \frac{1}{1 - \delta} \pi^f = p - c\left(1, \kappa^f\right) \); thus, \( \hat{F}(\kappa; \delta) = \{ f \in F : p \geq c\left(1, \kappa^f\right) \} \).

To show that \( \hat{p}^*(\kappa; \delta) \) is the highest sustainable price, we construct an equilibrium as follows:\(^{54}\)

- There are three phases of equilibrium play:
  - In the cooperation phase,
    - every firm submits the same bid \( p = \hat{p}^*(\kappa; \delta) \),

\(^{54}\)It is immediate that, when \( \varphi \in [1 - \delta, 1] \), we can sustain collusion exactly as in the proof of Theorem 1.
the short-lived buyer accepts one such offer of $\hat{p}^*(\kappa; \delta)$, choosing each offer with equal probability,

• every firm, if it becomes the syndicate leader $\ell$, offers a fee $c(\varphi^g, \kappa^g) + \pi^g$ to each non-leading firm $\ell$ for agreeing to perform $\varphi^g$ of production, where $\varphi^g \equiv \kappa^g / k$, and

• every non-leading firm accepts the offer by the syndicate leader $\ell$ to join the syndicate.

2. In the collusive punishment phase with continuation values $\psi$,

• every firm submits the same bid $q = \min\{c(1, \kappa^{\max}), \hat{p}^*(\kappa; \delta)\}$,

• the short-lived buyer accepts one such offer of $q$, choosing each offer with equal probability,

• every firm, if it becomes the syndicate leader $\ell$, offers a fee $c(\varphi^g, \kappa^g) + \psi^g$ to every non-leading firm $g \in F \setminus \{\ell\}$ to join the syndicate, and

• every non-leading firm accepts the offer by the syndicate leader $\ell$ to join the syndicate.

3. In the Bertrand reversion phase, agents play the Bertrand reversion Nash equilibrium.\textsuperscript{55}

• Under equilibrium play, play continues in the same phase. In the cooperation phase or a collusive punishment phase, some firm $f$ may price-deviate in the first step, in which case the buyer accepts this offer, or deviate with respect to the prescribed set of syndication offers. If so, future play depends on the sum over the non-leading firms of the (positive) difference between the syndication fee $w^g$ offered to each firm $g$ and the cost to that firm of doing $s^g$ of the project, $\sum_{g \in F \setminus \{f\}} (w^g - c(s^g, \kappa^g))^+$.\textsuperscript{56} Based on this sum, we categorize the set of offers made by a deviating firm $f$ into three cases:

\textsuperscript{55}Here, in the Bertrand reversion Nash equilibrium, the syndicate leader offers every other firm $c(\varphi^g, \kappa^g)$ for agreeing to perform $\varphi^g$ of the production.
\textsuperscript{56}Here, $(x)^+ \equiv \max\{0, x\}$. 52
uniformly low offers, insufficient offers, and sufficient offers. Future play in each case is as follows:

**Uniformly Low Offers:** $\sum_{g \in F \setminus \{f\}} (w^g - c(s^g, \kappa^g))^+ = 0$. In this case, rejecting the syndication offer is a best response for each non-leading firm, as the fee offered is weakly less than each non-leading firm’s cost of production. Thus, every firm rejects the offer of syndication and play enters the Bertrand reversion phase.

**Insufficient Offers:** $0 < \sum_{g \in F \setminus \{f\}} (w^g - c(s^g, \kappa^g))^+ \leq \frac{\delta}{1 - \delta}(q - c(1, k))$. In this case, absent dynamic rewards and punishments, some non-leading firms may be tempted to accept their syndication offers. All non-leading firms do reject their syndication offers and play proceeds going forward in a collusive punishment phase with

$$
\psi^h = \begin{cases} 
\frac{(w^h - c(s^h, \kappa^h))^+}{\sum_{g \in F \setminus \{f\}} (w^g - c(s^g, \kappa^g))^+}(q - c(1, k)) & h \neq f \\
0 & h = f.
\end{cases}
$$

**Sufficient Offers:** $\sum_{g \in F \setminus \{f\}} (w^g - c(s^g, \kappa^g))^+ > \frac{\delta}{1 - \delta}(q - c(1, k))$. In this case, play enters the Bertrand reversion phase in the next period; in period, each firm $h$ accepts if and only if $w^h \geq c(s^h, \kappa^h)$.

Finally, if any firm accepts or rejects a syndication offer contrary to the prescribed play, we proceed to the Bertrand reversion phase.

It is immediate that the conjectured equilibrium delivers a price of $\hat{p}^\star(\kappa; \delta)$ in each period. We now verify that the prescribed strategies constitute a subgame-perfect Nash equilibrium.

**Responding to Syndication Offers**

We first show that the prescribed actions regarding accepting or rejecting syndication offers are best responses. It is immediate that, after equilibrium play in either the cooperation phase or a collusive punishment phase, it is a best response for each non-leading firm to
accept its syndication offer. It is also immediate that, in the case of uniformly low offers, it is a best response for each non-leading firm to reject its syndication offer. Finally, it is immediate that, in the case of sufficient offers, each non-leading firm plays a best response; each non-leading firm only accepts its syndication offer if accepting provides a non-negative payoff in this period, and play continues to the Bertrand reversion phase regardless of the firm’s actions.

To show that, in the case of insufficient offers, it is a best response for each non-leading firm to reject the offer of syndication, we calculate the total payoff for \( h \) from accepting the offer as

\[
w^h - c(s^h, \kappa^h),
\]

as play reverts to the Bertrand reversion phase if \( h \) accepts the offer (even if other firms reject their syndication offers). Meanwhile, the total payoff for \( h \) in the continuation game from rejecting the offer is

\[
\frac{\delta}{1 - \delta} \psi^h = \frac{\delta}{1 - \delta} \left( \frac{(w^h - c(s^h, \kappa^h))^+}{\sum_{g \in F \setminus \{f\}} (w^g - c(\varphi, \varphi))^+} (q - c(1, k)) \right)
\geq w^h - c(s^h, \kappa^h),
\]

where the inequality follows from the fact that \( \sum_{g \in F \setminus \{f\}} (w^g - c(s^g, \kappa^g))^+ \leq \frac{1}{1 - \delta} (q - c(1, k)) \), as we are in the insufficient offers case. Thus, it is a best response for every non-leading firm to rejects its syndication offer in the insufficient offers case.

**Responding to Price Offers**

It is immediate that each short-lived buyer \( b_t \) is acting optimally as \( b_t \) always chooses one of the lowest price offers less than or equal to its reservation price \( v \).

---

\(^{57}\)This follows as each syndication offer provides the firm with non-negative surplus and, if the firm rejects the syndication offer, play continues to the Bertrand reversion phase, in which the firm’s future payoffs are 0.

\(^{58}\)This follows as each syndication offer provides the firm with non-positive surplus and play continues to the Bertrand reversion phase regardless of the firm’s actions.
Deviating on Price or Syndication Offers in the Collusive Punishment Phase

We begin by verifying that, during a collusive punishment phase, no firm has an incentive to price-deviate or, if selected as the syndicate leader, not make the prescribed syndication offers. First, consider the payoff to a deviating firm $f$ that is selected as syndicate leader and then makes uniformly low or insufficient offers. No other firm will join $f$’s syndicate, and $f$ will receive a payment of at most $q$ from the buyer. Thus, firm $f$’s profit in-period is at most $q - c(1, \kappa_f) \leq c(1, \kappa^{\text{max}}) - c(1, \kappa_f) \leq 0$ as $q = \min\{v, c(1, \kappa^{\text{max}})\}$. Moreover, firm $f$’s profits in every future period will be 0. Therefore, firm $f$’s total profits from making uniformly low or insufficient offers are at most 0. On the other hand, firm $f$ enjoys a continuation value $\psi^f \geq 0$ by not deviating; consequently, it is not profitable for $f$ to deviate and make uniformly low or insufficient offers.

Second, consider the payoff to a deviating firm $f$ that is selected as syndicate leader and then makes sufficient offers during a collusive punishment phase. Recall that sufficient offers require that the price deviator provide the non-leading firms with dynamic compensation totaling at least $\frac{\delta}{1-\delta}(q - c(1, k))$ above their costs of production. Thus, the in-period payoff to the deviating firm $f$ is at most

$$\frac{q}{\text{Price}} - \frac{c(1, k)}{\text{Total cost of production when all firms participate}} - \frac{\delta}{1-\delta}(q - c(1, k)) = \left(1 - \frac{\delta}{1-\delta}\right)(q - c(1, k)) \leq 0,$$

where the last inequality follows as $\delta \geq \frac{1}{2}$. In future periods, play reverts to the Bertrand reversion Nash equilibrium, and so firm $f$’s future payoffs will be 0. Thus, $f$’s total payoff from deviating is less than or equal to 0. By contrast, if firm $f$ continues with equilibrium play, it receives a non-negative payoff. Thus, not deviating is a best response for firm $f$. 
Deviating on Price or Syndication Offers in the Cooperation Phase

Finally, we verify that, during the cooperation phase, no firm has an incentive to price-deviate or, if selected as the syndicate leader, not make the prescribed syndication offers. First, consider the payoff to a deviating firm $f$ that is selected as syndicate leader and then makes uniformly low or insufficient offers. No other firm will join $f$’s syndicate, and $f$ will receive a payment of at most $\hat{p}^*(\kappa; \delta)$ from the buyer. Thus, firm $f$’s profit in-period is at most $\hat{p}^*(\kappa; \delta) - c(1, \kappa^f)$. Moreover, firm $f$’s profits in every future period will be 0. Therefore, firm $f$’s total profits from making uniformly low or insufficient offers are at most $\hat{p}^*(\kappa; \delta) - c(1, \kappa^f)$. On the other hand, firm $f$ enjoys profits each period of $r^f(\hat{p}^*(\kappa; \delta) - c(1, k))$ by not deviating. Consequently, it is not profitable for $f$ to deviate and make uniformly low or insufficient offers so long as

$$\frac{1}{1 - \delta} r^f(\hat{p}^*(\kappa; \delta) - c(1, k)) \geq \hat{p}^* - c(1, \kappa^f);$$

but this constraint is satisfied by the construction of $\hat{p}^*(\kappa; \delta)$—see (3).

Second, consider the payoff to a deviating firm $f$ that is selected as syndicate leader and then makes sufficient offers during the cooperation phase. Recall that sufficient offers require that the price deviator provide the non-leading firms with dynamic compensation totaling at least $\frac{\delta}{1 - \delta} (q - c(1, k))$ above their costs of production. Thus, the in-period payoff to the deviating firm $f$ is at most

$$\frac{p^*}{\text{Price}} - \frac{c(1, k)}{\text{Total cost of production when all firms participate}} - \frac{\delta}{1 - \delta} (q - c(1, k)). \quad (4)$$

In future periods, play reverts to the Bertrand reversion Nash equilibrium, and so firm $f$’s future payoffs will be 0. Thus, $f$’s total payoff from deviating is less than or equal to that given by (4). By contrast, if firm $f$ continues with equilibrium play, firm $f$ enjoys profits each period of $r^f(\hat{p}^*(\kappa; \delta) - c(1, 1))$. Consequently, it is not profitable for $f$ to deviate and
make sufficient offers so long as

\[
\frac{1}{1-\delta} \varphi(\hat{p}^*(\kappa; \delta) - c(1, 1)) \geq p^* - c(1, 1) - \frac{\delta}{1-\delta}(q - c(1, 1)).
\]

Note that, for a small enough firm \( f \), we could have \( r^f = 0 \). Thus, we must have \( \delta \) large enough to that

\[
0 \geq \hat{p}^*(\kappa; \delta) - c(1, k) - \frac{\delta}{1-\delta}(q - c(1, k)).
\]

Thus, solving for \( \delta \), we have

\[
\delta \geq \frac{\hat{p}^*(\kappa; \delta) - c(1, k)}{(\hat{p}^*(\kappa; \delta) - c(1, k)) + (q - c(1, k))},
\]

which will be satisfied since \( q = \min\{c(1, \kappa_{\text{max}}), \hat{p}^*\} \).

Thus, for \( \delta \geq \hat{\delta}(\kappa; \delta) \), \( \hat{p}^*(\kappa; \delta) \) can be sustained.

Maximality of \( \hat{p}^*(\kappa; \delta) \)

It now remains to show that no price higher than \( \hat{p}^*(\kappa; \delta) \) can be sustained. There are two cases to consider, depending on whether \( \hat{p}^*(\kappa; \delta) = v \) or \( \hat{p}^*(\kappa; \delta) < v \): In the former case, no price greater than \( \hat{p}^*(\kappa; \delta) = v \) can be sustained as no buyer will accept an offer higher than \( v \).

It is also immediate that we can not construct an equilibrium with a price higher than \( \hat{p}^*(\kappa; \delta) = (1-\hat{\delta}(\kappa; \delta)) \varphi(\kappa; \delta) \sum_{f \in \hat{F}(\kappa; \delta)} c(1, k^f) - \varphi(\kappa; \delta) c(1, k) \), since, by construction, under any such price some firm will have an incentive to slightly underprice and engage in lone production.

B.5 Proof of Proposition 4

First, note that \( \hat{F}(\kappa; \delta) = F \) for all \( \kappa \) when \( \epsilon \) is sufficiently small. Moreover, \( \delta(\kappa; \delta) \) is continuous in \( \kappa \), and so, for \( \epsilon \) sufficiently small, we have that \( \delta > \delta(\kappa; \delta) \) since \( \delta > \delta((\varphi k)_{f \in F}; \delta) \).
If \( \hat{p}^*(\kappa; \delta) = v \), we are done, since \( \hat{p}^*((\varphi k)_{f \in F}; \delta) < v \) by assumption. Thus, when \( \hat{p}^*(\kappa; \delta) < v \), we can write

\[
\hat{p}^*(\kappa; \delta) - \hat{p}^*((\varphi k)_{f \in F}; \delta) = (1 - \delta)\hat{\phi}(\kappa; \delta)\frac{\sum_{f \in F} c(1, \kappa^f) - \sum_{f \in F} c(1, \varphi k)}{1 - \delta - \hat{\phi}(\kappa; \delta)} > 0
\]

where the inequality follows from the strict convexity of \( c(s, m) \) with respect to \( m \).

**B.6 Proof of Proposition 5**

Let \( \epsilon \) be small enough so that \( c(1, \epsilon) > v \). Note that such an \( \epsilon \) must exist, as \( c(1, \epsilon) \to \infty \) as \( \epsilon \to 0 \). Solving for the highest sustainable price when \( f \) is present, i.e., solving the problem given in (3), we obtain

\[
\hat{p}^*((\kappa, \kappa^f); \delta) = \min \left\{ \frac{(1 - \delta)\hat{\phi}(\kappa; \delta)\sum_{f \in F} c(1, \kappa^f) - \hat{\phi}(\kappa; \delta)c(1, k + \kappa^f)}{1 - \delta - \hat{\phi}(\kappa; \delta)}, v \right\}.
\]

Note that \( \epsilon \) has been chosen to ensure that \( f \notin \hat{F} \). Thus,

\[
\hat{p}^*((\kappa, \kappa^f); \delta) - \hat{p}^*(\kappa; \delta) = \min \left\{ \frac{\hat{\phi}(\kappa; \delta)c(1, k) - c(1, k + \kappa^f)}{1 - \delta - \hat{\phi}(\kappa; \delta)}, v - \hat{p}^*(\kappa; \delta) \right\} > 0.
\]

Finally, note that \( \hat{\delta}((\kappa, \kappa^f); \delta) \geq \hat{\delta}(\kappa; \delta) \) as \( \hat{p}^*((\kappa, \kappa^f); \delta) > \hat{p}^*(\kappa; \delta) \).
On Tuesday, the Spanish Markets and Competition Commission (“CNMC”) fined four major Spanish banks €91 million for allegedly conspiring to offer interest-rate derivatives (“IRD”) attached to syndicated loans under conditions other than those agreed with customers. According to the CNMC, this was done by (i) applying hidden charges to zero-cost options; and (ii) offering clients a price for the IRD different from the real market price at closing.

This decision, which comes in a moment when syndicated lending is under the scrutiny of the European Commission, underscores the importance for banks to ensure transparency in their relationship with clients.

Background

IRDs (including caps, floors, collars and swaps) are attached to syndicated loans to protect group lending facilities and loan recipients, in case they are unable to meet repayments because of fluctuating interest rates.

It is usually the syndicated lenders that also act as hedging banks. Even though the loan itself is generally executed in a single document, IRDs are usually executed bilaterally between the client and each hedging bank using the ISDA Master Agreement. The same conditions are usually offered by all the hedging banks at closing.

The CNMC’s investigation focused on so-called “zero-cost” or “costless” collars, which are a type of IRD established by buying a put and selling a call in a way that the premium received from the call sale offsets the premium paid to purchase the put.

The investigation

In April 2016, following a complaint by a wind farm manufacturer and operator, the Spanish antitrust enforcer began proceedings against four major Spanish banks¹ on grounds of “suspected price-fixing agreements or concerted practices, as well as alleged exchanges of commercially-sensitive information”.

¹ The investigated Banks are Banco Bilbao Vizcaya Argentaria, S.A.; Banco Santander, S.A.; Banco Sabadell, S.A, and Caixabank, S.A.
in connection with the derivatives used to hedge the interest rate risk associated with syndicated loans for project finance.

During the investigation, the CNMC raised questions regarding three potentially illegal behaviours:

- **Potentially anticompetitive bundling of syndicated loans and IRDs.** Syndicated lenders usually act as hedging banks for their part of the loan. The authority investigated whether this could lead to an elimination of competition between the lenders and any potential third-party hedge providers.

- **Coordination between the hedging banks/lenders to fix the price of IRDs.** The CNMC questioned whether the fact that IRDs are executed in bilateral documents could mean that these derivatives are not syndicated and that each hedging bank should offer its own price and conditions at closing.

- **Manipulation of market prices.** The CNMC questioned whether the investigated banks colluded to offer clients a price (i) different from the “market price”; and (ii) that in many occasions also included a hidden charge.

**The findings**

*The banks’ behaviour did not amount to anticompetitive bundling*

The CNMC found that there are no grounds to conclude that the behaviour of the banks amounted to anticompetitive bundling.

Syndicated project financing arrangements are highly complex and it cannot be excluded that the syndicated lenders are in a better position to also provide hedging for the interest rate risk. The CNMC also noted that the banks had provided evidence of third parties acting as hedge providers in certain cases.

*The mechanism used by the banks to fix the price of IRDs is compatible with competition rules*

The CNMC found that the mechanism used by the banks to fix the price of IRDs is not anticompetitive in itself.

The CNMC agreed with the banks that it may be necessary for the different hedging banks participating in a certain transaction to close IRDs under the same conditions, to the extent that all the banks share the same collateral and are bound by the same Intercreditors’ Agreement. This was also supported by a report by the Bank of Spain.

The CNMC indicated that this behaviour should not amount to a breach of the competition rules, as long as clients are aware of the mechanism used to fix IRDs’ conditions.

*Collusion to manipulate market prices*

The CNMC found that the banks’ behaviour in certain instances gave rise to a breach of competition rules. The CNMC considered that, in certain cases
between 2006 and 2016, the banks colluded to offer interest-rate derivatives under conditions other than those agreed with their customers by (i) applying hidden charges to zero-cost options; and (ii) offering clients a price for the derivative different from the market price at closing.

The CNMC noted that, while banks are free to apply any charges, they need to duly inform the client of such charges. According to the CNMC, in many occasions, clients were led to believe that they were purchasing a “zero-cost” option when, in fact, banks were applying a charge or margin to the IRD’s market price at closing.

The CNMC also concluded that, in some instances, the banks held conversations, without the clients’ knowledge, where they allegedly agreed to offer clients a price for the IRDs different from the market price at closing. To do this, the banks allegedly led the client to believe that the price at which the IRD was being traded was different from its actual market price.

The CNMC noted that, while coordination between hedging banks to offer uniform conditions may be justified, this is only the case when this coordination leads to the client obtaining the best possible market conditions. The CNMC, quoting the ECJ’s judgement in Hoffman-La Roche, concluded that concerted practices between competitors which concern the dissemination of misleading information constitutes a restriction of competition by object. According to the CNMC, the banks’ behaviour also had an effect on the market, to the extent that the banks applied less favourable conditions to certain clients.

Fines

The CNMC concluded that the banks’ behaviour amounted to a breach of Article 1 of Spanish Law 15/2007 as well as Article 101 TFEU and fined CaixaBank €31.8 million, Santander €23.9 million, BBVA €19.8 million and Sabadell €15.5 million.

Conclusion

This decision serves as a reminder of the importance of ensuring that clients are aware at all times of the extent and scope of the co-operation between the banks within the syndicate.

While the CNMC accepts that bank syndication may be justified, and uniform conditions may be offered by the syndicate even in the context of IRDs, this is only the case if this syndication allows the client to obtain the best possible conditions. Condition fixing without the borrowers’ knowledge and consent, particularly if these conditions differ from market conditions, is likely to be found to infringe competition law.

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2 C-179/16 - F. Hoffmann-La Roche and Others.
Spanish banks fined for fixing the price of interest rate derivatives attached to syndicated loans
Does Borrowing from Banks Cost More than Borrowing from the Market?

Michael Schwert*
Fisher College of Business
The Ohio State University
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Abstract

This paper investigates the pricing of bank loans relative to capital market debt. The analysis relies on a novel sample of syndicated loans matched with bond spreads from the same firm on the same date. After accounting for seniority, banks earn an economically large premium relative to the market price of credit risk. To quantify the premium, I apply a structural model that accounts for priority structure, prices the firm’s bonds, and matches expected losses given default and secondary market bid-ask spreads. In a sample of secured term loans to non-investment-grade firms, the average loan premium is 143 bps, equal to 43% of the all-in-drawn spread. These findings are the first direct evidence of firms’ willingness to pay for the unique qualities of bank loans and raise questions about the nature of competition in the loan market.

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The two primary sources of debt for public corporations are bank loans and bonds issued in the public debt markets. The academic literature offers a number of theories on the interaction of private and public debt markets (e.g., Diamond (1991), Rajan (1992), Park (2000), Carey and Gordy (2016)) and empirical evidence on cross-sectional and time-series variation in quantities of loans and bonds issued (e.g., Faulkender and Petersen (2006), Rauh and Sufi (2010), Becker and Ivashina (2014)). However, there is less research on the pricing of bank loans and the relative pricing of private and public debt. This paper fills that gap by offering new evidence on the relative costs of bank and bond debt.

The central finding of this paper is that banks earn a substantial interest rate premium relative to the price of credit risk implied by the bond market after accounting for seniority. I arrive at this finding by constructing a novel dataset consisting of new loan facilities and secondary bond market quotes from the same firm on the same date. This approach provides a clean comparison of pricing in the loan and bond markets that is unaffected by firm-time observable factors. I account for the firm’s priority structure of debt using both reduced-form and structural models of credit risk.

From a credit risk standpoint, the key difference between loans and bonds is that banks are senior to bondholders in bankruptcy. Default is the only state in which creditors are not paid in full, so expected payoffs in default are a crucial determinant of the cost of credit. Table 1 presents evidence from Moody’s Ultimate Recovery Database on bankruptcies of firms with both loans and bonds outstanding at the time of default from 1987 to 2014. The average recovery rate for loans is 80%, double the average recovery of 40% for bonds. This difference in exposure to default losses implies that loan credit spreads should be smaller than bond credit spreads.

\footnote{The sample consists of large firms with access to public debt markets, so it does not represent the population of corporate borrowers. I discuss the issue of external validity in Section 4.}

\footnote{Loans to investment-grade firms are typically unsecured and therefore on equal footing with unsecured bondholders, but it is unusual for a firm to default on an unsecured loan due to the bank’s ability to renegotiate the loan’s security after the firm violates covenants but before a material default. Only 7.3\% of the 1,448 defaulted loans in the Moody’s Ultimate Recovery Database from 1987 to 2014 are unsecured at the time of default. Besides seniority, there are many other differences in the cash flows and underlying economics of loans and bonds that I discuss in this paper.}
Duffie and Singleton (1999) develop a reduced-form default intensity model that serves as a useful benchmark. In their model, the credit spread on a risky zero-coupon bond equals the “risk-neutral mean-loss rate,” or the probability of default times the expected loss given default. The probability of default is the same for all debt instruments issued by the same firm, assuming cross-default provisions are in place, so the relative spreads on bonds and loans depend only on their expected losses given default. Table 1 indicates that the expected loss given default for bonds is three times higher than the expected loss given default for loans. Therefore, the Duffie and Singleton (1999) model predicts that bond spreads should be approximately three times as large as loan spreads.

Figure 1 visually summarizes the relative pricing of corporate bonds and loans, uncovering facts that have not been reported previously in the literature. The top panel plots bond and loan spreads relative to the LIBOR swap curve as non-parametric functions of distance-to-default (Bharath and Shumway (2008)) and the bottom panel plots the ratio of the spreads. The sample contains all new loans with secondary bond market quotes available from the same firm on the loan’s start date. In this figure, I exclude loan-bond pairs with a maturity difference over one year to mitigate the effect of maturity structure on the relative spreads.

On first glance, the plot in Panel A appears intuitive. When the firm is close to default, bond spreads are significantly higher than loan spreads, reaching the bond-spread ratio of three-to-one predicted by the Duffie and Singleton (1999) model when the distance-to-default is zero. When the firm is far from default, the loan and bond spreads are similar, which seems consistent with most bank loans being unsecured when the firm is in good standing. However, Table 1 shows that the bank is rarely unsecured in the event of default, which likely results from the bank renegotiating loan terms as the firm’s creditworthiness deteriorates (Roberts 2009). The expected loss given default in Duffie and Singleton (1999) is under the risk-neutral measure, whereas Table 1 provides an estimate of the physical expectation. This affects interpretation if there is a systematic component to the relative recoveries of loans and bonds. To alleviate this concern, the Internet Appendix shows the relative recoveries of loans and bonds are stable throughout my sample period. Regardless of the physical-to-risk-neutral mapping, the bond spread represents a strict upper bound on the loan spread as long as there is no state in which the bond recovers more than the loan. There are zero default events (out of 534) in Moody’s Ultimate Recovery Database in which unsecured bonds recover more than secured loans.
Accounting for the bank’s senior position conditional on default, the similar pricing of loans and bonds for healthy firms is puzzling. Panel B of Figure [1] shows that the ratio of bond spreads to loan spreads is significantly lower than three for firms rated better than CCC. Strikingly, the loan and bond spreads of investment-grade firms are statistically indistinguishable. Assuming bonds are competitively priced, this implies that banks earn a substantial premium relative to the credit risk they bear.

To quantify the magnitude of the premium, I apply a structural model of credit risk. This analysis focuses on a subsample of the data containing secured term loans and unsecured bonds, so seniority is unambiguous and the impact of embedded options on loan value is minimal. The model is based on Black and Cox (1976), who extend the Merton (1974) model to value senior and junior debt claims as options on the firm’s assets. To improve the model’s ability to price loans, I include bankruptcy costs and a liquidity discount. Bankruptcy costs are calibrated to match the empirical evidence on expected recoveries, while the liquidity discount is calibrated to match bid-ask spreads in the secondary market for term loans. To implement the model, I set the parameters governing the firm value process to price corporate bonds exactly, so the loan spread computed under the model represents a public market counterfactual. Importantly, the model prices corporate bonds correctly by construction, so my approach does not suffer from the “credit spread puzzle” (Huang and Huang (2012)) in which structural models underestimate corporate bond spreads.

The result of the structural estimation is that the average bond-implied loan spread is 143 bps lower than the average all-in-drawn spread of 305 bps in the subsample of secured term loans to non-investment-grade firms. Put differently, 43% of the average loan spread is in excess of the cost of credit implied by the capital markets, accounting for the default risk and illiquidity of the loan. In addition computing counterfactual loan spreads, I use the structural model to show that costs of distress and illiquidity must be implausibly high to justify the observed pricing of loans, underscoring the existence of a loan premium. For
robustness, I apply the reduced-form default-intensity approach from Duffie and Singleton (1999) and find quantitatively similar estimates.

One question is whether this premium results from mispricing of seniority in general or something specific about bank debt. To address this issue, I analyze a separate sample of secondary market quotes for secured and unsecured bonds of the same firm on the same date. Interestingly, the evidence on secured and unsecured bonds conforms closely to the Duffie and Singleton (1999) prediction that relative credit spreads depend on the ratio of expected losses given default. This contrasts starkly with the evidence on loan and bond spreads and suggests that the loan premium is specific to banks.

Why does the bank earn a premium relative to the market price of credit risk? I cannot definitively identify the mechanism underlying the loan premium, but I am able to rule out several explanations and provide support for others. The estimated premium is too large to be driven by unmeasured differences in the cost of financing, such as fixed-floating spread basis, additional fees associated with issuance, or underpricing in the primary market for corporate bonds. Regression analysis of the loan premium indicates that it is related to future costs of renegotiation but unrelated to measures of monitoring costs or bundling of revolving credit and is unlikely to be driven by capital requirements.\footnote{In addition to this evidence, the structure of loan cash flows seems inconsistent with the premium reflecting compensation for information production or other costs borne by the lead arrangers. The all-in-drawn spread studied in this paper is paid to all syndicate members, whereas the up-front fee is usually paid only to the lead arranger. Berg, Saunders, and Steffen (2016) show that up-front fees are higher for loans to borrowers with high volatility, consistent with it serving as compensation for monitoring. Unfortunately, data on up-front fees are unavailable for many loans in DealScan.}

The main implication of these findings is that firms are willing to pay a high cost to borrow from a bank, paying a higher rate than implied by the bank’s exposure to credit risk. By revealed preference, firms must place a high value on bank services other than the simple one-time provision of debt capital. To my knowledge, this paper is the first to quantify the value of bank services using the firm’s willingness to pay for bank loans. The finding of a economically large loan premium builds on the literature that uncovers the value of bank specialness indirectly (e.g., Fama (1985), James (1987)). I should note that borrowing from
banks does not actually cost more than issuing unsecured bonds in terms of interest expense. However, the cost is high relative to the capital market price of the risk borne by banks, which implies that either the loan premium reflects the cost of bank services or banks earn rents. The second possibility is supported by evidence of imperfect competition in deposit markets (e.g., Drechsler, Savov, and Schnabl (2017)), concentration among lead arrangers of syndicated loans (Schwert (2018)), and institutional barriers to joining loan syndicates, but the integrated nature of the syndicated loan market is an obstacle to uncovering the effects of competition on loan pricing.

Several earlier papers study the effects of specific loan terms or lender characteristics on loan spreads. However, all of these papers study variation in pricing within the loan market. This paper is the first to introduce a clean comparison of the relative pricing of loans and bonds that controls for firm and time unobservables. It also contributes to the corporate bond literature by showing that the priority structure of secured and unsecured bonds is priced according to the Duffie and Singleton (1999) framework.

This paper sheds light on the literature studying the choice between public and private debt (e.g., Diamond (1991), Denis and Mihov (2003), Hackbarth, Hennessy, and Leland (2007)) by showing that bank financing involves excess costs relative to bond financing, after accounting for differences in seniority. It also helps explain the finding in Faulkender and Petersen (2006) that bank-dependent firms have significantly lower leverage than firms with access to the bond market, which is consistent with firms facing a higher cost per unit of credit risk when borrowing from banks. Finally, this paper relates to the literature showing that contracting frictions are resolved by making the bank senior to bondholders.

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5For example, Hubbard, Kuttner, and Palia (2002), Santos (2011), Lambertini and Mukherjee (2016), and Wallen (2017) focus on bank capital; Drucker and Puri (2005) find loan discounts associated with equity underwriting; Ivashina (2009) focuses on lead arranger skin-in-the-game; Santos and Winton (2008), Hale and Santos (2009), and Schenone (2010) study informational rents; Lim, Minton, and Weisbach (2014) focus on non-bank tranches; Dougal et al. (2015) and Murfin and Pratt (2017) find overweighting of information from past loans; Murfin and Petersen (2016) study seasonality; and Botsch and Vanasco (2017) show that banks learn about borrower quality over time.

6Becker and Ivashina (2014) compare loan and bond spreads in their analysis of aggregate quantities, but their comparison focuses on new issue yields and does not control for firm-time unobservables.
(e.g., Diamond (1993), Welch (1997), Park (2000), Gornall (2017)). My findings suggest that banks capture some of the surplus generated by this arrangement.

The remainder of the paper is organized as follows. Section 1 describes the construction of the sample. Section 2 outlines an extension of the Black and Cox (1976) model and estimates counterfactual loan spreads under the model. Section 3 explores potential explanations for the loan premium. Section 4 concludes.

1 Data

This paper relies on a novel sample design that allows for a clean comparison of loan and bond credit spreads. The sample consists of new loan facilities paired with the nearest outstanding unsecured bond by maturity from the same firm on the start date of the loan. The advantage of this construction is that it eliminates the impact of unobservable firm, time, and firm-time factors that could correlate with credit risk and the pricing of debt. This leads to a more appropriate market-based counterfactual for loan pricing than alternative approaches such as comparing new issue spreads at different points in time or comparing loan spreads with bond index spreads by credit rating. Moreover, at any point in time the probability of default is the same for all of the firm’s debt instruments under standard cross-default provisions, which leads to an intuitive relation between credit spreads and expected recoveries.

However, it is important to recognize the limitations of this approach. The sample is restricted to firms with outstanding corporate bonds, so it is not representative of the universe of bank borrowers. Firms with access to public debt markets are larger and less financially constrained than firms without access (Faulkender and Petersen (2006)), so external validity is a key concern. The top panel of Figure 2 shows that loans to non-rated firms, who do not have bond market access, are priced at slightly higher spreads conditional on credit risk than rated firms, who are eligible for inclusion in my sample. Intuitively, firms without bond market access have weaker bargaining power with banks due to their worse outside options.
Thus, it is reasonable to expect that the loan pricing effects uncovered in my analysis are larger in magnitude for non-rated firms.

The sample consists of firms deciding to borrow from a bank rather than issuing a new bond, so there is also potential for selection within the subset of bank borrowers with bond market access. This is a necessary evil in the absence of widely available secondary market pricing of corporate loans. The primary concerns for my analysis are that pricing of these firms’ bonds is unusual, the firms are in bad financial health, or the observations occur during periods of market turmoil. To alleviate the first concern, the bottom panel of Figure 2 shows that bond credit spreads of firms taking out a new loan in the current month are similar, conditional on credit risk, to the spreads of firms not taking a new loan. With regard to financial health, the vast majority of sample firms have positive equity returns and operating profits prior to the loan. These firms continue to have access to the bond market, with one-quarter issuing a bond within one year and three-quarters issuing a bond within five years after the loan. Finally, most of the sample observations occur during the economic expansions before and after the financial crisis and there were barely any new loans during the crisis. Overall, this evidence suggests that it is appropriate to draw general conclusions about the relative pricing of loans and bonds from my analysis.

1.1 Sample Construction

Table 2 summarizes the sample construction. I begin with data on loan originations from 1997 to 2016 in DealScan merged with firm characteristics from the quarter prior to origination from Compustat. Following the corporate finance literature, I exclude loans to financial firms (SIC 6000-6999), utilities (SIC 4900-4999), quasi-public firms (SIC above 8999) from the sample. I restrict the sample to observations with non-missing data on short-term and

7The Internet Appendix presents similar figures with new loan borrowers identified by the presence of a new loan in the six months before or after the bond spread observation or the existence of an outstanding loan originated anytime in the past.
long-term debt from Compustat and market capitalization and equity volatility from CRSP.

I drop a small number of subordinated loans. I require the all-in-drawn spread be relative to London Interbank Offered Rate (LIBOR), which is the standard base rate for corporate loans. I restrict the sample to revolving credit facilities (including 364-day facilities) and term loans (bank and non-bank tranches, as well as bridge loans and delay draw term loans), dropping leases, letters of credit, and other loan types. I exclude commercial paper backup loans because they are rarely drawn. I exclude debtor-in-possession loans because their issuers are in default at the time of origination.

I merge corporate bond quote data from Bank of America Merill Lynch (BAML), which are available from 1997 to 2016, on the origination date of each loan. This is accomplished by merging the leading six digits of the CUSIP (the issuer CUSIP) in the BAML data with the same identifier in Compustat. For each loan, I match the senior unsecured bond with the smallest absolute maturity difference, dropping pairs with an absolute maturity difference greater than five years. To mitigate the impact of extremely short maturities on the results, I drop loans and bonds with less than 11 months to maturity. Finally, I select distinct firm-date observations to mitigate the impact of multiple facility loan packages on the results. If there is a term loan included in the loan package, I select it because term loans have fewer embedded options that complicate the comparison with bond credit spreads. After

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8I extend the Chava and Roberts (2008) DealScan-Compustat link table to the end of 2016 by adding Compustat identifiers for loans originated after August 21, 2012 by companies that are public and located in the U.S., as indicated by DealScan. For each DealScan BorrowerCompanyID in this set of loans, I use the last Compustat GVKEY in the Chava and Roberts (2008) table if the GVKEY is still active in the CRSP-Compustat link table, hand-checking that the company names still match. For the remaining companies in the DealScan data after August 21, 2012, I hand-match company names with the Compustat header file on WRDS, using web searches for each unmatched company to determine if it is a subsidiary or an alternative name for a public company. I drop the company if I cannot find its identifier in Compustat.

9These quote prices are the basis for Bank of America’s bond indices. In academic research, these data are used by Schaefer and Strebulaev (2008) and Feldhutter and Schaefer (2017).

10Note that here and throughout the paper I define the loan package as all facilities with the same start date, rather than using the package identifiers in DealScan. Berlin, Nini, and Yu (2017) use a similar approach to identify related loans. When a package includes both revolving credit facilities and term loans, the term loan spread is 22 bps or 10% higher than the revolving facility’s all-in-drawn spread on average. Many packages have the same spread for both facility types, in which case the term loan can be interpreted as a minimum drawn amount on the revolving facility. Based on this evidence, the preference for term loans is unlikely to have a material effect on my findings.
giving preference to term loans, I select the minimum absolute maturity difference among
the bond-loan pairs on each origination date. If there remain multiple facilities in a firm-date
observation, I select the largest facility and then the highest facility identification number
in DealScan. The full bond-loan sample consists of 2,003 loans to 574 firms totaling $2.2
trillion in capacity.

Even though the evidence on ultimate recoveries indicates that unsecured loans have
priority over unsecured bonds in a default, I restrict the sample to secured term loans for
the structural model estimation to ensure that there is no ambiguity about the priority of
debt and to mitigate the impact of embedded options. The model requires measurement
of the firm’s debt structure, specifically the amount of senior and junior debt at the time
of the loan. I obtain data from two sources on the firm’s debt structure at the quarter-end
immediately before the origination date. First, Capital IQ provides detailed capital structure
data from 2002 to 2016, which I merge with 155 out of the 323 secured term loans. To ensure
the quality of the Capital IQ data, I require that secured and unsecured debt sum to total
debt and that total debt from Capital IQ match total debt in Compustat. The Capital IQ
data have good coverage of the sample firms in recent years, but coverage is worse prior to
the financial crisis. To fill gaps in the Capital IQ data, I hand collect information on debt
structure from 10-K and 10-Q filings in the EDGAR database provided by the SEC, adding
required data for 90 observations. For the remaining observations, the firms do not report
liabilities in enough detail to construct accurate measures of debt structure. The restricted
sample consists of 245 loans to 124 firms totaling $168 billion in volume.

1.2 Sample Characteristics

Table 3 reports summary statistics on the sample. The firms in the sample all have access to
the public debt markets, so they are generally large, profitable, and have substantial tangible
assets. There is significant cross-sectional variation in capital structure and debt structure.
Consistent with Rauh and Sufi’s (2010) finding that firms with tiered debt structure tend to
be medium-to-low quality, most of the firms are in the BBB and BB rating categories. The median loan facility has $700 million capacity, maturity of five years, and an all-in-drawn spread over LIBOR of 125 bps. Approximately 42% of loans are secured and 28% are term loans. The median bond has $350 million in principal outstanding and five years to maturity, with a secondary market asset swap spread of 146 bps. The sample of bonds has greater variance in credit spreads and time to maturity than the sample of loans, but the maturities are well matched in the middle of the distribution, indicating that maturity structure should not have a significant impact on the analysis.

To provide context on the external validity of this study, the Internet Appendix compares the sample with the DealScan-Compustat universe. The main difference between the sample and the universe is that the sample is restricted to bond issuers, so the firms are larger, less volatile and less reliant on bank financing, and almost all have credit ratings. In contrast, nearly half of the firms in the DealScan universe are non-rated. Along these lines, the loans are larger and have slightly lower credit spreads than the typical loan in the universe. The bank syndicates include more lenders and the largest banks are more likely to serve as lead arranger or participate as lenders in the syndicate. The distribution of borrower industries in the sample is similar to the distribution in the universe. Overall, the firms in the full sample are more creditworthy and have less severe information asymmetry than the typical borrower in the syndicated loan market. When generalizing the results in this paper, it is worthwhile to keep these differences in mind.

1.3 Determinants of Bond and Loan Credit Spreads

As a first step to understanding the relative pricing of corporate bonds and bank loans, I explore the cross-sectional determinants of their credit spreads. Table 4 reports regressions of loan and bond spreads on firm and loan characteristics related to credit risk. The left four columns consider loan spreads and the right four columns consider bond spreads. The leftmost column in each set considers the most basic observable credit risk variables: leverage,
asset volatility, maturity, and credit rating. Each column to the right adds more variables that are expected to correlate with credit spreads.

The basic credit variables explain 69% and 75% of cross-sectional variation in loan and bond spreads, respectively. Explanatory power is increased further by adding non-credit firm characteristics and indicators for secured loans and term loans. Overall, the results in Table 4 indicate that observable credit risk, firm characteristics, and loan terms can explain the bulk of cross-sectional variation in loan and bond spreads. Interestingly, while the evidence in Figure 1 suggests that the level of loan spreads is higher than implied by credit risk, the relative pricing of loans is largely explained by observable creditworthiness.

There are interesting differences in the correlations among credit spreads and other firm and loan characteristics. All-in-drawn loan spreads are uncorrelated with both firm size and profitability, whereas these are significant determinants of bond spreads. After controlling for credit risk, large firms have the same marginal cost of borrowing from a bank as small firms in this sample. On the other hand, secured loans and term loans have significantly higher credit spreads, but the issuance of these loan types is not associated with differences in bond spreads. The strong positive correlation between secured status and loan spreads is counterintuitive, but the choice to secure the loan is likely associated with unobservable risk. The analysis in Section 2 circumvents this issue by focusing only on secured term loans.

Surprisingly, the ratio of bank debt to total debt has an insignificant coefficient in both regressions.\textsuperscript{11} The weak correlations between debt structure and loan spreads are puzzling, given the importance of seniority for determining payoffs in default. In both the Black and Cox (1976) and Carey and Gordy (2016) models of risky debt, the value of senior debt depends on the value of assets relative to the face value of senior debt and does not depend on the amount of total debt. In contrast, these results suggest that overall leverage is what matters for determining loan spreads at origination, while the relative proportions of bank and bond debt have no effect. The evidence suggests that the relative pricing of loans reflects

\textsuperscript{11}The Internet Appendix reports regressions of the bond-loan spread ratio that offer a similar conclusion. Similar results obtain if total leverage or rating fixed effects are omitted from the regression.
costs of firm-level default rather than loan-level insolvency, which provides support for the bankruptcy cost parameters in the structural model.

2 Quantifying the Loan Premium

The results presented thus far indicate that banks earn a premium relative to the cost of credit implied by the corporate bond market. To quantify the magnitude of this premium and illustrate the economic frictions necessary to justify loan pricing, I estimate counterfactual loan spreads in a structural model. The model is an extension of the Merton (1974) and Black and Cox (1976) models, which value debt claims as options on the firm’s assets. It accounts for priority structure by including senior and junior claims, includes bankruptcy costs to match expected losses given default, and adds a liquidity parameter to reflect the illiquidity of loans relative to bonds.

In this section, I outline the model and apply it to the data to estimate the loan premium. First, I outline extensions of the Black and Cox (1976) model that capture the key factors affecting the valuation of loan cash flows. Second, I explain the application of the model to the data and describe the restricted sample of secured term loans used in the estimation. Third, I calibrate the bankruptcy cost and liquidity parameters to match the model moments to empirical evidence on recoveries and secondary market transaction costs. As part of the calibration, I demonstrate that extremely high bankruptcy and liquidity costs are necessary to justify observed loan spreads. Finally, I present the results of the estimation, which indicate that banks earn an economically significant premium relative to the rates implied by the bond market.

2.1 Structural Model of Loan Spreads

This section describes the model used to price loans and bonds. First, I describe the Merton (1974) model with senior and junior debt introduced by Black and Cox (1976). Then, I add
bankruptcy costs to the model, which allow creditors to suffer impairment in addition to the losses incurred by deterioration in firm value. Next, I add a liquidity discount to account for the illiquidity of loans relative to bonds. Lastly, I describe an alternative reduced-form approach that I use as a robustness check on the model estimates.

2.1.1 Merton Model with Senior and Junior Debt

Black and Cox (1976) outline an extension of the Merton (1974) model with senior and junior debt. In the Merton (1974) model, the firm’s value follows a geometric Brownian motion under the risk-neutral measure,

\[ d \ln V_t = \left( r - \frac{1}{2} \sigma^2 \right) dt + \sigma dW^Q_t. \]  

Assume the firm has two zero-coupon debt issues outstanding, a senior loan with face value \( K_S \) and a junior bond with face value \( K_J \), both maturing at time \( T \). The payoff to senior debt is equivalent to a portfolio containing a risk-free bond and a short put option struck at the face value of senior debt. The payoff to senior debt is equivalent to a portfolio containing a long call option struck at the face value of senior debt and a short call option struck at the sum of total face value of debt. The value of senior debt is:

\[ D_S = V - V\Phi(d_{1,S}) + K_S e^{-rT}\Phi(d_{2,S}), \]

where

\[ d_{1,S} = \frac{\ln(V/K_S) + (r + \frac{1}{2}\sigma^2)T}{\sigma\sqrt{T}}, \quad d_{2,S} = d_{1,S} - \sigma\sqrt{T}. \]  

The value of junior debt is:

\[ D_J = V\Phi(d_{1,J}) - K_S e^{-rT}\Phi(d_{2,S}) - V\Phi(d_{1,J}) + (K_{Total})e^{-rT}\Phi(d_{2,J}); \]
where

\[
d_1 = \frac{\ln \left( \frac{V}{K_{Total}} \right) + \left( r + \frac{1}{2} \sigma^2 \right) T}{\sigma \sqrt{T}}, \quad d_2 = d_1 - \sigma \sqrt{T}, \quad K_{Total} = K_S + K_J.
\] (3)

The yields of the loan and bond can be expressed as 
\[y_S = \frac{1}{T} \ln \left( \frac{K_S}{D_S} \right)\] and 
\[y_J = \frac{1}{T} \ln \left( \frac{K_J}{D_J} \right),\] respectively, because they are modeled as zero-coupon securities.

This model makes several simplifying assumptions that merit explanation. Strict absolute priority is assumed to hold, so the senior debt is paid in full before junior debt receives any recovery in a bankruptcy. The firm can only default on the maturity date \(T\), which is assumed to be the same for both types of debt. In reality, the firm can default at any time, but it is most likely to default when faced with a large principal repayment. I mitigate the impact of maturity mismatch by using the closest bond-loan pair in the firm’s maturity structure. The firm’s debt structure is assumed to be fixed between the valuation date and maturity. I confirm that changes in debt structure around origination do not affect my estimates by measuring debt structure both immediately before and immediately after origination. Finally, the model prices zero-coupon debt, which introduces some basis with the par spreads in the data.

In the empirical analysis below, I use data on firm value and debt structure, market interest rates, and the terms of loans and bonds to parametrize the model. All parameters are observable except for the volatility term \(\sigma\), which I back out from observed bond spreads. More detail on the estimation procedure is provided in Section 2.2.

### 2.1.2 Expected Recoveries and Bankruptcy Costs

An important shortcoming of the Black and Cox (1976) model for this application is the assumption that firm value follows a geometric Brownian motion. Under this process, the firm value is log-normally distributed at each point in time, so the model potentially underestimates the likelihood of left-tail outcomes that result in loss of principal for senior creditors.
This issue is related to the volatility “smirk” phenomenon in equity options markets, where options struck out-of-the-money have higher implied volatility than at-the-money options.\textsuperscript{12}

I add bankruptcy costs to the model to ensure it captures senior creditors’ risk of losing principal in default. Specifically, I assume that in the event of a firm-level default, senior and junior creditors lose respective fractions $\alpha_S$ and $\alpha_J$ of the market value of their claims to bankruptcy costs. This characterization of distress costs extends the standard proportional cost incorporated in Leland (1994) and other structural models of credit to allow for different costs for each class of creditor. These costs reflect the direct and indirect costs of bankruptcy on the value of the firm’s assets, as well as costs of reporting non-performing loans to regulators and the effort involved in negotiating with other creditors.\textsuperscript{13}

Suppose that if the firm files for bankruptcy at time $T$, then the respective values of the senior and junior debt claims are reduced by fractions $\alpha_S$ and $\alpha_J$. Applying the option-pricing framework to the modified payoffs in the default state, the value of senior debt is:

$$D_{BC}^S = (1 - \alpha_S) V (1 - \Phi(d_{1,S})) + K_S e^{-rT} ((1 - \alpha_S) \Phi(d_{2,S}) + \alpha_S \Phi(d_2)),$$

and the value of junior debt is:

$$D_{BC}^J = (1 - \alpha_J) [V (\Phi(d_{1,S}) - \Phi(d_1)) - K_S e^{-rT} (\Phi(d_{2,S}) - \Phi(d_2))] + K_J e^{-rT} \Phi(d_2),$$

where $d_{1,S}$, $d_{2,S}$, $d_1$, and $d_2$ are defined as in equations (2) and (3). These variables are un-

\textsuperscript{12}One solution to this problem would be to add downward jumps to the firm value process. This has the benefit of increasing the likelihood of left-tail outcomes and improves the ability to match the term structure of credit spreads (Hilberink and Rogers (2002)). However, this approach sacrifices the ability to solve for debt values in closed-form and offers little benefit in my setting for two reasons. First, I am pricing loans and bonds at a specific medium-term maturity, so the inability of the model to match short-term spreads is inconsequential. Second, the probability of firm-level default is reflected in bond spreads, so expected recovery is the aspect of loan pricing that may be missed by the basic model. The bankruptcy costs approach, which leads to closed-form valuation equations, is preferable to attempting to calibrate the magnitude of downward jumps to match recoveries.

\textsuperscript{13}Alternatively, the bankruptcy cost could be modeled as a proportional drop in firm value from $V_T$ to $(1 - \alpha) V_T$ upon default, following the exposition in Leland (1994). This approach fails to match the empirical evidence on loan recoveries, even with extremely high bankruptcy costs, because it only imposes losses on senior creditors when firm value at default is very low.
changed by the addition of bankruptcy costs because they reflect the probability of exogenous
default, which is unaffected by the imposition of bankruptcy costs after default.

To assess the model’s ability to capture poor outcomes for senior creditors, it is helpful
to calculate expected recoveries under the model. The log-normal distribution of firm value
is useful for this purpose because the computation of conditional expectations is straightfor-
ward. The expected recovery on senior debt conditional on firm-level default is:

\[
E[D_S|V_T \leq K_{Total}] = (1 - \alpha_S) \frac{P(K_S \leq V_T \leq K_{Total}) + P(V_T \leq K_S) E[D_S|V_T \leq K_S]}{P(V_T \leq K_{Total})},
\]

(6)

where the leading term reflects the effect of bankruptcy costs and the fraction represents the
expected recovery in the absence of bankruptcy costs. The two terms in the numerator of
the fraction denote full recovery when firm value is above and partial recovery when firm
value is below the face value of senior debt, respectively, and the denominator denotes the
probability of the firm defaulting on its debt. The expected recovery on junior debt is:

\[
E[D_J|V_T \leq K_{Total}] = (1 - \alpha_J) \frac{P(K_S \leq V_T \leq K_{Total}) E[D_J|K_S \leq V_T \leq K_{Total}]}{P(V_T \leq K_{Total})},
\]

(7)

where the numerator of the fraction denotes partial recovery when firm value is above the
face value of senior debt and zero recovery when senior creditors are impaired. The Appendix
provides detail on the computation of these probabilities and conditional expectations.

To take the model to the data, I calibrate the bankruptcy costs \(\alpha_J\) and \(\alpha_S\) to match
the empirical evidence on recoveries in Table 1. However, model recoveries are not directly
comparable to observed recoveries because the firm value process in the model is under the
risk-neutral measure. Therefore, when comparing model recoveries to the data, I map to the
physical measure by using a discount rate of 10% instead of the risk-free rate.

17
2.1.3 Illiquidity

Loans have key features that negatively impact their liquidity relative to corporate bonds. First, loans are contracts rather than securities, so there is a great deal of paperwork involved in selling a stake in a syndicated loan. Second, while many syndicated loans are designed specifically to be marketed to institutional investors (Becker and Ivashina (2016)), loans are still less widely held and have more complex contracting features than bonds, which increases the costs of finding an informed trading partner. Therefore, I account for the illiquidity of loans in the pricing model so that any liquidity premium is not mistaken as a difference in pricing from the bond market.\footnote{Note that corporate bonds are not perfectly liquid, so the heightened discount rate for loans is represents illiquidity relative to corporate bonds, rather than absolute illiquidity. Longstaff, Mithal, and Neis (2005) and many others have studied the pricing of liquidity in the corporate bond market.}

For simplicity, I model the illiquidity of loans as a heightened discount rate for lenders relative to the discount rate used to price bonds, which is the risk-free rate in the Merton (1974) model. This approach follows the characterization in Duffie and Singleton (1999), who model illiquidity as a fractional carrying cost that is incurred continuously over the life of a debt instrument. The value of senior debt under the model with bankruptcy costs and an illiquidity wedge $\lambda$ added to the discount rate is:

$$D_{S}^{BC,\lambda} = (1 - \alpha_{S})V (1 - \Phi (d_{1,S})) + K_{S}e^{-(r+\lambda)T} ((1 - \alpha_{S})\Phi (d_{2,S}) + \alpha_{S}\Phi (d_{2})),$$  \hspace{1cm} (8)

where $d_{1,S}$, $d_{2,S}$, $d_{1}$, and $d_{2}$ are defined as in equations (2) and (3). These variables are unchanged by the addition of liquidity costs because they reflect the probability of exogenous default, which depends on the firm value process rather than the holding costs of senior debt investors. Outside of default, the bank has a high cost of holding the loan, relative to the cost bond investors bear to hold bonds, which discounts the loan’s value and leads to a higher credit spread. In default, the liquidity parameter $\lambda$ does not play a role, so the bankruptcy cost $\alpha_{S}$ captures the costs of illiquidity in that state.
While this adjustment to the model accounts for the illiquidity of loans in theory, it is necessary to map the liquidity parameter $\lambda$ into an observable measure of transaction costs to calibrate the model for empirical analysis. It is more difficult to gather empirical evidence on loan transaction costs than it is for corporate bonds, due to the lack of transaction reporting and limited activity in the loan credit default swap market. However, quote data from the secondary market with bid-ask spreads have recently become available. Thus, I map the model valuations into bid-ask spreads according to the following reasoning, which takes inspiration from He and Milbradt (2014). Suppose the members of the loan syndicate value the loan with a liquidity discount according to equation (8), while outside market participants value the loan without the liquidity discount, according to equation (4). Under the assumption that dealers capture the gains of trade from lenders attempting to sell loans to outside market participants, the proportional difference between the illiquid and liquid valuations with bankruptcy costs is a good measure of the proportional bid-ask spread:

$$\frac{P_{Ask} - P_{Bid}}{0.5(P_{Bid} + P_{Ask})} \approx \frac{D_{S}^{BC} - D_{S}^{BC,\lambda}}{0.5(D_{S}^{BC} + D_{S}^{BC,\lambda})},$$

(9)

Intuitively, the bid-ask spread is increasing in the liquidity discount $\lambda$, which pushes down the illiquid valuation (bid) relative to the liquid valuation (ask) of the loan’s cash flows. In the empirical analysis below, I calibrate $\lambda$ to match the bid-ask spreads observed in the secondary market for a subset of loans in my sample with available quote data.

### 2.1.4 Alternative Approach: Reduced-Form Default-Intensity Model

The structural model outlined above uses assumptions about the process governing firm value and the relation between firm value and debt payoffs to value bonds and loans. For robustness, I consider a simple alternative approach based on Duffie and Singleton (1999), who show that under mild technical conditions, the credit spread on a risky zero-coupon bond equals $qL$, where $q$ is the risk-neutral default probability and $L$ is the expected loss.
given default. Under cross-default, $q$ is the same for loans and bonds from the same firm on the same date, so relative spreads only depend on relative losses in default. Based on the empirical evidence in Table 1, I assume that $L$ is 20% for loans and 60% for bonds. Therefore, the simple prediction from this reduced-form default-intensity model is that the loan spread should equal one-third of the bond spread.

The structural model translates specific information on the firm’s debt structure, the terms of debt, and market rates into a valuation of the loan. In contrast, the reduced-form approach requires only the bond credit spread to estimate the value of the loan because it assumes that relative loss given default is the only factor driving relative pricing and that the loss given default ratio is the same for all firms. This modeling approach is similar in spirit to implementation of the model in Section 2.1.2 which involves matching the expected model recovery to the average loan recovery in the data. However, the structural approach allows for variation in expected recoveries based on the specific circumstances of each firm, so some differences in pricing under the two approaches are expected.

## 2.2 Application of the Model to the Data

I use the model outlined above to quantify the premium earned by banks relative to the price of credit risk implied by the bond market. The model contains several parameters that must be mapped to the data. Variables related to market values, debt structure, and interest rates are directly observable. The volatility parameter $\sigma$ governing the risk of the firm value process, the bankruptcy costs $\alpha_J$ and $\alpha_S$, and the liquidity parameter $\lambda$ are unobservable and must be calibrated. After describing the mapping of observable parameters to the data, I describe the computation of $\sigma$ using observed corporate bond spreads. In the next section, I describe the calibration of $\alpha_J$, $\alpha_S$, and $\lambda$ using relevant moments from the data.

The table below describes the data items used to set the observable model parameters:
The face values of senior and junior debt are measured as the amounts of outstanding secured and unsecured debt at the quarter-end prior to origination in Capital IQ and EDGAR. Quasi-market assets are the sum of total debt from Capital IQ and equity market capitalization on the loan origination date. Loan and bond maturities are allowed to differ, with the respective values used in the implied volatility and counterfactual valuation steps described below. Risk-free rates are maturity-matched LIBOR swap rates and debt yields are the sum of swap rates and option-adjusted swap spreads.

For a given set of parameters, I compute the asset volatility \( \sigma \) implied by the bond swap spread under equation (5) and plug this volatility into equation (8) to value the loan under the bond market’s pricing of credit risk. The loan premium is the difference between the observed all-in-drawn spread and the bond-implied loan spread under the model.\(^{15}\) Equations (5) and (8) describe one-to-one relations between the value of debt and the underlying asset volatility, so the implied volatility is solved numerically by setting the difference between the observed credit spread and the zero-coupon spread in the model to zero.\(^{16}\)

It is important to note that this approach does not suffer from the “credit spread puzzle” (Huang and Huang (2012)), the finding that structural models of credit risk consistently underestimate corporate bond spreads. This failure stems from researchers using observed default rates or equity-implied volatility to calibrate model parameters, which may not account for the risk premium demanded by corporate bond investors. In my approach, the

\(^{15}\)As an alternative approach which assumes loans are priced fairly, I compute implied volatility from the all-in-drawn loan spread and use this volatility to obtain a counterfactual bond spread under the model.

\(^{16}\)This approach is similar to the one introduced by Kelly, Manzo, and Palhares (2016) to estimate credit-implied volatility from CDS spreads.
model prices corporate bonds correctly because the implied volatility is based on corporate bond prices. The bond-implied volatility includes information on both the expected volatility of the firm’s assets as well as the risk premium in the bond market.

For the empirical analysis using the structural model, I restrict the sample to secured term loans and unsecured bonds to establish clear priority in the event of default and to mitigate the impact of embedded options on the pricing of the loan. Table 5 reports summary statistics for the restricted sample used to estimate counterfactual loan spreads. The most significant differences between the restricted sample and the full bond-loan sample are with respect to creditworthiness and the distribution of observations over time. Consistent with the notion that bank lenders are more likely to be secured after the firm’s creditworthiness deteriorates (Rauh and Sufi (2010)), the firms in this sample are closer to default and receive smaller loans than the firms in the full sample. Almost all of the observations are from 2003 to 2007 and 2011 to 2016, periods of expansion in syndicated lending. The typical firm has a debt structure consisting of 38% secured and 62% unsecured debt prior to origination of the secured term loan. All but a few of the firms in the sample have secured debt outstanding prior to origination, so the senior debt of these firms is exposed to default risk in the model.\footnote{Firm characteristics in Table 5 are from the quarter-end prior to the loan origination date. One shortcoming of this approach is that the new loan may add secured debt, resulting in mismeasurement of the firm’s debt structure at origination. Some observations are lost because the firm has zero secured or unsecured debt prior to origination, which leads to undefined loan and bond values under the model. In the Internet Appendix, I address this issue by showing that the model estimates are quantitatively similar if I measure debt structure at the quarter-end after origination.}

Table 5 presents interesting variation in contract terms that will be useful for analyzing the determinants of the loan premium. Two-thirds of these loans are classified as institutional tranches, which means they are originated by banks and marketed primarily (but not exclusively) to institutional investors. One-sixth of the loans are classified as covenant light, which means the loan lacks maintenance covenants typically included in loan contracts to protect creditors.\footnote{For more information on the covenant light loans and the institutional term loan market, I refer the reader to Becker and Ivashina (2016) and Berlin, Nini, and Yu (2017). Covenant light loans are identified from the DealScan market segment table, rather than from observations with missing data on covenants. Berlin, Nini, and Yu (2017) hand collect covenant data from term loan contracts and find that this approach} Half of the term loans are packaged with revolving credit facilities.
that provide flexible borrowing capacity to the firm. One-quarter have performance pricing provisions that adjust the loan spread to reflect changes in firm performance without renegotiation of loan terms. Finally, there is substantial variation in syndicate size, which affects costs of renegotiation and the lead arranger’s incentives to monitor.

2.3 Calibration of Model Parameters

As described in the previous section, I use observable data when there is a direct mapping to the model parameters and use bond spreads to compute the unobservable volatility of the firm’s assets. The remaining unobservable parameters are the bankruptcy costs $\alpha_J$ and $\alpha_S$ and the liquidity discount parameter $\lambda$. In this section, I calibrate these parameters to relevant moments in the data on recoveries and transaction costs.

The aim of the bankruptcy costs is to match each creditor’s exposure to losses in default, so I use the expected recoveries from the Moody’s Ultimate Recovery data summarized in Table 1 to calibrate the parameters $\alpha_J$ and $\alpha_S$. As mentioned above, I calculate physical expected recoveries under a discount rate of 10% because risk-neutral expectations from the model are not directly comparable with the empirical evidence. Figure 3 plots the expected recoveries of loans and bonds as functions of the bankruptcy costs $\alpha_J$ and $\alpha_S$. Expected recoveries under the model depend on bankruptcy costs in an intuitive way. Setting the junior bankruptcy cost to $\alpha_J = 0.10$ matches the average bond recovery of 40% in the data. More importantly for the purpose of estimating counterfactual loan spreads, a senior bankruptcy cost of $\alpha_S = 0.15$ matches the empirical mean loan recovery of 80%.19

The secondary market for syndicated loans has become more active in recent years, with increased participation by institutional investors and contract terms designed to encourage this participation (Becker and Ivashina (2016)). I obtain data from Thomson-Reuters LSTA accurately identifies covenant light term loans.

19Glover (2016) shows that selection bias affects the relation between ex ante and ex post measures of distress costs because firms with high distress costs use less leverage to avoid distress. Selection bias is less of an issue here because firms with tiered debt structure are from a less creditworthy segment of the population. The average firm-level recovery for firms meeting the sample selection criteria is 50% in Moody’s Ultimate Recovery Database, in line with the 45% unconditional mean distress cost estimated in Glover (2016).
containing secondary market quotes for 91 out of the 245 secured term loans in my sample. This is the best available source of empirical evidence on transaction costs in the secondary market for loans, because unlike the corporate bond market, there is no disclosure requirement for transactions. The top panel of Figure 4 indicates that transaction costs in this market have declined since 2010, when quote data are first available. Bid-ask spreads as a fraction of the mid-price are between 0.8% and 1.4% until 2013, when they decline to 0.6% from 2014 to 2016.\(^\text{20}\)

Consistent with the notion that the corporate bond and term loan markets are becoming more similar, the quoted bid-ask spreads in the two markets are similar in magnitude. For example, Bao, Pan, and Wang (2011) find effective bid-ask spreads from 50 bps to 80 bps in a sample of large (> $750,000) corporate bond trades. Nevertheless, it is possible that quoted bid-ask spreads underestimate the actual costs of transacting in the secondary market for syndicated loans, so to be conservative, I proceed from the benchmark that the corporate bond market is liquid and calibrate the model to match bid-ask spreads in the loan market. I calibrate the liquidity parameter to match the unconditional mean bid-ask spread of 75 bps in the sample of secondary market quotes for loans in my sample. The second panel of Figure 4 shows that when the liquidity parameter \(\lambda\) equals 0.15% the average proportional bid-ask spread is 77 bps, which closely approximates the unconditional mean bid-ask spread in my sample. Therefore, I use this calibration to estimate counterfactual loan spreads under the structural model.

### 2.4 Effects of Model Setup on Estimated Spreads

Before presenting the results of the calibrated model, it is valuable to assess the impact of including the bankruptcy and liquidity frictions in the model. Table 6 presents two analyses that emphasize the importance of accounting for these frictions when pricing loans. First,

\(^{20}\)The coverage of the loan quote data improves over time, so much of the variation in Figure 4 is due to compositional changes. The purpose of this plot is to guide the model calibration by illustrating the magnitude of bid-ask spreads in the secondary market for loans in my sample.
I compare mean estimates from the basic model without either friction, the model with bankruptcy costs but without illiquidity, the model with illiquidity but no bankruptcy costs, and the calibrated model with both frictions. Second, I compute the bankruptcy cost and liquidity discount necessary to justify the observed pricing of loans in a break-even analysis.

Panel A of Table 6 shows that varying the model parameters has a significant impact on the pricing of loans and the ability to capture lenders’ exposure to default risk and transaction costs. The top row shows that bond-implied volatility $\sigma$ is unaffected by varying the liquidity parameter $\lambda$ because this does not affect the bond valuation equation, but it is lower when the junior bankruptcy cost $\alpha_J$ increases because lower volatility is necessary to match bond spreads when there are bankruptcy costs. The next set of rows shows that all of the models lead to default probabilities that are in line with the five-year default probabilities of 8.4% for BB rated and 21.9% for B rated issuers (Moody’s (2017)). However, the models without bankruptcy costs predict expected recoveries of 93% for loans, which are substantially higher than the average recovery of 80% in Table 1. Adding bankruptcy costs to the model allows it to predict recoveries in line with the empirical evidence. Including the liquidity discount leads to a bid-ask spread that is in line with the evidence in Figure 4.

The bottom set of rows in Panel A of Table 6 demonstrate the importance of including the frictions when pricing loans. The model without frictions predicts an implausibly low average loan spread of 51 bps, implying that 85% of the loan spread is due to non-credit factors. The addition of bankruptcy costs leads to a significantly higher model spread of 148 bps, reflecting the increased exposure of senior creditors to default risk under the model. Incorporating the liquidity discount has a smaller impact on model spreads, due to the low transaction costs indicated by the secondary market quote data, but does lead to a higher average loan spread of 162 bps. For comparison, I present the analogous results from applying the reduced-form default-intensity model that predicts a loan spread equal to one-third of the bond spread. As expected, the estimates are very similar to the model with bankruptcy costs but no illiquidity.
As an alternative approach to understand the model and underscore the existence of a loan premium, I consider what bankruptcy cost and liquidity discount are necessary to reconcile the observed pricing of loans and bonds. For each of the loans in the sample, I calibrate $\alpha_J$ and $\lambda$ as in the previous section and back out implied volatility from bond spreads, then numerically compute the senior bankruptcy cost $\alpha_S$ necessary to set the model loan spread equal to the all-in-drawn spread in the data. I do the same exercise for the liquidity parameter $\lambda$ under the bankruptcy cost calibration described above.

Panel B of Table 6 reports the results of this break-even analysis. The first row shows that for 13 out of 233 loans, even a bankruptcy cost in excess of 100% is unable to reconcile the pricing of loans and bonds. In the remaining cases, the mean bankruptcy cost $\alpha_S$ implied by loan spreads is 41%, which implies an expected recovery of 55%. This is strong evidence in support of the existence of a substantial loan premium, as these implied costs of distress are substantially larger than suggested by the data. Similarly, the next set of rows shows that the liquidity costs necessary to match observed loan spreads are also implausibly high. The mean liquidity parameter $\lambda$ implied by loan spreads is 0.017, which corresponds to a proportional bid-ask spread of 9.3%. If loans are fairly priced to reflect banks’ carrying costs, then syndicated lending seems to be a highly inefficient form of financing because capital providers value loan cash flows at a 9.3% discount to their value in the capital markets. Since the liquidity discount is characterized as a continuous carrying cost for the bank, it can also be interpreted as the shadow cost of the equity capital required to finance loans, which casts doubt on capital requirements as a driver of the loan premium.

### 2.5 Estimates of Model Spreads and the Loan Premium

Table 7 summarizes the estimates of implied volatility, default probabilities and expected recoveries, bid-ask spreads, and counterfactual loan spreads under the calibrated structural model. The top two rows of Table 7 show that the implied asset volatility necessary to price corporate bonds in the Merton (1974) framework is about two times the asset volatility
obtained from unlevering realized equity returns. These bond-implied volatility estimates imply that if bonds were priced in the model using asset volatility from unlevered stock returns, the model would return significantly lower credit spreads than observed in the data. This encapsulates the “credit spread puzzle” (Huang and Huang (2012)) that structural models underestimate bond spreads when calibrated with equity volatility or default rates. As discussed in the previous sections, the model performs well at matching empirical moments on expected losses in default and transaction costs. There is some variation in default probabilities and expected recoveries around their sample means, reflecting variation in asset risk and the priority structure of debt.

The bottom set of rows shows that when loans are priced according to the calibrated model, their credit spreads are substantially lower than the credit spreads observed in new loan originations. The mean and median bond-implied loan spreads are 162 and 131 bps, respectively, compared with observed all-in-drawn spreads of 305 and 300 bps, respectively. Relative to the credit spread on a counterfactual debt instrument with equivalent security issued in the capital markets, the bank earns an economically large and highly statistically significant premium of 143 bps on average. In terms of proportions, 57% of the average loan spread is attributable to credit and liquidity as priced in the bond market and the remaining 43% is a premium above the market price of credit. In terms of the firm’s bottom line, the additional interest expense from the loan premium is $13.7 ($6.77) million for the mean (median) firm, which equates to 2.1% (1.5%) of earnings before interest, taxes, and depreciation. There is substantial variation in the loan premium, but even the 36 bps premium in the 10th percentile reflects meaningful compensation relative to the credit risk borne by the bank.

For comparison with the motivating plots in Figure[1], I plot the observed bond and loan spreads along with and counterfactual loan spreads from the quantitative model against distance-to-default in Figure[5] Panel A. Although the sample is restricted to secured term loans, the relative pricing of bonds and loans is quite similar to the pattern in Figure[1]. When
the firm is close to default, the bond spread is significantly higher than the loan spread, but when the firm is in good financial condition, the two spreads are very close. The dashed green line is the counterfactual loan spread from the structural model and the dotted orange line is the loan spread implied by the reduced-form default-intensity model. Both models predict loan spreads significantly lower than the observed spreads at origination regardless of the firm’s financial condition. This reflects the strict priority of the secured bank loan, which leads to a high recovery in the event of default.

As an alternative lens on the findings, Panel B of Figure 5 plots the time series of loan and bond spreads in the restricted sample. There is surprisingly little variation in loan spreads, while bond spreads fluctuate up and down with the economic cycle. Both the structural and reduced-form model spreads move with bond spreads, so the implication is that the loan premium is high in periods of low bond spreads and low in periods of high bond spreads. Although my sample includes many one-time loan borrowers, this pattern is consistent with the finding of Dougal et al. (2015) that banks anchor on past loan spreads and fail to update pricing with changes in market conditions. It is worth noting again that most of the observations, denoted by the bars at the bottom of the graph, occur during the periods 2003 to 2007 and 2011 to 2016, so it is difficult to draw inference about the pricing of loans in economic downturns. Nevertheless, the available data indicate that the loan premium is in excess of 100 bps in every year of the sample.

Overall, this analysis provides strong evidence that banks earn a significant interest rate premium above the market price of credit risk implied by corporate bonds. The structural model, which can be interpreted as pricing the loan cash flows as though the loan were issued in the capital markets, produces a significantly lower loan spread than observed in the data. The model successfully prices corporate bonds and matches empirical moments on default risk and transaction costs, so the loan premium implied by this analysis must be due to factors other than the pricing of credit risk and liquidity.
2.6 Robustness

The quantitative analysis of loan pricing relies on a simple and transparent model. However, simplicity comes at the cost of potentially missing key economic or institutional features that affect the pricing of loans. The estimated loan premium depends on both the assumptions underpinning the model and the accurate measurement of the model parameters. Therefore, it is important to understand how mismeasurement of parameters or unmodeled features of the loan market impact the results.

Loan contracts include many fees and pricing features that are not captured by the all-in-drawn spread (Berg, Saunders, and Steffen (2016)). These cash flows include up-front and cancellation fees stipulated in the loan contract, as well as fees paid by the firm in exchange for covenant waivers in the event of technical default. The former set of fees are often unreported by DealScan, while the latter need not be reported in public filings. Many loans are issued at discounts and LIBOR floors have become common in the recent low rate environment\footnote{Bruche, Malherbe, and Meisenzahl (2017) show the mean (median) original issue discount is 1.03\% (0.75\%) in a sample of leveraged loans from 1999 to 2015. In addition, they find mean (median) underpricing of 0.85\% (0.75\%) relative to secondary market prices shortly after origination. Both types of discount increase the return earned by lenders and the cost of capital for borrowers.}. The existence of these additional cash flows and contract features means that the all-in-drawn spread understates the actual cost of borrowing, so the estimate in the previous section understates the true loan premium.

The sample is restricted to term loans to avoid pricing the rich set of options embedded in revolving credit facilities. Term loans can be prepaid at any time, but this option is worth less than it is for a fixed rate bond because the loan’s interest rate adjusts to changes in LIBOR. Additionally, many loans include a cancellation fee of about 150 bps to compensate the bank for this option (Berg, Saunders, and Steffen (2016)). Thus, it is unlikely that embedded options have an impact on the estimated premium. Relatedly, the comparison between fixed rate bond spreads and floating rate loan spreads is innocuous, as Duffie and Liu (2001) show the fixed-floating credit spread basis to be on the order of one basis point.
The measurement of model parameters can affect the pricing of loans under the structural model. In this paper, I measure the face values of senior and junior debt using data on outstanding secured and unsecured debt at the quarter-end prior to the loan start date. The Internet Appendix reports quantitatively similar results using data from the quarter-end after origination and measuring senior debt with the amount of capital leases and bank debt including undrawn revolving capacity. I measure loan maturity using contractual maturity, but loans are renegotiated frequently (Roberts (2015)) and many contain amortization features, so effective maturity may be shorter than contractual maturity. In the presence of an upward sloping term structure credit spreads, this implies that my model underestimates the loan premium. Relatedly, the ordering of maturities in the loan-bond pair can affect their relative pricing (Bao and Hou (2017)). For the 30% of loans maturing after their matched bonds, the median percentage of the loan spread attributable to the estimated premium is 58%, which is qualitatively similar to the median of 49% for loans maturing before their matched bonds. Along the same lines, results for the two-thirds of observations with a callable bond are qualitatively similar to the results for noncallable bonds. Overall, it does not seem that mismeasurement of debt structure and maturity has a meaningful impact on my findings.

Finally, the model uses the secondary market pricing of bonds as a capital markets counterfactual for the bank loan. In the Internet Appendix, I alternatively treat loans as the pricing benchmark and find this model setup leads to average bond spreads that are 600 bps higher than observed spreads. This implies that if loans are priced competitively according to credit risk, then bond investors are severely undercompensated. Since the bond spread proxies for the new issue spread in my analysis, an alternative interpretation is that the

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22 The Internet Appendix also extends the model estimation to unsecured term loans and revolving credit facilities by assuming unsecured loans are senior to unsecured bonds in the event of default and ignoring the value of the options embedded in revolving facilities. The fraction of the loan spread attributable to the loan premium is similar for these other types of loan.

23 Note that the definition of noncallable bonds includes bonds with make-whole provisions, which allow the firm to prepay the bond at the net present value of future coupon and principal payments, because this option has zero net present value.
basis between primary and secondary market bond spreads must be enormous to justify my findings. The components of this basis are issuance costs, primary market underpricing, and the effect of marginal debt issuance on credit spreads. Up-front costs of bond issuance are 150 bps on average, compared with an up-front fee of 50 bps on the average loan. Spreading these costs over the typical five-year maturity has a relatively small effect on the credit spread. Cai, Helwege, and Warga (2007) find primary market underpricing on the order of 50 bps (in terms of price) for speculative-grade bond issues, which is comparable to the magnitude for syndicated loans reported by Bruche, Malherbe, and Meisenzahl (2017). Many of the loans in my sample are refinancings with no change in face value, in which case the effects of marginal debt issuance are not a concern. Consistent with this notion, the Internet Appendix shows no discernible change in the average bond spread from before to after the loan.

3 Interpreting the Loan Premium

In this section, I explore potential explanations for the high level of loan spreads relative to the credit spreads on corporate bonds. First, I use data on secured bonds to determine whether the findings are due to general mispricing of seniority in credit markets. After concluding that the loan premium is specific to banks, I explore the determinants of the loan premium by estimating cross-sectional regressions of the premium on firm and loan characteristics.

3.1 Is This about Banks or Seniority?

The results presented thus far indicate that banks earn significantly higher credit spreads on new loan originations than implied by their position in the firm’s priority structure of debt and the pricing of credit risk in the corporate bond market. However, it is unclear from the preceding analysis whether the premium is specific to banks or the finding results from
broader mispricing of seniority in the market. In this section, I construct a paired sample of secured and unsecured bonds from the same issuer to investigate how seniority is priced within the corporate bond market.

The sample of secured bonds is from the same Bank of America Merrill Lynch quote data that form the bond component of the sample in the preceding analysis, without conditioning on whether the firm has an outstanding bank loan. For each secured bond-month observation, I select the nearest unsecured bond by maturity from the same firm in the same month. Using data from Mergent FISD, I confirm that the secured bond is senior secured and the unsecured bond is senior unsecured. I exclude bonds with less than one year to maturity or the next call date. Most firms with data on secured bond spreads are privately held, so I group firms by credit rating instead of measuring risk with distance-to-default, which can only be computed for public firms. These issuers are of poor credit quality, with few bonds rated above BBB, so I restrict my focus to bonds rated between BBB and CCC. The resulting bond-month panel includes 5,124 observations from 1997 to 2016. The observations are concentrated towards the end of the sample period, with three-quarters of observations occurring between 2009 and 2016, likely due to improved secured creditor rights under the Bankruptcy Abuse Prevention and Consumer Protection Act of 2005.

Figure 6 presents a bar chart analogous to Panel B of Figure 1 for secured and unsecured bonds. The chart reveals a relation between secured and unsecured bond spreads that starkly contrasts with the relation between loan and bond spreads. The ratio of unsecured and secured bond spreads is around the unconditional average of 1.43 and significantly different than one for all rating categories except BBB. These findings are consistent with the relative priority of secured and unsecured bonds in default. Table 1 shows that the average recoveries for secured and unsecured bonds are 62.5% and 41.8%, respectively. Under the reduced-form model in Section 2.1.4, the predicted ratio of secured-to-unsecured spreads is

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24 Figure 6 groups the bond pairs by the secured bond rating category. The Internet Appendix shows that the results are qualitatively similar if bond pairs are grouped by the unsecured bond rating instead.
0.582/0.375 = 1.55, which is very close to the ratio observed in the data.\textsuperscript{25} In contrast, the recoveries to bank debt are significantly higher in the event of default, but the loan-to-bond spread ratio is significantly different from the predicted ratio of three for all but the most distressed issuers and indistinguishable from one for investment-grade firms. These results suggest that the loan premium is specific to banks and does not result from mispricing of seniority in corporate debt markets.

3.2 Cross-Sectional Determinants of the Loan Premium

The results in the previous sections indicate that the loan premium is not due to costs of financial distress, illiquidity, or mispricing of seniority, and that bank capital charges cannot account for the magnitude of the premium. However, there are a number of other differences between bank loans and bonds that could explain the loan premium. Banks overcome information asymmetry by screening firms before providing credit and monitoring borrowers to ensure repayment. Banks also provide valuable flexibility to firms through revolving lines of credit and the ability to renegotiate contract terms at relatively low cost.\textsuperscript{26}

Table 8 reports regressions of all-in-drawn spreads, the loan premium, and the premium as a fraction of the loan spread on firm and loan characteristics, including proxies for information asymmetry and contractual flexibility. The coefficients in the all-in-drawn spread regression are broadly consistent with the evidence in Table 4 with statistically significant positive coefficients on leverage and asset volatility, but no association with firm size. Interestingly, firms with more tangible assets have higher loan spreads, contrary to the notion that firms with opaque, intangible assets pay banks for information production. Loans with

\textsuperscript{25}Note that I do not estimate the structural model on this sample because it relies on strict adherence to absolute priority, which is empirically less likely for secured bonds than for bank loans.

\textsuperscript{26}While the literature highlights many benefits of borrowing from banks, Rajan (1992) identifies costs of the bank’s informational advantage over outside creditors. In recent work related to this paper, Feldhutter, Hotchkiss, and Kurakas (2016) show that corporate bond prices contain a premium attributable to state-contingent control rights, reflected in lower yields relative to the yields implied by credit default swaps. Bank loans offer greater control than bonds to creditors through maintenance covenants and seniority in default, so it seems a stronger effect should exist for loans. However, any incremental value of control rights would bias my analysis toward finding a smaller loan premium.
performance pricing provisions have lower all-in-drawn spreads, while tranches marketed to institutional investors have higher spreads. Finally, loan spreads are positively associated with the excess bond premium from Gilchrist and Zakrajsek (2012), which measures the price of credit risk in the bond market. I include the excess bond premium instead of time fixed effects in this table to test whether the loan premium covaries with bond market conditions.

In the loan premium regressions, the coefficients on leverage, asset volatility, and the excess bond premium are statistically insignificant. This confirms the structural model’s ability to account for the pricing of credit risk in the capital markets in estimating the counterfactual loan spread.\textsuperscript{27} The premium is also uncorrelated with proxies for information asymmetry and contractual flexibility. Specifically, the coefficients on firm size and asset tangibility are insignificant, casting doubt on screening and monitoring as drivers of the loan premium. Along the same lines, the Internet Appendix reports insignificant coefficients in simple regressions of the premium on other proxies for costs of monitoring, including idiosyncratic volatility, asset market-to-book, firm age, profitability, loan amount, firm-bank distance, and relationship strength. The insignificant coefficients on firm and loan size also suggest that the bank’s fixed overhead costs cannot account for the loan premium, because such costs would imply economies of scale that do not appear to be passed on to borrowers.

There is some evidence that the premium is driven by financial flexibility and ease of renegotiation. The positive coefficients on loan maturity can be interpreted as reflecting greater value of the options to prepay and renegotiate the loan before maturity. Note that the maturity coefficients are split into loans that mature before and after their matched bonds to mitigate the mechanical effect of maturity mismatch on the counterfactual loan spread (see Section 2.6). The negative association between the loan premium and performance pricing provisions, which reduce the need for renegotiation of the loan rate, suggests that part of the loan premium is compensation for future costs of renegotiation. In contrast, the

\textsuperscript{27}The lack of correlation with credit risk suggests that capital requirements are not a driver of the loan premium. Specifically, the cross-sectional prediction stemming from capital requirements is that the loan premium should be higher for low risk loans because the loan spread must exceed the bank’s hurdle rate, whereas the capital markets credit spread is unconstrained.
premium is uncorrelated with the inclusion of a revolving credit facility in the package, but it is reasonable to conclude that revolving credit is priced separately rather than bundled with the term loan pricing. Relatedly, loans used for mergers and acquisitions and loans arranged by universal banks (see Internet Appendix) are priced similarly to other loans, suggesting that the premium is not driven by bundling of investment banking services.

Finally, the premium is significantly higher for loan tranches marketed to nonbank institutions, with a 20% higher premium as a fraction of the loan spread on such loans.\textsuperscript{28} This finding is consistent with Lim, Minton, and Weisbach (2014) and Chernenko, Erel, and Prilmeier (2018), who find that nonbank loans have higher spreads than bank loans. These authors interpret the cost of nonbank loans as reflecting the financial constraints of borrowers, which seems less likely in my sample of bond issuers. Institutional tranches are more likely to be covenant light (Becker and Ivashina (2016)), so the coefficient reported here may be driven by a trade-off between the loan spread and the control offered to creditors. Along with the insignificant coefficients on proxies for information asymmetry discussed above, it is difficult to reconcile the high premium for institutional tranches with information production by banks driving the high cost of borrowing in the loan market. Indeed, monitoring is typically done by the lead arranger, so it would be more natural to compensate monitoring with up-front fees that are received by lead arrangers, rather than the all-in-drawn spread that is received by all syndicate members.\textsuperscript{29} Nonbank loans offer similar ease of renegotiation and the same prepayment option as bank loans, so these features may account for part of the loan premium.

While the results in Table 8 have interesting interpretations with respect to value provided by the bank, it is worth emphasizing that the loan premium is estimated with noise due to the model’s simplifying assumptions. The reported coefficients are imprecisely estimated but

\textsuperscript{28}Institutional tranches are identified using the DealScan market segment table. Although the relation with loan spreads is strong, it is unclear how institutional tranches are delineated from other facilities. Most of the institutional loans in my sample have banks as lead arrangers and among the participants. Unfortunately, allocation data are unavailable for most loans, but it seems that these are not strictly nonbank loans.

\textsuperscript{29}Unfortunately, up-front fees are not reported for many loans (Berg, Saunders, and Steffen (2016)).
unbiased as long as model noise is uncorrelated with the explanatory variables. Furthermore, statistical power is limited due to the strict sample construction, which offers a clean setting for characterizing the relative pricing of loans and bonds, but is not as well suited for studying features of the firm-bank relationship. Further research is necessary to fully understand the factors driving loan pricing and the split of surplus between borrowers and lenders.

3.3 Discussion

The results of the structural estimation offer strong evidence that banks earn significantly higher rates than implied by the pricing of credit risk and liquidity in the capital markets. Returning to the question posed in this paper’s title, this does not imply that borrowing from banks costs more than issuing public debt because the capital market counterfactual from the model may not be available in reality. Indeed, Figure 1 shows that the costs of bank and bond credit are similar for investment-grade firms, while for non-investment-grade firms borrowing from a bank is less costly because the bank is senior to bondholders in the event of default. Therefore, borrowing from banks is in line with the firm manager’s objective of minimizing interest expense to maximize cash flows.

Nevertheless, the finding of a large premium relative to the cost per unit of credit risk in the capital markets implies that either firms receive valuable services from banks in addition to the one-time provision of debt capital, or banks earn economic rents by lending to firms. The former case has mixed support in the sample analyzed in this paper, but it is difficult to rule out as the explanation for the loan premium. While there is some evidence that the bank’s ability to offer financial flexibility contributes to the premium, the lack of a correlation with firm and loan size raises doubts about the premium reflecting the bank’s costs of information production, which should have a fixed component.

If banks are earning rents in the loan market, then surplus is transferred from firms to banks via the loan premium. This case offers fewer predictions on the association between loan pricing and firm characteristics, but could be justified by the economics of bank lend-
ing. For instance, Rajan (1992) shows that banks can exploit their informational advantage to charge borrowers higher rates. The insignificant correlation between the premium and measures of relationship strength is inconsistent with this explanation, but statistical power is limited in the restricted sample, which is designed to examine relative pricing rather than the economics of lending relationships. It is unlikely that relationship holdup drives the loan premium in this sample because the firms are relatively unconstrained, with access to the public debt markets, and most of the loans have multiple lead arrangers.

Past literature shows that local banking markets are imperfectly competitive. For example, banks reduce deposit rates when the Fed funds rate decreases but do not raise rates when the Fed funds rate increases. This widening of deposit spreads after rate increases is especially pronounced in concentrated markets (Drechsler, Savov, and Schnabl (2017)). The syndicated loan market is an international market characterized by high concentration, with a handful of banks serving as lead arrangers on the majority of loans (Schwert (2018)), so it is plausible that these banks exert market power. Hatfield et al. (2017) offer a more provocative explanation in their theory of collusion in syndication markets, which they motivate with the lack of time and size variation in initial public offering fees. However, conversations with practitioners on both sides of the market suggest that the syndicated loan market is highly competitive, and without data from segmented markets with different levels of concentration, it is difficult to conclude that the loan premium is driven by imperfect competition.

Finally, the results in this paper highlight the importance of understanding the role of bank financing for large firms. Much of the banking literature focuses on smaller firms with more severe information asymmetry, but large firms are also reliant on bank financing and are critical to aggregate economic performance. Rauh and Sufi (2010) show that “fallen angels” migrating from investment-grade to non-investment-grade tend to adopt a tiered

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30 James (1987) shows that the stock market reaction to new loan announcements is positive, consistent with the loan generating surplus for the firm. In the Internet Appendix, I show that abnormal stock returns around new loans in my sample are statistically insignificant. The sample firms are larger and less constrained than the typical bank borrower, so it is unsurprising that the market reaction is muted. However, it supports the notion that the loan premium is not driven by bank holdup. Consistent with James (1987), I find that abnormal returns around new loans to firms without outstanding bonds are significantly positive.
debt structure with secured bank loans and unsecured bonds. Indeed, data from Capital IQ on non-financial firms for the years 2012 to 2016 indicate that 93% of non-investment-grade bond issuers have outstanding loans. The theory literature suggests many benefits of this arrangement (e.g., Diamond (1993), Welch (1997), Park (2000), Gornall (2017)), while the empirical literature provides evidence that cross-monitoring by banks is associated with lower bond yields (e.g., Datta, Iskandar-Datta, and Patel (1999), Houston, Lin, and Wang (2014)). Although the literature has not established that a bank relationship is necessary for non-investment-grade firms to issue public debt, the financing choices of firms suggest that to be true. Therefore, the loan premium may be justified by firms’ inability to access the bond market without paying up for a bank loan.

4 Conclusion

This paper shows that credit spreads in the syndicated loan market are significantly higher than implied by the capital market pricing of the risk borne by lenders. I arrive at this finding by applying a structural model of credit risk to a sample of new loans to firms with outstanding bonds. This unique sample construction provides a clean comparison of the pricing of loans with the pricing of corporate bonds in the secondary market that is unaffected by unobservable firm-time effects. The structural model accounts for the priority structure of debt, the lender’s exposure to losses in default, and secondary market illiquidity. My analysis concludes that in a sample of non-investment-grade term loans, 43% of the average loan spread is attributable to factors other than credit and liquidity as priced in the bond market.

The main implication of this finding is that firms are willing to pay a high cost to borrow from a bank, offering the bank a senior claim at a substantially higher yield than implied by the bond market. Therefore, firms must place a high value on bank services other than the one-time provision of debt capital. The evidence in this sample suggests the premium
is related to ease of renegotiation, while the financing choices of non-investment-grade bond
issuers in the broader universe suggest that bank relationships are necessary to facilitate
public debt issuance. However, it is unclear whether the loan premium reflects the cost of
providing bank services or banks earn rents lending to firms. More research is necessary to
understand the pricing of loans, the nature of competition in the loan market, and the role
of banks in the financing of large firms.
References


Appendix: Calculation of Expected Recoveries

Under the Merton (1974) model, the value of the firm is distributed log-normally:

$$\ln V_T \sim N \left( \ln V_t + \left( r - \frac{1}{2} \sigma^2 \right) (T-t), \sigma^2 V (T-t) \right).$$

For ease of notation, let $\mu = \left( r - \frac{1}{2} \sigma^2 \right) (T-t)$ and $\Sigma = \sigma \sqrt{T-t}$. The probability that the firm defaults on its debt at time $T$ is:

$$P (V_T \leq K_{Total}) = \Phi \left( \frac{\ln(K_{Total}) - \mu}{\Sigma} \right),$$

the probability senior debt is impaired is:

$$P (V_T \leq K_S) = \Phi \left( \frac{\ln(K_S) - \mu}{\Sigma} \right),$$

and the probability the firm defaults but senior debt is made whole is:

$$P (K_S \leq V_T \leq K_{Total}) = P (V_T \leq K_{Total}) - P (V_T \leq K_S).$$

Conditional on the firm defaulting, the recovery on senior debt is $\min \left( 1, \frac{V_T}{K_S} \right)$ and the recovery on junior debt is $\min \left( 1, \max \left( 0, \frac{V_T-K_S}{K_J} \right) \right)$. To make the derivation explicit and reduce the amount of notation in each equation, I break the expected recovery calculation into steps.

The expected payoff to senior debt, conditional on the firm defaulting and senior debt being impaired, is:

$$E [D_S | V_T \leq K_S] = e^{\mu + \frac{1}{2} \Sigma^2} \Phi \left( \frac{\ln(K_S) - \mu - \Sigma^2}{\Sigma} \right) \frac{P (V_T \leq K_S)}{P (V_T \leq K_{Total})}.$$

Then the expected payoff to senior debt, conditional on the firm defaulting, is:

$$E [D_S | V_T \leq K_{Total}] = \frac{P (K_S \leq V_T \leq K_{Total}) + P (V_T \leq K_S) E [D_S | V_T \leq K_S]}{P (V_T \leq K_{Total})}.$$
impaired.

The expected payoff to junior debt, conditional on the firm defaulting and the senior debt being made whole, is:

\[
E[D_J | K_S \leq V_T \leq K_{Total}] = \frac{e^{\mu + \frac{1}{2} \Sigma^2} \left( \Phi \left( \frac{\ln(K_{Total})-\mu-\Sigma^2}{\Sigma} \right) - \Phi \left( \frac{\ln(K_S)-\mu-\Sigma^2}{\Sigma} \right) \right)}{P(K_S \leq V_T \leq K_{Total})} - K_S,
\]

Then the expected payoff to junior debt, conditional on the firm defaulting, is:

\[
E[D_J | V_T \leq K_{Total}] = \frac{P(K_S \leq V_T \leq K_{Total}) E[D_J | K_S \leq V_T \leq K_{Total}]}{P(V_T \leq K_{Total})}.
\]

The numerator only contains one set of terms, reflecting the state in which the firm defaults and senior debt is paid in full, so there is a recovery for junior creditors.
Table 1: Summary Statistics on Loan and Bond Recovery Rates

This table reports summary statistics on defaulted debt recovery rates from Moody’s Ultimate Recovery Database. The sample includes cases involving firms rated by Moody’s that filed for bankruptcy between 1987 and 2014 and had both loans and bonds outstanding at the time of default. The variable summarized is each debt instrument’s court-determined recovery rate, based on Moody’s suggested method (settlement value or trading price) and discounted from emergence to the default date by the instrument’s interest rate. Recovery of 100% means the claimant was paid principal and accrued interest. Observations are at the debt instrument level.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>StDev</th>
<th>p5</th>
<th>p25</th>
<th>p50</th>
<th>p75</th>
<th>p95</th>
<th>Obs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan</td>
<td>0.803</td>
<td>0.302</td>
<td>0.139</td>
<td>0.650</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1,448</td>
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<tr>
<td>Revolving Facility</td>
<td>0.846</td>
<td>0.267</td>
<td>0.251</td>
<td>0.759</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>750</td>
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<tr>
<td>Secured by All Assets</td>
<td>0.858</td>
<td>0.260</td>
<td>0.245</td>
<td>0.798</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>444</td>
</tr>
<tr>
<td>Secured by Specific Assets</td>
<td>0.890</td>
<td>0.223</td>
<td>0.348</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>237</td>
</tr>
<tr>
<td>Unsecured</td>
<td>0.616</td>
<td>0.336</td>
<td>0.016</td>
<td>0.358</td>
<td>0.653</td>
<td>0.998</td>
<td>1.053</td>
<td>69</td>
</tr>
<tr>
<td>Term Loan</td>
<td>0.757</td>
<td>0.330</td>
<td>0.066</td>
<td>0.506</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>698</td>
</tr>
<tr>
<td>Secured by All Assets</td>
<td>0.801</td>
<td>0.289</td>
<td>0.158</td>
<td>0.652</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>466</td>
</tr>
<tr>
<td>Secured by Specific Assets</td>
<td>0.715</td>
<td>0.356</td>
<td>0.069</td>
<td>0.402</td>
<td>0.891</td>
<td>1.000</td>
<td>1.000</td>
<td>195</td>
</tr>
<tr>
<td>Unsecured</td>
<td>0.427</td>
<td>0.444</td>
<td>0</td>
<td>0</td>
<td>0.102</td>
<td>0.818</td>
<td>1.127</td>
<td>37</td>
</tr>
<tr>
<td>Bond</td>
<td>0.396</td>
<td>0.367</td>
<td>0</td>
<td>0.065</td>
<td>0.246</td>
<td>0.709</td>
<td>1.000</td>
<td>2,063</td>
</tr>
<tr>
<td>Senior Secured</td>
<td>0.625</td>
<td>0.350</td>
<td>0.114</td>
<td>0.209</td>
<td>0.674</td>
<td>1.000</td>
<td>1.000</td>
<td>468</td>
</tr>
<tr>
<td>Senior Unsecured</td>
<td>0.418</td>
<td>0.361</td>
<td>0</td>
<td>0.093</td>
<td>0.327</td>
<td>0.725</td>
<td>1.000</td>
<td>934</td>
</tr>
<tr>
<td>Senior Subordinated</td>
<td>0.224</td>
<td>0.294</td>
<td>0</td>
<td>0.008</td>
<td>0.099</td>
<td>0.315</td>
<td>0.837</td>
<td>382</td>
</tr>
<tr>
<td>Subordinated</td>
<td>0.192</td>
<td>0.255</td>
<td>0</td>
<td>0</td>
<td>0.102</td>
<td>0.245</td>
<td>0.725</td>
<td>227</td>
</tr>
<tr>
<td>Junior Subordinated</td>
<td>0.114</td>
<td>0.207</td>
<td>0</td>
<td>0</td>
<td>0.020</td>
<td>0.185</td>
<td>0.393</td>
<td>52</td>
</tr>
</tbody>
</table>
Table 2: Sample Construction

This table summarizes the construction of the sample. The starting point is the DealScan-Compustat sample from 1997 to 2016, excluding financial, utility, and quasi-public firms. The sample of loans is restricted to senior revolving credit facilities and term loans with an all-in-drawn spread relative to LIBOR, excluding commercial paper backup and debtor-in-possession loans. Each loan is matched with the closest senior unsecured bond by maturity in the Bank of America Merrill Lynch bond quote data, dropping bond-loan pairs with an absolute maturity difference over five years, less than a year to the bond’s next call date, or a minimum maturity less than 11 months. To mitigate the influence of multiple originations on the same date, I select distinct firm-date observations with a preference for term loans, smaller maturity differences, larger loan facilities, and finally, larger facility identification numbers in DealScan. To closely match the assumptions in the quantitative model estimation, I select a restricted sample of secured term loans with debt structure data available from Capital IQ or SEC filings retrieved from EDGAR.

<table>
<thead>
<tr>
<th>Selection Criteria</th>
<th>Loans in Sample</th>
<th>Amount ($ Bil.)</th>
<th>Firms in Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>DealScan-Compustat (1997 to 2016)</td>
<td>24,141</td>
<td>10,369</td>
<td>3,919</td>
</tr>
<tr>
<td>Non-missing CRSP-Compustat data</td>
<td>18,570</td>
<td>8,649</td>
<td>3,251</td>
</tr>
<tr>
<td>Senior loans with AISD, LIBOR base</td>
<td>15,757</td>
<td>7,563</td>
<td>2,852</td>
</tr>
<tr>
<td>Revolvers and term loans</td>
<td>15,288</td>
<td>6,887</td>
<td>2,842</td>
</tr>
<tr>
<td>Exclude CP backup and DIP loans</td>
<td>14,265</td>
<td>6,087</td>
<td>2,828</td>
</tr>
<tr>
<td>Closest senior unsecured bond</td>
<td>2,837</td>
<td>2,929</td>
<td>585</td>
</tr>
<tr>
<td>Loan and bond maturities ≥ 11 mo.</td>
<td>2,749</td>
<td>2,787</td>
<td>580</td>
</tr>
<tr>
<td>Distinct firm-date observations</td>
<td>2,003</td>
<td>2,207</td>
<td>574</td>
</tr>
<tr>
<td>Full bond-loan sample</td>
<td>2,003</td>
<td>2,207</td>
<td>574</td>
</tr>
<tr>
<td>Secured term loans</td>
<td>323</td>
<td>211.4</td>
<td>165</td>
</tr>
<tr>
<td>Capital IQ or EDGAR debt structure</td>
<td>245</td>
<td>167.9</td>
<td>124</td>
</tr>
<tr>
<td>Restricted sample for quantitative model</td>
<td>245</td>
<td>167.9</td>
<td>124</td>
</tr>
</tbody>
</table>
This table reports summary statistics on the full bond-loan sample. *Term Loan* is an indicator for term loans, including bridge loans and delay draw term loans. *Secured Loan* is an indicator for secured loans. *Lead Arranger Count* and *Participant Count* report the respective numbers of lead arranger and participant banks in the syndicate. *LIBOR Swap Rate* is the maturity-matched rate from the LIBOR swap curve. *Bond Swap Spread* is the option-adjusted bond yield minus the maturity-matched swap rate. *Callable* is an indicator equal to one if the issuer can call the bond before maturity. *Quasi-Market Assets* equal the sum of book debt (short-term plus long-term) and equity market capitalization. *Quasi-Market Leverage* is the ratio of book debt to book debt plus equity market capitalization. *Asset Volatility* is unlevered volatility of the trailing year of daily stock returns. *Distance-to-Default* is the naive distance-to-default from Bharath and Shumway (2008). *Trailing Stock Return* is the return on the firm’s stock over the year prior to the loan. *Asset Market-to-Book* is the ratio of quasi-market assets to book assets. *Asset Tangibility* is the ratio of net property, plant, and equipment to book assets. *Profitability* is the ratio of operating income before depreciation to book assets. *Operating Leverage* is the ratio of selling, general, and administrative (SG&A) expense to the sum of SG&A expense and cost of goods sold. All variables except credit spreads and indicators are winsorized at the 1% level to mitigate the impact of outliers. The distribution of Standard & Poor’s (S&P) long-term issuer credit ratings in the month of loan origination is reported in the second row from the bottom, with AA including AAA and AA ratings and CCC including CCC and CC ratings.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>StDev</th>
<th>p5</th>
<th>p25</th>
<th>p50</th>
<th>p75</th>
<th>p95</th>
<th>Obs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Loan Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loan all-in-drawn spread (bps)</td>
<td>150.4</td>
<td>114.2</td>
<td>20</td>
<td>75</td>
<td>125</td>
<td>200</td>
<td>350</td>
<td>2,003</td>
</tr>
<tr>
<td>Facility amount ($MM)</td>
<td>1,102</td>
<td>1,583</td>
<td>100</td>
<td>325</td>
<td>700</td>
<td>1,350</td>
<td>3,000</td>
<td>2,003</td>
</tr>
<tr>
<td>Loan maturity</td>
<td>4.412</td>
<td>1.542</td>
<td>0.997</td>
<td>4.000</td>
<td>4.999</td>
<td>5.002</td>
<td>6.752</td>
<td>2,003</td>
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<tr>
<td>Term loan</td>
<td>0.283</td>
<td>0.450</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2,003</td>
</tr>
<tr>
<td>Secured loan</td>
<td>0.421</td>
<td>0.494</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1,439</td>
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<tr>
<td>Lead arranger count</td>
<td>2.732</td>
<td>2.103</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>7</td>
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<tr>
<td>Participant count</td>
<td>10.07</td>
<td>8.996</td>
<td>0</td>
<td>4</td>
<td>8</td>
<td>14</td>
<td>26</td>
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<tr>
<td>LIBOR swap rate (%)</td>
<td>2.901</td>
<td>1.844</td>
<td>0.811</td>
<td>1.395</td>
<td>1.938</td>
<td>4.565</td>
<td>6.115</td>
<td>2,003</td>
</tr>
<tr>
<td><strong>Bond Characteristics</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bond swap spread (bps)</td>
<td>228.2</td>
<td>258.0</td>
<td>12</td>
<td>64</td>
<td>146</td>
<td>312</td>
<td>659</td>
<td>2,003</td>
</tr>
<tr>
<td>Bond face value ($MM)</td>
<td>463.0</td>
<td>372.7</td>
<td>150</td>
<td>250</td>
<td>350</td>
<td>500</td>
<td>1,000</td>
<td>2,003</td>
</tr>
<tr>
<td>Bond maturity</td>
<td>5.141</td>
<td>1.968</td>
<td>1.638</td>
<td>3.899</td>
<td>5.123</td>
<td>6.503</td>
<td>8.474</td>
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<td>Years since issuance</td>
<td>3.332</td>
<td>2.755</td>
<td>0.287</td>
<td>1.227</td>
<td>2.823</td>
<td>4.808</td>
<td>7.704</td>
<td>1,999</td>
</tr>
<tr>
<td>Callable</td>
<td>0.305</td>
<td>0.461</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1,999</td>
</tr>
<tr>
<td>LIBOR swap rate (%)</td>
<td>2.960</td>
<td>1.857</td>
<td>0.737</td>
<td>1.386</td>
<td>2.253</td>
<td>4.622</td>
<td>6.195</td>
<td>2,003</td>
</tr>
<tr>
<td><strong>Firm Characteristics</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quasi-market assets ($B)</td>
<td>23.18</td>
<td>44.04</td>
<td>1.064</td>
<td>3.680</td>
<td>8.588</td>
<td>22.07</td>
<td>97.02</td>
<td>2,003</td>
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<tr>
<td>Quasi-market leverage</td>
<td>0.302</td>
<td>0.197</td>
<td>0.064</td>
<td>0.150</td>
<td>0.254</td>
<td>0.408</td>
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<td>0.093</td>
<td>0.108</td>
<td>0.159</td>
<td>0.208</td>
<td>0.267</td>
<td>0.402</td>
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<tr>
<td>Distance-to-default</td>
<td>8.082</td>
<td>5.064</td>
<td>0.638</td>
<td>4.217</td>
<td>7.485</td>
<td>11.45</td>
<td>17.53</td>
<td>2,003</td>
</tr>
<tr>
<td>Trailing stock return</td>
<td>0.154</td>
<td>0.393</td>
<td>-0.433</td>
<td>-0.063</td>
<td>0.132</td>
<td>0.322</td>
<td>0.853</td>
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</tr>
<tr>
<td>Asset market-to-book</td>
<td>1.424</td>
<td>0.792</td>
<td>0.584</td>
<td>0.884</td>
<td>1.202</td>
<td>1.744</td>
<td>3.054</td>
<td>2,003</td>
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<tr>
<td>Asset tangibility</td>
<td>0.337</td>
<td>0.248</td>
<td>0.041</td>
<td>0.133</td>
<td>0.265</td>
<td>0.499</td>
<td>0.859</td>
<td>1,995</td>
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<tr>
<td>Profitability</td>
<td>0.036</td>
<td>0.021</td>
<td>0.007</td>
<td>0.024</td>
<td>0.035</td>
<td>0.047</td>
<td>0.076</td>
<td>1,920</td>
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<tr>
<td>Operating leverage</td>
<td>0.246</td>
<td>0.180</td>
<td>0.035</td>
<td>0.109</td>
<td>0.206</td>
<td>0.333</td>
<td>0.639</td>
<td>1,864</td>
</tr>
<tr>
<td>Bank debt/total</td>
<td>0.141</td>
<td>0.191</td>
<td>0</td>
<td>0</td>
<td>0.037</td>
<td>0.236</td>
<td>0.558</td>
<td>1,191</td>
</tr>
<tr>
<td>Secured debt/total</td>
<td>0.145</td>
<td>0.219</td>
<td>0</td>
<td>0</td>
<td>0.016</td>
<td>0.235</td>
<td>0.618</td>
<td>1,119</td>
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<tr>
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<td></td>
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<td>AA</td>
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<td></td>
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</tr>
<tr>
<td>BBB</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>BB</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>CCC</td>
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<td>NR</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Origination dates per firm</td>
<td>3.490</td>
<td>2.716</td>
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<td>1</td>
<td>3</td>
<td>5</td>
<td>9</td>
<td>574</td>
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</table>
Table 4: Determinants of Loan and Bond Credit Spreads

This table reports regressions of all-in-drawn loan spreads and bond swap spreads on firm, loan, and bond characteristics. Table 2 describes the sample construction and Table 3 contains variable definitions. Loans with missing data for Secured Loan are assumed to be unsecured in this table. S&P Rating FE s are based on the firm’s long-term issuer rating. Within $R^2$ represents the goodness of fit after accounting for month fixed effects (but not rating or industry effects). $t$-statistics based on standard errors clustered by firm and month are reported in brackets. * and ** denote $p$-values less than 0.05 and 0.01, respectively.

<table>
<thead>
<tr>
<th>Log(Swap Spread)</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quasi-market leverage</td>
<td>0.569**</td>
<td>0.474**</td>
<td>0.334*</td>
<td>1.446**</td>
<td>1.494**</td>
<td>1.360**</td>
</tr>
<tr>
<td></td>
<td>[4.69]</td>
<td>[3.40]</td>
<td>[2.15]</td>
<td>[9.48]</td>
<td>[9.26]</td>
<td>[8.85]</td>
</tr>
<tr>
<td>Asset volatility</td>
<td>0.461*</td>
<td>0.416*</td>
<td>0.694*</td>
<td>1.131**</td>
<td>1.043**</td>
<td>0.928**</td>
</tr>
<tr>
<td></td>
<td>[2.25]</td>
<td>[2.02]</td>
<td>[2.51]</td>
<td>[4.71]</td>
<td>[3.91]</td>
<td>[2.80]</td>
</tr>
<tr>
<td>Maturity</td>
<td>0.056**</td>
<td>0.037**</td>
<td>0.037**</td>
<td>0.078**</td>
<td>0.070**</td>
<td>0.082**</td>
</tr>
<tr>
<td></td>
<td>[5.43]</td>
<td>[4.07]</td>
<td>[3.39]</td>
<td>[7.39]</td>
<td>[7.84]</td>
<td>[7.49]</td>
</tr>
<tr>
<td>Log(Assets)</td>
<td>0.004</td>
<td>-0.013</td>
<td>-0.127**</td>
<td>-0.134**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[0.28]</td>
<td>[-0.82]</td>
<td>[-6.94]</td>
<td>[-6.84]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profitability</td>
<td>-0.358</td>
<td>-0.700</td>
<td>-2.253*</td>
<td>-1.343</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[-0.62]</td>
<td>[-1.00]</td>
<td>[-2.58]</td>
<td>[-1.18]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asset market-to-book</td>
<td>-0.017</td>
<td>-0.004</td>
<td>0.015</td>
<td>0.032</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[-0.65]</td>
<td>[-0.12]</td>
<td>[0.62]</td>
<td>[1.03]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secured loan</td>
<td>0.213**</td>
<td>0.168**</td>
<td>-0.024</td>
<td>-0.131*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[5.02]</td>
<td>[3.65]</td>
<td>[-0.51]</td>
<td>[-2.18]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Term loan</td>
<td>0.238**</td>
<td>0.249**</td>
<td>0.040</td>
<td>0.036</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[8.00]</td>
<td>[8.25]</td>
<td>[1.17]</td>
<td>[0.94]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank debt/total</td>
<td>-0.056</td>
<td>-0.064</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[-0.76]</td>
<td>[-0.62]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Month FE s</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>S&amp;P rating FE s</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2-digit SIC FE s</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adj. $R^2$ | 0.765 | 0.795 | 0.824 | 0.799 | 0.822 | 0.851 |
Within $R^2$ | 0.693 | 0.742 | 0.776 | 0.754 | 0.789 | 0.823 |
Observations | 1,884 | 1,884 | 1,131 | 1,884 | 1,884 | 1,131 |
Table 5: Summary Statistics: Restricted Sample for Quantitative Model

This table reports summary statistics on the sample for quantitative model estimation. The sample is restricted to secured term loans with data on debt structure available prior to origination. The construction of the sample is described in Table 2. Secured by All Assets is an indicator for loans secured by all of the firm’s assets. Revolver in Package is an indicator equal to one if the loan package includes a revolving credit facility. Covenant Light and Institutional Segment are indicators for covenant light loans and institutional tranches, respectively, as indicated by the DealScan market segment table. Performance Pricing is an indicator equal to one if the loan contract includes either interest-increasing or interest-decreasing performance pricing. Lead Arranger Count and Participant Count report the respective numbers of lead arranger and participant banks in the syndicate. LIBOR Swap Rate is the maturity-matched rate from the LIBOR swap curve. Quasi-Market Assets equal the sum of book debt (short-term plus long-term) and equity market capitalization. Distance-to-Default is the naive distance-to-default from Bharath and Shumway (2008). Firm characteristics are reported for the quarter-ends immediately before and after the loan origination. All variables are winsorized at the 1% level to mitigate the impact of outliers. The distribution of Standard & Poor’s (S&P) long-term issuer credit ratings in the month of loan origination is reported in the bottom row, with the CCC category including CCC and CC ratings.

<table>
<thead>
<tr>
<th>Loan Characteristics</th>
<th>Mean</th>
<th>StDev</th>
<th>p5</th>
<th>p25</th>
<th>p50</th>
<th>p75</th>
<th>p95</th>
<th>Obs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan all-in-drawn spread (bps)</td>
<td>301.9</td>
<td>151.2</td>
<td>150</td>
<td>200</td>
<td>287.5</td>
<td>350</td>
<td>600</td>
<td>245</td>
</tr>
<tr>
<td>Facility amount ($MM)</td>
<td>685.2</td>
<td>824.0</td>
<td>50</td>
<td>225</td>
<td>400</td>
<td>870</td>
<td>1,955</td>
<td>245</td>
</tr>
<tr>
<td>Loan maturity</td>
<td>5.411</td>
<td>1.447</td>
<td>2.316</td>
<td>4.997</td>
<td>5.391</td>
<td>6.590</td>
<td>7.001</td>
<td>245</td>
</tr>
<tr>
<td>LIBOR swap rate (%)</td>
<td>2.806</td>
<td>1.735</td>
<td>0.832</td>
<td>1.370</td>
<td>2.095</td>
<td>4.262</td>
<td>5.621</td>
<td>245</td>
</tr>
<tr>
<td>Secured by all assets</td>
<td>0.367</td>
<td>0.483</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>245</td>
</tr>
<tr>
<td>Revolver in package</td>
<td>0.539</td>
<td>0.500</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>245</td>
</tr>
<tr>
<td>Covenant light</td>
<td>0.168</td>
<td>0.375</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>245</td>
</tr>
<tr>
<td>Institutional tranche</td>
<td>0.664</td>
<td>0.473</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>245</td>
</tr>
<tr>
<td>Performance pricing</td>
<td>0.278</td>
<td>0.449</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>245</td>
</tr>
<tr>
<td>Lead arranger count</td>
<td>2.910</td>
<td>2.055</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td>245</td>
</tr>
<tr>
<td>Participant count</td>
<td>8.143</td>
<td>12.24</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>11</td>
<td>32</td>
<td>245</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bond Characteristics</th>
<th>Mean</th>
<th>StDev</th>
<th>p5</th>
<th>p25</th>
<th>p50</th>
<th>p75</th>
<th>p95</th>
<th>Obs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bond swap spread (bps)</td>
<td>431.6</td>
<td>304.1</td>
<td>94</td>
<td>262</td>
<td>358</td>
<td>528</td>
<td>938</td>
<td>245</td>
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<tr>
<td>Bond face value ($MM)</td>
<td>488.4</td>
<td>286.3</td>
<td>150</td>
<td>270</td>
<td>401.5</td>
<td>604</td>
<td>1,000</td>
<td>245</td>
</tr>
<tr>
<td>Bond maturity</td>
<td>6.037</td>
<td>1.713</td>
<td>2.967</td>
<td>5.033</td>
<td>6.126</td>
<td>7.156</td>
<td>8.756</td>
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<tr>
<td>Years since issuance</td>
<td>2.372</td>
<td>2.470</td>
<td>0.255</td>
<td>0.768</td>
<td>1.688</td>
<td>3.205</td>
<td>6.316</td>
<td>244</td>
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<tr>
<td>Callable</td>
<td>0.672</td>
<td>0.470</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>244</td>
</tr>
<tr>
<td>LIBOR swap rate (%)</td>
<td>2.838</td>
<td>1.715</td>
<td>0.952</td>
<td>1.472</td>
<td>2.171</td>
<td>4.350</td>
<td>5.742</td>
<td>245</td>
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</table>

<table>
<thead>
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<th>StDev</th>
<th>p5</th>
<th>p25</th>
<th>p50</th>
<th>p75</th>
<th>p95</th>
<th>Obs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quasi-market assets ($B)</td>
<td>7.069</td>
<td>8.300</td>
<td>0.816</td>
<td>2.456</td>
<td>5.090</td>
<td>8.767</td>
<td>19.83</td>
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</tr>
<tr>
<td>Quasi-market leverage</td>
<td>0.477</td>
<td>0.209</td>
<td>0.154</td>
<td>0.313</td>
<td>0.457</td>
<td>0.658</td>
<td>0.844</td>
<td>245</td>
</tr>
<tr>
<td>Distance-to-default</td>
<td>4.774</td>
<td>3.487</td>
<td>-0.440</td>
<td>1.949</td>
<td>4.349</td>
<td>7.196</td>
<td>11.18</td>
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</tr>
<tr>
<td>Trailing stock return</td>
<td>0.189</td>
<td>0.539</td>
<td>-0.589</td>
<td>-0.129</td>
<td>0.132</td>
<td>0.440</td>
<td>1.116</td>
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<tr>
<td>Asset market-to-book</td>
<td>1.148</td>
<td>0.510</td>
<td>0.498</td>
<td>0.800</td>
<td>1.051</td>
<td>1.373</td>
<td>2.059</td>
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<tr>
<td>Asset tangibility</td>
<td>0.330</td>
<td>0.209</td>
<td>0.062</td>
<td>0.154</td>
<td>0.305</td>
<td>0.447</td>
<td>0.742</td>
<td>245</td>
</tr>
<tr>
<td>Profitability</td>
<td>0.030</td>
<td>0.018</td>
<td>0.0002</td>
<td>0.021</td>
<td>0.029</td>
<td>0.039</td>
<td>0.060</td>
<td>234</td>
</tr>
<tr>
<td>Operating leverage</td>
<td>0.228</td>
<td>0.164</td>
<td>0.044</td>
<td>0.114</td>
<td>0.174</td>
<td>0.276</td>
<td>0.546</td>
<td>228</td>
</tr>
<tr>
<td>Bank debt/total</td>
<td>0.336</td>
<td>0.207</td>
<td>0</td>
<td>0.188</td>
<td>0.343</td>
<td>0.470</td>
<td>0.676</td>
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<tr>
<td>Secured/total debt</td>
<td>0.382</td>
<td>0.239</td>
<td>0.002</td>
<td>0.228</td>
<td>0.384</td>
<td>0.557</td>
<td>0.789</td>
<td>245</td>
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</table>

<table>
<thead>
<tr>
<th>Credit rating</th>
<th>AA</th>
<th>A</th>
<th>BBB</th>
<th>BB</th>
<th>B</th>
<th>CCC</th>
<th>NR</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0.004</td>
<td>0.029</td>
<td>0.518</td>
<td>0.408</td>
<td>0.024</td>
<td>0.016</td>
<td>245</td>
</tr>
</tbody>
</table>
Table 6: Comparison of Models and Break-Even Parameters

This table summarizes model estimates under different setups and reports the bankruptcy cost and liquidity discount implied by loan spreads. Panel A reports mean estimates from variations on the pricing model. The first four columns present estimates under different parametrizations of the structural model and the rightmost column presents estimates from the reduced-form model. Model spreads are calculated by numerically estimating implied asset volatility using the bond spread as the zero-coupon junior credit spread in the model, then using that asset volatility to compute the zero-coupon senior credit spread for the loan. Default probabilities and expected recoveries are calculated under the physical measure with discount rate set to 10%. Loan Premium is the difference between the observed and model spread. Fraction of Loan Spread is the loan premium divided by the observed all-in-drawn spread. Bid-Ask/Price is computed as the difference between the model loan price under $\lambda$ and the price with $\lambda = 0$, divided by the average of the prices. Panel B reports the bankruptcy cost $\alpha_S$ and liquidity parameter $\lambda$ necessary to reconcile the observed pricing of loans and bonds. Implied $\alpha_S$ is the bankruptcy cost implied by the all-in-drawn spread under the structural pricing model, with $\alpha_J = 0.10$, $\lambda = 0.0015$, and $\sigma$ implied by bond spreads. No $\alpha_S$ Solution is an indicator equal to one if there is no value of $\alpha_S \in [0, 1]$ that can price the loan under the model. Implied $\lambda$ is the liquidity parameter implied by the all-in-drawn spread under the model with $\alpha_J = 0.10$, $\alpha_S = 0.15$, and $\sigma$ implied by bond spreads. Bid-Ask/Price is the difference between the zero-coupon loan price under the bond-implied volatility and the zero-coupon loan price implied by the observed all-in-drawn spread, divided by the average of those prices.

Panel A: Comparison of Model Setups

<table>
<thead>
<tr>
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<th>Structural Model</th>
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</thead>
<tbody>
<tr>
<td>$\alpha_J$</td>
<td>0</td>
</tr>
<tr>
<td>$\alpha_S$</td>
<td>0.10</td>
</tr>
<tr>
<td>$\lambda$</td>
<td>0.0015</td>
</tr>
<tr>
<td>Bond-implied volatility</td>
<td>0.413 0.401 0.413 0.401</td>
</tr>
<tr>
<td>Probability of default</td>
<td>0.196 0.184 0.196 0.184</td>
</tr>
<tr>
<td>Expected loan recovery</td>
<td>0.931 0.795 0.931 0.795</td>
</tr>
<tr>
<td>Expected bond recovery</td>
<td>0.426 0.396 0.426 0.396</td>
</tr>
<tr>
<td>Bid-ask/price (%)</td>
<td>0.0 0.0 0.764 0.772</td>
</tr>
<tr>
<td>Model spread (bps)</td>
<td>50.76 147.9 64.94 162.2 146.3</td>
</tr>
<tr>
<td>Loan premium (bps)</td>
<td>254.0 156.9 239.9 142.6 158.5</td>
</tr>
<tr>
<td>Fraction of loan spread</td>
<td>0.845 0.490 0.787 0.432 0.496</td>
</tr>
</tbody>
</table>

Panel B: Break-Even Bankruptcy Cost and Liquidity Discount

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>StDev</th>
<th>p10</th>
<th>p50</th>
<th>p90</th>
<th>Obs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No $\alpha_S$ solution</td>
<td>0.056</td>
<td>0.230</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>233</td>
</tr>
<tr>
<td>Implied $\alpha_S$</td>
<td>0.411</td>
<td>0.177</td>
<td>0.192</td>
<td>0.402</td>
<td>0.637</td>
<td>220</td>
</tr>
<tr>
<td>Expected loan recovery</td>
<td>0.549</td>
<td>0.164</td>
<td>0.343</td>
<td>0.569</td>
<td>0.751</td>
<td>220</td>
</tr>
<tr>
<td>Implied $\lambda$</td>
<td>0.017</td>
<td>0.015</td>
<td>0.005</td>
<td>0.016</td>
<td>0.031</td>
<td>233</td>
</tr>
<tr>
<td>Bid-ask/price (%)</td>
<td>9.336</td>
<td>7.634</td>
<td>2.379</td>
<td>8.095</td>
<td>16.56</td>
<td>233</td>
</tr>
</tbody>
</table>
### Table 7: Counterfactual Loan Spreads under the Calibrated Model

This table reports estimates of the loan premium from the structural model with junior and senior debt, bankruptcy and liquidity costs. The sample is restricted to secured term loans with data on debt structure available prior to origination. Model spreads are calculated by numerically estimating implied asset volatility using the bond spread as the zero-coupon junior credit spread in the model, then using that asset volatility to compute the zero-coupon senior credit spread for the loan. The bankruptcy costs for junior and senior debt are calibrated to $\alpha_J = 0.10$ and $\alpha_S = 0.15$, respectively, and the liquidity discount is calibrated to $\lambda = 0.0015$. Default probabilities and expected recoveries are calculated under the physical measure with discount rate set to 10%. \textit{Loan Premium} is the difference between the observed and model spread. \textit{Fraction of Loan Spread} is the loan premium divided by the observed all-in-drawn spread. \textit{Interest Expense} is the loan premium times the amount of outstanding loans at the quarter-end prior to origination. \textit{Fraction of EBITDA} is the quarterly interest expense from the loan premium divided by the previous quarter’s EBITDA.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>StDev</th>
<th>p10</th>
<th>p50</th>
<th>p90</th>
<th>Obs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unlevered asset volatility</td>
<td>0.208</td>
<td>0.097</td>
<td>0.111</td>
<td>0.190</td>
<td>0.340</td>
<td>233</td>
</tr>
<tr>
<td>Bond-implied volatility</td>
<td>0.401</td>
<td>0.106</td>
<td>0.272</td>
<td>0.396</td>
<td>0.533</td>
<td>233</td>
</tr>
<tr>
<td>Probability of default</td>
<td>0.184</td>
<td>0.118</td>
<td>0.069</td>
<td>0.158</td>
<td>0.368</td>
<td>233</td>
</tr>
<tr>
<td>Expected loan recovery</td>
<td>0.795</td>
<td>0.063</td>
<td>0.703</td>
<td>0.819</td>
<td>0.850</td>
<td>233</td>
</tr>
<tr>
<td>Expected bond recovery</td>
<td>0.396</td>
<td>0.135</td>
<td>0.213</td>
<td>0.408</td>
<td>0.552</td>
<td>233</td>
</tr>
<tr>
<td>Bid-ask/price (%)</td>
<td>0.772</td>
<td>0.202</td>
<td>0.501</td>
<td>0.761</td>
<td>1.022</td>
<td>233</td>
</tr>
<tr>
<td>Loan spread (bps)</td>
<td>304.8</td>
<td>153.6</td>
<td>175</td>
<td>300</td>
<td>450</td>
<td>233</td>
</tr>
<tr>
<td>Model spread (bps)</td>
<td>162.2</td>
<td>141.5</td>
<td>64.43</td>
<td>131.3</td>
<td>285.3</td>
<td>233</td>
</tr>
<tr>
<td>Loan premium (bps)</td>
<td>142.6</td>
<td>137.8</td>
<td>35.84</td>
<td>137.3</td>
<td>274.8</td>
<td>233</td>
</tr>
<tr>
<td>Fraction of loan spread</td>
<td>0.432</td>
<td>0.503</td>
<td>0.180</td>
<td>0.520</td>
<td>0.714</td>
<td>233</td>
</tr>
<tr>
<td>Interest expense ($MM)</td>
<td>13.71</td>
<td>20.05</td>
<td>0.134</td>
<td>6.770</td>
<td>37.56</td>
<td>233</td>
</tr>
<tr>
<td>Fraction of EBITDA</td>
<td>0.021</td>
<td>0.036</td>
<td>0.000</td>
<td>0.015</td>
<td>0.059</td>
<td>223</td>
</tr>
</tbody>
</table>
Table 8: Determinants of the Loan Premium

This table reports regressions of loan spreads and estimates of the loan premium on firm and loan characteristics. $\text{Log(All-in-Drawn)}$ is the log of the all-in-drawn loan spread. $\text{Log(Premium)}$ is the log of the loan spread minus the bond-implied spread under the structural model. $\text{Premium/Spread}$ is the loan premium divided by the all-in-drawn spread. $\text{Loan Maturity (≥ Bond)}$ and $\text{Loan Maturity (< Bond)}$ equal loan maturity if the loan matures after and before the matched bond, respectively, and zero otherwise. $\text{Log(Lender Count)}$ is the logarithm of the number of lead arrangers and participants in the syndicate. $\text{M&A Loan}$ is an indicator for loans in the DealScan M&A segment. $\text{Log(GZ Premium)}$ is the logarithm of the excess bond premium from Gilchrist and Zakrajsek (2012) in the month of the loan. Tables 3 and 5 contain definitions of the remaining variables. All ratios and estimates are winsorized at the 1% level. $t$-statistics based on standard errors clustered by firm and month are reported in brackets. * and ** denote $p$-values less than 0.05 and 0.01, respectively.

<table>
<thead>
<tr>
<th>Dependent variable:</th>
<th>Log(All-in-Drawn)</th>
<th>Log(Premium)</th>
<th>Premium/Spread</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quasi-market leverage</td>
<td>1.035**</td>
<td>0.077</td>
<td>-0.177</td>
</tr>
<tr>
<td>[6.97]</td>
<td>[0.84]</td>
<td>[-1.31]</td>
<td></td>
</tr>
<tr>
<td>Asset volatility</td>
<td>1.315**</td>
<td>0.147</td>
<td>-0.314</td>
</tr>
<tr>
<td>[5.46]</td>
<td>[0.82]</td>
<td>[-0.95]</td>
<td></td>
</tr>
<tr>
<td>Loan maturity (≥ bond)</td>
<td>0.001</td>
<td>0.066**</td>
<td>0.098**</td>
</tr>
<tr>
<td>[0.03]</td>
<td>[3.75]</td>
<td>[4.23]</td>
<td></td>
</tr>
<tr>
<td>Loan maturity (&lt; bond)</td>
<td>0.001</td>
<td>0.061**</td>
<td>0.088**</td>
</tr>
<tr>
<td>[-0.05]</td>
<td>[3.27]</td>
<td>[3.61]</td>
<td></td>
</tr>
<tr>
<td>Log(Assets)</td>
<td>-0.022</td>
<td>-0.005</td>
<td>0.012</td>
</tr>
<tr>
<td>[-0.89]</td>
<td>[-0.38]</td>
<td>[0.65]</td>
<td></td>
</tr>
<tr>
<td>Asset tangibility</td>
<td>0.356*</td>
<td>0.156</td>
<td>0.005</td>
</tr>
<tr>
<td>[2.08]</td>
<td>[1.87]</td>
<td>[0.05]</td>
<td></td>
</tr>
<tr>
<td>Log(Lender count)</td>
<td>-0.016</td>
<td>0.020</td>
<td>0.052</td>
</tr>
<tr>
<td>[-0.40]</td>
<td>[1.00]</td>
<td>[1.49]</td>
<td></td>
</tr>
<tr>
<td>Revolver in package</td>
<td>0.061</td>
<td>0.027</td>
<td>0.042</td>
</tr>
<tr>
<td>[1.44]</td>
<td>[1.22]</td>
<td>[1.08]</td>
<td></td>
</tr>
<tr>
<td>Performance pricing</td>
<td>-0.149**</td>
<td>-0.072*</td>
<td>-0.063</td>
</tr>
<tr>
<td>[-3.35]</td>
<td>[-2.07]</td>
<td>[-0.97]</td>
<td></td>
</tr>
<tr>
<td>M&amp;A segment</td>
<td>0.066</td>
<td>0.027</td>
<td>0.026</td>
</tr>
<tr>
<td>[1.30]</td>
<td>[1.07]</td>
<td>[0.63]</td>
<td></td>
</tr>
<tr>
<td>Institutional tranche</td>
<td>0.323**</td>
<td>0.099*</td>
<td>0.206*</td>
</tr>
<tr>
<td>[4.59]</td>
<td>[1.96]</td>
<td>[2.42]</td>
<td></td>
</tr>
<tr>
<td>Log(GZ premium)</td>
<td>0.238**</td>
<td>-0.023</td>
<td>-0.056</td>
</tr>
<tr>
<td>[4.42]</td>
<td>[-0.37]</td>
<td>[-0.44]</td>
<td></td>
</tr>
<tr>
<td>Adj. $R^2$</td>
<td>0.574</td>
<td>0.358</td>
<td>0.350</td>
</tr>
<tr>
<td>Observations</td>
<td>231</td>
<td>231</td>
<td>231</td>
</tr>
</tbody>
</table>
Figures

Figure 1: Loan and Bond Spreads as Functions of Credit Risk

This figure reports bond and loan credit spreads and the ratio of spreads as functions of credit risk. The sample is restricted to absolute maturity differences of one year or less to mitigate the impact of maturity structure on the relative credit spreads. Panel A contains non-parametric regression estimates of bond and loan credit spreads on distance-to-default using a rectangular kernel. Bond Swap Spread is the option-adjusted spread over the LIBOR swap curve. Loan All-in-Drawn Spread is the spread over LIBOR paid on drawn amounts plus the annual facility fee. Distance-to-Default is the naive distance-to-default from Bharath and Shumway (2008): 

\[ D_{tD} = \left( \log \left( \frac{V}{D} \right) - (r - 0.5\sigma_V^2)T \right) / (\sigma_V \sqrt{T}) \]

where \( V \) is quasi-market assets, \( D \) is short-term debt plus half of long-term debt, \( r \) is the trailing one-year stock return, \( \sigma_V \) is asset volatility, and maturity is \( T = 1 \). In my sample, the average distance-to-default for A-rated firms is 11.8, for BBB-rated firms it is 9.0, for BB-rated firms it is 5.9, for B-rated firms it is 3.4, and for CCC-rated firms it is 1.5. Panel B reports a bar chart of the ratio of Bond Swap Spread to Loan All-in-Drawn Spread by S&P long-term issuer credit rating category. Confidence bands are based on standard errors clustered by firm and month.

Panel A: Non-Parametric Regressions of Spreads on Distance-to-Default

Panel B: Bar Chart of the Spread Ratio by Rating Category
Figure 2: Comparison with Out-of-Sample Loan and Bond Spreads

This figure reports bond and loan credit spreads as functions of credit risk for issuers that do or do not qualify for inclusion in the sample to provide evidence on the external validity of my analysis. Panel A plots non-parametric regressions of loan all-in-drawn spreads on distance-to-default using a rectangular kernel, splitting the DealScan-Compustat sample into rated and non-rated firms, that do and do not have access to the public debt markets, respectively. Loan All-in-Drawn Spread is the spread over LIBOR paid on drawn amounts plus the annual facility fee. Panel B plots non-parametric regressions of bond swap spreads on distance-to-default using a rectangular kernel, splitting the monthly panel of secondary market bond quotes from Bank of America Merrill Lynch into firms that did and did not originate a new loan in the month. Bond Swap Spread is the option-adjusted spread over the LIBOR swap curve. Distance-to-Default is the naive distance-to-default from Bharath and Shumway (2008): \( DtD = (\log(V/D) - (r - 0.5\sigma^2)T)/(\sigma_V \sqrt{T}) \), where \( V \) is quasi-market assets, \( D \) is short-term debt plus half of long-term debt, \( r \) is the trailing one-year stock return, \( \sigma_V \) is asset volatility, and maturity is \( T = 1 \).

Panel A: Loan Spreads of Rated and Non-Rated Firms

Panel B: Bond Spreads of Firms with and without New Loans
This figure reports expected recoveries under various bankruptcy cost parameters. Expected recoveries are generated by numerically estimating implied asset volatility using the bond spread as the zero-coupon junior credit spread in the model, then using the bond-implied asset volatility to compute the expected recoveries for the bond and loan under the log-normal firm value distribution. Recoveries are computed under the physical measure with the discount rate set to 10% for comparability with the empirical data. Risk-neutral expected recoveries are slightly lower for both loans and bonds. Each line reflects a different junior bankruptcy cost, denoting $\alpha_J$ as $A_j$. Senior bankruptcy costs $\alpha_S$ are varied on the horizontal axis.
Figure 4: Bid-Ask Spreads in the Secondary Market for Term Loans

This figure reports empirical evidence on bid-ask spreads in the secondary market for term loans and calibrates the liquidity parameter in the model. Panel A reports proportional bid-ask spreads for a subset of the term loans in my sample with secondary market quote data available from Thomson-Reuters LSTA. The time series plot is estimated as a non-parametric regression on month using a rectangular kernel with a 95% confidence interval. Panel B reports bid-ask spreads under various liquidity discount parameters. In the data, $\text{Bid-Ask/Price}$ is the ratio of the bid-ask spread to the mid-price, while in the model, it is computed as the difference between the model loan price under $\lambda$ and the price with $\lambda = 0$, divided by the average of the prices. Model loan prices are generated by numerically estimating implied asset volatility using the bond spread as the zero-coupon junior credit spread in the model, then using the bond-implied asset volatility to compute the zero-coupon price of the loan. Bankruptcy costs are set to $\alpha_J = 0.10$ and $\alpha_S = 0.15$. The liquidity parameter $\lambda$ is varied on the horizontal axis.

Panel A: Time Series of Bid-Ask Spreads from Thomson-Reuters LSTA

Panel B: Bid-Ask Spreads as a Function of the Liquidity Discount $\lambda$
Figure 5: Distributions of Observed and Counterfactual Loan Spreads

This figure reports non-parametric regressions of loan and bond spreads on distance-to-default and time series plots of credit spreads. The sample is restricted to secured term loans with data on debt structure available prior to origination, paired with the nearest unsecured bond by maturity from the same firm. The construction of the sample is described in Table 2. Panel A contains non-parametric regression estimates of bond and loan credit spreads on distance-to-default using a rectangular kernel. Bond Spread is the spread over the LIBOR swap curve after adjusting for embedded options, as provided by Bank of America Merrill Lynch. Loan Spread is the spread over LIBOR paid on drawn amounts plus the annual facility fee. Model Spread calculated by numerically estimating implied asset volatility using the bond spread as the zero-coupon junior credit spread in the model, then using the bond-implied asset volatility to compute the zero-coupon senior credit spread for the loan. Reduced-Form Spread equals one-third of the bond swap spread, which is the loan spread implied by the model in Duffie and Singleton (1999) under the expected recoveries presented in Table 1. Distance-to-Default is the naive distance-to-default from Bharath and Shumway (2008), defined in the caption of Figure 1. Panel B contains time series plots of average credit spreads by year. The bars at the bottom of the graph represent the number of observations in each year.
Figure 6: Ratio of Unsecured to Secured Bond Spreads by Credit Rating

This figure reports a bar chart of the ratio of unsecured to secured bond spreads by rating category. The sample is a monthly panel of secured bonds paired with the nearest unsecured bond by maturity from the same firm in the same month. There are 5,124 observations from 103 firms in the sample in the BBB, BB, B, and CCC rating categories. Rating categories on the horizontal axis are based on the Moody’s rating of the secured bond in the unsecured-secured pair. Confidence bands are constructed using standard errors clustered by firm and month.
Syllabus

Justice Breyer, Opinion of the Court

NOTICE: This opinion is subject to formal revision before publication in the preliminary print of the United States Reports. Readers are requested to notify the Reporter of Decisions, Supreme Court of the United States, Washington, D.C. 20543, of any typographical or other formal errors, in order that corrections may be made before the preliminary print goes to press.

SUPREME COURT OF THE UNITED STATES
CREDIT SUISSE SECURITIES (USA) LLC, fka CREDITSUISSE FIRST BOSTON LLC, et al., PETITIONERS v. GLEN BILLING et al.
ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SECOND CIRCUIT

[June 18, 2007]

Justice Breyer delivered the opinion of the Court.

A group of buyers of newly issued securities have filed an antitrust lawsuit against underwriting firms that market and distribute those issues. The buyers claim that the underwriters unlawfully agreed with one another that they would not sell shares of a popular new issue to a buyer unless that buyer committed (1) to buy additional shares
of that security later at escalating prices (a practice called “laddering”), (2) to pay unusually high commissions on subsequent security purchases from the underwriters, or (3) to purchase from the underwriters other less desirable securities (a practice called “tying”). The question before us is whether there is a “‘plain repugnancy’” between these antitrust claims and the federal securities law. See *Gordon v. New York Stock Exchange, Inc.*, 422 U. S. 659, 682 (1975) (quoting *United States v. Philadelphia Nat. Bank*, 374 U. S. 321 (1963)). We conclude that there is. Consequently we must interpret the securities laws as implicitly precluding the application of the antitrust laws to the conduct alleged in this case. See 422 U. S., at 682, 689, 691; see also *United States v. National Assn. of Securities Dealers, Inc.*, 422 U. S. 694 (1975) (NASD); *Silver v. New York Stock Exchange*, 373 U. S. 341 (1963).

I

A

The underwriting practices at issue take place during the course of an initial public offering (IPO) of shares in a company. An IPO presents an opportunity to raise capital for a new enterprise by selling shares to the investing public. A group of underwriters will typically form a syndicate to help market the shares. The syndicate will investigate and estimate likely market demand for the shares at various prices. It will then recommend to the firm a price and the number of shares it believes the firm should offer. Ultimately, the syndicate will promise to buy from the firm all the newly issued shares on a specified date at a fixed, agreed-upon price, which price the syndicate will then charge investors when it resells the shares. When the syndicate buys the shares from the issuing firm, however, the firm gives the syndicate a price discount, which amounts to the syndicate’s commission. See generally L. Loss & J. Seligman, *Fundamentals of Securities Regulation* 66-72 (4th ed. 2001).

At the heart of the syndicate’s IPO marketing activity lie its efforts to determine suitable initial share prices and quantities. At first, the syndicate makes a preliminary estimate that it submits in a registration statement to the Securities and Exchange Commission (SEC). It then conducts a “road show” during which syndicate underwriters and representatives of the offering firm meet potential investors and engage in a process that the industry calls “book building.” During this time, the underwriters and firm representatives present information to investors about the company and the stock. And they attempt to gauge the strength of the investors’ interest in purchasing the stock. For this purpose, underwriters might well ask the investors how their interest would vary depending upon price and the number of shares that are offered. They will learn, among other things, which investors might buy shares, in what quantities, at what prices, and for how long each is likely to hold purchased shares before selling them to others.

On the basis of this kind of information, the members of the underwriting syndicate work out final arrangements with the issuing firm, fixing the price per share and specifying the number of shares for which the underwriters will be jointly
responsible. As we have said, after buying the shares at a discounted price, the syndicate resells the shares to investors at the fixed price, in effect earning its commission in the process.

B

In January 2002, respondents, a group of 60 investors, filed two antitrust class-action lawsuits against the petitioners, 10 leading investment banks. They sought relief under §1 of the Sherman Act, ch. 647, 26 Stat. 209 (/usc-cgi/get_external.cgi?type=statRef&target=nonestatnum:26_209), as amended, 15 U. S. C. §1 (/supct-cgi/get-usc-cite/15/1); §2(c) of the Clayton Act, 38 Stat. 730 (/usc-cgi/get_external.cgi?type=statRef&target=nonestatnum:38_730), as amended by the Robinson-Patman Act, 49 Stat. 1527 (/usc-cgi/get_external.cgi?type=statRef&target=nonestatnum:49_1527), 15 U. S. C. §13(c) (/supct-cgi/get-usc-cite/15/13/c); and state antitrust laws. App. 1, 14. The investors stated that between March 1997 and December 2000 the banks had acted as underwriters, forming syndicates that helped execute the IPOs of several hundred technology-related companies. Id., at 22. Respondents’ antitrust complaints allege that the underwriters “abused the . . . practice of combining into underwriting syndicates” by agreeing among themselves to impose harmful conditions upon potential investors—conditions that the investors apparently were willing to accept in order to obtain an allocation of new shares that were in high demand. Id., at 12.

These conditions, according to respondents, consist of a requirement that the investors pay “additional anticompetitive charges” over and above the agreed-upon IPO share price plus underwriting commission. In particular, these additional charges took the form of (1) investor promises “to place bids . . . in the aftermarket at prices above the IPO price” (i.e., “laddering” agreements); (2) investor “commitments to purchase other, less attractive securities” (i.e., “tying” arrangements); and (3) investor payment of “non-competitively determined” (i.e., excessive) “commissions,” including the “purchase[e] of an issuer’s shares in follow-up or ‘secondary’ public offerings (for which the underwriters would earn underwriting discounts).” Id., at 12-13. The complaint added that the underwriters’ agreement to engage in some or all of these practices artificially inflated the share prices of the securities in question. Id., at 32.

The underwriters moved to dismiss the investors’ complaints on the ground that federal securities law impliedly precludes application of antitrust laws to the conduct in question. (The antitrust laws at issue include the commercial bribery provisions of the Robinson-Patman Act.) The District Court agreed with petitioners and dismissed the complaints against them. See In re Initial Public Offering Antitrust Litigation, 287 F. Supp. 2d 497, 524-525 (SDNY 2003) (IPO Antitrust). The Court of Appeals for the Second Circuit reversed, however, and reinstated the complaints. 426 F. 3d 130, 170, 172 (2005). We granted the underwriters’ petition for certiorari. And we now reverse the Court of Appeals.

Three decisions from this Court specifically address the relation of securities law to antitrust law. In Silver the Court considered a dealer’s claim that, by expelling him from the New York Stock Exchange, the Exchange had violated the antitrust prohibition against group “boycott[s].” 373 U. S., at 347. The Court wrote that, where possible, courts should “reconcil[e] the operation of both [i.e., antitrust and securities] statutory schemes . . . rather than holding one completely ousted.” Id., at 357. It also set forth a standard, namely that “[r]epeal of the antitrust laws is to be regarded as implied only if necessary to make the Securities Exchange Act work, and even then only to the minimum extent necessary.” Ibid. And it held that the securities law did not preclude application of the antitrust laws to the claimed boycott insofar as the Exchange denied the expelled dealer a right to fair procedures. Id., at 359-360.

In reaching this conclusion, the Court noted that the SEC lacked jurisdiction under the securities law “to review particular instances of enforcement of exchange rules”; that “nothing [was] built into the regulatory scheme which performs the antitrust function of insuring” that rules that injure competition are nonetheless “justified as furthering” legitimate regulatory “ends”; that the expulsion “would clearly” violate “the Sherman Act unless justified by reference to the purposes of the Securities Exchange Act”; and that it could find no such justifying purpose where the Exchange took “anticompetitive collective action . . . without according fair procedures.” Id., at 357-358, 364 (emphasis added).

In Gordon the Court considered an antitrust complaint that essentially alleged “price fixing” among stockbrokers. It charged that members of the New York Stock Exchange had agreed to fix their commissions on sales under $500,000. And it sought damages and an injunction forbidding future agreements. 422 U. S., at 661, and n. 3.
The lawsuit was filed at a time when regulatory attitudes toward fixed stockbroker commissions were changing. The fixed commissions challenged in the complaint were applied during a period when the SEC approved of the practice of fixing broker-commission rates. But Congress and the SEC had both subsequently disapproved for the future the fixing of some of those rates. See id., at 690-691.

In deciding whether antitrust liability could lie, the Court repeated Silver’s general standard in somewhat different terms: It said that an “implied repeal” of the antitrust laws would be found only “where there is a ‘plain repugnancy between the antitrust and regulatory provisions.’ ” 422 U. S., at 682 (quoting Philadelphia Nat. Bank, supra, at 350-351). It then held that the securities laws impliedly precluded application of the antitrust laws in the case at hand. The Court rested this conclusion on three sets of considerations. For one thing, the securities law “gave the SEC direct regulatory power over exchange rules and practices with respect to the fixing of reasonable rates of commission.” 422 U. S., at 685 (internal quotation marks omitted). For another, the SEC had “taken an active role in review of proposed rate changes during the last 15 years,” and had engaged in “continuing activity” in respect to the regulation of commission rates. Ibid. Finally, without antitrust immunity, “the exchanges and their members” would be subject to “conflicting standards.” Id., at 689.

This last consideration—the conflict—was complicated due to Congress’, and the agency’s, changing views about the validity of fixed commissions. As far as the past fixing of rates was concerned, the conflict was clear: The antitrust law had forbidden the very thing that the securities law had then permitted, namely an anticompetitive rate setting process. In respect to the future, however, the conflict was less apparent. That was because the SEC’s new (congressionally authorized) prohibition of (certain) fixed rates would take effect in the near-term future. And after that time the SEC and the antitrust law would both likely prohibit some of the ratefixing to which the plaintiff’s injunction would likely apply. See id., at 690-691.

Despite the likely compatibility of the laws in the future, the Court nonetheless expressly found conflict. The conflict arose from the fact that the law permitted the SEC to supervise the competitive setting of rates and to “reintroduc[e] . . . fixed rates,” id., at 691 (emphasis added), under certain conditions. The Court consequently wrote that “failure to imply repeal would render nugatory the legislative provision for regulatory agency supervision of exchange commission rates.” Ibid. The upshot is that, in light of potential future conflict, the Court found that the securities law precluded antitrust liability even in respect to a practice that both antitrust law and securities law might forbid.

In NASD the Court considered a Department of Justice antitrust complaint claiming that mutual fund companies had agreed with securities broker-dealers (1) to fix “resale” prices, i.e., the prices at which a broker-dealer would sell a mutual fund’s shares to an investor or buy mutual fund shares from a fund investor (who wished to redeem the shares); (2) to fix other terms of sale including those related to when,
how, to whom, and from whom the broker-dealers might sell and buy mutual fund shares; and (3) to forbid broker-dealers from freely selling to, and buying shares from, one another. See 422 U. S., at 700-703.

The Court again found “clear repugnancy,” and it held that the securities law, by implication, precluded all parts of the antitrust claim. Id., at 719. In reaching this conclusion, the Court found that antitrust law (e.g., forbidding resale price maintenance) and securities law (e.g., permitting resale price maintenance) were in conflict. In deciding that the latter trumped the former, the Court relied upon the same kinds of considerations it found determinative in Gordon. In respect to the last set of allegations (restricting a free market in mutual fund shares among brokers), the Court said that (1) the relevant securities law “enables [the SEC] to monitor the activities questioned”; (2) “the history of Commission regulations suggests no laxity in the exercise of this authority”; and hence (3) allowing an antitrust suit to proceed that is “so directly related to the SEC’s responsibilities” would present “a substantial danger that [broker-dealers and other defendants] would be subjected to duplicative and inconsistent standards.” See NASD, 422 U. S., at 734–735.

As to the other practices alleged in the complaint (concerning, e.g., resale price maintenance), the Court emphasized that (1) the securities law “vested in the SEC final authority to determine whether and to what extent” the relevant practices “should be tolerated,” id., at 729; (2) although the SEC has not actively supervised the relevant practices, that is only because the statute “reflects a clear congressional determination that, subject to Commission oversight, mutual funds should be allowed to retain the initiative in dealing with the potentially adverse effects of disruptive trading practices,” id., at 727; and (3) the SEC has supervised the funds insofar as its “acceptance of fund-initiated restrictions for more than three decades . . . manifests an informed administrative judgment that the contractual restrictions . . . were appropriate means for combating the problems of the industry,” id., at 728. The Court added that, in these respects, the SEC had engaged in “precisely the kind of administrative oversight of private practices that Congress contemplated.” Ibid.

As an initial matter these cases make clear that Justice Thomas is wrong to regard §§77p(a) and 78bb(a) as saving clauses so broad as to preserve all antitrust actions. See post, p. ___ (dissenting opinion). The United States advanced the same argument in Gordon. See Brief for United States as Amicus Curiae in Gordon v. New York Stock Exchange, Inc., O. T. 1974, No. 74-304, pp. 8, 42. And the Court, in finding immunity, necessarily rejected it. See also NASD, supra, at 694 (same holding); Herman & MacLean v. Huddleston, 459 U. S. 375 (/supct-cgi/get-us-cite?459+375), 383 (1983) (finding saving clause applicable to overlap between securities laws where that “overlap [was] neither unusual nor unfortunate” (internal quotation marks omitted)). Although one party has made the argument in this Court, it was not presented in the courts below. And we shall not reexamine it.

This Court’s prior decisions also make clear that, when a court decides whether securities law precludes antitrust law, it is deciding whether, given context and likely consequences, there is a “clear repugnancy” between the securities law and the antitrust complaint—or as we shall subsequently describe the matter, whether the
two are “clearly incompatible.” Moreover, *Gordon* and *NASD*, in finding sufficient incompatibility to warrant an implication of preclusion, have treated the following factors as critical: (1) the existence of regulatory authority under the securities law to supervise the activities in question; (2) evidence that the responsible regulatory entities exercise that authority; and (3) a resulting risk that the securities and antitrust laws, if both applicable, would produce conflicting guidance, requirements, duties, privileges, or standards of conduct. We also note (4) that in *Gordon* and *NASD* the possible conflict affected practices that lie squarely within an area of financial market activity that the securities law seeks to regulate.

B

These principles, applied to the complaints before us, considerably narrow our legal task. For the parties cannot reasonably dispute the existence here of several of the conditions that this Court previously regarded as crucial to finding that the securities law impliedly precludes the application of the antitrust laws.

First, the activities in question here—the underwriters’ efforts jointly to promote and to sell newly issued securities—is central to the proper functioning of well-regulated capital markets. The IPO process supports new firms that seek to raise capital; it helps to spread ownership of those firms broadly among investors; it directs capital flows in ways that better correspond to the public’s demand for goods and services. Moreover, financial experts, including the securities regulators, consider the general kind of joint underwriting activity at issue in this case, including road shows and book-building efforts essential to the successful marketing of an IPO. See *Memorandum Amicus Curiae of SEC in IPO Antitrust*, Case No. 01 CIV 2014 (WHP) (SDNY), pp. 15, 39-40, App. D to Pet. for Cert. 124a, 138a, 155a-157a (hereinafter Brief for SEC). Thus, the antitrust complaints before us concern practices that lie at the very heart of the securities marketing enterprise.

Second, the law grants the SEC authority to supervise all of the activities here in question. Indeed, the SEC possesses considerable power to forbid, permit, encourage, discourage, tolerate, limit, and otherwise regulate virtually every aspect of the practices in which underwriters engage. See, e.g., 15 U. S. C. §§77b(a)(3) (/supct-cgi/get-usc-cite/15/77b/a/3) (granting SEC power to regulate the process of book-building, solicitations of “indications of interest,” and communications between underwriting participants and their customers, including those that occur during road shows); §78o(c)(2)(D) (granting SEC power to define and prevent through rules and regulations acts and practices that are fraudulent, deceptive, or manipulative); §78i(a)(6) (similar); §78j(b) (similar). Private individuals who suffer harm as a result of a violation of pertinent statutes and regulations may also recover damages. See §§78bb, 78u-4, 77k.

Third, the SEC has continuously exercised its legal authority to regulate conduct of the general kind now at issue. It has defined in detail, for example, what underwriters may and may not do and say during their road shows. Compare, e.g., Guidance Regarding Prohibited Conduct In Connection with IPO Allocations, 70Fed. Reg. 19672 (2005), with Regulation M, 17 CFR §§242.100-242.105 (2006). It has
brought actions against underwriters who have violated these SEC regulations. See Brief for SEC 13-14, App. D to Pet. for Cert. 136a-138a. And private litigants, too, have brought securities actions complaining of conduct virtually identical to the conduct at issue here; and they have obtained damages. See, e.g., In re Initial Pub. Offering Securities Litigation, 241 F. Supp. 2d 281 (SDNY 2003).

The preceding considerations show that the first condition (legal regulatory authority), the second condition (exercise of that authority), and the fourth condition (heartland securities activity) that were present in Gordon and NASD are satisfied in this case as well. Unlike Silver, there is here no question of the existence of appropriate regulatory authority, nor is there doubt as to whether the regulators have exercised that authority. Rather, the question before us concerns the third condition: Is there a conflict that rises to the level of incompatibility? Is an antitrust suit such as this likely to prove practically incompatible with the SEC’s administration of the Nation’s securities laws?

III

A

Given the SEC’s comprehensive authority to regulate IPO underwriting syndicates, its active and ongoing exercise of that authority, and the undisputed need for joint IPO underwriter activity, we do not read the complaints as attacking the bare existence of IPO underwriting syndicates or any of the joint activity that the SEC considers a necessary component of IPO-related syndicate activity. See Brief for SEC 15, 39-40, App. D to Pet. for Cert. 138a, 155a-157a. See also IPO Antitrust, 287 F. Supp. 2d, at 507 (discussing the history of syndicate marketing of IPOs); App. 12 (complaint attacks underwriters “abuse” of “the preexisting practice of combining into underwriting syndicates” (emphasis added)); H. R. Rep. No. 1383, 73d Cong., 2d Sess., 6-7 (1934); S. Rep. No. 792, 73d Cong., 2d Sess., 5 (1934) (law must give to securities agencies freedom to regulate agreements among syndicate members). Nor do we understand the complaints as questioning underwriter agreements to fix the levels of their commissions, whether or not the resulting price is “excessive.” See Gordon, 422 U. S., at 688-689 (securities law conflicts with, and therefore precludes, antitrust attack on the fixing of commissions where SEC has not approved, but later might approve, the practice).

We nonetheless can read the complaints as attacking the manner in which the underwriters jointly seek to collect “excessive” commissions. The complaints attack underwriter efforts to collect commissions through certain practices (i.e., laddering, tying, collecting excessive commissions in the form of later sales of the issued shares), which according to respondents the SEC itself has already disapproved and, in all likelihood, will not approve in the foreseeable future. In respect to this set of claims, they contend that there is no possible “conflict” since both securities law and antitrust law aim to prohibit the same undesirable activity. Without a conflict, they add, there is no “repugnance” or “incompatibility,” and this Court may not imply that securities law precludes an antitrust suit.
We accept the premises of respondents’ argument—that the SEC has full regulatory authority over these practices, that it has actively exercised that authority, but that the SEC has disapproved (and, for argument’s sake, we assume that it will continue to disapprove) the conduct that the antitrust complaints attack. Nonetheless, we cannot accept respondents’ conclusion. Rather, several considerations taken together lead us to find that, even on these prorespondent assumptions, securities law and antitrust law are clearly incompatible.

First, to permit antitrust actions such as the present one still threatens serious securities-related harm. For one thing, an unusually serious legal line-drawing problem remains unabated. In the present context only a fine, complex, detailed line separates activity that the SEC permits or encourages (for which respondents must concede antitrust immunity) from activity that the SEC must (and inevitably will) forbid (and which, on respondents’ theory, should be open to antitrust attack). For example, in respect to “laddering” the SEC forbids an underwriter to “solicit customers prior to the completion of the distribution regarding whether and at what price and in what quantity they intend to place immediate aftermarket orders for IPO stock,” 70 Fed. Reg. 19675-19676 (emphasis deleted); 17 CFR §§242.100-242.105. But at the same time the SEC permits, indeed encourages, underwriters (as part of the “book building” process) to “inquir[e] as to a customer’s desired future position in the longer term (for example, three to six months), and the price or prices at which the customer might accumulate that position without reference to immediate aftermarket activity.” 70 Fed. Reg. 19676.

It will often be difficult for someone who is not familiar with accepted syndicate practices to determine with confidence whether an underwriter has insisted that an investor buy more shares in the immediate aftermarket (forbidden), or has simply allocated more shares to an investor willing to purchase additional shares of that issue in the long run (permitted). And who but a securities expert could say whether the present SEC rules set forth a virtually permanent line, unlikely to change in ways that would permit the sorts of “laddering-like” conduct that it now seems to forbid? Cf. Gordon, supra, at 690-691.

Similarly, in respect to “tying” and other efforts to obtain an increased commission from future sales, the SEC has sought to prohibit an underwriter “from demanding . . . an offer from their customers of any payment or other consideration [such as the purchase of a different security] in addition to the security’s stated consideration.” 69 Fed. Reg. 75785 (2004). But the SEC would permit a firm to “allocat[e] IPO shares to a customer because the customer has separately retained the firm for other services, when the customer has not paid excessive compensation in relation to those services.” Ibid., n. 108. The National Association of Securities Dealers (NASD), over which the SEC exercises supervisory authority, has also proposed a rule that would prohibit a member underwriter from “offering or threatening to withhold” IPO shares “as consideration or inducement for the receipt of compensation that is excessive in relation to the services provided.” Id., at 77810. The NASD would allow, however, a
customer legitimately to compete for IPO shares by increasing the level and quantity of compensation it pays to the underwriter. See Ibid. (describing NASD Proposed Rule 2712(a)).

Under these standards, to distinguish what is forbidden from what is allowed requires an understanding of just when, in relation to services provided, a commission is “excessive,” indeed, so “excessive” that it will remain permanently forbidden, see Gordon, 422 U. S., at 690–691. And who but the SEC itself could do so with confidence?

For another thing, evidence tending to show unlawful antitrust activity and evidence tending to show lawful securities marketing activity may overlap, or prove identical. Consider, for instance, a conversation between an underwriter and an investor about how long an investor intends to hold the new shares (and at what price), say a conversation that elicits comments concerning both the investor’s short and longer term plans. That exchange might, as a plaintiff sees it, provide evidence of an underwriter’s insistence upon “laddering” or, as a defendant sees it, provide evidence of a lawful effort to allocate shares to those who will hold them for a longer time. See Brief for United States as Amicus Curiae 27.

Similarly, the same somewhat ambiguous conversation might help to establish an effort to collect an unlawfully high commission through atypically high commissions on later sales or through the sales of less popular stocks. Or it might prove only that the underwriter allocates more popular shares to investors who will help stabilize the aftermarket share price. See, e.g., Department of Enforcement, Disciplinary Proceeding No. CAF030014, pp. 12-13 (NASD Office of Hearing Officers, Mar. 3, 2006).

Further, antitrust plaintiffs may bring lawsuits throughout the Nation in dozens of different courts with different nonexpert judges and different nonexpert juries. In light of the nuanced nature of the evidentiary evaluations necessary to separate the permissible from the impermissible, it will prove difficult for those many different courts to reach consistent results. And, given the fact-related nature of many such evaluations, it will also prove difficult to assure that the different courts evaluate similar fact patterns consistently. The result is an unusually high risk that different courts will evaluate similar factual circumstances differently. See Hovenkamp, Antitrust Violations in Securities Markets, 28J. Corp. L. 607, 629 (2003) (“Once regulation of an industry is entrusted to jury trials, the outcomes of antitrust proceedings will be inconsistent with one another . . . ”).

Now consider these factors together—the fine securities-related lines separating the permissible from the impermissible; the need for securities-related expertise (particularly to determine whether an SEC rule is likely permanent); the overlapping evidence from which reasonable but contradictory inferences may be drawn; and the risk of inconsistent court results. Together these factors mean there is no practical way to confine antitrust suits so that they challenge only activity of the kind the investors seek to target, activity that is presently unlawful and will likely remain unlawful under the securities law. Rather, these factors suggest that antitrust courts are likely to make unusually serious mistakes in this respect. And the threat of
antitrust mistakes, *i.e.*, results that stray outside the narrow bounds that plaintiffs seek to set, means that underwriters must act in ways that will avoid not simply conduct that the securities law forbids (and will likely continue to forbid), but also a wide range of joint conduct that the securities law permits or encourages (but which they fear could lead to an antitrust lawsuit and the risk of treble damages). And therein lies the problem.

This kind of problem exists to some degree in respect to other antitrust lawsuits. But here the factors we have mentioned make mistakes unusually likely (a matter relevant to Congress’ determination of which institution should regulate a particular set of market activities). And the role that joint conduct plays in respect to the marketing of IPOs, along with the important role IPOs themselves play in relation to the effective functioning of capital markets, means that the securities-related costs of mistakes is unusually high. It is no wonder, then, that the SEC told the District Court (consistent with what the Government tells us here) that a “failure to hold that the alleged conduct was immunized would threaten to disrupt the full range of the Commission’s ability to exercise its regulatory authority,” adding that it would have a “chilling effect” on “lawful joint activities . . . of tremendous importance to the economy of the country.” Brief for SEC 40, App. D to Pet. for Cert. 157a.

We believe it fair to conclude that, where conduct at the core of the marketing of new securities is at issue; where securities regulators proceed with great care to distinguish the encouraged and permissible from the forbidden; where the threat of antitrust lawsuits, through error and disincentive, could seriously alter underwriter conduct in undesirable ways, to allow an antitrust lawsuit would threaten serious harm to the efficient functioning of the securities markets.

Second, any enforcement-related need for an antitrust lawsuit is unusually small. For one thing, the SEC actively enforces the rules and regulations that forbid the conduct in question. For another, as we have said, investors harmed by underwriters’ unlawful practices may bring lawsuits and obtain damages under the securities law. See *supra*, at 10-11. Finally, the SEC is itself required to take account of competitive considerations when it creates securities-related policy and embodies it in rules and regulations. And that fact makes it somewhat less necessary to rely upon antitrust actions to address anticompetitive behavior. See 15 U. S. C. §77b(b) (/supct-cgi/get-usc-cite/15/77b/b) (instructing the SEC to consider, “in addition to the protection of investors, whether the action will promote efficiency, competition, and capital formation”); §78w(a)(2) (the SEC “shall consider among other matters the impact any such rule or regulation would have on competition”); *Trinko*, 540 U. S., at 412 (“[T]he additional benefit to competition provided by antitrust enforcement will tend to be small” where other laws and regulatory structures are “designed to deter and remedy anticompetitive harm”).

We also note that Congress, in an effort to weed out unmeritorious securities lawsuits, has recently tightened the procedural requirements that plaintiffs must satisfy when they file those suits. To permit an antitrust lawsuit risks circumventing these requirements by permitting plaintiffs to dress what is essentially a securities complaint in antitrust clothing. See generally Private Securities Litigation Reform Act

In sum, an antitrust action in this context is accompanied by a substantial risk of injury to the securities markets and by a diminished need for antitrust enforcement to address anticompetitive conduct. Together these considerations indicate a serious conflict between, on the one hand, application of the antitrust laws and, on the other, proper enforcement of the securities law.

We are aware that the Solicitor General, while recognizing the conflict, suggests a procedural device that he believes will avoid it (in effect, a compromise between the differing positions that the SEC and Antitrust Division of the Department of Justice took in the courts below). Compare Brief for Dept. of Justice, Antitrust Division, as Amicus Curiae in Case No. 01 CIV 2014, p. 23 (seeking no preclusion of the antitrust laws), with Brief for SEC 39–40, App. D to Pet. for Cert. 155a–157a (seeking total preclusion of the antitrust laws). He asks us to remand this case to the District Court so that it can determine “whether respondents’ allegations of prohibited conduct can, as a practical matter, be separated from conduct that is permitted by the regulatory scheme,” and in doing so, the lower court should decide whether SEC-permitted and SEC-prohibited conduct are “inextricably intertwined.” See Brief for United States as Amicus Curiae 9. The Solicitor General fears that otherwise, we might read the law as totally precluding application of the antitrust law to underwriting syndicate behavior, even were underwriters, say, overtly to divide markets.

The Solicitor General’s proposed disposition, however, does not convincingly address the concerns we have set forth here—the difficulty of drawing a complex, sinuous line separating securities-permitted from securities-forbidden conduct, the need for securities-related expertise to draw that line, the likelihood that litigating parties will depend upon the same evidence yet expect courts to draw different inferences from it, and the serious risk that antitrust courts will produce inconsistent results that, in turn, will overly deter syndicate practices important in the marketing of new issues. (We also note that market divisions appear to fall well outside the heartland of activities related to the underwriting process than the conduct before us here, and we express no view in respect to that kind of activity.)

The upshot is that all four elements present in Gordon are present here: (1) an area of conduct squarely within the heartland of securities regulations; (2) clear and adequate SEC authority to regulate; (3) active and ongoing agency regulation; and (4) a serious conflict between the antitrust and regulatory regimes. We therefore conclude that the securities laws are “clearly incompatible” with the application of the antitrust laws in this context.

The Second Circuit’s contrary judgment is

Reversed.

Justice Kennedy took no part in the consideration or decision of this case.
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[LII]^{(1)}
The Board of the CNMC has fined four financial entities for coordinating to fix supra-competitive prices in the contracting of financial derivatives used to hedge the interest rate risk in syndicated credits for project finance.

Through Resolution of 13 February 2018, the CNMC has sanctioned CAIXABANK, SA (CAIXABANK), BANCO SANTANDER, SA (SANTANDER), BANCO SABADELL, SA (SABADELL) and BANCO BILBAO VIZCAYA ARGENTARIA, SA (BBVA) for a total sum of 91 million Euros1, for a single and continuous infringement of the provisions of Article 1 of Law 15/2007, of July 3, of Defence of Competition (LDC) and Article 101 of the Treaty on the Functioning of the European Union (TFEU), consisting of a concerted action aimed at setting the price, above market prices, of the derivatives used as hedges for the interest rate risk associated with syndicated credits in project finance between 2006 and 2016.

The Competition Directorate (DC) initiated a confidential investigation on 19 June 2015 as a result of the information provided by the company INVERSIONES EMPRESARIALES VAPAT, SLU (VAPAT), which in July of that same year, filed a complaint against CAIXABANK, SANTANDER, SABADELL and BBVA for arranging the prices of the derivative contracts used as a hedge on the interest rate risk of the syndicated credits signed by VAPAT with the four sanctioned financial entities.

Through the information provided by the accused parties, as well as the Spanish Central Bank (known by its Spanish abbreviation, BdE) and the Official Credit Institute (known by its Spanish abbreviation, ICO), the DC initiated sanction proceedings on 5 April 2016.

After the notification of the Specification of Facts (known by its Spanish abbreviation, PCH), the financial entities proposed the Conventional Termination of the Procedure, presenting commitments. The DC agreed not to initiate proceedings aimed at conventional termination and continued with the procedure.

Given the complex nature of the facts analysed and sanctioned, the operation of the syndicated financing operations of project finance is explained first and then the signing of financial derivative contracts takes place (which is the true problem analyzed in the file).

**Project finance** refers to financing mechanisms that are usually used in large-scale projects. In the face of corporate financing, where creditors have access to all of the debtor's resources, the guarantee of project financing is limited, in general, to the project's capacity to generate the necessary resources to meet the payment of the debt.

Due to the high amount of the projects and the level of risk, it is common in practice to create **syndicated credits**, that is, loans in which a group of financial entities (bank syndicate) participate, coordinated by a bank (agent bank), which will

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1 23.9 million euros to SANTANDER, 15.5 million euros to SABADELL, 19.8 million euros to BBVA and 31.8 million euros to CAIXABANK.
generally carry the weight of the negotiation and subsequently administer the loan on behalf of the syndicate. The syndicates are a temporary mechanism of association between entities, which make loanable funds available to a borrower with common terms and conditions and, consequently, with common documentation (financing contract or Term Sheet).

The main cost to the borrower of a syndicated credit is the interest that must be paid on the part of the loan arranged. The interest rate is usually variable and is formed with a reference interest rate plus a differential or spread that is the most important remuneration factor for the lender.

Projects financed through project finance are usually considered high risk, so it is common for syndicate banks to request the client to contract a financial instrument to hedge risk, mainly derivative contracts. These instruments are used to cover possible deviations in interest rates that could adversely affect the ability to repay the loan and therefore the viability of the project. In the file, two types of derivatives have been analysed: interest rate swaps and collars.

Interest rate swaps consist of the exchange of a fixed interest rate for a variable one. As in syndicated project financing operations they are usually carried out at variable interest rates (i.e. 6-month Euribor + margin), the debtor can contract a swap of interest rates so that the counterparty pays a variable interest rate (with which to handle the payment of the debt) in exchange for paying a fixed rate.

Outline of an interest rate swap type

<table>
<thead>
<tr>
<th>Variable interest rate Euribor at 3 months over 100 million</th>
<th>Fixed interest rate 2% over 100 million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks syndicate</td>
<td>Swap counterparty</td>
</tr>
<tr>
<td>Deptor (PF)</td>
<td>Variable interest rate Euribor at 3 months over 100 million</td>
</tr>
</tbody>
</table>

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2 A derivative is a financial product whose value is based on the price of another financial asset, called the underlying product.

3 Interest rate swap or IRS.
The result for the debtor is the elimination of the risk of interest rates because having two symmetrical operations (payment and collection of a debt with the same nominal and the same variable interest rate) the risk is eliminated and only a net payment would remain which is the fixed interest rate.

In the operations related to the investigation, the role of the counterpart of the swap was held by the same entities that participated in the bank syndicate for project finance.4

Collars are complex derivative instruments that incorporate two types of interest rate options, called cap and floor. Through a collar, customers of syndicated loans (debtors) buy cap options, which allow them to protect themselves from possible interest rate hikes, while at the same time selling a floor option, for which they are obligated to the bank to cover the difference if the interest rate falls below the fixed rate (or floor) and therefore allows banks to protect themselves from possible decreases in the interest rate of the credit. Both operations are established on the same nominal credit. In practice, a band of maximum (cap) and minimum (floor) interest rates is created between which the debtor's payments and the creditor's revenue will be moved. This instrument covers the risk of both parties (debtor and creditor). On the one hand the debtor is insured (in exchange for the purchase price of the cap) that they will not pay interest above the rate fixed in the option and for another waiver, in exchange for the sale price of the floor option, to pay less if variable rates fall below the agreed minimum rate, in the form of a floor clause. This serves the bank (buyer of this option) to ensure a minimum return on credit (clause floor).

Hedging contracts are usually bilateral. Although the coverage is offered by several entities, each must subscribe to a different framework contract with the client.

Within this framework, and in light of the facts, the CNMC Board separately analyses two conducts: i) the coordination to set the economic conditions of the derivatives for interest rate risk coverage of the syndicated loan destined to project finance and ii) the link between the granting of the syndicate credit and the contracting of the derivative with the same banking entities that participate in the syndicated credit.

Regarding the first conduct, the Board of the CNMC considers it accredited that the fined entities coordinated to set a price above the one agreed in the contract with the client in both risk coverage instruments.

It is important to note that these complex derivative contracts were set at "zero cost" or "no cost" or "market value". The terms zero cost or no cost refer to the fact that, at the time of contracting, none of the parties must make any disbursement, given that the price of the purchase and sale of options are the same. The relation to "market value" refers to the fact that the price of the options purchased and sold (in the case of the collar) is made at market prices and that therefore there is no type of margin charged by the financial institution.

4 The suppliers of the derivative can be financial entities already participating in the financing or a third party external to it (or a mixture). If they already participate in the loan, their participation in the provision of the coverage will usually be proportional to their participation in the credit. Each financial institution must evaluate its risk and, whether or not it is eligible for the formalization of a derivative of coverage if it needs it.
The mechanism to determine the value of options included in the collar and the swap is complex and will vary depending on the time of contracting. This makes it possible to wait until the signing of the contract to establish all the conditions.

Thus, in the case of collars, the operation of contracting and fixing the caps and floors was carried out through the following process: the debtor of the syndicated credit went to the notary to sign while the representatives of the financial entities were in communication through teleconference from their respective entities to carry out the calculation of caps and floors. In general terms, the agent bank performed the calculations and offered values that needed to be accepted (or rejected) by the debtor of the syndicated credit and by the rest of the banking entities.\(^5\)

The competition conflict analysed\(^6\) occurs because the financial entities, before the conversation with the client, communicated with each other to agree on a floor above the market level. Thus, if the floor type that caused the derivative to be at market rates was 2.5\%, they would agree to specify a higher rate. In this sense, it should be noted that the higher the cap rate or the higher the floor type, the lower the value for the syndicated debtor.

In the investigation carried out by the DC, phone calls and e-mails were obtained in which the financial entities, prior to contracting, communicated the levels obtained by each of them in the simulations and coordinated to set a higher floor than the one corresponding to the market value.

Along with the operations reported, the DC analysed a large number of different operations where this coordination is shown, as stated in the resolution of the Council of the CNMC.

The conclusion of the Board is that the four entities sanctioned coordinated to set economic conditions for the coverage of risk of adulterated interest rates, with implicit margins imposed in a multilateral and concerted manner, and superior to what was agreed with the client in the contract "under market conditions". The Board has ruled that this conduct is a restriction of competition by object.

The parties argued that coordination in setting conditions is necessary and intrinsic to the conclusion of a syndicated credit (and its coverage). The CNMC considers that, even if coordination is necessary to set the same price eliminating the minimum differences between the different entities by the different means of calculation, in this case, it is the prior agreement of the banks, completely unknown to the client, which is charged as an infringement, and not that of the final negotiation with the client through teleconference, since it is the first one that allows the investigated entities to eliminate uncertainty inseparable from an autonomous action under market conditions, to know offers from the rest of banks beforehand and to illicitly agree on a price that is more beneficial for them. The fixing of prices significantly higher than the agreed (market) excludes the possible defence of the need to ensure the viability of the syndicated loan. And, in the absence of unlawful coordination, each bank would set its floor or swap price based on its portfolio or position against

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\(^5\) The operation is similar for contracting the interest rate swap.

\(^6\) Throughout the investigation, it has been assessed whether coordination of the same cap and floor types by all financial institutions is necessary. However, in light of the parties’ allegations of being a general practice in this type of operations, no further analysis has been made.
the risk, at a fixed price "under market conditions", which would provide the
customer with the element of necessary contrast and would discipline entities to
reach a common price that responded to the contractual commitment to determine
the price of coverage "under market conditions".

In this way, the Board also invalidates the consideration made by the parties to take
into consideration that the practices could be considered an ancillary restriction to
the derivative contract or, in a subsidiary way, that the legal exemption of article 1.3
of the LDC or 101.3 of the TFEU could be applied. The fixing of prices higher than
those agreed with the client does not allow "consumers or users to participate
equally in their benefits". Nor has it been possible to demonstrate that it is essential
that it should be the banks who lend the derivative.

On the other hand, and in relation to the second conduct analysed, the link between
the syndicated loan and the derivative with the same financial entities has been an
element developed extensively in the Resolution. The DC considered that the
infraction of Article 1 (LDC) and 101 (TFEU) was constituted by two individualized
but related behaviours. The first one is the already analysed price coordination. The
second is the unjustified link between the granting of the syndicated credit and the
contracting of the derivative to cover interest rates with the same banking entities
that financed the project. The Council deviates from the opinion of the DC when
considering that "it is not possible in this case to conclude on the unlawfulness of
the fact, nor, consequently, is part of the theory of damage in this file, the fact that
the charged banks force clients of the syndicated credit to contract the coverage
against the risk of interest rates with the same banks." Although this linkage could
have operated as a facilitator of price coordination.

Finally, and given the fact that although it is a restriction by object, which due to its
special potential for distortion of competition does not require proof of anti-
competitive effects, the CNMC considers that the charged conduct has had effects
on the market, duly accredited during the instruction of the procedure, with a
negative effect, through the prices set in a collusive manner on the quality of the
derivatives, that is, on the value of the coverage for the client, which is negative
instead of "at zero cost". According to the information contained in the file, during
the period of the offense, the four entities accused participated simultaneously in
30%-40% of Project Finance operations financed with syndicated credits, although
this average increased to almost (40%-50%) since the purchase of Banesto in 2013,
and even more so when considering the operations in which at least two or three of
the charged banking entities participated simultaneously.
Civil action in equity by United States to restrain defendants, 17 investment banking firms, from continuance of alleged violations of the Sherman Anti-Trust Law, 1, 2, 4, as amended, 15 U.S.C.A. 1, 2, 4, by an alleged combination or conspiracy to restrain and monopolize the securities business. The District Court, Medina, Circuit Judge, held that evidence was insufficient to establish the existence of any such conspiracy or combination among the defendants.

Judgment in accordance with opinion.

Attorneys and Law Firms


Breed, Abbott & Morgan, New York City, for defendant Eastman, Dillon & Co.; Herman A. Heydt, Jr., New York City, of counsel.

Cahill, Gordon, Zachry & Reindel, New York City, for defendants Dillon, Read *625 & Co., Inc. and Stone & Webster Securities Corporation; Mathias F. Correa, R. Graham Heiner, Loftus E. Becker, David Ingraham and Lawrence W. Keepnews, New York City, of counsel.


Cravath, Swaine & Moore, New York City, for defendants Kuhn, Loeb & Co. and Union Securities Corporation; Wm. Dwight Whitney, Geo. Stephen Leonard and Henry R. Nolte, Jr., New York City, of counsel.


Donovan, Leisure, Newton & Irvine, New York City, for defendant Harris, Hall & Company (Incorporated); Roy W. McDonald, Thomas K. Fisher, New York City, Douglas V. Lewis, Rockville Center, N.Y., John J. O'Connell, Jr., and John F. Seiberling, Jr., New York City, of counsel.

Drinker, Biddle & Reath, Philadelphia, Pa., and Emmett, Marvin & Martin, New York City, for defendant Drexel & Co.; Henry S. Drinker and John G. Williams, Philadelphia, Pa., of counsel.


Webster, Sheffield & Chrystie, New York City, for defendant Kidder, Peabody & Co.; Bethuel M. Webster, Edward L. Rea and Bancroft G. Davis, New York City, of counsel.

Opinion
TOPICAL ARRANGEMENT OF OPINION

Introduction.

The Offense as Charged in the Complaint.

Certain Alleged Unifying Elements Abandoned or Disproved.

The Applicable Law Relative to Conspiracy.

PART I:

The Investment Banking Business.

I. Prior to the First World War.

II. Between World War I and the Securities Act of 1933.

III. Further Developments 1933-1949.

IV. How the Investment Banker Functions.

PART II:

The Seventeen Defendant Investment Banking Firms.

1. Morgan Stanley & Co.

2. Kuhn Loeb & Co.


4. Lehman Brothers.

5. Glore Forgan & Co.


8. White Weld & Co.


11. The First Boston Corporation

12. Dillon Read & Co. Inc.


16. Harris Hall & Company (Incorporated).

17. Union Securities Corporation

PART III:

The Syndicate System.

I. Did the Seventeen Defendant Investment Banking Firms Use the Syndicate System as a Conspiratorial Device in Connection with Any Integrated Over-all Combination?

II. Alternate Claims Belatedly Attempted to Be Asserted against the Investment Banking Industry as a Whole.

A. The Rule of Reason. B. The Securities Act of 1933, the Securities Exchange Act of 1934, and the Amendments Thereto; the Rules, Interpretations and Releases of the SEC Thereunder; and the Organization and Functioning of the NASD.

C. The Opinion of the SEC in the Public Service Company of Indiana Case.

Some Interim Observations.

PART IV:

Did the Seventeen Defendant Investment Banking Firms Combine for the Purpose of Dominating and Controlling and Did They in Fact Dominate and Control the Financial Affairs of Issuers by Directorships and Solicitation of Proxies?

Proxies.

Burlington Mills.

Jewel Tea.

The Evidence Generally Applicable to Directorships Discloses No Conspiratorial Pattern but Rather the Contrary.

First Boston.

Addinsell and Phillips Petroleum.

Harriman Ripley.
United Air Lines.
Union Securities.
Directorship Evidence against Goldman Sachs, Lehman Brothers, Kuhn Loeb, Dillon Read and Blyth.
Goldman Sachs.
Lehman Brothers.
Cluett Peabody.
Food Fair.
Allied Stores.
Aviation Corporation.
Sears Roebuck.
Cleveland Cliffs Iron Co.
Kuhn Loeb.
Franklin Simon.
Miscellanea.
Dillon Read.
National Cash Register.
Amerada Petroleum.
Outlet Company.
Beneficial Industrial Loan.
Union Oil.
Commercial Investment Trust.
Rheem.
Blyth.
Rayonier.
Pan American Airways.
Anaconda Copper.
Iron Fireman.
Some Further Interim Observations.

PART V:

1. Morgan Stanley.

2. Kuhn Loeb.

3. Smith Barney (Edward B. Smith & Co.).
What Is Now Taking Shape Is Not a Static ‘Mosaic’ of Conspiracy but a Constantly Changing Panorama of Competition Among the Seventeen Defendant Firms.

Southern Pacific. Standard Oil of New Jersey.

4. Lehman Brothers.


5. Glore Forgan.
Indianapolis Power & Light.

Pennsylvania Power & Light.
8. White Weld.
10. Drexel.
15, 16 and 17. Stone & Webster, Harris Hall and Union Securities.

PART VI:
Alleged Conspiratorial Opposition of the Seventeen Defendant Banking Firms to ‘Shopping Around,’ and to the Campaign for Compulsory Public Sealed Bidding; and the Alleged Adoption of Devices to Sabotage SEC Rule U-50 and Compulsory Public Sealed Bidding in General.

PART VII:
*628 General Views on Competitive Bidding and the Advantages to Issuers Arising Out of Continuing Banker Relationships.
The Eaton—Young—Halsey Stuart Campaign.
Responses to Requests from SEC to Express Views Relative to Proposed Rule U-20 and Further Amendments to Rule U-12F-2.
Alleged Overly-Large Syndicates and Other ‘Devices’ to Sabotage Public Sealed Bidding.

PART VIII:
The ‘Insurance Agreement,’ Alleged to Have Been Made on December 5, 1941, and ‘Approved’ on May 5, 1942.

APPENDIX:
Summary Description of Statistical Compilations, Tables and Charts.

MEDINA, Circuit Judge.

Introduction
This is a civil action in equity to restrain the continuance of certain alleged violations of Sections 1 and 2 of the Sherman Act, Act of Congress of July 2, 1890, c. 647, 26 Stat. 209, 15 U.S.C. §§ 1, 2, 4. It is charged that defendants entered into a combination, conspiracy and agreement to restrain and monopolize the securities business of the United States and that such business was thereby unreasonably restrained and in part monopolized.

The ‘securities business’ which is the subject of these charges is defined in the complaint in terms that are uncertain and in part contradictory. In the clarifying process of pretrial hearings and trial, however, counsel for plaintiff receded in part from the allegations of the complaint. As finally re-defined, plaintiff’s position is that the ‘securities issues’ to which the charges of the complaint should be understood to relate are intended to include new issues, and secondary offerings registered with the Securities and Exchange Commission under the Securities Act of 1933, 15 U.S.C.A. § 77a et seq., of securities of domestic and foreign business corporations.
and foreign governmental units and foreign municipalities, offered to or placed with investors in the United States, but to exclude domestic railroad equipment trust certificates, all notes and serial notes representing term loans by commercial banks, all general and revenue obligations of domestic governmental units and domestic municipalities, and all unregistered secondary offerings of any securities.

The combination, conspiracy and agreement to restrain and to monopolize and the actual restraint effected thereby are claimed to have embraced every method and type of transaction by which issues of the above-defined securities have been transferred from the issuers (or from sellers of blocks of such securities in registered secondary offerings) to the hands of investors, whether underwritten by investment bankers or non-underwritten, whether privately placed or publicly offered to existing security-holders or the general public, and whether in negotiated transactions or at public sealed bidding, with the exception, however, of direct offerings by issuers to their security-holders in which investment bankers are not employed as agents or underwriters. The part of the securities business which is charged to have been monopolized by the defendants in the course of and through the operation of the conspiracy is claimed to have consisted of all new issues of the above-defined securities, and all registered secondary offerings thereof, which have been underwritten by investment bankers in negotiated transactions and publicly offered to existing security-holders or to the general public.

*629 The Offense as Charged in the Complaint

The complaint charges an integrated, over-all conspiracy and combination formed ‘in or about 1915’ and in continuous operation thereafter, by which the defendants as a group ‘developed a system’ to eliminate competition and monopolize ‘the cream of the business’ of investment banking. The prolixity of the complaint and its various involutions are such that it will be convenient to summarize and paraphrase its contents, as was done in the trial brief submitted at the opening of the trial by counsel for the government. The mortar to cement together the various parts of this extraordinary document is provided by a series of definitions, many of which bear little resemblance to the meaning of the various words or phrases used in the business.

The central theme is what has been referred to throughout the case as ‘the triple concept’ of ‘traditional banker,’ ‘historical position’ and ‘reciprocity.’ To quote from the brief above referred to:

‘Under the traditional banker concept that banker who first manages an underwriting for a particular issuer is deemed entitled to manage in the future all additional security issues offered by such issuer. * * * Under the concept of historical position once a banker participates as a member of a buying group in the purchase of the securities of a particular issuer, such banker is deemed entitled to participate on substantially the same terms as a member of the buying group in all future issues offered by such issuer. Under the concept of reciprocity the defendant banking firms recognize a mutual obligation to exchange participations with one another in the buying groups which they respectively manage.’

In this connection the complaint specifically charges that:

‘Each defendant banking firm keeps a reciprocity record to show the business it has given to each of the other defendant banking firms and the business it has received from each of such firms.’

And that:

‘Over a period of time, the amount of gross spreads which one of such firms enables another to earn by selecting it for participation in buying groups is substantially equivalent (with due allowance for differentials in prestige and underwriting strength) to the amount of gross spreads it has earned in the same period of time as a participant in buying groups formed and managed by such other firm.’

As it is evident that no such parcelling out of the investment banking business could function so long as the management of issuers was free to choose and deal with any investment banking house it wished, there is alleged in the complaint as one of the terms agreed upon by the defendants, and as part of the conspiracy and combination, that there should be a species of control over issuers so as to ‘preserve and enhance their control over the business of merchandising securities:’

‘(1) by securing control over the financial and business affairs of issuers, by giving free financial advice to issuers, by infiltrating the boards of directors of issuers, by selecting officers of issuers who were friendly to them, by utilizing their influence with commercial banks with whom issuers do business.’

One of the terms of the agreement said to have been made by the members of the combination and conspiracy is that when a ‘representative’ of one of the 17 defendant banking houses becomes a director of an issuer, this is understood by all the rest to be the equivalent of ‘raising a
red flag,’ and thus warning the others to keep off.

As a measure of combined control over issuers and the several hundred other investment banking houses against whom the conspiracy was to operate, it is charged in the complaint that in 1915 ‘the modern syndicate method of distributing securities was invented by defendant banking firms and their predecessors,’ and that defendants agreed that with certain modifications this method should be utilized by defendants to stabilize the business ‘by fixing and controlling the prices, terms, and conditions of purchase, sale and resale of securities.’ This ‘device’ is said to be manipulated by defendants in various ways, all as part of the general plan or scheme. For example, it is alleged that defendants as managers of such syndicates not only further the ends of the combination or conspiracy by dealings among themselves, but that they sometimes exclude other firms from participations or selling group positions, and sometimes include such firms ‘which might otherwise attempt to compete with defendant banking firms;’ and that by means of this ‘device’ defendants ‘agree among themselves upon a uniform, non-competitive price’ which, having thus been ‘fixed’ by them, is foisted upon issuers, by what can only euphemistically be called ‘negotiation,’ in view of the domination and control exercised or attempted to be exercised over the issuers by defendants. It is worthy of note that the allegations with reference to the syndicate system and its so-called price-fixing features are made solely in reference to the charge of the integrated, over-all combination and conspiracy.

Certain statutory and regulatory provisions of great significance, which became effective in 1934, 1941 and 1944 are reflected in other phases of the combination and conspiracy charged. In 1933 the Congress passed the Glass-Steagall Act, pursuant to the terms of which commercial banks and their security affiliates were required to go out of the investment banking business, if the banks desired to continue taking deposits and performing their other banking functions. The deadline was June 16, 1934. The affiliates were accordingly dissolved; and such banking houses as had bond departments or otherwise engaged directly in the investment banking business, with very few exceptions, elected to continue their banking functions and restricted their operations in the field of securities to governmental and other issues specifically exempted from the operation of the new law. Thousands of employees of these institutions were forced to make new connections, and many joined the staffs of some of the 17 defendant investment banking houses.

It is the theory of the complaint that the pre-existing and flourishing combination and conspiracy met this situation by a further agreement among the conspirators to the effect that certain of the defendant firms should succeed to or ‘inherit’ the conspiratorial ‘rights’ theretofore parcelled out to the commercial banks and their affiliates by the operation of ‘the triple concept’ above described, and that the combination or conspiracy should accordingly, and it is alleged did, continue to operate as before. This is the predecessor-successor phase of the case in a nutshell. The complaint originally read as though certain firms became and were the real successors of others in a legal sense whereas what was intended to be pleaded, as disclosed by an amendment of the complaint made in the course of pre-trial conferences, is that the ‘successors’ were such only in the sense that the alleged conspirators so agreed as part of the operation of their integrated, overall combination and conspiracy.

In 1941 the Securities and Exchange Commission promulgated a rule requiring securities of companies, affected by the provisions of the Public Utility Holding Company Act of 1935, 15 U.S.C.A. § 79, et seq., to be sold by compulsory public sealed bidding, and similar action, relative to debt securities of railroads, was adopted by the Interstate Commerce Commission in 1944. In this connection and in very comprehensive terms the complaint charges that these 17 defendants as part of the same integrated, over-all combination and conspiracy agreed to discredit the use of competitive bidding, private placements and agency sales as methods of disposing of security issues. The competitive bidding phase of the charge is divided roughly into three parts: (1) Opposition to campaigns which resulted in the adoption of the rules above referred to. (2) Refusal to submit sealed competitive bids and the adoption of a great variety of ‘devices’ for the purpose of sabotaging the new rules and hence defeating the purposes of the two governmental agencies which had made public sealed bidding compulsory with respect to a not inconsiderable area of security issues. Such ‘devices’ were alleged to have included: the organization of overly-large syndicates, the grant of participations equal to those of the manager, the reduction of management fees and the merger of accounts. (3) After certain insurance companies had bid in a large issue of securities of the American Telephone & Telegraph Company in the fall of 1941, it is charged that a certain agreement was made on December 5, 1941 and ‘approved’ on May 5, 1942, by virtue of which the insurance companies were to be eliminated as direct bidders for security issues.

According to the complaint the means adopted by the conspirators to accomplish their ends were many and
various. They seem to include, under the heading of 'customs and practices,' said to have been agreed upon to effectuate the design of the conspirators, many of the alleged abuses which over the years have been charged against investment banking houses in general, but which have not as yet been affected by specific legislation.

This is brief is the framework and the essence of the charge against these 17 defendant investment banking firms. Much of the detail is omitted for the moment in the interest of clarity. Many of the charges against defendants were from time to time abandoned and removed from the case and no further reference will be made to them.

Thus ‘the substantial terms’ of the ‘continuing agreement and concert of action’ originally alleged against the group of 17 in paragraph 44 of the complaint included: (1) an agreement to cement their relationships with issuers by securing clearances from such issuers before making their investment banking facilities available to competing business enterprises and by refusing to act as advisers or underwriters for small business concerns; (2) an agreement to utilize their domination and control to encourage and promote consolidations, mergers, expansions, refinancings and debt refundings to increase their investment banking business; and (3) an agreement to concentrate the business of purchasing and distributing security issues in a single market. These were all withdrawn by counsel for the government.

The following ‘customs and practices,’ alleged in paragraph 45 to have been ‘formulated and adopted’ by agreement of the group of 17 were originally included but later dropped: (1) the formation of ‘standby accounts’ for all security issues of a particular issuer to prevent the assembling of competing groups and thus discourage issuers from disposing of issues at competitive bidding; (2) in the event of insolvency or reorganization of issuers with whom a ‘traditional banker’ relationship existed with a member of the group, to cause a partner, officer or other nominee to be appointed to influence protective committees for the benefit of such ‘traditional bankers’; and (3) subsequent to the divorcements required by the Investment Companies Act of 1940, 15 U.S.C.A. § 80a-1 et seq., to influence managing investment companies or trusts in which capital had been ‘strategically invested’ so that voting powers would be exercised ‘in the interests of defendant banking firms.’

*632 Such other issues as were removed from the case by consent need not be specified, except as they may be hereinafter referred to.

The complaint bears every evidence of careful and prolonged preparation, its articulation is close and compact, every word is carefully chosen and fitted exactly in its proper place. Thus it is the 17 defendant banking houses, arrayed against the balance of the investment banking industry, and alleged to be acting in combination to monopolize ‘the cream of the business,’ and divide it up among themselves, by excluding those investment banking houses which are not part of the conspiracy. If the charge is true the restraints are ingeniously devised to create a controlled rather than a free market at every level. The operation of ‘the triple concept’ prevents competition as between defendants themselves; the domination and control over issuers and the ‘fixing’ of the price to be paid issuers for their security issues deprives issuers of a free market in which to raise the money they need; non-defendant firms are deprived of an opportunity to compete for the business; the trading operations of dealers and brokers are restricted during the period of the continuance of syndicates formed for the distribution of new security issues; and investors are deprived of an opportunity to purchase securities in a free market.

And all this is said to have gone on for almost forty years, in the midst of a plethora of congressional investigations, through two wars of great magnitude, and under the very noses of the Securities and Exchange Commission and the Interstate Commerce Commission, without leaving any direct documentary or testimonial proof of the formation or continuance of the combination and conspiracy. The government case depends entirely upon circumstantial evidence.

Certain Alleged Unifying Elements Abandoned or Disproved

During the prolonged and extensive pre-trial conferences, there was much discussion of the method to be pursued by the government in attempting to prove that these 17 defendant investment banking houses had formed a combination and were acting jointly as a group. As pointed out in my memorandum of April 9, 1951, filed with Pretrial Order No. 3, United States v. Morgan, D.C., 11 F.R.D. 445, 454-455, the unifying elements of the alleged conspiracy were obscure, as no industry-wide uniformity was charged, there was no powerful group such as the ‘Big Three’ operating against independents in the American Tobacco Co. case, no letter or series of agreements presenting a definite plan to which others might consciously adhere as in the Interstate Circuit and Masonite Corp. cases and there appeared to be many non-defendant investment banking firms which were larger, had more capital and did more business than some of the defendants herein. Certain aspects of the present case, however, which have since been abandoned or...
disproved seemed to have relevance to this important phase of the case.

The first of these was the fact that it was claimed that defendants and their ‘predecessors’ had invented the syndicate system to further their plan or scheme. This charge, which was evidently the basis for the allegation that the conspiracy was formed ‘in or about 1915,’ has been conclusively disproved and has been virtually abandoned.

The second such possible unifying element was the Investment Bankers Association, originally joined and for many months of the trial continued as a defendant and alleged co-conspirator. Each of the defendant firms was and had for many years been a member of this Association, particularly during the period when the Association, through its officers and committees took a strong position against the adoption of rules and regulations requiring compulsory of new security issues. On motion of the government, however, the Investment Bankers Association was, with my approval, eliminated as a defendant and the charge that it was a co-conspirator was withdrawn. The name of its president Emmett F. Connely, was, however, continued in the list of alleged co-conspirators, evidently because he had made a speech on October 7, 1941 criticizing the purchase of the American Telephone & Telegraph bonds by a group of certain large insurance companies at public sealed bidding and one or two men connected with some of the defendant firms had in one form or another expressed their approval of the speech.

Perhaps the most impressive indication of joint action by the defendants lies in the detailed and explicit allegation of the complaint relative to reciprocity. Not only is it charged that each defendant banking firm keeps a reciprocity record to show the business it has given to each of the other defendant banking firms and the business received from them; but also that over a period of time the profits from such participations are substantially equivalent, with due allowance for differentials in prestige and underwriting strength. If substantiated, these allegations would indicate some systematic and continuous arrangement between the defendants to pay one another off in return for the alleged agreement to defer to one another as ‘traditional bankers.’

Here again, however, there was not merely a failure of proof but an affirmative demonstration that the allegations are without foundation in fact.

No evidence of any kind, whether by way of alleged reciprocity records, deposition proof or documents, was produced on this phase of the case against Dillon Read, Drexel, Glore Forgan, Morgan Stanley, Smith Barney, Union Securities and White Weld; nor were any alleged reciprocity records introduced against Harriman Ripley and Kuhn Loeb. Such records as were received in evidence were of the most disparate character. They covered different periods of time, included non-defendant firms as well as defendant firms, and were so fragmentary and different in character one from the other as to make it clear that they had not been prepared as the result of any joint action whatever. No calculations of reciprocal obligations, such as would have been required by the operation of the conspiracy as alleged, could possibly have been made from these miscellaneous and incomplete loose leaf books and cards.

A careful scrutiny of the documents received in evidence on this part of the case, taken in connection with the so-called reciprocity records and such testimony as was taken by deposition, indicate that a few individual defendant firms, motivated by various considerations of a purely business character, and acting separately and not in combination, did no more than is often found done by business men generally. In the course of a business relationship it is a natural and normal thing for those in the same industry occasionally to seek business on the basis of business given. Were there some uniformity or some common pattern the case would be different. As it is, there is a pattern of no pattern; and I find that, considering all the evidence in the record, including the stipulated statistical data, the reciprocity charge has been disproved.

The Applicable Law Relative to Conspiracy

The Sherman Act is not an open door through which any court or judge may pass at will in order to shape or mould the affairs of business men according to his own individual notions of sound economic policy. Nor was it ever intended by the Congress that judges should determine such policy questions as: the desirability of compulsory sealed bidding for new security issues; the propriety of officers or partners of investment banking firms accepting directorships on the boards of issuers; the good or bad effects of the solicitation of proxies by investment bankers; and whether investment bankers should be permitted to advise issuers concerning their financial affairs, the formulation of long range plans for expansion and refunding, the setting up of specific security issues and kindred subjects and also perform services and assume risks in connection with the registration and distribution of such security issues. The regulation of such matters is a legislative function and the series of statutes which have become law since the great depression of 1929 and the following years bear ample
testimony to the fact that the Congress is mindful of its power to regulate such matters, by reason of their connection with interstate commerce.

What the Sherman Act does is to declare illegal ‘every contract, combination * * * or conspiracy’ in restraint of trade or commerce and to make guilty of a misdemeanor ‘every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce’ among the states or with foreign nations. The task of the judge is to determine whether the conduct challenged in the litigation contravenes the prohibitions of the statute. This is no mandate to the judiciary to decide anti-trust cases according to individual ideas of expediency, which may change according to the personal philosophy or even the political affiliation of the judge. It is the combination or joint action of the many which is the essence of the offense. Unless there is some agreement, combination or conspiracy the Sherman Act is not applicable.

But it is supposed by some that the requirement of combination is a mere empty phrase to which one must indeed do lip-service, but which may easily be got around by finding agreement, combination or conspiracy when in truth and in fact no agreement, combination or conspiracy exists, provided the result obtained seems desirable and in the public interest. This is not the law but only another aspect of the false but seductive doctrine that the end justifies the means which, so far as I know, has never taken lodgment in American jurisprudence; and I hope it never will.

True it is that conspiracies whether by business men or others engaged in unlawful schemes are often hard to detect. No direct proof of agreement between the wrongdoers is necessary; circumstantial evidence of the illegal combination is here as elsewhere often most convincing and satisfactory. But, when all is said and done, it is the true and ultimate fact which must prevail. Either there is some agreement, combination or conspiracy or there is not. The answer must not be found in some crystal ball or vaguely sensed by some process of intuition, based upon a chance phrase used here or there, but in the evidence adduced in the record of the case which must be carefully sifted, weighed and considered in its every aspect. This is an arduous but necessary task.

Especially is this true in a case such as the present one where the great bulk of the documentary evidence is initially received against a particular defendant and only subject to connection against the others in the event that the combination or conspiracy is proved. According to well established precedents such documents may be used circumstantially against all; but this works both ways as the probative force of such proof, when considered circumstantially may not tend to support the factual conclusion that the combination or conspiracy existed but rather the contrary. In any event it is well settled that statements contained in such documents, received subject to such connection, may not be used to establish the truth of their contents, except as against the particular defendant against whom such documents are received generally. And it is well that this is so for much that *635 is contained in casual memoranda and even in messages, reports, tele-types and diary entries is mere rumor and gossip, which frequently turns out to be unreliable hearsay. Once the conspiracy is established, however, all such statements become those of agents of the group, to be considered against all the defendants as part of the proofs in the case generally.

PART I

The Investment Banking Business

It would be difficult to exaggerate the importance of investment banking to the national economy. The vast industrial growth of the past fifty years has covered the United States with a network of manufacturing, processing, sales and distributing plants, the smooth functioning of which is vital to our welfare as a nation. They vary from huge corporate structures such as the great steel and automobile companies, railroads and airlines, producers of commodities and merchandise of all kinds, oil companies and public utilities, down to comparatively small manufacturing plants and stores. The variety and usefulness of these myriad enterprises defy description. They are the result of American ingenuity and the will to work unceasingly and to improve our standard of living. But adequate financing for their needs is the life blood without which many if not most of these parts of the great machine of business would cease to function in a healthy, normal fashion.

The initial inquiry in any anti-trust case must be into the character and background of the industry involved. In a case such as this, which covers so long a period of time and a multiplicity of issues and which is largely documentary in character, it is not too much to say that it is impossible to pass upon questions of credibility of witnesses and to understand and interpret the thousands of miscellaneous exhibits, including memoranda, letters, diary entries, teletype inter-office messages and so on without some fairly adequate understanding of the way in which the business is and has been conducted. Thus we
turn to the evolution and growth of the investment banking business and the way it functions in the modern American scheme of financial affairs.

By way of prefatory comment and to facilitate orientation, it may be helpful first to describe some of the major factors. The central thought, as in every anti-trust case, must be the character and scope of competitive effort or the lack of competitive effort.

The principal factors which one must constantly bear in mind are: (1) the evolution of the syndicate system from its inception prior to the turn of the century, and its function in the issuance and distribution of securities; (2) the impact on the investment banking business of economic forces and a series of acts of Congress including the Banking Act of 1933, the Securities Act of 1933, the Securities Exchange Act of 1934 and the Public Utility Holding Company Act of 1935, and the various amendments to these statutes, supplemented by rulings and regulations of the Securities and Exchange Commission and the Interstate Commerce Commission; and (3) the complete and comprehensive static and statistical data which show the details of every relevant security issue in the period from January 1, 1935, to December 31, 1949.

While the complaint alleges that the syndicate system was invented at or about the time of the Anglo-French Loan in 1915 by the defendants and their 'predecessors,' it has been conclusively established, as already stated, that the syndicate system as a means of issuing and distributing security issues was in use at least as early as the 1890's; and in this early period, price maintenance was to some extent used, as it was appreciated even in those days that the problem of placing upon the market a large bulk of new securities required careful management and planning lest the very quantity involved should depress the price and make distribution within a reasonable time difficult if not impossible.

*636 The present method for issuing and distributing new security issues thus has its roots in the latter part of the nineteenth century. It is the product of a gradual evolution to meet specific economic problems created by demands for capital, which arose as the result of the increasing industrialization of the country and the growth of a widely dispersed investor class. It was born in large part because of, and gradually adapted itself to, conditions and needs which are peculiar to the business of raising capital.

I. Prior to the First World War

Prior to the year 1900, the large majority of industrial and business units which existed in this country were small in size and their capital needs were small; use of the corporate form was not widespread. There was no substantial and widely scattered class of persons with surplus savings who sought promising investment opportunities. A large part of the capital needed came from abroad. Securities sales operations were conducted principally by selling agents who sold on a commission basis, and more often than not it was the issuer who bore the risk of how successfully and how quickly the required funds would be obtained.

The evolution of the investment banking industry in the United States is illustrated by the early phases of the development of two of the defendant investment banking firms, Goldman, Sachs & Co. and Lehman Brothers.

Goldman, Sachs & Co. traces its origin back to the year 1869, when Marcus Goldman started a small business buying and selling commercial paper. In the year 1882, he was joined in that business by Samuel Sachs, and at that time the firm, which had been known as Marcus Goldman, became M. Goldman & Sachs. In the year 1885, when additional partners joined the firm, the firm became Goldman, Sachs & Co., and has continued as such from then on to today. At that time, it was very difficult for small manufacturers and merchants to get capital with which to operate, so Goldman, Sachs & Co. developed the business of buying their short-term promissory notes, thus furnishing them with needed capital, and selling these notes to banks or other investors. This commercial paper business prospered and continued to expand in the 1880's and 1890's and, by the time of the year 1906, when the opportunity first arose for Goldman, Sachs & Co. to underwrite some financing for United Cigar Manufacturers, now known as the General Cigar Company, the firm had established many contacts all over the country with merchants and manufacturers. During this period, also, partners of Goldman, Sachs & Co. took frequent trips to Europe, because at that time it was difficult to raise capital for American enterprises in the financial markets of this country, and they entered into arrangements with European bankers, whereby they would lend money in this country for their account.

Likewise, the firm of Lehman Brothers traces its ancestry back to about 1850. Since then, a series of partnerships, formed from time to time upon the withdrawal or death of partners or the addition of new ones, has conducted business under the name of Lehman Brothers. The firm had prospered greatly as 'cotton bankers,' and, years before the turn of the century, it had established its headquarters in New York City.
In the late 1890’s and the early 1900’s, the prime securities were railroad bonds and real estate mortgages. The public utilities business had not as yet achieved great importance, and, consequently, public utility securities were generally looked upon with disfavor. Railroad and public utility financing was handled by a small number of firms. The railroad financing was done to a considerable extent by Kuhn, Loeb & Co., J. P. Morgan & Co., Vermilye & Co. and August Belmont; and a large percentage of the capital was furnished by French and German underwriters. The public utility financing was done to a large extent by Harris, Forbes & Co., which had become a specialist in the securities of companies providing power and light. Harris, *637 Forbes & Co. was becoming known as an underwriter which understood and knew how to solve the problems of those companies, and had the knack of raising capital for the growing industry. There was an open field in certain light industrial and retail store financing which had been neglected or overlooked.

After the beginning of this century, as family corporations grew larger and needed more capital for expansion, or when the head of a family died and money was needed to pay inheritance taxes, it became increasingly apparent that commercial paper, which was short-term money, was insufficient to meet the capital requirements of those small enterprises. At about this time, Goldman, Sachs & Co., desirous of entering the business of underwriting securities, conceived the idea of inducing privately owned business enterprises to incorporate and to launch public offerings of securities. In the early 1900’s it was considered undignified to peddle retail store securities, but Goldman, Sachs & Co. believed that, with the growth in size of family corporations and other privately owned business enterprises, there would be a market on a national basis for their security issues. The problems involved in offering securities to the public, where no securities were previously outstanding in the hands of the public, were new and difficult of solution, and different from the problems involved in the underwriting of bonds of a well known railroad. The sale of retail or department store securities required a different market.

When the opportunity arose in the year 1906 for Goldman, Sachs & Co. to underwrite the financing of United Cigar Manufacturers, it was unable to undertake the entire commitment alone, and could not get the additional funds which it needed to underwrite from commercial banks or other underwriters, as they would not at that time underwrite this type of securities. Henry Goldman prevailed upon his friend Philip Lehman of Lehman Brothers to divert some of his capital from the commodity business and to take a share in the underwriting. The result was that the two firms, Goldman, Sachs & Co. and Lehman Brothers, became partners in the underwriting of the financing of United Cigar Manufacturers. When the opportunity arose in that same year for Goldman, Sachs & Co. to underwrite the financing of Sears, Roebuck & Co., it was perfectly natural for it again to turn to Lehman Brothers for assistance, and the two firms became partners in that enterprise. Thus it was through this oral arrangement between two friends, Henry Goldman and Philip Lehman, through this informal partnership, that Goldman, Sachs & Co. was able to obtain the capital which it needed to underwrite these two security issues in the year 1906. Without such capital, it would have been unable to enter the business of underwriting securities. The events which occurred in the year 1906 set the pattern for subsequent financings which Goldman, Sachs & Co. underwrote prior to the First World War. In the period from the year 1906 to the year 1917, although Goldman, Sachs & Co. occasionally underwrote financings with other partners, notably Kleinwort Sons & Co., merchant bankers of London, its principal partner was Lehman Brothers.

These two firms, as partners or joint adventurers, continued to act together thereafter underwriting securities of clothing manufacturers, cigar manufacturers, department stores and merchants, and the kind of businesses that most investment bankers, who were interested only in the securities of heavy industrials, railroads and to some extent public utilities, would not touch. The two firms began to cultivate acquaintances and build up relationships with securities dealers in other parts of the country who could market in their respective cities or towns the type of securities in which the two firms were particularly interested; and, as their reputations grew, they began to underwrite securities in the industrial field. They added to their staffs persons who were experts on merchandising and retail store methods, and they developed the business of selling *638 their services to family and other privately owned enterprises.

While the evidence is not explicit on the point it would seem reasonable to assume that prior to World War I, the firms interested in the securities of railroads, public utilities and heavy industries were establishing similar contacts, building up similar staffs of experts in their particular fields and otherwise doing whatever they could to enhance their reputations in their own specialities.

In the period from the year 1906 to the year 1917, Goldman, Sachs & Co. and Lehman Brothers together underwrote the financings of many enterprises which had a small and humble beginning, but which later grew to very great size, among them being United Cigar
Manufacturers, Sears, Roebuck & Co., B. F. Goodrich Company, May Department Stores Company and F. W. Woolworth Company. Many of the business concerns whose securities were underwritten by Goldman, Sachs & Co. and Lehman Brothers during this period were houses with which Goldman, Sachs & Co. had previously had commercial paper transactions. As Goldman, Sachs & Co. and Lehman Brothers were better known at the time than many of the business enterprises whose securities they underwrote, investors bought the securities to some extent in reliance on their reputation.

There thus grew up between these two firms an informal, oral arrangement whereby they, as partners or joint adventurers, purchased security issues directly from issuers, and divided equally the profit which was realized from their sale.

There was then no network of securities dealers throughout the country, such as there is at the present time. In or about the year 1905 or 1906, there were only about five investment banking houses which had a national distribution system for securities: Lee Higginson & Co.; N. W. Harris & Co.; N. W. Halsey & Co.; Kidder, Peabody & Co.; and William Salomon & Co. Investment banking houses such as J. P. Morgan & Co., Kuhn, Loeb & Co., and William A. Read & Co. were underwriters of securities primarily in the New York market. Up to about the year 1912 or 1915, there were approximately only two hundred and fifty securities dealers in the entire United States, most of whom were concentrated in the eastern and middle eastern parts of the country. It was not until the time of the launching of the Liberty Loan in the year 1917 that we find a large number of independent dealers engaged in the business of distributing securities throughout the country.

As there was no network of securities dealers on a nation wide scale, the underwriters sold as many securities as they could directly to individual investors, and the sale of security issues generally was not completed rapidly. For example, it took Goldman, Sachs & Co. and Lehman Brothers three months to sell the Sears, Roebuck & Co. security issue which they underwrote in the year 1906, and, in many other instances, it took the underwriters much longer to complete the distribution of security issues. The personnel of the distributing organizations was small, and their operations were concentrated in the eastern and northeastern parts of the country. The purchase and banking groups were characteristically organized to last for a period of one year, and the manager had broad powers to extend the period. This power to extend was frequently exercised by the manager; there are records of such groups continuing from two to five years or longer. Investment banking firms kept lists of investors, and, whenever they underwrote a security issue, they would go directly to the investors and try to sell them that particular security.

This method of distribution was adequate for the sale of a limited number of security issues to a limited investing public; it was wholly inadequate for a later time when new security issues were to follow each other in rapid succession, since the slowness of distribution of a greatly increased volume of securities required excessively large capital resources *639 on the part of the originating banker and the purchase and banking groups for the purpose of carrying the securities. Accordingly, it is interesting to observe that, as an incident of the long periods of distribution, the investment banker’s ‘spread,’ that is, the difference between the price paid to the issuer for the security and the price received for it from the investing public, was larger during this period than in later years.

Prior to World War I, the United States was a debtor and not a creditor nation. Investment banking firms in this country turned to Europe to find wealthy individuals and other investment bankers who would be willing to share the risk and underwrite the security issues of business enterprises in the United States. European investment banking firms also sold to investors in Europe the securities of American business enterprises. Among some of the European investment banking firms to which Goldman, Sachs & Co. and Lehman Brothers turned to during this period were Kleinwort Sons & Company, Helbert, Wagg & Russell and S. Japhet & Company, all of London, Labouchere Oyens & Company, of Amsterdam, and others in Berlin and Zurich. Goldman, Sachs & Co. had established business relationships with all of these investment banking firms prior to the year 1906, when it was anxious to enter the international banking business in order to be able to furnish its American clients with letters of credit and foreign exchange. All of these contacts became very useful when Goldman, Sachs & Co. entered the investment banking business.

With this background, it is easy to see that many of the issuers, especially those whose securities were not well known to the public, leaned heavily upon the sponsorship of the investment banking firms under whose auspices the securities were sold. Issuers invited partners or officers of investment banking firms to serve on their boards of directors, in order to interest investors in their securities. Some of the prospectuses, which in those early days were little more than notices, stated that a partner or officer of a particular investment banking firm would go on the board
of directors of the issuer whose securities were being offered to the public for sale. Investment bankers sometimes asked to be put on the boards of directors of issuers in order to know how they were managed and to protect the interests of the investors to whom they had sold the issuer’s securities. Since the investment bankers sponsored the securities and lent their names to their sale, they felt a certain obligation to the investors to whom they sold the issuer’s securities. Since the investment bankers protected the interests of the investors to whom they had issuers in order to know how they were managed and to sometimes asked to be put on the boards of directors of.

U.S. v. Morgan, 118 F.Supp. 621 (1953)

Another development which was to have repercussions later on arose out of the difficulty of obtaining underwriters to share the risk. Thus it was that, prior to World War I, it was not unusual to find officers, directors and shareholders of issuers made participants on original terms in the underwriting of security issues; and investment bankers approached wealthy friends and other moneyminded individuals, who were willing to take the risks involved, and asked them to participate. Commercial banks also took participations in substantial amounts.

In the period under discussion, it was common for an investment banker to purchase an entire issue directly from the issuer at stated price, and that banker alone would sign the purchase contract with the issuer. Generally, the investment banker’s agreement to purchase represented a firm obligation. This investment banker would then immediately organize a larger group, composed of a limited number of investment banking firms, which was sometimes called a ‘purchase syndicate,’ whereby he would, in effect, sub-underwrite his risk by selling the securities which he had purchased alone from the issuer to this larger group, at an increase or ‘step-up’ in price. The investment banker who purchased the entire issue directly from the issuer was known as the ‘originating banker’ or ‘house of issue.’ The originating banker became a member and the manager of the ‘purchase syndicate.’ Goldman, Sachs & Co. is said to be one of the first investment banking firms to develop this method of underwriting securities; and, although this method may have been developed to underwrite the securities of the smaller, less well-known industrial enterprises and of the family concerns which were for the first time launching securities for sale to the public, other investment bankers used the same method to underwrite the securities of large industrial enterprises, railroads and utilities. As business enterprises in this country grew in size, and as the amounts of capital required by these enterprises became larger, sometimes a second group, more numerous than the ‘purchase syndicate,’ would be formed in order to spread still wider the risk involved in the purchase and sale of the securities. The ‘purchase syndicate’ would then sell the securities which it had purchased at an increase in price from the originating banker to this second larger group, which was sometimes called a ‘banking syndicate,’ at another increase or ‘step-up’ in price. The originating banker and the other investment banking firms, which were members of the ‘purchase syndicate,’ usually became members of the ‘banking syndicate’ and the originating banker became its manager. The transfer of the securities to the ‘purchase syndicate’ and then to the ‘banking syndicate’ was practically simultaneous with the original purchase of the securities from the issuer by the originating banker.

Even at a time before there was any delegation of powers to any particular one of the original purchasers, according to the testimony of Harold L. Stuart of Halsey, Stuart & Co., ‘there was an agreement between the houses to buy them and to sell them and to maintain a price’ which was even then called a ‘public offering price.’

Stuart also described the first syndicate in which his firm participated, which was a $10,000,000 issue of First Mortgage Bonds of the Commonwealth Edison Company in December, 1908. There were two managers who were paid a fixed fee, an equivalent of the present day management fee, and the two managers had broad powers. Sales through the manager pro rata for the accounts of the members of the syndicate and also sales of non-withdrawn bonds on behalf of the syndicate members through dealers and directly to institutions and other buyers were contemplated. Further details appear in the syndicate agreements of certain issues of bonds of the Pacific Gas & Electric Company and United Light & Railways Company in 1912 and 1913.

From all the above it is evident that the various steps which were taken, including use of the purchase and banking groups above described, were all part of the development of a single effective method of security underwriting and distribution, with such features as maintenance of a fixed price during distribution, stabilization and direction by a manager of the entire coordinated operation of originating, underwriting and distributing the entire issue.

This evolution of the syndicate system was in no sense a plan or scheme invented by anyone. Its form and development were due entirely to the economic conditions in the midst of which investment bankers functioned. No single underwriter could have borne alone the underwriting risk involved in the purchase and sale of a large security issue. No single underwriter could have effected a successful public distribution of the issue. The
various investment bankers combined and formed groups, and pooled their underwriting resources in order to compete for business. These groups of investment bankers were not combinations formed for the purpose of lessening competition. On the contrary, there could have been no competition without them. Unless investment bankers combined and formed such groups there would have been no underwriting and no distribution of new security issues. Perhaps the English system, which seems superior in the view of some, has many advantages. But the investment banking business in America grew and developed and prospered according to an indigenous American Pattern.

The most significant fact about the period prior to World War I is that in it will be found the beginnings, the seeds as it were, from which in the course of time and by a gradual and traceable evolution there grew the elaborate and effective modern methods by which investment bankers’ skilled in the application of their special techniques, perform the integrated services by which they earn their livelihood.

Thus in these early times we find investment bankers employing trained experts who spend much of their time developing plans and designing the set-ups of issues of securities which will be especially suitable for the needs of a particular issuer, at a particular time and under particular circumstances. We find groups forming for the purposes of competition, sometimes small groups developing into larger ones. And we find the already well developed shaping up of the syndicate system, with features of price maintenance and stabilization and broad powers delegated to the managers in connection with distribution and otherwise, not as a means of merely merchandizing securities, as one would buy and sell hams and potatoes, as suggested by government counsel, but rather as a means of integrating the steps of purchase and distribution necessary to the attainment of the ultimate goal of channeling the savings of investors into the coffers of the issuer as a single unified, integrated transaction. No longer does the issuer bear the risk alone and distribute its securities by agents selling on a commission basis. The pattern of performing a series of interrelated services by the investment banker, including the formulation of the plan and method to be pursued in raising the money, the undertaking of the risk and the distribution of the security issue as a whole, has already emerged.

II. Between World War I and the Securities Act of 1933

The aftermath of the war was a period of over-production and mal-distribution accompanied by a sharp decline in the prices of commodities. A nation at peace could not absorb all the products of an economy, which, but a short time before, had been geared for the effective waging of war. Many business enterprises were faced with the problem of reorganizing in order to get their operations back on a profitable basis. By the year 1923, however, the nation’s economy had recovered from the ‘commodity or inventory panic,’ and business enterprises began to enjoy more prosperous conditions.

In the following decade there was an unprecedented expansion of industrial and business enterprises, an increase in the number and geographical distribution of investors; and the use of the corporate form was adopted more and more widely. As domestic business units increased in size and number, the demands for investment capital reached a magnitude never before experienced. The United States had become a creditor nation; and, for the first time, foreign governments, foreign municipalities and foreign corporations turned to this country to raise capital from private American investors. Those investment banking firms which were dependent upon European capital for their underwriting strength went into eclipse and other banking investment firms came to the fore.

J. P. Morgan & Co. was the leading firm. But all the great publicly owned banks were in the investment banking business, first for their own account and later indirectly through either subsidiary or affiliated corporations formed for the purpose. Dillon Read, Lee Higginson, the old Kidder Peabody and Blair appear to have been perhaps the best known names in all-around business. Kuhn Loeb together with J. P. Morgan & Co. were leaders in railroads, in which field older firms such as Speyer, J. & W. Seligman, and Ladenburg Thalmann were also important. Bonbright, Harris Forbes, Halsey Stuart and Coffin & Burr were leaders in public utilities. Lehman and Goldman Sachs were leaders in merchandising and other fields. The largest distributing firms were those particularly connected with the banks, such as National City, Guaranty and Chase. But a number of other banks were active, such as First National, Bankers Trust, the principal banks in Boston, Chicago, Cleveland and Pittsburgh, and others. Among other firms then in existence but appearing less frequently were E. B. Smith, C. D. Barney, White Weld, Blyth Witter, Stone & Webster, Field Glore, Hallgarten and Brown Brothers.

Security issues followed one another in rapid succession and, whereas before World War I an issue of one million dollars was considered large, in the middle 20’s issues of twenty and twenty-five million dollars were by no means unusual.
The impact of these economic forces upon the investment banking industry was precisely what one would have expected. The number of underwriters in the syndicates increased, in order both to spread the risk and to effect a widespread and rapid distribution of the securities to the public. Even so the problems of distribution became so complicated that it became customary to form an additional group called a ‘selling syndicate’ or ‘selling group.’ The new ‘selling syndicate’ was much larger and more widely dispersed than the purchase and banking groups had been.

There were three types of these selling syndicates throughout this period. While they represented successive steps in the development of investment banking, and while there were shifts in the type that was most extensively used, all three were used throughout the 1920’s.

The first type was known as the ‘unlimited liability selling syndicate.’ In this group, each member agreed to take a pro rata share in the purchase of the security issue by the selling syndicate from the previous group, at a stated price, and to take up his share of any unsold securities, which remained in the syndicate at the time of its expiration. The syndicate agreement stated the terms upon which the offering to the public was to be made. Each member was given the right to offer securities to the public, and he received a stated commission on all confirmed sales. However, regardless of the amount of securities which he sold, he still retained his liability to take up his proportionate share of unsold securities. The undivided syndicate combined selling with the assumption of risk; therefore, both houses with distributing ability and houses with financial capacity, but without distributing ability, were included in the syndicate. Usually, a banking group was not organized where this type of selling syndicate was to be used. The purchase group sold the security issue directly to the selling syndicate.

The dealers who did the actual selling of the securities objected to the ‘unlimited liability selling syndicate,’ as they were compelled to take up in their proportionate shares the securities, which other dealers, who were members of the selling syndicate, were unable to sell. Consequently, the second type of selling syndicate, which was known as the ‘limited liability selling syndicate,’ subsequently was developed. This syndicate operated in much the same manner as the undivided syndicate, except that the obligation of each member was limited to the amount of his commitment, and, when he distributed that amount, he was relieved of further liability. Each member retained his proportionate liability for the costs of carrying the securities, shared in the profits or losses of the trading account, and was liable for other expenses as occurred after the purchase from the purchase or banking group. A banking group was usually organized where the ‘limited liability selling syndicate’ was to be used.

The ‘limited liability selling syndicate’ gradually evolved into the third type of selling syndicate, which was simply known as the ‘selling group.’ The ‘selling group’ differed from the ‘limited liability selling syndicate’ in that its members relieved themselves of all liability for carrying costs, the trading account and other expenses. Each member of the ‘selling group’ was concerned only with expenses connected with the actual retail distribution of securities. The financial liability of the member was restricted to selling or taking up the amount of securities for which he subscribed. Usually, a large banking group was organized where the ‘selling group’ was to be used. The banking group took over the liability for carrying costs, the trading account and other expenses.

The size and makeup of the selling syndicates varied with the circumstances of the particular security issue. Among the important factors, which were considered in the selection of dealers, were the size of the security issue, the type and quality of the security, the size and nature of the class of investors to whom the distribution was to be made, and the ability of a dealer to distribute securities of a particular type. All of these factors were considered in the selection of underwriters and dealers for the formation of the underwriting syndicates and selling groups.

In all of these types of selling syndicates, the members acted as principals, and not as agents of the manager, in distributing securities to the public. The syndicate agreement specified the price at which the securities were to be sold, and it was a violation of the agreement for a member to sell at any other price. The manager traded in the open market during the period of distribution in order to maintain the public offering price. Through such stabilizing operations, the manager sought to prevent any securities, which had been sold by dealers, from coming back into the market in such a manner as to depress the public offering price. It was felt that with respect to the securities which appeared in the market, the members of the selling syndicate had not performed their function of ‘placing’ with investors, for which they were paid a selling commission; and, consequently, ‘repurchase penalties’ were provided for, whereby the manager had the right to cancel the selling commission on the sale of those securities which he purchased in the market at or below the public offering price. Under most agreements, the manager had the option of either cancelling the selling
commission on the sale of the securities, or of requiring the member who sold the securities to take them up at their cost to the trading account. Records of the serial numbers of securities were kept, and the securities which appeared in the market were thus traced to the dealers who sold them. Stabilizing operations and the repurchase penalty were used in all of the three types of selling syndicates which prevailed throughout this period. However, where a ‘selling group’ was used, it became more and more common practice to restrict the repurchase penalty to the cancellation of commissions.

The operations of the ‘selling syndicate’ like those of the pre-war withdrawing subscribers, dealers and selling agents, were directed by the manager whose general supervisory function over the whole machinery of purchase and distribution was continued. Even in the earlier period provisions for maintenance of the public offering price by persons to whom title had passed had been included in some agreements.

As testified by Harold L. Stuart ‘you simply had to have such a clause in order to make this business function in putting the securities on the market,’ because ‘there were many ways that shrewd people could beat the game and spoil the putting of any security issue on the market unless you did this.’

*644 *A significant development and one quite in keeping with the economic conditions above referred to, is that the periods for distribution became much shorter than they had been in the period prior to the war. Usually the life of the syndicate was designated as from thirty to sixty days with a provision for earlier termination or for extension not exceeding a like period by the manager. As a matter of fact, however, the periods of distribution were generally much shorter.

The ‘market out’ clause was evidently developed somewhere in the neighborhood of 1914 or 1915, and its use was fairly general at an early date.

As the amounts of capital required by business enterprises became larger, and the number and size of securities issues greatly increased, the problems with which investment bankers were confronted, in connection with the underwriting of security issues, multiplied. Extensive investigations had to be conducted into the affairs of a business enterprise, and studies made of its financial structure and capital needs, at considerable expense to the investment banker, before that banker would undertake the risk and underwrite the securities of that enterprise. In this connection, investment banking firms were compelled to bring into their organizations individuals who had new types of specialized knowledge and experience; so that they gradually built up teams of specialists, who were experts in the different fields in which their respective investment banking firms underwrote securities.

Throughout this period prior to 1933, officers and directors of issuers continued to be made participants on original terms in the underwriting of the security issues of those issuers and other moneyed individuals also continued to participate. This was the much criticized ‘gravy train’ about which much was heard in the early stages of the trial. The practice seems to have gradually disappeared in the course of time, due perhaps to the fact that the investment bankers in adequate numbers became available as underwriters and the liability provisions of the Securities Act of 1933 made such opportunities for profit less attractive. In any event, government counsel now agree that this issue is out of the case.

While there were some instances in the earlier period of a purchase by the members of a banking syndicate in severality, the more usual legal form in which the transfer was made from the issuer to the participating underwriters in the decade now under consideration was a joint or joint and several purchase.

More important than any of the other developments between World War I and the passage of the Securities Act of 1933 was the effect of the unprecedented era of expansion upon the participation of the great banking institutions and their affiliates. As the need for vast amounts of new capital for expansion, plant construction and the establishment of thousands of new enterprises made increasing demands for new money, the banks and their affiliates became increasingly interested in managing and participating in the various underwritings. While the evidence in this case relative to the pre-Securities Act period is far from complete, there is ample documentary evidence to show that many of the banks became directly interested through their bond departments and many others formed affiliates, as above stated. J. P. Morgan & Co., the First National Bank and the Bankers Trust Company and many others in New York City, as well as large banking institutions in Chicago, Cleveland and other cities did a large investment banking business. The National City Company, the Guaranty Company and Chase Securities Corporation, affiliates of the National City Bank, the Guaranty Trust Company of New York and the Chase National Bank were in the investment banking business in a big way. The National City Company as of December 31, 1929, had a capital of $110,000,000. On the same date the capital of the Chase Securities Corporation was over $101,000,000. The
economic power of these huge aggregations of *645
capital vis-a-vis the relatively small capital of issuers was
a factor of no mean significance in the period just before
the great depression. There was an additional leverage in
the multiplicity of banking functions which could be
placed at the disposal of issuers. Added to this was the
vast influence and prestige which must have made itself
felt in a variety of ways. Issuers were dependent upon
these great banking institutions in a way which finds no
parallel in the relations between issuers and investment
bankers in the period subsequent to the passage of the
Banking and Securities Acts.

Before it became necessary by law to choose between
commercial banking on the one hand and investment
banking on the other, many of these great banking
institutions were private banking houses under no
statutory duty to make the disclosures required of national
banks and others and this, coupled with the lack of legal
requirements for disclosure of relevant facts connected
with security issues, helped to make the period under
discussion what has been described in the trial as an era of
‘dignity and mystery.’

In such an atmosphere it seems altogether probable that,
wholly in the absence of any conspiratorial combination,
issuers felt a strong inclination to continue to bring out
issue after issue with the same bankers. Indeed, it is
probably not too much to say that many issuers took pride
and satisfaction from the very circumstances of their
connection with these giants of American finance. Such
sponsorship of an offering of securities to the public was
of real value.

In any event, these great banking institutions and their
affiliates were doing a huge investment banking business,
and they were using the money of their depositors as well
as their own resources to underwrite one security issue
after another.

Some of the evidence which goes back to this earlier
period leads to the suspicion that with reference to one or
two particular issuers there may have developed some
arrangement or combination of participants, continuing
throughout a number of successive issues, which might,
taken in isolation and separately, have constituted
violations of the Sherman Act. At this late date, after
practically all of those personally concerned have died
and the files and other documentary evidence are no
longer available, no adjudication of the legality of such
isolated transactions is possible, nor is such adjudication
requested by the government. Some references have been
made in the evidence to contracts with a few issuers by
which an investment banker was given ‘preferential
rights’; and Harold L. Stuart testified that he tried to get
such contracts whenever he could. They seem to have
been ineffectual, however, and have long since gone out
of use, due at least to some extent to the disapproving
attitude of the SEC. In any event, I cannot find that they
were sought or used to any extent by the defendants in
this case.

III. Further Developments 1933-1949

Following the Armstrong Insurance investigation6 in 1905
and Governor Hughes’ Committee Report in 19097 there
had been other investigations which covered activities of
investment bankers. The Pujo investigation1 was
conducted in 1912 and 1913, the Utility Corporation
inquiry by the Federal Trade Commission7 started in
1928; and *646 these were followed by a long series of
hearings, under the auspices of various committees of the
Congress, which resulted in the Banking Act of 19338
(known also as the Glass-Steagall Act), the Securities Act
of 19339 and the Securities Exchange Act of 1934.10 From
December 10, 1931 through February 1932 the Senate
Committee on Finance pursuant to the Johnson
Resolution11 undertook to investigate the flotation of
foreign bonds and other securities in the United States.
Perhaps the most important of these investigations was
the Gray-Pecora investigation of the Senate Committee on
Banking and Currency12 which began on April 11, 1932
and continued through May 4, 1934.

In this chronological survey of the history and
development of the investment banking business it will
suffice to say that these statutes, together with the Public
Utility Holding Company Act of 193513 and the Maloney
Act,14 effective June 25, 1938, which added Section 15A
to the Securities Exchange Act of 1934, and authorized
the organization of the National Association of Securities
Dealers, Inc. (NASD), under the supervision of the SEC,
which followed, effected changes of the most radical and
pervasive character; and these changes were made with a
complete and comprehensive understanding by the
Congress of current methods of operation in common use
in the securities issue business, such information having
been made available in the course of the investigations to
which reference has just been made.

Institutions which had previously engaged both in
commercial and deposit banking on the one hand and
investment banking on the other were required to elect
prior to June 16, 1934, which of the two functions they
would pursue to the exclusion of the other. This resulted
in the complete elimination of the commercial banks and
trust companies from the investment banking business;
and the various bank affiliates were dissolved and
The elaborate procedures which now became necessary in connection with the sale of new issues of securities were at first implemented by the Federal Trade Commission and then, upon the creation of the Securities and Exchange Commission, transferred to it. The regulation of the securities business which followed with such salutary and beneficial results has been one of the significant developments of our time. These era of ‘dignity and mystery’ was over.

When we come to discuss the syndicate system and its operation, it will be appropriate to treat in some detail the various applicable provisions of the Securities Act of 1933 and the Securities Exchange Act of 1934, with their respective amendments, and also the numerous regulations, interpretations and releases of the SEC relative thereto. For the sake of continuity and clarity, however, this brief recital of the development of the investment banking business will be continued in order to furnish general background.

Security issue financing was relatively inactive as the result of the great depression, up until about the end of 1934. Thereafter, except for an occasional falling off in the depression of 1937 and in the early years of World War II, the needs of industry kept the demand for new capital at a high level. The reduction of interest rates as the result of government manipulation brought about refundings on a large scale and further refundings continued in volume as interest rates continued to fall.

The size of issues increased. An issue of $5,000,000 was considered small. In this period there were 155 issues of $50,000,000 and larger; 559 issues of $20,000,000 and larger and over 1,000 issues of $10,000,000 and larger.

Due largely to the impact of the income and inheritance tax laws, the importance of the individual as an investor diminished and there was an extraordinary and continued growth in the size and investment needs of large institutional investors such as life and casualty companies, savings banks, investment trusts, pension funds, universities, hospitals and fraternal orders.

Perhaps the most significant change of all was caused by the withdrawal from the field of investment banking of the capital funds of the commercial banks and their affiliates, which had previously been among the foremost managers and underwriters of security issues. As already stated, investment banking firms could participate in and manage underwritings only with their own money. As of the end of 1949 only 7 of the defendant firms had a capital of 5 million dollars and larger, 8 a capital of between 2 and 5 millions and 2 a capital of between 1 and 2 millions. Nor could any of them use all of their capital or borrowing power for underwritings, as each was engaged in other activities which tied up a part of their capital funds and they were all subject to certain regulations of the SEC and the various exchanges which promulgated rules and regulations affecting the amount of capital available for underwriting.

The Revenue Act of 1932, which became effective on June 22, 1932, for the first time imposed a tax on the transfer of bonds, Sec. 724, 47 Stat. 274, 26 U.S.C.A. Int.Rev. Acts, p. 634. A transfer tax on stocks had previously been enacted in 1914; but in 1932 this tax was greatly increased in amount, Sec. 723, 47 Stat. 272, 26 U.S.C.A.Int.Rev. Acts, p. 630. Section 11 of the Securities Act of 1933 imposed on each underwriter a civil liability, for any omission or misstatement of a material fact in the registration statement, equal to the entire amount of the issue. By later amendment in 1934, Title II, Sec. 206(d) of the Securities Exchange Act of 1934, this liability was changed to ‘the total price at which the securities underwritten by him and distributed to the public were offered to the public.’ 15 U.S.C.A. § 77k(e). The liability thus defined plus the transfer taxes made it necessary for the underwriters to abandon the purchase of security issues jointly or jointly and severally, and resulted in the purchase by the various underwriters in severity, which has been the prevailing method ever since. Otherwise an underwriter might still be liable under Section 11 of the Securities Act of 1933, as amended, for the entire amount of the issue. Significantly, since the 1933 Act, the underwriters still frequently take title jointly or jointly and severally when the security is a municipal or other issue not subject to the Securities Act of 1933.

The old banking and purchase syndicates with the ‘step-up’ of earlier days which had been gradually going out of vogue, now completely disappeared. The form in which underwriting transactions commonly took place from the passage of the Banking and Securities legislation up to the present time is that of a purchase or ‘underwriting agreement’ between the issuer and the underwriters represented by the manager, and an ‘agreement among underwriters.’

The substance of the entire transaction is substantially what it was before. The manager, like the originating banker or manager in the previous periods, handles the negotiations with the issuer and supervises the whole process of underwriting and distribution. The management of today is not a new development either...
in form or in purpose after the Securities Act of 1933, but is the direct equivalent of the management fee paid by the members of the syndicate to the manager for his services in pre-1933 financings, where the syndicate either purchased directly from the issuer or from a prior 'original purchaser.'

Dealer and group sales are still made, under the authority of the manager who directs the entire process of distribution. But the change in the character of the investing public and especially the development of institutional investors on such a large scale and the impact of regulation by the SEC and of the Securities Act of 1933, the Securities Exchange Act of 1934 and the organization and functioning of the NASD, brought about a gradual decrease in the use of selling group agreements, especially in issues of the higher grades of debt financing and preferred stock. It is worthy of note that in performing his function of making sales for the accounts of the underwriters both to dealers and to institutions the manager sells ‘out of the pot.’ In other words, he does not allocate particular bonds to particular underwriters but simply sells ‘bonds’ and does not allocate numbers to any participant until the time comes for delivery of securities to the purchasers.

In accordance with the trend of the previous period spreads are gradually becoming smaller and smaller; and the maximum life of the syndicates is now 15, 20 or 30 days, although in some cases the maximum period may be longer, and it is not unusual to find clauses authorizing the manager to extend the period with or without the consent of a certain proportion of the underwriters. Price restrictions may, however, be removed earlier than the actual termination date of the syndicate, and as a practical matter they are generally terminated within a few days after the offering.

Stabilization provisions have become commonplace pursuant to statutory provisions and administrative regulations and interpretations relating to their use. While the authority to stabilize is generally given, it is only in relatively few cases that the authority has been exercised.

The use of ‘penalty clauses’ has varied and the same is true of the use of price maintenance clauses. This subject will be discussed in greater detail when we come to the portion of this opinion devoted to syndicates. But it is well to bear in mind throughout that the entire pattern of the statutory scheme above referred to, as implemented by the various rules and regulations of the SEC and the rules of Fair Practice of the National Association of Securities Dealers, Inc., approved by the SEC pursuant to legislative authority, contemplates the sale of each security issue at

the public offering price proposed in the prospectus and

set forth in the registration statement as finally made

effective by the SEC. Having proposed and tendered a

security issue to the public at the public offering price, it is not strange that those who propose to sell the entire issue at this public offering price should be required to make a bona fide attempt to do so.17 Otherwise, the elaborate statutory provisions relative to ‘the public offering price’ would be meaningless. Nor, under these circumstances, should one wonder that some investment banking houses continued to use price maintenance clauses while others did not.

In the previous period a few issues were brought out by public sealed bidding and there were some private placements. In the present period public sealed bidding transactions very greatly increased due to the adoption by the SEC in 1941 of Rule U-50, in connection with all security transactions of companies affected by the Public Utility Holding Company Act of 1935 and to the ruling in 1944 of the Interstate Commerce *649 Commission, requiring all debt issues of railroads to be sold at public sealed bidding.

Due in part to the registration provisions of the Securities Act of 1933, but also in large measure to the increase in the number of institutional investors and their particular requirements, private placements grew by leaps and bounds.

In 1937 the $48,000,000 Convertible 3 1/2s of the Bethlehem Steel Corporation which came out on September 8, 1937 and the $44,244,000 issue of 5% Convertible Preferred Stock of the Pure Oil Company on September 3, 1937 were conspicuously unsuccessful and many of the underwriters suffered serious embarrassment. Repercussions were felt throughout the entire investment banking industry; and thereafter the number of underwriters in practically every syndicate was largely increased in order to spread the risk more widely.

The period 1933-1949 is the critical period in this case, as it includes the years immediately prior to the filing of the complaint in October, 1947. Fortunately, there is in the record accurate and complete stipulated data with respect to every relevant security issue in the United States from July 26, 1933 to December 31, 1949. The Issuer Summaries, in two volumes, give the name of the issuer, the date of the offering, the description of the issue, the type of transaction, the number of underwriters and whether defendants or non-defendants, the name of the manager or co-managers, contemplated gross spread and certain other information relative to secondaries. The Issue Data Sheets for all underwritten
issues of $1,000,000 or more, in the fifteen year period 1935-1949, give all the information and particulars concerning the names and positions of the participants, a breakdown of the contemplated gross spread and so on. Public Sealed Bidding Sheets, which are to be read together with the Issue Data Sheets, set forth the names of the managers of the winning and losing accounts, whether defendants or non-defendants, and the names of the defendant firms who were participants therein. This permits statistical analysis of the entire period. With respect to the period prior to July 26, 1933, Pre-Securities Act Issuer Summary Sheets, containing further stipulated data, whenever available, are in evidence and give the necessary background applicable to all issuers whose various security issues touch controverted issues of fact in the case.18

Few if any of the documents in evidence can be properly understood except with reference to the detailed information thus stipulated. Here is an indisputable record of what the defendant firms did as distinguished from mere scraps and fragments of miscellaneous documents containing surmise, conjecture and the thoughts of some who were scarcely in a position to define or implement firm policies. To make matters worse, casual memoranda are subjected by government counsel to critical analysis, such as might be applied to deeds or wills or other documents prepared by lawyers, using technical, closely integrated words of art. Had this complete and accurate static data been available to the government before the suit was brought I gravely doubt that the action would have been filed.

In this last and final period the Securities and Banking Acts, the numerous and detailed rules and regulations of the SEC, the multiplicity of forms, prospectuses and registration statements which were required to be prepared and filed, and the organization and operation of the NASD, all had a profound effect upon the investment banking business. But none of these developments altered the basic function of the syndicate operation as a unitary, integrated means of underwriting and distributing a security issue, under the direction of a manager. *650

This remained fundamentally the same as it was in the beginning. Such changes as had taken place from first to last were the normal and natural reactions of business men with common problems, to the course of economic events and the legislation which has been described.

IV. How the Investment Banker Functions

It was extremely difficult, in the midst of the conflicting statements of counsel and the welter of miscellaneous documents which followed one another into the record without witnesses to describe the attendant circumstances, to get any adequate grasp of just what investment bankers did. Finally, when Harold L. Stuart of Halsey Stuart & Co. was called as a government witness and remained on the witness stand for many months the light began to dawn. I watched him closely for many weeks, asked questions which were designed to test his forthrightness and credibility and checked his testimony with the utmost care against many of the documents already in evidence and much of the testimony taken by deposition, which had already been read into the record. I became convinced that this man, who probably knows as much if not more about the investment banking business than any other living person, was a man of complete integrity upon whose testimony I could rely with confidence.

Thereafter, and with the consent and approval of counsel for all parties, I went with counsel for both sides to the office of Halsey Stuart & Co. and watched one of the large issues ‘go through the hopper.’ I examined the bundles of securities, the tickets and slips from which the various book entries were to be made, watched the deliveries and snooped into every nook and cranny of what was going on. This was all done with the understanding that anything that occurred would be placed upon the record if anyone so desired; and, with a similar understanding, the greater part of two weeks was spent in my chambers with Stuart and various assistants and members of his staff going over every aspect and practically every document connected with two typical security issues from beginning to end. One was a negotiated underwritten issue and the other an issue brought out at public sealed bidding. Neither of these issues had any relation whatever to this case and nothing of a controversial character was included. But the result was that for the first time I felt possessed of the necessary background, and could thereof, with a modicum of assurance, interpret and assess the probative value of the documents which constituted the greater part of plaintiff’s proof. As Stuart continued to testify as a witness for many weeks thereafter, the facts relative to the actual operation of the investment banking business were fully developed in the record.

The types of issues, methods of raising money and the general apparatus of finance which I am about to relate are the ABC’s of investment banking, known to every investment banker but not to others.

The problem before an issuer is in no real sense that of selling a commodity or a manufactured article. In essence what the issuer wants is money and the problem is how and on what terms he can get it. Basically, it is simply a question of hiring the money.
Thus a knowledgeable issuer, and most of them are definitely such, will scan the possibilities, which are more numerous than one might at first suppose.

The available types of transactions include many which may be consummated by the issuer without using any of the services of an investment banker. In other words, the raising of a particular sum may be engineered and consummated by the executive or financial officers of an issuer according to a plan originated and designed by them; and this may be done after prolonged collaboration with one or more investment bankers, whose hopes of being paid for the rendition of some sort of investment banking services never reach fruition. *651 Thus the necessary funds may be raised by:

1. A direct public offering by the issuer without an investment banker.

2. A direct offering to existing security-holders without an investment banker.

3. A direct private placement without an investment banker.

4. A public sealed bidding transaction without the assistance of an investment banker.

5. Term bank loans, commercial mortgage loans, leasebacks and equipment loans by commercial banks, life insurance companies and other institutions.

Where the services of an investment banker are used, the typical transactions are even more varied. The principal ones are:

1. A negotiated underwritten public offering.

2. An underwritten public offering awarded on the basis of publicly invited sealed bids, an investment banker having been retained on a fee basis to shape up the issue.

3. A negotiated underwritten offering to existing security-holders. Here the investment banker enters into a commitment to ‘stand by’ until the subscription or exchange period has expired, at which time the investment banker must take up the securities not subscribed or exchanged.

4. An underwritten offering to existing security-holders awarded on the basis of publicly invited sealed bids, an investment banker having been retained on a fee basis to render the necessary assistance.

5. A non-underwritten offering to existing security-holders, with an investment banker acting as agent of the seller on a negotiated basis.

6. A private placement with an investment banker acting as agent of the seller on a negotiated basis.

There are many and sundry variations of the types of transactions just described, depending on the designing of the plan, the amount of risk-taking involved and the problems of distribution; and these variations are reflected in the amount of compensation to be paid to the investment banker, which is always subject to negotiation. And it is worthy of note that, where the services of an investment banker are availed of in the preparation of an issue for publicly invited sealed bids, then pursuant to SEC, ICC and FPC rulings, the investment banker who has rendered financial advisory services for a fee cannot bid on the issue.

Moreover, the static data reveal numerous instances where combinations of these types of transactions are used. The avenues of approach to the ultimate goal of hiring the money on the most advantageous terms, and in ways peculiarly suited to the requirements of the particular issuer at a given time and in a certain state of the general securities market, are legion. And issuers, far from acting in isolation, are continually consulting and seeking advice from other qualified financial advisers such as their commercial bankers and others.

Sometimes an issuer knows pretty well in advance which type of transaction it wishes to use. More often this is not determined until every angle has been explored. In either event, the methods to be followed present a complex series of possibilities, many of which involve intricate calculations of the effective cost of the money and a host of other features affecting the capital structure of the issuer, plans for future financing, problems of operation of the business and so on.

Generally the money is needed for a special purpose at a particular time, which may or may not be determined at the will of the issuer. Examples are: for expansion, the building of a new plant, the purchase of existing facilities, the scrapping of one set of elaborate and costly machines and their replacement by others more efficient and up-to-date, or for refunding. Often it is deemed important by the management that there *652 be a wide distribution of the securities or that they be placed with investors in a particular geographical locality or among those who utilize the services of the issuer or purchase its products. When good will is involved or favorable treatment of existing security-holders is desired, the issuer may have sound reasons for not wishing to obtain the highest
possible price for the issue.

If a given type of transaction is tentatively selected, the issuer has before it an almost infinite number of possible features, each of which may have a significant bearing on the attainment of the general result. The method to be pursued may be through an issue of bonds or preferred or common stock or some combination of these. If a debt issue is contemplated there are problems of security and collateral, debentures or convertible debentures, serial issues, sinking fund provisions, tax refund, protective and other covenants, coupon rates and a host of other miscellaneous which may affect the rating (by Poor’s or Moody’s, Fitch or Standard Statistics), or the flexibility necessary for the operation of the business and the general saleability of the issue in terms of market receptivity. These details must each be given careful consideration in relation to the existing capital structure and plans for the future. If equity securities seem preferable on a preliminary survey, the available alternatives are equally numerous and the problems at times more vexing. What will do for one company is not suitable for another, even in the same industry. At times prior consolidations and reorganizations and an intricate pattern of prior financing make the over-all picture complicated and unusually difficult. But in the end, sometimes after many months of patient effort, just the right combination of alternatives is hit upon.

The actual design of the issue involves preparation of the prospectus and registration statement, with supporting documents and reports, compliance with the numerous rules and regulations of the SEC or ICC or FPC and the various Blue Sky Laws passed by the several States. In view of the staggering potential liabilities under the Securities Act of 1933 this is no child’s play, as is known only too well by the management of issuers.

This hasty and far from complete recital of available alternatives will suffice to indicate the milieu in which the investment banker demonstrates his skill, ingenuity and resourcefulness, to the extent and to the extent only that an issuer wishes to avail itself of his services. It is always the hope of the investment banker that the issuer will use the full range of the services of the investment banker, including the design and setting up of the issue, the organization of the group to underwrite the risk and the planning of the distribution. If he cannot wholly succeed, the investment banker will try to get as much of the business as he can. Thus he may wind up as the manager or co-manager, or as a participant in the group of underwriters with or without an additional selling position; or he may earn a fee as agent for a private placement or other transaction without any risk-bearing feature. Or someone else may get the business away from him.

Thus we find that in the beginning there is no ‘it.’ The security issue which eventuates is a nebulous thing, still in future. Consequently the competition for business by investment bankers must start with an effort to establish or continue a relationship with the issuer. That is why we hear so much in this case about ingenious ways to prevail upon the issuers in particular instances to select this or that investment banking house to work on the general problem of shaping up the issue and handling the financing. This is the initial step; and it is generally taken many months prior to the time when it is expected that the money will be needed. It is clear beyond any reasonable doubt that this procedure is due primarily to the wishes of the issuers; and one of the reasons why issuers like this form of competition is that they are *653 under no legal obligation whatever to the investment banker until some document such as an underwriting agreement or agency contract with the investment banker has actually been signed.

Sometimes an investment banking house will go it alone at this initial stage. At times two or three houses or even more will work together in seeking the business, with various understandings relative to the managership or co-managership and the amount of their underwriting participations. These are called nucleus groups. Occasionally one comes across documents pertaining to such nucleus groups which seem to contemplate the continuance of the group for future business, only to find that in a few weeks or less the whole picture has changed and some realignment of forces has taken place.

The tentative selection of an investment banker to shape up the issue and handle the financing has now been made; and there ensues a more or less prolonged period during which the skilled technicians of the investment banker are working with the executive and financial advisers of the issuer, studying the business from every angle, becoming familiar with the industry in which it functions, its future prospects, the character and efficiency of its operating policies and similar matters. Much of this information will eventually find its way in one form or another into the prospectus and registration statement. Sometimes engineers will be employed to make a survey of the business. The investment banker will submit a plan of the financing, often in writing; and this plan and perhaps others will be the subject of discussions. Gradually the definitive plan will be agreed upon, or perhaps the entire matter will be dropped in favor of a private placement, without the services of an investment banker. Often, and after many months of effort on the part of the investment banker.
banker, the issuer will decide to postpone the raising of the money for a year or two.

In the interval between the time when the investment banker is put on the job and the time when the definitive product begins to take form, a variety of other problems of great importance require consideration. The most vital of these, in terms of money and otherwise, is the timing of the issue. It is here, with his feel and judgment of the market, that the top-notch investment banker renders what is perhaps his most important service. The probable state of the general security market at any given future time is a most difficult thing to forecast. Only those with ripe trading experience and the finest kind of general background in financial affairs and practical economics can effectively render service of this character.

At last the issue has been cast in more or less final form, the prospectus and registration statement have been drafted and decisions relative to matters bearing a direct relation to the effective cost of the money, such as the coupon or dividend rate, sinking fund, conversion and redemption provisions and serial dates, if any, are shaped up subject to further consideration at the last moment. The work of organizing the syndicate, determining the participation positions of those selected as underwriters and the making up of a list of dealers for the selling group or, if no selling group is to be used, the formulation of plans for distribution by some other means, have been gradually proceeding, practically always in consultation with the issuer, who has the final say as to who the participating underwriters are to be. The general plans for distribution of the issue require the most careful and expert consideration, as the credit of the issuer may be seriously affected should the issue not be successful. Occasionally an elaborate campaign of education of dealers and investors is conducted.

Thus, if the negotiated underwritten public offering route is to be followed, we come at last to what may be the parting of the ways between the issuer and the investment banker—negotiation relative to the public offering price, the spread and the price to be paid to the issuer for the securities. These three are inextricably interrelated. The stating point is and must be the determination of the price at which the issue is to be offered to the public. This must in the very nature of things be the price at which the issuer and the investment banker jointly think the security can be put on the market with reasonable assurance of success; and at times the issuer, as already indicated in this brief recital of the way the investment banker functions, will for good and sufficient reasons not desire the public offering price to be placed at the highest figure attainable.

Once agreement has been tentatively reached on the public offering price, the negotiation shifts to the amount of the contemplated gross spread. This figure must include the gross compensation of all those who participate in the distribution of the issue: the manager, the underwriting participants and the dealers who are to receive concessions and re-allowances. Naturally, the amount of the spread will be governed largely by the nature of the problems of distribution and the amount of work involved. The statistical charts and static data indicate that the amount of the contemplated gross spreads is smallest with the highest class of bonds and largest with common stock issues, where the actual work of selling is at its maximum. While no two security issues are precisely alike and they vary as the leaves on the trees, it is apparent that the executive and financial officers of issuers may sit down on the other side of the bargaining table confidently, and without apprehension of being imposed upon, as data relating to public offering prices, spreads, and net proceeds to issuers from new security issues registered under the Securities Act of 1933 are all public information which are publicized among other means by the wide distribution of the prospectuses for each issue.

And so in the end the ‘pricing’ of the issue is arrived at as a single, unitary determination of the public offering price, spread and price to the issuer.

With public sealed bidding issues the whole procedure is radically different. The issue is designed and shaped up by the management of the issuer, with or without the services of an investment banker. As the problems of distribution are not the same, due particularly to the high quality of the securities generally involved, their sale in bulk to institutional investors, and the fact that, as no one knows in advance who the successful bidder will be, there is no time available for preparing the market or setting up any elaborate distribution machinery, the formation of the underwriting group follows a different pattern; and the issuer is not concerned with the public offering price but only with receiving the highest amount bid for the issue. However, when the participating underwriters in a public sealed bidding account confer at their ‘price meetings’ before agreeing upon the amount of the bid to be submitted on their behalf by the manager, they first make up their minds on the subject of the price at which they think the entire issue can be sold to the public.

After the bids are opened, and without reference to the issuer, the underwriters in the winning account promptly decide among themselves the public offering price, the method of sale and the amount of any concessions or allowances. The difference between the bid price and the
public offering price thus arrived at is the spread or anticipated gross compensation of the participants and the manager.

This very brief outline has been telescoped into bare essentials by way of general background. As a matter of fact no two security issues present quite the same problems; some are relatively simple and follow somewhat standardized lines, especially in many public sealed bidding transactions. The methods and practices of the various defendant investment banking firms vary greatly. The competitive pattern of the different firms will be found to depend largely on the background, the personnel and matters of policy peculiar to each firm. But *655 one thing stands out. This record has not revealed a single issuer which can fairly be said to be the ‘captive’ of any or all or any combination of these seventeen defendant firms. The reason why private placements of new debt issues, with or without the services of an investment banker, increased from 14% of the total of all such issues in 1936 to 73% of the total of all such issues in 1948, is because the issuers were free to choose and did choose to use this type of transaction to raise the funds they needed, rather than to go by the negotiated underwritten route or any of the others which were available. And it is equally clear that, although there has never been any rule, regulation or statutory or other law preventing issuers from resorting of their own free choice to public sealed bidding as a means of raising capital, issuers have done so only in rare and exceptional cases, unless compelled to resort to public sealed bidding by the mandate of the SEC or the ICC or some state regulatory body having jurisdiction.

PART II

The Seventeen Defendant Investment Banking Firms

The last but far from the least important feature of the background of the case concerns the origin, organization, personnel and general competitive pattern of each of the defendant investment banking houses. Without a clear understanding of the significant differences between them, and the circumstances under which they were formed and developed their respective policies and ways of doing business, it is futile to attempt any rational appraisal of the documents which form the bulk of the government’s case. Here again one must bear in mind that the facts about to be described are all matters of common knowledge throughout the investment banking industry. Letters, reports and memoranda are interpreted and understood by investment bankers in the light of these facts. The descriptions of the various firms will follow the order in which their names appear in the complaint.

1. Morgan Stanley & Co.

On July 1, 1871, Francis A. Drexel, Anthony J. Drexel and J. Pierpont Morgan, with others, formed a co-partnership for the transaction of a general foreign and domestic banking business under the firm names of Drexel Morgan & Co. in New York and Drexel & Co. in Philadelphia. Following the death of Anthony J. Drexel in the year 1893, the co-partnership of Drexel & Co. (Philadelphia) and Drexel Morgan & Co. (New York) expired on December 31, 1894, and the partners thereof, on the same day, formed a co-partnership for the transaction of a general foreign and domestic banking business under the firm names of J. P. Morgan & Co. in New York and Drexel & Co. in Philadelphia. The partners of Drexel Morgan & Co. and of J. P. Morgan & Co. were at all times partners of Drexel & Co., but, from about the year 1910, certain persons possessed the authority of partners in Drexel & Co., who were not partners of J. P. Morgan & Co. This Drexel & Co. is not the same investment banking firm as the Drexel & Co. which is a defendant in this case.

J. P. Morgan & Co. was, at the time that the Banking Act of 1933 was enacted on June 16, 1933, a private banking firm, engaging in what was known as a private banking business. This included investment banking, deposit banking, and other kinds of commercial banking and letter of credit business, both foreign and domestic. The important investment banking business of J. P. Morgan & Co. was conducted on a wholesale basis, as J. P. Morgan & Co. had no distributive facilities for securities. It had only one office in New York City, and no branches or offices elsewhere, excepting the office which was maintained in Philadelphia by Drexel & Co., which was regarded as the ‘Philadelphia and of J. P. Morgan & Co.’ J. P. Morgan & Co. was not a departmentalized firm, *656 but mingled its commercial and investment banking activities. Among the partners who have been shown in the record to have engaged in investment banking work were George Whitney, Thomas W. Lamont, Arthur M. Anderson, William Ewing and Harold Stanley.

On or about June 16, 1934, J. P. Morgan & Co. elected to cease engaging in the investment banking business, and chose to remain a bank of deposit, in compliance with the provisions of the Banking Act of 1933, which required the separation of commercial and investment banking to be effected by June 16, 1934. J. P. Morgan & Co., in effect, discontinued its investment banking activities on or about June 16, 1933, the date upon which the Banking Act of 1933 was enacted, with the exception of one or two security issues. The investment banking business of J. P. Morgan & Co., therefore, simply ceased to be. By the
Incorporated, commenced business, Harold Stanley was
On September 16, 1935, when Morgan Stanley & Co. Incorporated, and, on October 19, 1936, Sumner B. Emerson became an officer and a director. The previous association of both of these men had been principally with the Guaranty Trust Company of New York or its securities affiliate, the Guaranty Company.

When Morgan Stanley commenced business on September 16, 1935, it set up an entirely new office at No. 2 Wall Street, and organized an entirely independent staff. Morgan Stanley never conducted business in the premises

On or about November 28, 1941, Morgan Stanley & Co. Incorporated, adopted a plan of liquidation. On December 5, 1941, all of the outstanding preferred (non-voting) stock was redeemed and cancelled pursuant to the plan of liquidation which was completed on December 23, 1941. Morgan Stanley & Co., the partnership, was formed on December 16, 1941, and it is this partnership, apart from certain withdrawals and additions, which is a defendant in this case. The corporation was dissolved and the partnership formed by the former common stockholders in order, among other reasons, to qualify Morgan Stanley & Co. for membership on the New York Stock Exchange, and to enable William Ewing to retire from active participation while becoming a limited partner.
of J. P. Morgan & Co., but moved into its own office the day it opened for business. Morgan Stanley and J. P. Morgan & Co. remained thereafter as distinct, independent and autonomous firms. Morgan Stanley & Co. Incorporated, did, however, conduct closings of its underwritings, that is, the payment for and the delivery of securities, on the premises of J. P. Morgan & Co. very often until the year 1941, and, thereafter, the current partnership ‘generally’ conducted its closings in the same place. Morgan Stanley paid a fee to J. P. Morgan & Co. in connection with each closing. No legal succession or privity of title existed as between Morgan Stanley and J. P. Morgan & Co. There was no devolution of any kind from one to the other. Morgan Stanley was run by its common stockholders as an independent, separate business, without consultation with J. P. Morgan & Co., although casual talks may have occurred.

Morgan Stanley was a conspicuously small organization when it first opened for business, and it has remained, to this day, a small organization. It had only one office when it first opened for business, and still has only one; it had only seven common stockholders when it first opened for business, and it does not have many more partners today. When the new organization commenced business, it immediately proceeded to try to obtain business from whatever source it could, and, in this connection, it made every kind of new business effort that its executives could think of. It broadcast announcements of its formation; compiled studies of outstanding securities that might be refunded at a saving; its personnel took turns calling on various people throughout the country; and they called on banks and asked them, *658 if they knew of any business that might be done, to remember that Morgan Stanley was in business.

Morgan Stanley was a new organization for the underwriting and wholesaling of investment securities, and it confined its activities entirely to underwriting and wholesaling. Morgan Stanley started out exclusively as a wholesale organization, underwriting and selling to dealers, and from the beginning made no effort to build up an organization for the handling of distribution. It was not until some time in May, 1941, that it began to retail securities. Morgan Stanley has done primarily a high-grade bond business, but it has also managed issues of common and preferred stock. Unlike some of the other defendant firms, Morgan Stanley did no business in equipment trust certificates, and there is no evidence that it did any business in municipals. It has sought the manag ership of security issues, rather than participations in underwriting syndicates, and, consequently, has been in a position where other investment banking firms have sought from it participations in underwriting syndicates which it has formed and managed. Morgan Stanley was opposed to competitive bidding and did not participate in competitive bidding before it was made compulsory by Rule U-50, which became effective on May 7, 1941, as to the securities of public utility companies which were subject to the Public Utility Holding Company Act of 1935.

2. Kuhn Loeb & Co.

The partnership of Kuhn Loeb was founded in New York City in 1867, and has continued as such ever since. There is no problem of successorship, as the firm elected to eliminate its private banking functions on or prior to the date fixed by the Glass-Steagall Act. Until the late ‘20’s it was a strictly family affair, and the partners included over the years many names of distinction in the banking business, including Jacob H. Schiff, Felix M. Warburg, Otto H. Kahn, and Mortimer L. Schiff. The first partner to be taken in, who was not related by marriage or otherwise to one or another of the others, was Jerome J. Hanauer in 1911.

The firm decided at an early date not to become interested in public utilities, but it had a large and select clientele among the railroads. With a small organization, Kuhn Loeb concentrated its efforts in the fields of railroad and industrial financing.

During the early and middle ‘20’s there were only four partners. Lewis L. Strauss, the son-in-law of Hanauer, George W. Bovenizer and Sir William Wiseman became partners in 1929; John M. Schiff, Gilbert W. Kahn and Frederick M. Warburg, all of the younger generation, entered the firm in 1931; and Benjamin J. Butterwieser, an employee, joined in 1932. Elisha Walker, a banker of wide experience, and Hugh Knowlton became partners in 1933. In 1941, after a long interval, two more employees were taken in, Percy M. Stewart and Robert F. Brown. In 1942 Hugh Knowlton left the firm but again became a partner in 1946. In 1949 the firm had only twelve partners, including J. Emerson Thors and Robert E. Walker, who became such in that year.

This firm, with a limited number of employees and a single office in New York City, differs radically from many of the other defendant firms, which are highly organized and departmentalized, have large distributing facilities, and hundreds of employees. While some of these other firms had large buying departments, most of this work was done in Kuhn Loeb by the partners.

The old Kuhn Loeb ‘prestige’ business with the railroads was seriously affected by the ICC order requiring public
sealed bidding for railroad securities which became effective on July 1, 1944. Thereafter, the firm’s policies as to the number and character of the issues it would sponsor as manager radically changed.


The firm of Chas. D. Barney & Co., a partnership, was organized in Philadelphia in 1873 to do a general investment banking business. The investment banking firm of Edward S. Smith & Co. was also founded in Philadelphia, in 1892. From their organization to December 31, 1937, these two firms were in no way connected or affiliated with each other.

At the time that the Banking Act of 1933 was enacted on June 16, 1933, the Guaranty Company of New York was a very large organization, with a total personnel of approximately 500 persons, including 17 senior officers and 21 junior officers. The decision of the Guaranty Trust Company of New York to dissolve its securities affiliate, the Guaranty Company, presented an acute personal problem to these officers and employees, since this action would necessarily eliminate most of their jobs. On June 6, 1934, William C. Potter, chairman of the Board of Directors of the Guaranty Trust Company of New York, wrote a letter to the stockholders of the Guaranty Trust Company of New York concerning this proposed dissolution. This letter explained how the problem of the future employment of those officers and employees was partly solved:

'* * * Arrangements have been made by Mr. Joseph R. Swan, President of the Guaranty Company of New York, and some of the principal executives (all of whom are retiring from the Guaranty Company of New York on or before June 16, 1934) to become members of the firm of Edward B. Smith & Co., a banking house that has for many years conducted a general securities business. It is expected that a majority of the staff of the Guaranty Company will become associated with the new firm. Certain others of the Guaranty Company organization will remain and liquidate its affairs. Others will be taken into the organization of the Trust Company, and the remainder we shall endeavor to assist in finding employment elsewhere.'

On June 16, 1934, 4 of the 17 individuals, who had been senior officers of the Guaranty Company on June 16, 1933, joined Edward B. Smith & Co. as general partners. These were Joseph R. Swan, president, and Burnett Walker, Irving D. Fish, and J. Ritchie Kimball, vice-presidents. Similarly, on June 16, 1934, 13 of the 21 individuals, who had been junior officers of the Guaranty Company, were employed by Edward B. Smith & Co. Among these 13 individuals were Holden K. Farrar, James N. Land and Karl Weisheit, all 3 of whom eventually became partners in Smith Barney.

In 1934, 3 other individuals, who had been senior officers of the Guaranty Company, joined other investment banking firms as partners or officers: John D. Harrison joined Lazard Freres; Frederick L. Moore joined Kidder Peabody; and John F. Patterson joined Blyth. In 1936, Alfred Shriver, who had been a senior officer of the Guaranty Company prior to June 16, 1934, and president of the Guaranty Company in liquidation thereafter, joined Morgan Stanley, as a vice-president and director. In late 1933, John A. Wright, Jr., a junior officer of the Guaranty Company, joined the investment banking firm of Drysdale & Company. The remaining 9 of the 17 senior officers and the remaining 7 of the 21 junior officers of the Guaranty Company remained with the Guaranty Company in liquidation, joined the staff of the Guaranty Trust Company of New York, or went with other commercial banks, brokerage houses, industrial or business corporations.

Looking at the reorganized firm of Edward B. Smith & Co. on and after June 16, 1934, we find that it included 15 general partners, 3 special or limited partners (2 of whom were also general partners), and 522 employees. Of these, 4 general partners and 237 employees had formerly been with the Guaranty Company, either as senior or junior officers or employees; 11 general partners, all 3 special or limited partners, and 285 employees, had been with the old firm of Edward B. Smith & Co. The 237 employees of Edward B. Smith & Co., who *660 had formerly been with the Guaranty Company, constituted slightly more than one-half of the total personnel of the Guaranty Company as of June 16, 1933. The capital of Edward B. Smith & Co., as of June 16, 1934, totalled $5,000,000, of which $3,500,000 was general capital, and $1,500,000 was limited capital. All of its capital was contributed by the general and special partners of the firm.

Edward B. Smith & Co. did not succeed, either de jure or de facto, to the investment banking business of the Guaranty Company, the securities affiliate of the Guaranty Trust Company of New York, by reason of the fact that individuals, who had been with the Guaranty Company as senior or junior officers or employees prior to June 16, 1934, joined Edward B. Smith & Co. on that date as general partners or employees, or for any other reason.

The firm of Edward B. Smith & Co. as so constituted, remained without substantial change until December 31,
1937, when it was dissolved in connection with the formation of Smith Barney & Co.

In 1937, as a result of two highly unsuccessful security issues, namely, an offering to shareholders of $44,244,300 of 5% cumulative convertible preferred stock of the Pure Oil Company on September 3, 1937, and an offering to shareholders of $48,000,000 of 3 1/2% convertible debentures of the Bethlehem Steel Corporation on September 8, 1937, Edward B. Smith & Co. not only suffered heavy losses, but found itself in the difficult position of having its available capital, which was required to be free if the firm was to continue in the underwriting business, substantially frozen in the then unsaleable securities of these two companies. Accordingly, as of the close of business on December 31, 1937, the firm of Edward B. Smith & Co. in effect merged with the theretofore wholly separate firm of Chas D. Barney & Co., which had the necessary capital, to form the new firm of Smith Barney & Co.

Smith Barney & Co. was organized to begin operations as of January 1, 1938, as successor to the business of Edward B. Smith & Co. and Chas. D. Barney & Co., as a limited partnership under the laws of the State of New York, by a group of 27 general partners and 4 special partners (one of whom was also a general partner), all of whom had been general or special partners of either the firm of Edward B. Smith & Co. or of the firm of Chas. D. Barney & Co. Of the 27 general partners of Smith Barney as of January 1, 1938, 13 had been partners of Chas. D. Barney & Co. and 14 had been partners of Edward B. Smith & Co. Among those general partners of Smith Barney as of January 1, 1938, who had previously been partners of Edward B. Smith & Co., were Joseph R. Swan, Burnett Walker, Irving D. Fish, J. Ritchie Kimball, James N. Land and Karl Weisheit, all of whom had been affiliated with the Guaranty Company either as senior or junior officers.

Since at least June 16, 1934, Edward B. Smith—Smith Barney has had a large organization with extensive distribution facilities. It has principal branch offices in charge of one or more partners in Philadelphia and Chicago, and the firm has or has had offices in other important cities, including Boston and Cleveland. In addition to the usual Buying and Syndicate Departments, the firm has New Business, Trading, Sales and Municipal Departments. Smith Barney is engaged in a general investment banking business, and distributes all types of securities at both wholesale and retail.

The size of the organization and the widespread location of its offices, indicate the great importance to the firm of obtaining a relatively large volume of securities for distribution. With a large distributing force, a large number of participations in issues managed by other houses is essential to the economic and proper functioning of its organization. Accordingly, Edward B. Smith—Smith Barney has always been very much interested in participations as well as managements, and the evidence shows many instances in which its principal effort was directed toward this objective. Joseph *661 R. Swan testified on deposition that his 'principal concern' personally was to try to obtain the managership of financing, or so to establish himself with the issuer that, if he could not obtain the managership of the business, he would get as large a participation as possible.

The stipulated static data confirm this. Thus, the participation tables show that in the period 1935-1949, Edward B. Smith—Smith Barney participated in almost five times as many negotiated underwritten issues managed by others as it did in those which it managed or co-managed itself. Edward B. Smith—Smith Barney managed or co-managed some 130 negotiated underwritten issues during this period. It participated, however, in 607 such issues managed by others. Similarly, in total dollar volume of participations in all negotiated issues $1,000,000 and larger (including those managed by itself), Edward B. Smith—Chas D. Barney—Smith Barney ranked third among all defendant and non-defendant firms for the period 1935-1949.

The stipulated public sealed bidding sheets show that Smith Barney was a member of an account headed by the alleged co-conspirator, Lee Higginson, which bid unsuccessfully for a $6,860,000 bond issue of Chicago Union Station, which was offered on June 10, 1941.

Prior to this time Chas. D. Barney & Co. had bid unsuccessfully on several issues offered at public sealed bidding, twice as a member of accounts headed by others (Connecticut River Power Co., February 18, 1936; Pennsylvania Railroad Co., January 10, 1936), and once as manager of an account (Turners Falls Power & Electric Co., November, 1936).

During the period 1941-1949, Smith Barney, bidding as either the head or a member of a bidding account, bid for a total of 275 new and secondary issues $1,000,000 and larger of domestic and foreign business corporations (excluding domestic railroad equipment trust certificates). It bid for 86 issues as the head of a bidding account, winning 16 issues.

4. Lehman Brothers
Since about 1850, a series of partnerships, formed from time to time upon the withdrawal or death of partners, has conducted business under the name of Lehman Brothers. The early phases of its development have already been discussed in Part I of this opinion and will not be recounted here. At the date of the commencement of this action, the firm of Lehman Brothers consisted of 16 partners.

Lehman Brothers’ principal place of business is in New York City. It also has offices in Chicago, Los Angeles and Houston, and it holds memberships on the New York Stock Exchange, American Stock Exchange, Chicago Board of Trade and Midwest Stock Exchange. Lehman Brothers ranks high among the leaders of the investment banking industry in the amount of capital employed. In 1944, its capital was about $10,000,000.

Throughout the record there are frequent references to a number of persons who are or have been partners of Lehman Brothers. Members of the family have always been its leading partners, as today in the person of Robert Lehman, who has been a partner since July 1, 1921, and is now the only partner bearing the Lehman name. Philip Lehman, who was a partner from about September 1, 1885, until his death on March 21, 1947, was a son of one of the three founders of the firm and its moving spirit in the first decades of the century. Robert Lehman is his son and successor. Other members of the Lehman family who were partners of the firm at one time or another are Arthur Lehman, Harold M. Lehman and Allan S. Lehman, all three of whom are now deceased, and Herbert H. Lehman, formerly Governor of the State of New York and Presently a United States Senator. There were gathered around this family core as partners other men of outstanding ability, who have contributed immensely to the firm’s development. Among these other partners were: John M. Hancock, who became a partner on August 1, 1924, and was the first person outside of the Lehman family to be admitted to partnership; Monroe, C. Gutman, widely experienced in domestic and international banking, became a partner on January 1, 1927, and has since played an important part in the buying of new issues; he is the only partner of the firm whose deposition was taken by the government in pre-trial proceedings in this action, and was too ill to be cross-examined; Paul M. Mazur, a well known marketing and department store expert, became a partner on July 1, 1927; he had previously done constructive work for various department stores, and is now primarily responsible for the operation of the firm’s Industrial Department. Each of these three individuals are partners of the present firm.

Lehman Brothers acts in all capacities for issuers in the handling of negotiated transactions. It has headed and it has participated in underwritten public offerings, and it has acted as agent for the issuer in non-underwritten public offerings, and private placements, and assisted issuers in obtaining term bank loans. It engages in arbitrage transactions and does a commission business on commodities and securities exchanges. It distributes all types of securities, both at wholesale and retail, and it has bought, sold and placed securities for its own account. It distributes also a large volume of municipal securities.

The firm effects the distribution of corporate securities through its Syndicate and Sales Departments. It has a separate Municipal Department which handles all matters with respect to municipal and revenue securities. Another department of significance in this case is its Industrial Department, which includes its New Business Department, and was developed as part of an aggressive movement to increase its investment banking business during the series of disputes with Goldman Sachs, hereafter referred to.

Lehman Brothers offers issuers a wide variety of services which go far beyond simply assisting in the raising of capital. The firm attaches great importance, quite apart from investment banking matters, to its role as a counselor to industry. The multiform activities of the Industrial Department Typify the scope of the services which Lehman Brothers offers to business enterprises. The Industrial Department, while embracing the characteristics of the ‘buying department,’ common to most investment banking firms, includes, in addition, a complex of services which most nearly resembles management or efficiency engineering.

As has been previously pointed out in Part I of this opinion, commencing with the underwriting of the United Cigar Manufactures preferred and common stocks in June, 1906, Lehman Brothers conducted its business of heading security issues in an informal partnership with Goldman Sachs. This informal partnership between Lehman Brothers and Goldman Sachs lasted for nearly 20 years and was never reduced to writing. The two firms worked together on the basis of mutual trust. Later the two firms entered into a period of bitter controversy, which is to some extent described in a subsequent part of this opinion, and, for about two years they split apart, and then came together again.

Long before the ICC required the debt securities of railroads to be sold at public sealed bidding, Lehman Brothers, as head of a bidding account, bid for and won the Cincinnati Union Terminal $12,000,000 bond issue of February 14, 1939. On February 18, 1936, many years
prior to promulgation by the SEC of Rule U-50, Lehman Brothers, as head of a bidding account, bid for and won the Connecticut River Power $20,300,000 bond issue, which had been put up for bidding under a local administrative rule. Much earlier, in April, 1926, with Halsey *663 Stuart and Hallgarten, Lehman Brothers bid for and won a $30,000,000 bond issue of Uruguay, and in April, 1928, with Kountze Bros. and Wood Low & Co., won an issue of $2,145,000 equipment trust certificates of Chicago & North Western Railway.

During the period 1941-1949, Lehman Brothers, bidding as either the head or a member of a bidding account, bid for a total of 385 new and secondary issues $1,000,000 and larger of domestic and foreign business corporations (excluding domestic railroad equipment trust certificates). The firm thus bid on 61% of the total of 632 such issues which were sold at public sealed bidding during this period. It bid for 186 issues as the head of a bidding account, winning 35 issues.

5. Glore Forgan & Co.

On March 1, 1920, Charles F. Glore and others formed in Chicago the partnership of Glore, Ward & Co.

On December 29, 1920, Marshall Field, Glore, Ward & Co., a corporation was organized under the laws of Illinois. It continued the business previously conducted by the partnership Glore, Ward & Co. Marshall Field III, who was 26 years of age and who had not been a member of the former partnership, became president of this corporation. He had participated in a student training course in the Chicago office of Lee Higginson & Co. from October 23, 1919 to February 1, 1920. The partners of the former partnership became vice-presidents. On December 31, 1927, the name of this corporation was changed to Field, Glore & Co. On September 26, 1929, Field, Glore & Co., Incorporated, was organized under the laws of Delaware, and it continued the business previously conducted by the Illinois corporation, Field Glore & Co.

On March 16, 1931, the partnership of Field, Glore & Co. was formed, and it continued the business previously conducted by the Delaware corporation, Field, Glore & Co., Incorporated. From that day to the present the business has been conducted by a succession of partnerships formed from time to time upon the withdrawal or addition partners, under the same firm name, which, however, was changed from Field, Glore & Co. to Glore, Forgan & Co. on January 2, 1937. On July 6, 1935 Marshall Field III retired from the then firm.

At the time of the commencement of this action the defendant firm of Glore, Forgan & Co. consisted of eight partners: Charles F. Glore, who died during the trial; John F. Fennelly, Rudolph E. Vogel and James W. Pope, were located in the Chicago office; and J. Russell Forgan, Halstead G. Freeman, Edward F. Hayes and Wright Duryea, in the New York office. The following became partners on August 1, 1950: Hyde Gillette, Charles S. Vrtis, Edwin Cummings Parker, James P. Jamieson and Alfred C. West, in the Chicago office; Charles J. Hodge, Thomas D. Mann and Paris S. Russell, Jr., in the New York office.

This Chicago firm has done a general investment banking and brokerage business; has good distributing facilities, and is interested in managships and as many participations in desirable issues as it can secure. Its public sealed bidding record is good. There is no successorship problem involved.


The original firm of Kidder Peabody & Co., for many years one of the leading houses, and described throughout the trial as ‘old’ Kidder Peabody, was founded in 1865, to engage in the commercial and investment banking business. In its heyday it did a large and profitable business and was identified with a long series of security issues of the American Telephone & Telegraph Company, acting as New England manager for all negotiated underwritten issues of the Telephone Company and its subsidiaries after about 1899.

During the fall of 1930 the ‘old’ firm ran into financial difficulties, caused by falling prices of securities it owned the withdrawal of large deposits by the Italian Government, and to time deposits *664 which were due or renewable, including a payment of the Bank of International Settlements, said to have amounted to $4,000,000.

Harold Stanley testified:

‘J. P. Morgan & Co. had sold the stock of Bank of International Settlements, which looked as if it wouldn’t be able to get its money back and have to take a loss unless something were done. If Kidder, Peabody had failed, an old firm—and it had been a very prominent firm in some ways—it would have shaken confidence and upset everything.’

Accordingly, in an effort to save ‘old’ Kidder Peabody, a $10,000,000 Revolving Fund was raised, of which $2,500,000 each came from J. P. Morgan & Co. and
Chase National Bank, $1,250,000 from First National Bank of Boston, $1,000,000 each from Bankers Trust Company and Guaranty Trust Company of New York, $750,000 from Shawmut Bank of Boston, $500,000 from First National Bank of New York and $250,000 each from Merchants National Bank and Second National Bank, both of Boston. The partners of the ‘old’ firm raised an additional $5,000,000.

It soon developed that the condition of the ‘old’ firm was worse than had been supposed. It was thought that the name and some vestige of the repute of the ‘old’ firm might still be salvaged and the advances already made recovered. There is no point in tracing every step of the negotiations. Edwin S. Webster, one of the heads of Stone & Webster, and a man of substance, thought his son, Edwin S. Webster, Jr., who had met with an accident and was then confined to a hospital, might be interested. Young Webster and Albert Gordon had been classmates in the Harvard Business School, both seemed men of promise and they, together with Chandler Hovey, a brother-in-law of Mr. Webster, Sr., who had a brokerage business in Boston, began business as the three partners of the new Kidder Peabody & Co., which is the firm named as a defendant herein, on March 17, 1931. None of the members of the ‘old’ firm remained as partners, three, with the remnants of the ‘old’ firm’s staff, remained for a time as employees. Later on in that year, G. Herman Kinnicutt, then in his 60s, became a fourth partner. He had formerly been senior partner of Kissel Kinnicutt & Co., which had gone into liquidation.

The subsequent history of the Revolving Credit and the arrangements made for the repayment of the $5,000,000 loaned as above stated, is developed in great detail but may be passed over. In 1935 the new firm threatened to exercise an option it had to give up the name, and dissolve the firm; and this led to a settlement agreement which was eventually carried out.

By the Bill of Sale as of March 6, 1931, certain securities and assets, including the firm name and good will, leases, stock exchange seats, furniture, fixtures, documents and books, were transferred to the new firm. An agreement of the same date between the old and the new partners, and corporations representing those who had made the advances above referred to, contained a large number of terms, including Article III, Section 2, which provides: ‘The new firm does not assume directly or indirectly any liabilities of the present firm whether known or unknown, direct or contingent, except the liabilities specifically set forth herein to be assumed by the new firm.’ These do not appear to have been substantial.

In 1934, when the Glass-Steagall Act took effect, Kidder Peabody took over the lease for office space of the Philadelphia National Company, the securities affiliate of the Philadelphia National Bank; and virtually the entire organization of employees, together with the president, Orus J. Mattews, left the Philadelphia National Company and came with Kidder Peabody. Matthews became a partner some time in 1935.

When Chase Harris Forbes Corporation went out of business, 10 or 15 salesmen from its organization were added to the Kidder Peabody sales staff; other men came over from the Guaranty Company and the National City Company. During 1934 Frederick L. Moore, from the Guaranty, became a partner, and Walter V. Moffitt, also from the Guaranty, became a partner in 1935.

Under the leadership of Gordon the affairs of Kidder Peabody prospered; progress was slow at first, but there was steady growth in every phase of its business. The partners and employees went after everything, for managements if they could be secured, if not for participations and even selling positions. No issue was too small, no participation too insignificant. Offices were opened, first in Chicago, then in Hartford and Albany, in addition to the principal offices in New York, Boston and Philadelphia. By the time this action was commenced, Kidder Peabody maintained a larger selling organization and a larger trading department than at any time in its history, with representatives and correspondents in many leading cities of the United States where it did not have offices, and had moved up from practically no business at all, in 1931 in the depths of the great depression, to a major position in the entire investment banking industry.

The statistical tables are so comprehensive and complete that they accurately reflect the progress and also the competitive pattern of each of the defendant banking firms. Kidder Peabody will serve as an illustration. In the first triennial period, 1935-1937, Kidder Peabody ranked 18th in dollar amount of new negotiated underwritten managements of issues $1,000,000 and larger, and it ranked 25th in number of issues. In the last triennial period, 1947-1949, it ranked 3rd in number of issues and 11th in dollar amount. Its progress in the smaller issues is shown by the tables relating to issues between $100,000 and $1,000,000, and indicates that the whole competitive pattern of the firm was undergoing change, development and growth during the entire period 1935-1949. With reference to these smaller issues, Kidder Peabody had no rank whatever in number of issues, and it stood 200th in dollar amount, in the first triennial. In the last triennial it ranked first both in number of issues and dollar amount.

Its progress in public sealed bidding accounts and private
placements was substantial.

In 1882, Marcus Goldman and Samuel Sachs formed a partnership to continue a commercial paper business which had been begun by Marcus Goldman in 1869. With the withdrawal of partners or the addition of new partners from time to time, the business has been conducted by a succession of partnerships from 1882 to date, except for the period from January 21, 1922, to December 31, 1926, when the business was conducted as a joint stock association. Beginning in 1885, each of the partnerships and the joint stock association did business under the name of Goldman Sachs & Co. As in the case of Lehman Brothers, the early phases of its development have already been discussed in Part I of this opinion24 and will not be narrated here. Similarly, its relationship with Lehman Brothers is described to some extent above in the statement of the origin, organization and personnel of Lehman Brothers25 and also in a subsequent part of this opinion.26

Goldman Sachs’ principal place of business is in New York City; and, in addition, the firm has various branch offices and representatives in other cities. Goldman Sachs not only has a New Business Department, but, as Walter E. Sachs testified on deposition, ‘Goldman, Sachs & Company is a new business department.’ In approximately 1935, Goldman Sachs established a Retail Sales Department. Its capital in 1944 was about $6,500,000.

At the date of the commencement of this action, the firm of Goldman Sachs consisted of 13 partners. Among the personnel of Goldman Sachs whose names appear in the record, and who are or have been partners in the firm, are the following: Marcus Goldman, who founded the business in 1869, and who is the grandfather of Walter E. Sachs; Samuel Sachs who joined Marcus Goldman as a partner in 1882, when the business became known as M. Goldman & Sachs, is the father of Walter E. Sachs and an uncle of Howard J. Sachs; Walter E. Sachs, who was first employed by Goldman Sachs in 1905, and who became a partner in 1910, is the only member of the present firm whose deposition was taken by the government; Howard J. Sachs, who became a partner in 1915 and is a member of the present firm, is a cousin of Walter E. Sachs; Henry S. Bowers, also a member of the present firm at the time of the commencement of this action, became a partner in 1915, and was the first partner of the firm who was not related to either the Goldman family or the Sachs family; and Sidney J. Weinberg, who entered the employ of Goldman Sachs in 1907, became a partner in 1927, and is a member of the present firm.

The Business now conducted by Goldman Sachs consists in part of: (1) dealing in commercial paper— the buying of short term promissory notes from merchants and manufacturers and the selling of such notes to banks or institutional investors— the business which the firm’s founder started in 1869; (2) a brokerage business, the firm having been a member of the New York Stock Exchange since the late 1890’s, except for the period when it was a joint stock association; and (3) investment banking.

It is not a part of the regular business of the firm to invest its own capital in permanent long term investments in the companies whose securities it underwrites. Since the time that Goldman Sachs first entered the investment banking business in 1906, it has concentrated its underwriting efforts on the security issues of companies engaged in retailing or merchandising or in the manufacturing of consumers’ goods. It has never been prominent as an underwriter in the railroad or public utility fields; but it distributes all types of securities both at wholesale and at retail.

The passage of the Glass-Steagall Act, which became effective on June 16, 1934, had no material effect on Goldman Sachs. In the early days of its business, Goldman Sachs did not accept deposits at all. For some years prior to the Glass-Steagall Act, the firm did have some depositors, but this activity was never a very important feature of the firm’s business, and after the passage of the Act, the firm discontinued it. The Act did not affect Goldman Sachs’ commercial paper business, which continued.

In October, 1929, when the devastating crash in the stock market occurred, Goldman Sachs found itself as an underwriter in the midst of a number of underwritings, and, as Walter E. Sachs testified on deposition, it lost millions of dollars in having to take up securities at the underwritten price at a time when the market price of those securities was greatly depressed. Not only did Goldman Sachs suffer large monetary losses at the time, but because of the losses incurred by investors in securities of the Goldman Sachs Trading Corporation, which Goldman Sachs had sponsored, its reputation as an investment banker was dealt a blow from which it took years to recover. After heading with Hayden Stone the financing for Warner Brothers Pictures on August 25, 1930, Goldman Sachs was not to head another underwriting for almost five years.

In the period 1906-1917, Goldman Sachs had few, if any, underwriting participations in financings headed by others. In the period 1918-1933, it had some modest participations in such financings. There was a further
change in the post-Securities Act period. After approximately 1935, when, as has been previously stated, Goldman Sachs established a Retail Sales Department, it began to take substantial participations in issues managed by others. The stipulated data indicate the extent of this change. In the period 1935-1949, Goldman Sachs participated in 570 underwriting syndicates for negotiated issues managed by other investment banking firms, in addition to having participations in 87 such syndicates which it managed or co-managed itself. Another change in this period 1935-1949, and one which resulted from the registration requirements of the Securities Act, was the increased use of private placements by issuers as an alternative method of raising money. The growing importance of this method of financing, in direct competition with other methods, was reflected in the large number of private placements handled by Goldman Sachs in this period, as compared with the previous periods. In the 29 years after 1906, the year it entered the investment banking business, to 1935, Goldman Sachs had handled only 2 private placements. It handled 69 private placements in the 15-year period 1935-1949. Throughout the period 1935-1949, Goldman Sachs continued to solicit the business of heading financings for relatively small concerns which had not previously offered securities to the public, and, during this period, Goldman Sachs headed financings for 28 such issuers.

When Rule U-50 became effective on May 7, 1941, Goldman Sachs, which had had very little experience in the management of public utility issues, did not reorganize its staff or alter the organization of its Buying Department or of any of its other departments in order to enable it to head public sealed bidding accounts for such issues to any large extent. Despite this, however, during the period 1941-1949, Goldman Sachs headed bidding accounts which bid for a total of 24 new and secondary issues $1,000,000 and larger of domestic and foreign business corporations (excluding domestic railroad equipment trust certificates), winning 6 issues. But the firm’s record of participating in bidding accounts headed by others tells a different story. In the period 1941-1949, it was a member of bidding accounts which bid for 334, or 53%, of the total of 632 such issues which were sold at public sealed bidding during that period.

8. White Weld & Co.

Established in 1895 under the name of Moffat & White, this partnership changed its name in 1910 to White Weld & Co. and the firm has been in continuous operation under that name ever since. It is not claimed to be ‘successor’ to any institution which was forced to give up investment banking by the terms of the Glass-Steagall Act.

The activities of the firm differ from those of any of the other defendants, and consist of three broad categories, ‘position’ business, commission or brokerage business, and that of managing and distributing security issues. About one-half of the firm capital is devoted to the purchasing of securities of corporations which White Weld is interested in building ‘from the ground up’ and then holding such securities for the long pull and not for resale. One-quarter of the firm capital in employed in its commission business, and only the remaining one-quarter is available for investment banking of the kind with which we are here concerned. As the entire capital of White Weld as of July 6, 1949, was in the neighborhood of $6,500,000, about $1,650,000 was available at that time for underwritings. As of the close of 1945 these figures were much smaller.

White Weld has made a specialty of private placements, as is indicated by the statistics, which show White Weld as agent for the seller in 53 private placements in the period 1935-1947. While opposed to compulsory public sealed bidding on principle, as not being in the best interests of issuers, White Weld’s record of public sealed bidding accounts during the same period exceeded its position in negotiated underwritten transactions by a considerable margin. The bulk of its business in the distribution of securities consisted of its participations, as underwriter, in negotiated and public sealed bidding issues managed by others. Thus, despite the relatively small amount of capital allocated to its underwriting activities, White Weld nevertheless ranked high in participations in both public sealed bidding and negotiated issues. Comparing the records of all investment bankers for the fifteen year period, 1935-1949, the statistical tables show that White Weld ranked ninth in number and eleventh in dollar amount of participations in public sealed bidding issues, and that it ranked tenth in number and sixteenth in dollar amount of participations in negotiated issues of $1,000,000 and over.

The partners who exercise the major over-all responsibilities are Alexander M. White, Jr. and Francis Kernan. Harold B. Clark, whose deposition was taken, was then a senior partner. He started with the old firm in 1901, and became a partner in 1907. The older partners who became such in 1901, 1905 and 1912, Harold R. White, Sr., Francis M. Weld, who died during the pendency of the action, and Wm. J. K. Vanston, gradually withdrew from active management of the affairs of the firm, turning things over to the younger men as they came along. The remaining partners, in the order in which they were taken in, are: J. Preston Rice, Jean Cattier, Benjamin

Relatively speaking, White Weld is a small organization, with its main office in New York, and branch offices in Chicago, Boston, Philadelphia, Buffalo and Cleveland. There is no regularly set up Buying Department, but the firm has a Syndicate Department and a Statistical Department, and its trading activities are considerable.


Founded in 1910 by Herbert Lowell Dillon and Thomas C. Eastman, Eastman Dillon & Co. is a co-partnership engaged in the securities business and in general investment banking. Its existence over the years as a partnership has been continuous and there is no problem of ‘successorship.’

The ‘Dillon-Eastman era,’ from 1910 to 1935, shows the firm engaged in a general brokerage business, primarily interested in the Pennsylvania area, where it maintained at various times from three to five branch offices.

After World War I the firm began to grow. By 1925 there were 7 partners, in 1929 the number had increased to 13; and in 1933, it increased to 16 and then dropped to 11. After the return of the senior partners from the service, the firm began to do a certain amount of underwriting, and was active in that field in the period 1924-1929.

The ‘Gilmour era’ began in 1935, when Lloyd Gilmour left Blyth to join Eastman Dillon. He has for some time been the most active partner, is head of the Buying Department and is principally responsible for negotiations with issuers, the obtaining of participations and the general management of the investment banking part of the firm’s business. Under Gilmour’s leadership, Eastman Dillon took on new vigor and growth. The firm’s underwriting activities began to expand, and in 1940, the year which represents Eastman Dillon’s emergence as an important managerial house, there was a marked increase in its investment banking business.

Henry L. Bogert, the only senior partner of Eastman Dillon whose deposition was taken by government counsel, was at the time he testified, the managing partner with general supervision of the office management, a position which he had held since 1937. He had come to Eastman Dillon in 1922 from Lee Higginson, where he had been an employee in the syndicate department. After a short period of experience in charge of wholesaling and syndicating, he became inactive in 1929 and ceased to be a partner in 1933, devoting his time for two years to the management of a dairy farm in Virginia. In 1935 he again became a partner, was rather inactive for a few years, and finally became the managing partner.

Eastman Dillon has memberships on several exchanges, carries on an active general brokerage and underwriting business and trades for its own account. The character of its investment banking business is very general, extending to both stocks and debt issues of public utilities, industrial and railroad securities, which it distributes both to institutions and at retail; and it is interested in participations and selling group positions.

In 1943 the firm engaged also in the business of furnishing financial advice to issuers through its Statistical or Investment Research Department, for a fee. This service was discontinued in 1946. Today Dillon and Eastman are limited partners and the firm is primarily under the guidance of Gilmour. There is no evidence in the record concerning the firm’s attitude on the subject of competitive bidding.


Defendant Drexel & Co., a Philadelphia partnership, is the youngest and one of the smallest of the 17 defendants. It was formed on April 1, 1940, at an initial capitalization of $1,100,000.


A number of the partners and employees of the old Drexel & Co. thereupon organized the new firm of Drexel & Co., the defendant in this action. The partners of the new Drexel & Co. included Edward Hopkinson, Arthur Newbold, Jr., Gates Lloyd, Thomas Gates, Jr., and Edward Starr, Jr. Several new partners have since been added, including Robert H. Lee, William L. Day, Edward Howard York, Jr., Walter H. Steel, Clarence W. Bartow, and William F. Machold. With the exception of Newbold...
and Day, these men continued to be partners in Drexel & Co. as of March 15, 1950.

In addition to carrying on the business then being conducted by the J. P. Morgan & Co. organization in Philadelphia, with the exception of commercial banking, defendant Drexel & Co. also announced its intention to engage in the investment banking business, from which the Morgan organization had withdrawn some six years previously.

The new firm obtained from J. P. Morgan & Co. the right to use the name Drexel & Co., an important name in Philadelphia financial circles for some one hundred years, and took over the furniture and lease of the old Drexel & Co. office. It also obtained from J. P. Morgan & Co. the books and records connected with the investment advisory service and the registrar and transfer business of the old firm. However, the new Drexel & Co. received nothing in connection with the commercial banking end of the business, which J. P. Morgan & Co. transferred to New York, and nothing with reference to the investment banking business formerly carried on by the old Drexel & Co., since that phase of the J. P. Morgan & Co.—Drexel business had been discontinued for many years.

No deposition testimony, and little other evidence, was offered against Drexel & Co., and consequently there is no foundation for a discussion of its internal organization or competitive pattern.

11. The First Boston Corporation

The defendant First Boston came into existence as the result of the impact of the Glass-Steagall Act on the securities affiliates of two great banking institutions, The First National Bank of Boston and the Chase National Bank in New York. The legal steps which were taken in order to accomplish this result are complicated and have little relevance to this case, but the background does have a bearing upon the issue of ‘successorships.’

The Harris Forbes organization which later became identified with the Chase Securities Corporation, the securities affiliate of the Chase National Bank, started in 1882 when N. W. Harris, ‘the father of the modern bond salesman,’ formed the partnership of N. W. Harris & Co. in Chicago. By 1890 there were offices of N. W. Harris & Co. in Chicago, Boston and New York. In 1907 the assets and business transacted at the Chicago office were transferred to the Harris Trust & Savings Bank, which we shall meet again, in connection with the defendant Harris Hall. In 1911 the New York and Boston offices were each incorporated. In 1922 the stock of each of the two Harris Forbes & Co. corporations thus formed was transferred to a parent company named Harris Forbes Companies. The purpose of this elaborate arrangement was to preserve the name of Harris Forbes as connected with a nationwide organization, but to maintain offices otherwise separate and distinct, in each of the cities above referred to. In August 1930 Chase Securities Corporation, securities affiliate of the Chase National Bank, acquired all the stock of Harris Forbes Companies; and in June 1931 the names of the two corporations known as Harris Forbes & Co. were changed to Chase Harris Forbes Corporation, and thereafter the Chase Securities Corporation conducted no securities business except through these corporations.

Long before the effective date of the Glass-Steagall Act the Chase National Bank decided not to wait but to go out of the investment banking business, even before the Glass-Steagall Act was enacted. Accordingly, in May 1933, Chase Securities Corporation terminated its securities business and, having changed its name to Chase Corporation, proceeded with the liquidation of its two subsidiaries. The two Chase Harris Forbes Corporations made such progress in liquidating the companies that, by the end of 1933, over 1,000 employees were released from employment, and the number still on the payroll had been reduced to 42.

When the transaction which resulted in the defendant First Boston becoming a publicly owned corporation, completely divorced from the First National Bank of Boston, took place on June 16, 1934, an agreement was made between First Boston, the Chase Corporation, and the Chase Harris Forbes Corporations, which, among other things, gave First Boston an option, which it exercised, to have assigned to it

‘* * * the name ‘Harris Forbes’ and the good will thereof incident to the general security business, other than government, state, municipal, political subdivision or governmental instrumentality financing * * *’

together with all of the capital stock of three corporations which were formed in New York, Massachusetts and Canada, ‘for the purpose of preserving the name ‘Harris Forbes.’ In addition, some of the records of the Chase Harris Forbes Corporations and of Chase Securities Corporation, pertaining to corporate financings, were turned over to First Boston.

Eleven of the employees and seven officers of the old Harris Forbes organization found employment with First Boston. The officers were men of great experience and ability and represented the real leadership of the old Harris Forbes organization. They were John R.
Macomber, who had been president of the Boston Harris Forbes Corporation, Harry M. Addinsell, who had been president of the New York Harris Forbes Corporation, George D. Woods and Duncan R. Linsley, both of whom had been vice presidents of the New York corporation. The other three were junior officers. The remaining officers of the Chase Harris Forbes Corporations joined a great variety of other firms, including Field Glore and Kidder Peabody. The lesser employees scattered to the winds, some \( \text{*671} \) of them to the offices of some of the other defendants herein.

On the First National Bank of Boston side of the picture, the corporate changes of its securities affiliates were intricate, but the net result was that its securities affiliate, First of Boston Corporation, became a publicly held corporation on June 15, 1934. Allan M. Pope, James Coggeshall, Jr., Nevil Ford and William H. Potter, Jr., who as early as 1921 had been officers of the First National Corporation, an earlier securities affiliate of the First National Bank of Boston, together with a substantial number of other officers and employees of First Boston, remained with First Boston.

Allan M. Pope continued as president of First Boston and, as of June 15, 1934, John R. Macomber became chairman of the board and Harry M. Addinsell chairman of the executive committee. In addition, there were 16 vice presidents. Subsequently, 5 of the men above referred to, namely, Woods, Coggeshall, Ford, Linsley and Potter were promoted to executive offices of importance.

In June 1934 First Boston had a capital of $9,000,000; by 1945 its capital was $12,400,000. On July 31, 1946, Mellon Securities Corporation merged with First Boston, 6 of the principal officers of Mellon Securities became associated with First Boston and in 1947, following the merger, the capital of First Boston had risen to $25,000,000.

During the period with which we are interested in this case, First Boston was a large and active house with a large personnel, a well coordinated organization and a very large overhead. In June 1934 it had a total of 600 employees, including the clerical and mechanical help. Addinsell’s estimate that in January 1949 the whole organization amounted to about 450 people did not take into account the large number of employees in the purely clerical and mechanical departments.

Throughout the period First Boston has had a very active Trading Department and does a large amount of trading for its own account as principal. There is also a Municipal Department, and a Corporate Buying Department which was, at the time Addinsell testified by deposition herein, ‘a large organization of experts’ having 7 vice presidents engaged in doing nothing else and one whole floor of the three floors at 100 Broadway, New York City, devoted to the buying end of the business, which is highly organized and efficient. At the same time, there are limitations upon the capacity of any buying department, and the research and planning essential to the competition for business and the formulation of plans and shaping up issues, is done under the leadership of approximately 8 men, no one of whom can handle more than a limited number of such matters in the course of a year.

The principal offices of First Boston in January, 1949, were located in New York, Boston and Chicago; it also had offices in Pittsburgh, Cleveland, Philadelphia, San Francisco and Springfield, Massachusetts. The annual burden of operating expense is close to $5,000,000.

While opposed to compulsory public sealed bidding in good faith and on principle, First Boston was an early, active and successful manager of public sealed bidding issues. It handles all types of offerings and offers the full range of investment banking services covering any type of investment banking problem, any type of issue, any type of offering and any type of risk. As of December 31, 1947, shortly after the commencement of this action, the principal executive officers of First Boston were Harry M. Addinsell, chairman of the board, James Coggeshall, Jr., president, George D. Woods, chairman of the executive committee, and Duncan R. Linsley and William H. Potter, Jr., executive vice presidents.

12. Dillon Read & Co. Inc.

Dillon Read & Co. Inc. is a New York corporation, having at present only one office, located in New York City.

\*672 While deposition evidence of Karl H. Behr was taken by government counsel in the course of the elaborate and prolonged discovery proceedings, none of this was read into evidence at the trial. For this reason, perhaps, there is in the record no more than a bare outline of the history and development of the firm.

On October 11, 1922, Dillon, Read & Co., a New York joint stock association, was formed, with Clarence Dillon as the head of the firm. This in turn became a partnership on January 2, 1942, engaged in a general securities business; the firm because a corporation on March 12, 1945, and has remained such since then, as is indicated by the name above set forth. On May 1, 1951, the stockholders were Clarence Dillon and C. Douglas Dillon.
There is accordingly no problem of successorship. Whether or not the firm, prior to the effective date of the Glass-Steagall Act, was engaged in the business of private banking does not appear. If it was, Dillon Read must have elected to give up such banking activities, as this record shows the firm actively engaged in the investment banking business.

Dillon’s experience in the securities business dated from 1913, when he joined the Chicago office of the firm of Wm. A. Read & Co., as a salesman. He moved to the New York office of that firm, and became a member of William A. Read & Co. on April 1, 1916.

In early 1920 Dillon became the senior partner of the old firm of Wm. A. Read & Co. About one year later, in 1921, the name of the partnership firm was changed to Dillon, Read & Co., and thereafter the joint stock association was formed.

In general, the picture is one of a privately owned firm headed by a relatively small group of aggressive individuals, who built Dillon Read up to a position of leadership in the investment banking industry. Among these men were Clarence Dillon, James V. Forrestal, William H. Draper, Jr., Dean Mathey, Ralph Bollard, Karl H. Behr, and, later, C. Douglas Dillon.

Dillon Read is primarily a managerial house. Having no large sales organization, it is not particularly interested in participations in accounts headed by other bankers, but goes after leadership, taking large participations in its own accounts.

While we shall find some evidence that Dillon Read was opposed to compulsory public sealed bidding for security issues, its record of successful public sealed bidding accounts is good. For the 15-year period, 1935-1949, its rank was seventh in dollar volume and eleventh in number of public sealed bidding issues managed. During the same period Dillon Read ranked first in dollar volume of agency private placements.


On or about April 18, 1914, Charles R. Blyth and Dean Witter organized a California corporation known as Blyth Witter & Co., for the purpose of conducting a general investment banking business, with Charles R. Blyth, president; Dean Witter, vice president; Roy L. Shurtleff, vice president; and George Leib, vice president, all of San Francisco.

Blyth Witter & Co. concentrated its efforts in the developing and youthful electric power and light industry of the West Coast and became a specialist in its particular problems. With its main office in San Francisco, it began to enlarge, and opened offices in New Orleans, Los Angeles, Portland and Seattle.

By 1925 Blyth Witter & Co. had opened an office in New York City, thereby bringing to the attention of investment banking houses in the East that there was a market for securities in San Francisco, and the fact that Blyth Witter & Co. would make a good underwriter and distributor for securities on the West Coast.

The termination on World War I found Blyth Witter & Co. fairly well established as a distributor of the securities of West Coast public utility companies. Of the fourteen issuers from whom Blyth Witter & Co. either as sole offeror or co-offeror, offered securities during the period 1914 *673 through 1923, thirteen were public utility companies. Of the thirteen public utility companies, eleven were West Coast concerns, including two located in closely adjacent areas, the Mountain States Power Co. and the Central Arizona Light & Power Company.

A factor which restricted the market of potential purchasers of California public utility securities was a fear on the part of eastern and midwestern investors that another earthquake would occur in that area, and that the destruction and property loss would be as great as that suffered in the earthquake which occurred in 1906. As the firm specialized in the underwriting and distribution of West Coast public utility financings in West Coast securities markets, the natural consequence was that Blyth Witter & Co. gradually developed into an important and efficient distributing organization on the West Coast. In performing investment banking services for West Coast issuers, Blyth, Leib and Shurtleff placed great stress upon the fact that Blyth Witter & Co. was a California house, and argued that California enterprises should use California underwriters.

In 1924, Dean Witter resigned from Blyth Witter & Co. and formed the copartnership, Dean Witter & Co. Notwithstanding the resignation of Dean Witter, the corporation continued to function under the name of Blyth Witter & Co. until December 31, 1928, when the principal executive officers decided that the organization, in addition to its general investment banking, should go into the general brokerage business. Consequently, the copartnership, Blyth & Co., was then formed on January 1, 1929.

The venture of Blyth & Co. into the general brokerage business was short-lived, due principally to the devastating stock market crash of October, 1929. In
March of 1930, the copartnership, Blyth & Co., was dissolved, and a new corporation, Blyth & Co., Inc., was incorporated under the laws of Delaware on March 10, 1930, to continue the investment banking business previously conducted by the partnership. The firm, in the period 1924-1931, broadened the base of its underwriting and distributing activities from specialization in the underwriting and distribution of the securities of West Coast utilities, to include the underwriting and distribution of issues of non-utility issuers and of non-West Coast issuers.

In the period 1932 through 1935, a number of important changes occurred in the set-up of the Blyth organization. Blyth had built up a very sizable and efficient sales organization throughout the country in order to dispose of those blocks of securities which it acquired through the underwriting of issues and through the operations of its active Trading Department. The Buying Department, however, had not been thoroughly developed. The Blyth buying organization on the West Coast was headed by Roy L. Shurtleff, in the San Francisco office; George Leib, who had started on the West Coast in 1914, was the head of the Eastern organization. His training had been largely in the sales organization. In the Buying Department of the New York office there were two men particularly equipped to analyze the financial structure and requirements of issuers, to develop financing plans, and to follow through on the technique of building an issue and preparing registration statements. These two men were Stewart Hawes and Eugene Bashore. They had assistants who were not then trained to any great extent.

At the end of 1934, Charles R. Blyth wanted to have somebody in the New York office who was trained in buying department activities, to supervise the negotiation of security issue transactions and to head the Buying Department. Charles E. Mitchell turned out to be the man, and on June 17, 1935, Mitchell entered the employ of Blyth as chairman of the board of directors.

Immediately prior to entering the employ of Blyth, Mitchell had his own firm, C. E. Mitchell, Inc., which he had formed in January, 1935. During the period from October 31, 1916, to April 2, 1929, he had served as president of the National City Company, and from April 2, 1929, to February 27, 1933, as chairman of its board of directors. From May 3, 1921, to April 2, 1929, Mitchell had also served as president of the National City Bank of New York, and from April 2, 1929, to February 27, 1933, as chairman of its board of directors. In February and March, 1933, Mitchell resigned all of his directorships and official positions with the National City Company and the National City Bank of New York, and, since that date, has had no direct or indirect connection with either organization. All of those connections had been severed more than two years before he joined Blyth. There was no succession of any kind, either de jure or de facto, from the National City Company to Blyth by reason of the fact that Mitchell joined the Blyth organization, or for any other reason.

In addition to a successful career with the National City Bank, Mitchell brought to the Blyth organization his experience as a director of the Federal Reserve Bank of New York.

Mitchell testified that when he joined Blyth in June, 1935, he endeavored to build the firm into the kind of an investment banking firm, which, with an expert buying organization, a statistical organization, and a distributing organization, could successfully obtain leaderships in underwritings. He started to work with the idea of trying to develop Blyth into a well rounded investment banking organization.

Another step in building up the national Buying Department of Blyth was taken when Eugene M. Stevens entered the employ of Blyth as vice-chairman of the board of directors on April 1, 1936.28 He was placed in charge of the buying department of the Blyth organization in Chicago. Prior to entering the employ of Blyth, Stevens had been vice-president of the Federal Reserve Bank of Chicago, and prior thereto had been an officer of the Continental Illinois Bank and Trust Co. of Chicago.

Blyth’s principal Buying Department in the East was centered in New York City. In the middle-west it was in Chicago and on the West Coast it was in San Francisco. To head up this nation-wide buying organization, there were Blyth and Shurtleff in San Francisco, Mitchell, Leib, Hawes and Bashore in New York, and Stevens in Chicago.

In 1935, Blyth’s overhead was approximately $175,000 a month, and its capital in June, 1935, was about $2,500,000. By February 9, 1949, Blyth’s capital had increased to between $10,000,000 and $11,000,000.

In February, 1935, Blyth had its own wire and private telephones to Boston, Philadelphia, Cleveland, Chicago, San Francisco, Los Angeles, Portland and Seattle. It had 19 offices and 125 salesmen, and it had a large dealer following, as it traded daily with most of the important dealers throughout the country. The functional organization of Blyth as a leading national distributor required it to have a steady volume of securities to sell. Hence, there was always a vital need for obtaining...
The static data show that prior to the enactment of Rule U-50 on April 8, 1941, Blyth bid six times for security issues which were offered at public sealed bidding. It bid four times as the manager of a bidding account, and twice as a member in accounts headed by others, winning, however, only once. This was in December, 1940, when an account in which Blyth was a member, and which was managed by First Boston, bid for and won a $53,000,000 Boston Edison Co. bond issue.

*675 During the year 1941, the first year of bidding under Rule U-50, Blyth bid for a total of fourteen issues, two of which were not under Rule U-50. It bid seven times as manager or co-manager of a bidding account, winning once, and seven times as a member in accounts headed by others, winning twice.

Among the public utility companies, whose security issues Blyth bid for in 1941, either as manager or co-manager of the bidding accounts, were the New York State Electric & Gas Corporation and the San Diego Gas & Electric Company. The two issues of New York State Electric & Gas (a preferred stock issue and a bond issue tendered for public sealed bidding at the same time) were the first issues of which bids were opened under Rule U-50. These bids were opened on June 23, 1941. The preferred stock issue was won by the account co-managed by First Boston and Glore Forgan. The bond issue was won by the Equitable Life Assurance Society. The San Diego Gas & Electric issue was a registered secondary offering by the parent company, the Standard Gas & Electric Company, and was the first block of subsidiary common stock offered by a public utility holding company under Rule U-50. This issue was won by the account managed by Blyth, and was offered to the public on July 8, 1941.

Blyth’s record in the period 1941-1949 in bidding for new and secondary issues of $1,000,000 and larger of domestic and foreign business corporations (excluding domestic railroad equipment trust certificates) shows that Blyth, bidding as either the head or a member of a bidding account, bid for 462 issues compared with 447 issues for Halsey Stuart.29 It bid for 204 issues as the head of a bidding account, winning 51 issues.

In the period 1935-1949, Blyth ranked third, in terms of the number of issues, among all investment banking firms managing or co-managing new and registered secondary issues, $100,000 and larger, won at public sealed bidding. In terms of dollar volume, Blyth ranked fifth, managing or co-managing issues amounting to some $489,500,000.

14. Harriman Ripley & Co., Incorporated

Harriman Ripley & Co., Incorporated, was organized on May 29, 1934, under the laws of the State of New York, under the name of Brown Harriman & Co., Incorporated, to engage in the investment banking business, and it commenced business on June 16, 1934. Its name was changed to Harriman Ripley & Co., Incorporated, on January 1, 1939.

The National City Company was organized in 1911 under the laws of the State of New York as the securities affiliate of the National City Bank. On June 10, 1933, its name was changed to The City Company of New York, Incorporated, and, on June 4, 1934, it discontinued its securities business and went into liquidation. No legal succession existed as between the National City Company and Harriman Ripley; nor has there been any other kind of succession from one to the other.

Brown Brothers Harriman & Co., a partnership, was formed on January 1, 1931, to carry on the commercial and investment banking activities theretofore engaged in by Brown Brothers & Co., a partnership, by W. A. Harriman & Co., Inc., a New York corporation, and by Harriman Brothers & Co., a partnership. The principal business of Brown Brothers Harriman & Co. has been, and is, commercial banking. From January 1, 1931, to June 16, 1934, it also engaged, to a relatively small extent, in investment banking. On June 16, 1934, Brown Brothers Harriman & Co. ceased doing an investment banking business, which had never been important to it. Brown Brothers Harriman & Co. was and is a private banking partnership, having no legal connection with Harriman Ripley. There has been no succession of any kind *676 from Brown Brothers Harriman & Co. to Harriman Ripley.

When Harriman Ripley commenced business on June 16, 1934, it had twelve officers, seven of whom also comprised its board of directors. Seven of these twelve officers had formerly been officers of the National City Company, and of the remaining five, four had formerly been partners, and one had formerly been manager and attorney in fact, of Brown Brothers Harriman & Co.

The leading personalities in Harriman Ripley are Joseph P. Ripley, who is the chairman, and Pierpont V. Davis, who is the president. Joseph P. Ripley had been an
Pierpont V. Davis had been an employee of the National City Company from 1917 to 1918, and vice-president from 1919 to June 1934. These men were also directors of The City Company of New York, Incorporated, at the time that it discontinued its securities business and went into liquidation.

Harriman Ripley commenced business with paid in capital of $5,000,000, of which $4,900,000 was provided by W. Averell Harriman and E. Roland Harriman, and of which the remaining $100,000 was provided by its officers and directors. W. Averell Harriman and E. Roland Harriman are brothers, and they became general partners of Brown Brothers Harriman & Co. upon its formation on January 1, 1931. W. Averell Harriman has been a limited partner since October 1, 1946, but E. Roland Harriman has been a general partner at all times since January 1, 1931.

From October 24, 1938, to September 27, 1946, inclusive, all of the stock of Harriman Ripley, which was owned directly or indirectly by E. Roland Harriman, W. Averell Harriman, or members of their respective families, being in excess of 90% of the total stock outstanding, was subject to the terms of a voting trust agreement, dated October 24, 1938, under which Joseph P. Ripley was one of the three trustees. Harriman Ripley was recapitalized on October 1, 1946, and the voting trust was dissolved. Since October 4, 1946, its officers have owned the majority of the common stock, being the stock presently entitled to vote for the election of its directors, and E. Roland Harriman, W. Averell Harriman and the members of their respective families have owned directly or indirectly 43% of its voting stock and 97.66% of its non-voting stock.

Harriman Ripley is not only a leading managing underwriter, but it is, in addition, an important distributing organization. It was at the beginning, and has continued to be, a large investment banking house, with a well staffed and aggressive buying, selling and distributing organization. It has offices in a half dozen other cities throughout the country, including Chicago, Philadelphia and Boston. When Harriman Ripley commenced business on June 16, 1934, it had 431 employees, of whom 223 had been employed by Brown Brothers Harriman & Co. immediately prior to their employment by Harriman Ripley, 205 had been employed by The City Company of New York, Incorporated, and three by other employers.

From the time that Harriman Ripley commenced business, it has engaged vigorously in the retail selling of securities. A large part of the volume of Harriman Ripley’s business was in municipal securities, and in equipment trust certificates. It began doing business in municipal securities in the year 1934, and it was also active in bidding for public utility issues, during the period prior to the enactment of Rule U-50. The public sealed bidding sheets covering the period January 1, 1935 to December 31, 1940, record twenty-two corporate issues which were offered at public sealed bidding during that period. Harriman Ripley bid, either as a manager or participant, for eleven out of the twenty-two issues, although, in eight out of the eleven issues bid for, the bids were not successful. *677 It bid seven times as manager, but won, however, only once; and this was the Androscoggin Electric Corporation bond issue which was offered on May 7, 1935. This issue was Harriman Ripley’s first public utility purchase at public sealed bidding. It also participated, under the management of First Boston, in four other accounts which submitted bids, winning two and losing two.

15. Stone & Webster Securities Corporation

Defendant Stone & Webster Securities Corporation, a New York corporation, is a wholly owned subsidiary of Stone & Webster, Incorporated, and is engaged in the investment banking business generally. The parent firm, not a defendant in this case, operated through a number of subsidiaries which offer consulting and engineering, and general advisory services, as well as investment banking facilities.

Organized in 1927, under the name of Stone & Webster and Blodget, Incorporated, this defendant took over the investment banking business which previously had been conducted by the Securities Division of Stone & Webster, Incorporated, and by the investment banking firm of Blodget & Co. In January, 1946, the name of Stone & Webster and Blodget, Incorporated, was changed to Stone and Webster Securities Corporation.

It is not alleged in the complaint that this defendant ‘succeeded’ to the investment banking business of any institution which, pursuant to the Glass-Steagall Act, elected to give up investment banking on June 16, 1934.

Among the personal of the new corporation were Robert van Deusen, previously an employee of the Securities Division of Stone & Webster, Incorporated, and Edward K. Van Harme, previously an employee of Blodget & Co. Robert van Deusen became an officer and director of the firm upon its formation in 1927; Van Harme became a
vice-president of the corporation in 1933, and a director in 1935. At the time the deposition testimony was taken, van Deusen was chairman of the board and Van Horne the president of the corporation, and both directors.

Stone & Webster Securities Corporation engages in a general underwriting business, underwriting and distributing at both wholesale and retail, corporate, government and municipal bonds, as well as preferred and common stocks. It furnishes comprehensive financial services to issuers of securities and to investors. The firm concentrates primarily on utilities financing, but also emphasizes natural gas pipeline, gas distribution company, and power industrial issues. It does not manage public sealed bidding accounts for railroad underwritings, although it occasionally participates in such financing.

The home office of Stone & Webster Securities Corporation is located in New York. It has branch offices in Boston, Chicago, and Philadelphia, and representatives located in Hartford, Providence, and Syracuse. The firm is organized into departments to handle the several aspects of its investment banking business. These divisions include New Business, Municipal, Retail Sales, Syndicate, Accounting, and Wholesale Sales Departments.

On January 3, 1950, the capital of the firm was about $3,000,000.

16. Harris Hall & Company (Incorporated)

The background to Harris Hall is interesting. In 1882 N. W. Harris, one of the pioneers in the investment banking business, formed the Chicago partnership of N. W. Harris & Co. Many of those who figure prominently in the evidence in this case were at one time or another connected with N. W. Harris & Co. Harold L. Stuart started his career with this firm in 1895; William Ewing, one of the organizers of Morgan Stanley, worked with ‘the Harris organization’ in Chicago from 1905 to 1916; William Given, later to become president of American Brake Shoe Co., spent a year *678 with this well-known group, beginning about 1908.

In 1907 Harris Trust & Savings Bank was organized in Chicago and N. W. Harris & Co. transferred to it the assets and business of the Chicago office; later the Boston and New York offices followed a course which is to some extent reflected in the thumb-nail sketch of First Boston in this Part II of the present opinion, and we need not follow the details too closely. Suffice it to say that what is sometimes described in this record as the ‘Harris Forbes organization’ had its roots in N. W. Harris & Co.

In 1912 Harris Trust & Savings Bank organized the N. W. Harris Company as an affiliate, and a certain amount of investment banking business was also done in the Bond Department of the Bank. But, pursuant to the terms of the Glass-Steagall Act, and on June 16, 1934, the affiliate was dissolved and the Bank elected to discontinue investment banking, except as to the types of securities exempted from the operation of the statute.

In the meantime, as part of an effort to maintain the organization above referred to on a nationwide basis, an agreement was made between the Chicago, Boston and New York houses, which were now in legal contemplation separated, by which each afforded the other an option to participate on original terms, in certain fixed percentages relative to various types of financing, in their respective security purchases. In July, 1930, they agreed to continue this arrangement until December 31, 1932; but it was cancelled in 1931.

The confusion and uncertainty, which everywhere followed in the wake of the Glass-Steagall Act, were naturally evident in Chicago; and it was not until October 30, 1935, that Harris Hall came into existence, organized and incorporated by four of the personnel of the Bond Department of Harris Trust & Savings Bank. Edward B. Hall, who had been with the Bank since 1909, became president of Harris Hall; Norman W. Harris, grandson of the founder of N. W. Harris & Co., became vice-president; Lahman V. Bower became vice-president and treasurer, in charge of the buying activities; and Julien H. Collins became a vice-president. Each of the four was a member of the board of directors.

The capitalization plan envisaged 2500 shares of preferred stock and 60,000 shares of common, or $1,102,000. A proposal was made to the Bank to transfer 12,000 shares of the common stock to the stockholders of the Bank for ‘the good will of the Harris Trust & Savings Bank heretofore acquired in and pertinent to the purchase and sale of securities’; the proposal was accepted and the transaction consummated. Stockholders of the Bank subscribed for the preferred stock. In 1945, the capital of Harris Hall was $1,291,000.

This small mid-western firm has done a varied and general investment banking business, specializes somewhat in public utility securities and railroad equipment trust certificates; but is interested in managements in all types of issues and in getting an many participations as it can. It has a surprisingly good record in private placements, considering the size of its organization and its general facilities; its public sealed bidding record is good; and its record of managements in
the various triennials, 1935-1949, has fluctuated widely.

17. Union Securities Corporation

Union Securities Corporation was formed in October, 1938, for the purpose, among others, of continuing the investment banking business of J. & W. Seligman Co. There is no ‘predecessor-successor’ problem with respect to Union, since Union admitted in its answer, and has never questioned, that it was formed to continue the investment banking business of J. & W. Seligman.

J. & W. Seligman Co., a partnership formed prior to 1915, has been engaged in many branches of the banking and securities business, including brokerage, investment counseling, securities underwriting and private banking. The firm *679 discontinued its commercial banking business in about 1933, by reason of the Glass-Steagall Act, and divested itself of its underwriting activities in 1938, at the time Union Securities Corporation was formed. J. & W. Seligman continues today in the business of brokerage, investment counseling and order branches of the securities business other than investment banking. The firm received no consideration for the transfer of its underwriting business to Union.

Union Securities Corporation was organized under the laws of the State of Maryland to engage in the origination, underwriting and distribution of securities and for other purposes. With respect to its investment banking functions, it was organized to continue such business as had theretofore been conducted in that field by J. & W. Seligman Co., and as a subsidiary of two investment companies, Tri-Continental Corporation and Selected Industries Incorporated. The stock of Union was owned in equal proportion by these two investment companies until March 31, 1951. As of that date, Selected Industries Incorporated was merged into Tri-Continental Corporation, and all of the outstanding capital stock of Union is presently held by the latter.

Union Securities Corporation is engaged in the general underwriting business of stocks, bonds and municipal securities, and is interested in leadership and participations as well. It is not engaged in the brokerage business, nor does it purchase securities for its own permanent investment. It has on occasion engaged in reorganization or recapitalization plans, involving the purchase of stock, rehabilitation of the company and subsequent disposal of the securities purchased.

Union has various departments to handle the several functions of its investment banking business, including Sales, Syndicate, Buying and Accounting Departments.

Union took over the entire underwriting business of J. & W. Seligman, and part of the personnel engaged in the underwriting and new issue business of the Seligman firm. A number of the men who have been officers and directors of Union Securities since its formation were, and continue to be, partners in J. & W. Seligman Co., and officers and directors of Tri-Continental Corporation and— until its merger with Tri-Continental— Selected Industries Incorporated. Included in this group are Henry C. Breck, Cyril J. C. Quinn, and Francis F. Randolph. The latter has been chairman of Union’s board of directors since 1940, succeeding to that position upon the death of Earle Bailie. Bailie, who had headed the Union board since the formation of the company, was at the time of his death also a partner in the Seligman firm, and chairman of the boards of both Tri-Continental and Selected Industries.

Randolph, in addition to heading Union’s board since 1940, was also president of Union from its organization in 1938, through 1945. He was succeeded in this post by the present incumbent, Joseph H. King, who had come up through the Seligman firm and had been a vice-president of Union.

Although Union was organized to carry on the investment banking business of J. & W. Seligman Co., in actual fact the new company ‘inherited’ practically no business from the old firm. Not only did the Seligman firm give up its commercial banking business after passage of the Banking Act, but also during the depression engaged in very little investment banking activity, managing or co-managing only three issues from the early 1930’s up to the time of the formation of Union Securities.

Consequently, Union itself got off to a slow start, the static data indicating that for the first triennial of its existence, 1938-1940, union managed three negotiated issues (of over one million dollars) and co-managed none. With this record, it ranked 28th among investment banking firms with reference to number of issues managed, and 27th with reference to dollar amount of such issues.

*680 Its progress was still slow in the next triennial, 1941-1943, with two managerships and four co-managerships to its credit, and the firm’s rank increased only slightly. But in the next three-year period, 1944-1946, Union took hold, managing twenty issues and co-managing an additional twenty; it rose to 7th in number of issues managed, and 16th in dollar volume of managerships.

While it suffered some decrease in the next triennial,
1947-1949, Union remained an important factor in investment banking activity, ranking 17th in number of issues managed, and remaining 16th in dollar volume of leaderships.

Union now does a wide distributing business also. Its participations in underwritings show a rise similar to that of its managements. In negotiated issues for the five successive triennials, it ranked in number of issues 25th, tie for 28th, 10th, 14th, and 18th, and in dollar volume 24th, 23rd, 12th, 8th and 13th.

Thus we have the picture of a new firm, organized to continue the almost extinguished investment banking business of J. & W. Seligman, slowly building on this foundation until it became a major underwriting and distributing house.

The static data also reveal some interesting evidence of Union’s attitude toward public sealed bidding. At the same time that Union forged ahead in the negotiated field, it began to organize syndicates to bid at public sealed bidding. Thus, while in the period 1944-1946 it managed none and co-managed but two such issues, in the nest triennial, 1947-1949, Union managed six and co-managed six public sealed bidding issues, thus ranking 9th among investment banking firms in number of the public sealed bidding issues led and 7th in dollar volume of such issues. Its participations in public sealed bidding issues tell a similar story. It commenced to take participations in the second triennial 1938-1940, notwithstanding certain opposition to the Eaton-Young-Stuart campaign for compulsory public sealed bidding, and occupied in successive triennials the rank of tie for 14th, 21st, 16th and 4th. In the last triennial, 1947-1949, it has, in underwriting participations of public sealed bidding issues, been exceeded in terms of dollar amount only by Halsey Stuart, First Boston and Kidder Peabody.

Part III

The Syndicate System

During the prolonged pretrial sessions, some of which were of a formal character, in the courtroom and reported, and many others, described as 'powwows,' were in chambers without the presence of a reporter, and during many months of the trial, the government position relative to the so-called price-fixing phase of the case was strictly in accordance with the charge as formulated in the complaint. No attack was made on the syndicate system as such, but the defendants were said to have abused the system in the course of the formation and operation of the over-all, integrated combination and conspiracy vis-a-vis the hundreds of other firms in the investment banking industry. This system, supposed to have been invented by defendants 'and their predecessors' was claimed to be one of the terms of the conspiracy. The government’s original position was made too clear for any possible misunderstanding in the course of the clarification process which took so much time and proved in the end so helpful to all concerned.

Thus the following colloquies took place:

‘The Court: * * * You say as to such things as this so-called price-fixing arrangement, that these are illegal in and of themselves even if done by one group of underwriters in connection with a particular transaction.

‘Mr. Baldridge: Yes, but we are not pressing that position here, your Honor. We are pressing our over-all charge of conspiracy among those who have been made defendants.’

*681 And again, later:

‘The Court: But let us look at it right straight in the eye. Suppose we come out of this and find there was no concert of action between these defendants at all, absolutely none, because that is what they have been contending. If there was no concert of action, no combination, no conspiracy, then I say the whole matter would fall and it would not be left for me to do what I was talking about earlier this morning, namely, find that separate contracts or separate specific underwritten negotiated issues by the syndicate method were illegal. That is right at the point, isn’t it, Mr. Whitney?

‘Mr. Whitney: Yes, sir.

‘Mr. Baldridge: We are not asking for relief, your Honor, outside the over-all conspiracy.

‘The Court: I guess that is enough.

‘Mr. Baldridge: As I explained this morning, two or three price-fixes are illegal outside the conspiracy, but we are not pressing that.

‘The Court: Well, I think we have had a very useful discussion about this matter. But I still would like to have the briefs, just so I can get my legal thinking straight on this matter.’

This is what has been described during the trial as the government’s first position on the subject of the syndicate system. In the meantime the various discussions and colloquies were making it plain that many of the 10,640
documents which had been, or were in the course of being, authenticated and printed for introduction in evidence as part of the government’s case, showed a vigorous state of competition between the seventeen defendant firms and others as well. These documents had been selected out of hundreds of thousands of other documents examined by government investigators because each contained some phrase or clause upon which reliance was placed; but it had not been realized that the balance of many of the documents indicated that a particular defendant or sometimes several of them were doing the various things that government counsel were claiming they had combined and agreed not to do. And so the number of documents intended to be used was cut down by government counsel to about 4,000. As the trial progressed and document after document was placed in evidence it was apparent that government counsel were gradually disproving their own charges. This was especially clear after Harold L. Stuart had on cross-examination furnished the background which was essential to an understanding of the contents of many of the documents.

The result of all with was that finally government counsel attempted to accomplish what they had said in the beginning was not one of their contemplated objectives. Having assured me that the sole issue was the existence or non-existence of the over-all, integrated combination and conspiracy charged in the complaint, they entered upon a series of maneuvers, which, if successful, would have brought into the case two new and additional charges the effect of either of which, if sustained by me, would have been to outlay many of the clauses customarily used in syndicate agreements by the entire investment banking industry, with the approval and cooperation of the SEC. Thus it was claimed that the cross-examination by Arthur H. Dean of Harold L. Stuart was a consent, express or implied, to the inclusion in the case of ‘some other conspiracy’ than that charged in the complaint, namely as conspiracy, not by the seventeen against all the rest of the investment banking firms, but one participated in by the industry as a whole. After due consideration, I rejected this contention, as it was clear to me that nothing could have been further from Mr. Dean’s intention than any such broadening of the issues.

Then it was asserted that the issue had somehow been in the case all along despite government counsel’s disclaimer. *682 Again, after careful examination of the question and a study of the record, I expressed the view that the sole issue was that of the existence or non-existence of the over-all conspiracy. But I agreed to give the matter further consideration after all the government’s proofs were in. I have done this, and now decide that the ‘some other conspiracy’ is not before me. The subject will be discussed again in a subsequent portion of this opinion.

At last government counsel did what they should have done as soon as they decided to shift their ground and attack the syndicate system and the entire investment banking industry. It was well known that various clauses of underwriting and selling group agreements containing various types of clauses relative to the public offering price, resale price maintenance, withholding of commissions, uniform concessions and re-allowances and stabilization were in common use throughout the industry; the SEC had held that the fixed-price method of issuing new securities gave no offense to the Sherman Act; and the entire process was inextricably interwoven into the texture of a long series of Acts of the Congress and the subject of numerous rules, regulations, releases and memoranda issued by the SEC. No wonder government counsel hesitated to take the responsibility of attempting to tear apart a system which seemed to the Congress and to the SEC to be of such utility to the American economy, and which was the result of over fifty years of gradual growth. But attack it they finally did.

Formal motion papers were served and an application made to amend the complaint. Passing over the intermediate formulations of the new charge, which were so vague as merely to add to the confusion, the motion in end result became one to add to the complaint the following new paragraphs:

‘VIII. The Contracts in Restraint of Trade

‘47. Since at least January 1, 1942 to date, each defendant has entered into, and threatens to continue to enter into, and unless enjoined by this Court will enter into, contracts with various investment bankers and security dealers in unreasonable restraint of the interstate commerce described in this complaint and in violation of Section 1 of the Sherman Act. These contracts are commonly referred to by defendants as ‘Agreements among Underwriters’, ‘Selling Agreements’ or ‘Dealer Offering Letters’, and are those employed by defendants as syndicate managers in the merchandising of security issues. Each such contract continues in full force and effect for a stated period of time provided therein. Each purchaser under such a contract purchases, usually severally, a part of the security issue named in the contract and acquires title thereto. Each of these contracts contains, among other things, a fixed schedule of sale and resale prices for the securities named in the contract including
'(a) the public offering price applicable to all retail sales made to the public by members of the buying group or by the syndicate manager as agent for the members of the buying group or by members of the selling group;

'(b) the price applicable to sales made by members of the buying group, acting through the syndicate manager, to selected dealers who are included in the selling group;

'(c) the price applicable to sales made by members of the buying or selling groups, to dealers not members of the selling group.

'48. Each of the defendants, when a party to any of such contracts, has agreed for the period of time provided therein (a) to maintain the fixed schedule of prices, and (b) to authorize the syndicate manager to stabilize the price of the securities named in the contract by making purchases and sales of such securities in the open market or otherwise. Each of the defendants has frequently agreed in such contracts that if the syndicate manager shall so purchase any securities delivered to a member of the buying or selling group, the syndicate manager is authorized to withhold, or if already paid, to obtain the return of a sum of money calculated in accordance with the provisions of the contract as a penalty from such member.

'49. Each of the defendants, when acting as syndicate manager of a buying group or both a buying group and a selling group engaged in merchandising a security issue, has policed the price schedules contained in the contracts relating to that issue and has induced or attempted to induce the members of the buying and selling groups to adhere to the schedule.'

After hearing extensive oral argument, studying the numerous memoranda submitted by counsel for various parties and deliberating on the matter for several weeks, I denied the motion. Thereafter counsel for the government urged me to reconsider the matter and I again took it under advisement, with the understanding that I would not decide it until all the government’s proofs were in and I had the benefit of the connecting statements to be made pursuant to my Pretrial Order No. 3 and such briefs as might be submitted by counsel in support of and in opposition to the respective motions to dismiss at the end of the government’s case.

Thus we come to a consideration of the government’s first position.

I. Did the Seventeen Defendant Investment Banking Firms Use the Syndicate System as a Conspiratorial Device in Connection with Any Integrated Over-all Combination?

There are in evidence about 1,300 underwriting papers, colloquially referred to as ‘syndicate agreements.’ They cover a period of well upwards of thirty years, some of them much older, and they contain a great variety of provisions relative to price maintenance, the trading account or stabilization, withholding commissions (the so-called ‘penalty’ clauses), uniform concessions and re-allowances, authorizations to the manager to act for the group in such matters as group sales, dealer sales, syndicate and price termination, extension or price reduction and so on. I have spent many weeks studying these syndicate agreements and my conclusion, based on the evidence as a whole, is that, in the drafting and use of these agreements these defendant firms acted as separate entities and were motivated solely by normal, ordinary business considerations. These firms played their several parts, just as did other prominent and leading investment banking houses, in the evolution of the syndicate system as described in the preliminary portion of this opinion devoted to the history of the investment banking business. Different firms had different policies, and these are often reflected in the draftsmanship by some of the leading law firms, who sometimes entertained different views on questions of law. At times the forms of agreement used by a single firm on various occasions differ markedly one from another. There is a conspicuous lack of uniformity. Indeed, Morgan Stanley eliminated price maintenance clauses from its underwriting and selling agreements as long ago as 1938; it gave up selling agreements entirely in 1946; and its withholding commissions clause, for failure to place securities with investors, was for a time eliminated from its underwriting agreements and later restored. Price maintenance clauses were omitted from Harriman Ripley agreements in 1943. There is a bewildering variety of clauses used from time to time in their syndicate agreements by the other defendant firms.

Of course there is a certain fundamental similarity in those features which are characteristic of the system. In view of the evolution of the syndicate system over the years how could it be otherwise. The underwriters are formed into a group, broad powers are delegated to the manager, there are provisions for group and dealer sales and with respect to concessions, re-allowances and so on. In a moment we shall find that all these similarities and others are reflected in the forms, registration statements, prospectuses and reports required by the SEC pursuant to the authority of the Congress.

But government counsel would have me believe that the very variety of the clauses used by the different defendant
firms is some evidence of subtle connivance; that some changes were due to fear engendered by this or that investigation or by the filing of the brief in the PSI case by the Antitrust Division of the Department of Justice attacking the single-price security offering as violative of the Sherman Act. Doubtless the filing of this brief attacking price maintenance clauses, stabilization clauses and the rest did cause a near-panic among some investment bankers, both defendants and non-defendants. And why not? It is not a very pleasant prospect for a business man, who thinks he has been complying with the law, and who has been following as best he can the directions of the Congress and the SEC, to find himself fact to face with a possible indictment and the onerous expense connected with defending oneself against an antitrust charge. But the reaction of the different defendant firms to the filing of that brief was as various and sometimes as contradictory as could well be imagined. Some continued as before, some did not. Even Halsey, Stuart & Co. gave up using price maintenance clauses for a year or so and then came back to them because Stuart thought they could not do business without them.

Finally, I was asked to make a microscopic examination of a long series of clauses in a succession of Morgan Stanley agreements, which were supposed to demonstrate that the abandonment by Morgan Stanley of price maintenance clauses in 1938 was merely colorable. It will suffice to say that I find each and every one of these changes, and other changes made by Harriman Ripley and by other defendants, were made in good faith and for proper reasons, having nothing to do with any other investment banking house or any conspiracy or attempt at concealment or subterfuge.

The net result of this phase of the government’s case is that these defendant firms used the syndicate system, just as did other investment banking houses so far as this record discloses, according to their several and separate views of what was thought by them to be suitable and helpful in connection with each security issue as it came along. There was, with reference to the development and use of the syndicate system, no concert of action, no agreement and no conspiracy, integrated, over-all or otherwise.

II. Alternate Claims Belatedly Attempted to Be Asserted against the Investment Banking Industry as a Whole

The government’s second position, concerning what government counsel have termed ‘some other conspiracy,’ not specifically alleged in the complaint but said to be vaguely included by implication or by consent, and its third position, stated in the papers supporting the motion to amend the complaint, involve alternative claims against the investment banking industry as a whole. In other words, in the event that it should be determined as matter of fact that no such combination or conspiracy as is alleged in the complaint ever existed, government counsel would have two new and additional strings to their bow.

Despite assurances that no attack was being made upon the syndicate system except insofar as it was abused by the operation of the alleged over-all, integrated conspiracy, government counsel ultimately decided, as above stated, that they would, if permitted to do so, ask for an adjudication that the provisions of syndicates relative to the public offering price, resale maintenance, stabilization and withholding commission clauses, uniform concessions and re-allowances, and termination periods for the life of syndicates or the continuance of price restrictions were illegal per se under the Sherman Act. It needs no argument to demonstrate that these positions are diametrically opposed to the original claim that these seventeen defendant investment banking firms entered into a conspiracy and combination to keep ‘the cream of the business’ for themselves and exclude the rest of the investment banking industry from participation therein. Moreover, there is nothing in the claim that counsel for certain of the defendants consented to the broadening of the issues by reason of his cross-examination of Harold L. Stuart. The evidence thus elicited had a direct bearing upon the history of the syndicate system and completely demolished the government claim that the syndicate system had been invented by defendants ‘and their predecessors’ in or about 1915; other questions related to matters which constituted indispensable background material relative to the nature of the investment banking business. Even though counsel for some defendants at one time urged me to grant the motion to amend and thus broaden the issues and even to adjudicate concerning the ‘some other conspiracy,’ counsel for other defendants vigorously opposed the granting of the motion and insisted that the ‘some other conspiracy’ was not an issue legitimately arising out of the state of the pleadings and the proofs. In the end counsel for all defendants aligned themselves in opposition to the inclusion of these two new groups of issues.

It is clear to me that neither of these matters is before me as of right. There are many reasons why, in the exercise of discretion, they should be kept out of the case. Indeed, under the circumstances of this case it might well be an abuse of discretion to treat these issues as justiciable herein and to decide them.
True it is that the questions involved are important to the investment banking industry as a whole; it is stated that these questions have never before been decided by any court; and much time and effort have been expended during this long trial in extensive and scholarly research, the submission of voluminous briefs and in prolonged and helpful argument by counsel.

But I question the wisdom of establishing a precedent which may add to the already too-heavy burden of expense resting upon defendants in a sprawling, circumstantial-evidence type of case such as the present one, by permitting the government to shift in mid-trial from one alleged conspiracy to a new and different one. The injustice of thus enlarging the issues in this case is especially manifest when one considers that much additional evidence would in all probability have to be received, despite protestations to the contrary by counsel for the government; and the setting of an integrated, overall combination and conspiracy case, with its multiplicity of miscellaneous issues, does not seem to me to be an appropriate one in which to determine the legality of a specific underwriting or selling agreement made in connection with an issue of new securities by a particular issuer managed by one of the defendant firms. Indeed, the discussion of ‘specific agreements’ is misleading, as the effect of the procedure urged upon me by government counsel would be to put together large numbers of agreements containing, and not containing, various types of clauses of the character above described, and, out of the general resulting admixture, try to reach some sort of determination of the legality of syndicate agreements in general. This would be highly prejudicial to the defendants.

As I said during the trial, in a colloquy with one of the government counsel:

‘It seems to me you keep talking about specific price agreements, but what you are really talking about is a general fog in which hundreds of syndicate agreements, by different parties, over long periods of time, are all put in the pot together and stirred around, making a general stew; and out of such a mess as that I do not believe good law can reasonably be expected to come.’

The most satisfactory way to arrive at definitive factual and legal conclusions, which could be tested on appeal and serve as precedents for others in similar circumstances, would be to bring before a court of competent jurisdiction the question of the legality under the Sherman Act of a single group of agreements relating to a specific security issue. In such a case there would necessarily be before the court evidence or appropriate offers of proof of all the attendant circumstances, such as the amount of the issue, the state of the market, the number and relative percentage positions of the underwriting participants, and the amount of their underwriting strength, the selling group or dealer arrangements and a host of other factors such as were considered in the PSI case by the SEC. The period of completed or actual continuance of the syndicate agreement or maintenance of the public offering price may be too long; other provisions may, under the peculiar circumstances of a given situation, make the entire arrangement in a particular case unreasonable. It seems scarcely likely that such a case could continue to a conclusions, as here, without a single witness to testify to the facts surrounding the making of the syndicate agreements under attack. To proceed in the manner I have just suggested would avoid all the confusion inevitably attendant upon an attempt to decide these questions on a record such as we have in this case, which would furnish counsel for the government with a species of grab-bag out of which they could pick whichever type of clause suited the convenience of the moment as the discussion shifted this way and that. It is difficult for me to see how it would be ‘in furtherance of justice’ to permit this to be done.

Added to all this is the fact that the bringing in of such new issues could hardly fail to prolong the trial, a circumstance of no mean moment in a case which has already covered a period of upwards of three years of trial and pretrial; and the result might be the burden and expense of an appeal which would otherwise not have been prosecuted. One must not be blind to the possibilities of oppression in these overly-long and unduly complicated antitrust cases.

Having in mind the possibility that I may have fallen into error in refusing to entertain and decide these new issues, it seems fitting that I should briefly set forth such views as I have on the subject of the validity of these syndicate agreements in general. The subject is a thorny one and not without a certain fascination. Literally months of my time before and after daily court sessions have been consumed in the study of its various aspects. The following discussion of the questions of law affecting the syndicate system in general, is by way of dictum.

To begin with, the history and development of the syndicate system as set forth in the preliminary portion of this opinion demonstrates that the modern syndicate system in general use today by the investment banking industry is nothing more nor less than a gradual, natural and normal growth or evolution by which an ancient form has been adapted to the needs of those engaged in raising capital. By no stretch of the imagination can it be
considered a scheme or plan or device to which investment bankers have from time to time adhered. There is nothing conspiratorial about it; nor, on the record now before me, can these defendant firms or anyone fairly be said to have formed at any time any combination or conspiracy *687 to operate under the syndicate system.

But the Sherman Act applies not alone to conspiracies and combinations but to ‘agreements’ as well, and we are now concerned with written agreements and other contractual arrangements in connection with the underwriting and distribution of security issues. When such agreements contain price maintenance clauses binding on the underwriters, resale price maintenance clauses binding on the selling groups or selected dealers, stabilization and repurchase or withholding commissions clauses, specified and uniform concessions and reallocations and termination provisions of 15, 20 or 30 days, with some powers of extension, or change in the public offering price, under various conditions: do any of these clauses, or any combination of them, constitute per se violations of the Sherman Act?

The group of problems thus propounded suggests a number of pertinent preliminary questions: Has the rule of reason been abandoned to make way for a cliche or rubric to the effect that any agreement relative to price maintenance is taboo, irrespective of whether it fosters and promotes rather than restricts and restraints competition, irrespective of whether it is intended to or does or can affect general market prices, and irrespective of any and all other factors? If there remain some vestiges or at least the hard core or perhaps the integral whole of the rule of reason, should the courts inquire into the substance of the nexus of agreements and relationships as between the various parts of the underwriting and distributing team and the issuer, or look merely at the superficial and formal aspects of the transaction? If the Congress engaged in the elimination of harmful practices, after numerous and prolonged investigations passed a series of statutes into the terms of which the established procedures of investment bankers relative to the public offering price, stabilization and so on have been inextricably interwoven, thus indicating that the members of the Congress were implementing the operation of a system which they regarded as generally legal and proper, what weight should a court give to such attitude on the part of the Congress, in determining whether or not the practices thus implemented are violations of the Sherman Act, in view of the circumstance that no general exemption from the provisions of the Sherman Act is set forth in such legislation? And finally, if the SEC, organized as an administrative body to supervise the functioning of these Acts of Congress, after careful deliberation and consideration of the views submitted both in writing and by oral argument by the Antitrust Division of the Department of Justice, filed a long and well considered opinion to the effect that the particular agreements in the case before it, which contained price maintenance clauses, resale price maintenance clauses, stabilization and ‘penalty’ clauses and a long period of continuance of the syndicate, were in every respect legal and not per se or any other sort of violations of the Sherman Act, what weight should a court give to this pronouncement by the commissioners, who probably knew more about the practical workings of the syndicate system than any other public body?

Moreover, it is interesting to observe that no one will ever know the extent to which the machinery and apparatus of the syndicate system of today have been moulded into their present state, not merely by the provisions of the Securities and Banking Acts and the amendments thereto and State Blue Sky laws, but by informal conferences between investment bankers and their counsel on the one hand, and, SEC, ICC, FPC and various state commissioners and members of their technical staffs on the other, and by the numerous published releases, suggestions and deficiency memoranda issued by one or another of these administrative bodies. No court can turn back the hand of time; and the plain unvarnished truth of the matter is that the intricate, highly sensitive and flexible syndicate system which *688 now serves its purpose so well, is perhaps to a large extent the product of legislation by the Congress and administrative rulings by those functioning under the authority of the Congress. The eggs cannot now be unscrambled. And if they could, cui bono? We must not forget that the law is a living dynamic force at all times responsive to the needs of society, and not a mere game in the playing of which judges move about quotations from earlier cases as one would shift kings and queens on a chess-board.12

A. The Rule of Reason

The law is full of perplexities which mystify lawyers and laymen alike. Much of the difficulty is caused by endless and at times futile discussion of decisions rendered in earlier cases, with liberal quotations from opinions intended to apply to particular situations. This in turn leads to discussion of other cases and further quotations and the making of distinctions and explanation. Much of the confusion, especially in the field of antitrust law, is due to the fact that the breadth and scope of the Sherman Act are so general and so beneficent that lawyers and even judges often fail to heed repeated admonitions that each case must necessarily stand on its own legs, and that the conclusions reached in each depend largely upon the peculiar characteristics of the particular industry involved. That is why discussion of ‘loose-knit’ and ‘close-knit’,
‘vertical’ and ‘horizontal’ combinations, wholesale and retail ‘merchandizing’, and ‘good intentions’, the ‘elimination of trade abuses’, ‘hardship’ and so on is mere mumbo-jumbo which, far from leading to a solution of the questions of law involved, adds to the general confusion. Probably this is just another manifestation of how human nature works. Those of ripe experience in any craft rejoice in every opportunity to surround their skills with an air of mystery, by using an esoteric terminology; and lawyers who are specialists in patent, admiralty and antitrust cases are no exception to the general run of mankind.


*689 I can find nothing in any of these cases which would permit me to conclude that the rule of reason has been abandoned or discarded. Moreover, the basic principles of the Chicago Board of Trade and the Appalachian Coals cases have never been repudiated. Indeed, these cases have been cited by the Supreme Court again and again over the years.

My own opinion is that the situation before me now is sui generis—none of the case cited by either side is precisely applicable. Despite all the general condemnation of price-fixing, I find nothing in any of these cases which can be regarded as controlling precedent here or which binds me to hold the clauses of these syndicate agreements now under attack to be illegal per se under the Sherman Act.

We may accordingly, by an original and independent process, apply the rule of reason to the general methods used by the investment banking industry in making an orderly distribution or placement of a new issue of securities on behalf of an issuer.

That the underwriters and the members of the selling group or selected dealers have a certain practical relationship with the issuer, and form a team and act together under the supervision of the manager, is not disputed. Each performs his function or functions in an integrated, unitary transaction. They have a common purpose, they work together toward it, using jointly the efforts, reputation, and experience of all; and their community of endeavor has a value in the practical world which negates any possible inference that their association is a mere cloak for an agreement to fix prices in restraint of trade.

Those who participate as underwriters or dealers are in no sense competitors. When we speak of competitors nothing but confusion will follow unless we first determine what is the ‘it’ for which the competitors are supposed to be competing. Perhaps a few months before the issue under discussion some of the participants were engaged in the underwriting and distribution of a quite different issue of securities, and others of another. But that can have nothing to do with the issue we are talking about. If, as is certainly the case, these participants and dealers are banded together in the enterprise of underwriting and distributing a particular issue, then by very definition they cannot be competitors. The necessary relation that each bears to the issuer makes it clear that they do not and cannot enter the syndicate as competitors, despite the fact that occasionally representatives or agents of one or two of the firms in the team may try to sell the bonds or stocks to the same customer. As SEC Commissioner Robert S. Healey wrote in the PSI* case, which will be more fully discussed later: ‘Having combined, it was proper for each quasi-partner to agree not to cut his other partners’ throat.’

The utility and reasonableness of the entire operation, and the fact that functionally it serves a legitimate business and trade-promoting purpose, is amply demonstrated by its unchallenged growth by a gradual process of evolution...
over a period of a half-century, more or less.

Furthermore, the syndicate system has no effect whatever on general market prices, nor do the participating underwriters and dealers intend it to have any. On the contrary, it is the general market prices of securities of comparable rating and quality which control the public offering price, as explained in the preliminary part of this opinion. Whether by bringing out one issue or many, none of these defendants nor any group of them acting together, have ever, so far as appears in this record, been so foolhardy as to attempt to control or in any manner affect general price levels in the securities market. The particular issue, even if a large one, is but an infinitesimal unit of trade in the ocean of security issues running into the billions, which constitutes the general market.

*690 According to plaintiff’s claim, the purchase of a security issue from an issuer and its distribution to the public via underwriters and dealers is just the old story of a purchase and resale of commodities or a manufacturer’s product with the well-worn scheme of price restrictions all down the line. But is it? In reality the investor either lends money to the issuer, if the issue consists of bonds or debentures, or he makes a continuing investment in the issuer’s capital, if the issue is preferred or common stock. The document in the form of a bond or stock certificate, which is ‘sold’ and delivered to the investor, is merely evidence of a relationship which is created, and the relationship survives loss or destruction of the document.

Of even greater significance are the basic underlying characteristics of the relationship between the issuer, the investor and the group of underwriters and dealers, who together serve the issuer in making the single, entire, unitary transaction possible by shaping up the issue, underwriting the risk and planning and carrying out the distribution. Purchases and sales, wholesaling and retailing, of commodities and manufactured products provide no parallel even remotely resembling the complicated and unitary group action necessary to the successful underwriting and distribution of a new and unseasoned security issue.

Defendants advance two arguments on the facts:

(1) ‘That the function of the investment banker in the capital funds market is not merely to buy and sell as a trader or wholesaler, but to furnish integrated investment banking services to the issuer who is seeking expert assistance in raising capital by a security issue flotation’; and

(2) ‘that the underwriting syndicate is an ad hoc common enterprise, limited in number of participants, in purpose, and in duration; and it is a reasonable business combination having the purpose and effect of efficiently promoting, rather than restraining, trade.’

I agree with both of these contentions, which are amply sustained by the evidence, and I make findings of fact accordingly.

Against this factual background of substance, such a purely fortuitous and incidental feature as the taking of title by the underwriters in severality, as they now do, because of the changes in the law relative to general liability for material errors in registration statements, and in the amount and incidence of the tax on transfers, as explained in the preliminary part of this opinion on the history of the investment banking business, cannot possibly be controlling. To make it so would indeed make the law an ass. Nor does it make sense to separate the underwriting participants from the selected dealers as one might separate the sheep from the goats, simply because of the formal transfer to title from one to the other. It is axiomatic under the Sherman Act that matters of form must always be subordinated to matters of substance. Basically the underwriting participants and the dealers who constitute the selling group are in the same boat together, pulling in unison toward the same mark.

It matters not whether the members of the team be called ‘partners,’ ‘quasi-partners,’ ‘joint adventurers’ or what not; the significant fact vis-a-vis the Sherman Act is that they are acting together in a single, integrated, unitary, cooperative enterprise, the purpose of which is not ‘raising, fixing, pegging, or stabilizing the price’ of anything, nor the exercise of any manner of control over general market prices, but solely the distribution of a new security issue in an orderly manner.

It is for these reasons that the classic words of Justice Brandeis in the Chicago Board of Trade case have such pertinency. He wrote:*

*691 ‘But the legality of an agreement or regulation cannot be determined by so simple a test, as whether it restrains competition. Every agreement concerning trade, every regulation of trade, restrains. To bind, to restrain, is of their very essence. The true test of legality is whether the restraint imposed is such as merely regulates and perhaps thereby promotes competition or whether it is such as may suppress or even destroy competition. To determine that question the court must ordinarily consider the facts peculiar to the business to which the restraint is applied; its condition before and after the restraint was imposed; the nature of the restraint and its effect, actual or probable.’
The application of the rule of reason in accordance with this simple, fundamental formula does not leave the outcome in doubt on the facts we have before us here. It is upon the basis of these facts, peculiar to the business of raising new capital for issuers, whether by syndicates of underwriters proceeding in negotiated transactions or by public sealed bidding, that the Congress and the SEC evidently arrived at the same conclusion that I arrive at, namely, that the fixed-price type of public offering of new securities viewed in the large, and on the basis of methods now in common use by the investment banking industry, gives no offense to the Sherman Act.

But this is not to say that there may not some day come before the courts a series of underwriting agreements relating to some specific issue of securities in the future which, by virtue of the contemplated or actual period of continuance of price restrictions or the number and underwriting strength of the participants or the existence of other factors or attendant circumstances which we cannot now know, will warrant the courts in making findings of fact from which the conclusion of law will inevitably follow that such agreements are illegal under the Sherman Act. Nor do I say that there has never been any such in the past.

B. The Securities Act of 1933, the Securities Exchange Act of 1934, and the Amendments Thereto; the Rules, Interpretations and Releases of the SEC Thereunder; and the Organization and Functioning of the NASD

I shall not labor the point that the Securities Act of 1933, the Securities Exchange Act of 1934, and the various amendments thereto, including the Maloney Act authorizing the organization and functioning of the NASD in 1938 by adding Section 15A to the 1934 Act, are to be read together as one comprehensive scheme of regulation. Despite the vigorous and oft repeated claims to the contrary by government counsel, I find literally nothing of substance to support the view that the two statutes form separate, air-tight compartments, the 1933 Act applicable to new securities and the 1934 Act to those already issued and outstanding. The textual evidence that the two are to be read together seems in itself conclusive on the point; and there would appear to be no reason to doubt that the Congress intended this interrelated pattern of regulation to reach all transactions whether on national exchanges or on the over-the-counter securities market. This is the view taken by the SEC; and a contrary view flies in the face of common sense and the objectives of the Congress in formulating and drafting this legislation.

The Securities Act of 1933 recognizes syndicates as a group means of distributing new securities.

Sec. 2(11) ‘The term ‘underwriter’ means any person who has purchased from an issuer with a view to, or sells for an issuer in connection with, the distribution of any security, or participates or has a direct or indirect participation in any such undertaking, or participates or has a participation in the direct or indirect underwriting of any such undertaking; but such term shall not include a person whose interest is limited to a commission from an underwriter or dealer not in excess of the usual and customary distributors’ or sellers’ commission. * * *

The disclosures required by the 1933 Act are to be incorporated in the registration statement, and no sales or offers to sell are permitted until the registration statement, becomes effective, which is ‘the twentieth day after the filing thereof’, 15 U.S.C.A. § 77h(a), with certain allowances for acceleration, which become applicable, for example, when the issuer files a so-called ‘price amendment’ just before the issue comes out.

Sec. 6(a) provides: ‘A registration statement shall be deemed effective only as to the securities specified therein as proposed to be offered.’

Sec. 7 requires the inclusion in the registration statement of information specified in Schedule A, of which subdivision (16) reads:

‘(16) the price at which it is proposed that the security shall be offered to the public or the method by which such price is computed and any variation therefrom at which any portion of such security is proposed to be offered to any persons or classes of persons, other than the underwriters, naming them or specifying the class. * * *


Rule 460 of the SEC also requires, within ten days after the security is initially offered to the public, a report on the actual offering price, and an explanation of any variation between the actual price and the proposed public offering price.

Especially in view of the words ‘any portion’ contained in subdivision (16) of Schedule A, the clause ‘the price at which it is proposed that the security shall be offered to the public’ must mean the entire issue. And, if so, the Congress has made specific provision for the fixed-price public offering of a new security issue, in accordance with the mode of floating such issues customarily used by investment bankers for many years. The intent is that the public shall know precisely what it is expected to pay for the security.
Many other provisions of the 1933 Act, and numerous rules and regulations of the SEC, are integrated with this basic clause in subdivision (16) of Schedule A, which is applicable to negotiated underwritten issues, and underwritten public sealed bidding transactions as well, in the filed of security issues with which we are concerned in this case. Thus Sec. 6(b) requires the payment of a fee at the time of filing the registration statement `of one one-hundredth of 1 per centum of the maximum aggregate price at which such securities are proposed to be offered’. Sec. 11, relative to civil liabilities for material errors or omissions in registration statements, according to the 1934 amendment discussed in the preliminary part of this opinion, is measured as to underwriters by ‘the total price at which the securities underwritten by him and distributed to the public were offered to the public.’

The SEC’s Form S-1 requires that the following information be set forth in *603 substantially the following tabular form on the first page of the prospectus:

<table>
<thead>
<tr>
<th>Underwriting</th>
<th></th>
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<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Price to</td>
<td>discounts and</td>
</tr>
<tr>
<td>public</td>
<td>Proceeds</td>
</tr>
<tr>
<td>commissions</td>
<td>registrant</td>
</tr>
</tbody>
</table>

Per unit . . .

Total . . .

This is in accordance with Schedule A (15), (16) and (17) and Sec. 10(a)(1).

The SEC has ruled that these requirements as to ‘the price at which it is proposed that the security shall be offered to the public’ are not complied with unless there is made ‘a bona fide attempt for a reasonable time to distribute the security at no more than such public offering price.’ This appears in Exchange Act Release No. 3807, April 16, 1946, which criticizes ‘free riders’, who attempt to treat their allotments of securities in the distribution as their own unrestricted property, by holding them for a rise in the market.

That a bona fide public offering of the entire issue at the public offering price is required to be made within a reasonable time is recognized throughout the industry according to Harold L. Stuart. While this may seem to leave the matter somewhat to the conscience of those making the distribution, it is clear that a substantial and genuine effort must be made and anything short of such is apt to get the participating underwriter or dealer, who makes a purely perfunctory and colorable effort, in trouble with the NASD and the SEC.

By express statutory provision, Securities Exchange Act of 1934, Section 15A(n), the Rules of Fair Practice of the NASD are, when approved by the SEC, exempt from the application of the antitrust laws, if in conflict. This is not disputed.

The Board of Governors and the Advisory Council of the NASD have interpreted Rule 1 of Article III* of the Rules of Fair Practice as requiring that (NASD Circular, March 13, 1950):

‘Members have a moral obligation to make a bona fide public offering of securities acquired in a participation in an initial public offering.’

And, for the purposes of this interpretation the NASD states that:

‘* * * the term ‘initial public offering’ or ‘period of
original distribution’ is intended to mean a sufficient period within which a bona fide public offering can be and has been made to the investing public, and investors have had an opportunity to purchase the issue at the initial public offering price.’

While it does not appear that these interpretations have been passed upon by the SEC, they reflect the only meaning that can be reasonably attributed to the statutory language adopted by the Congress. Otherwise, ‘the price at which it is proposed that the security shall be offered to the public’ has no practical meaning whatever.

On this point, as on so many others, the views of counsel for the government have changed radically as the trial progressed. At first they supported a species of ‘flash’ theory, to the effect that there must be a period during which at least a portion of the security issue could be purchased at the public offering price by an investor, but that this period was a merely theoretical or instantaneous one and that no real offers or purchases need be made. When this fantastic view seemed to be pressing the matter too far, counsel receded to the position which as I understand it they take now, namely, that a bona fide attempt, for a reasonable time, to distribute the entire issue must be made, but that the syndicate clauses providing for 15, 20 or 30 days life to a syndicate or to price maintenance are illegal as not being necessarily measured in terms of ‘a reasonable time’. This would seem to take the entire matter *694 out of the category of per se violations of the Sherman Act. Moreover, the government has offered no evidence to show that the prescribed period was in any particular instance in any way unreasonable.

One of the embarrassments under which counsel for the government have been laboring is that they insist that the provisions of the various Acts of Congress, and the various rulings of the SEC in administering these Acts, are in every way lawful and in strict accordance with the letter and spirit of the Sherman Act, whilst at the same time declaring that the basic clauses of the syndicate system constitute per se violations of the Sherman Act. The plain truth of the matter is that the legal questions now under discussion form an area of head-on collision between the SEC on the one hand and the Antitrust Division of the Department of Justice on the other.

We pause for an additional bit of practical background before proceeding to discuss stabilization and uniform concessions and re-allowances, and clauses requiring repurchase or loss of commissions for failure to place the securities with investors rather than speculators, traders or ‘free riders’.

In the case of most security issues the public offering price has been established so expertly that the issue is readily absorbed by the investing public at the public offering price. In such cases the statement in bold-face type in the prospectus, required by SEC Rule 426 under the 1933 Act, that stabilization activities may be employed to facilitate the offering of the securities, is commonly used, but means little, even though supplemented by the placing by the manager of an open bid in the market at the public offering price. Where the issue has been priced too low, both the SEC and the NASD require a bona fide offer of the entire issue at the public offering price; and a prompt distribution is inevitable as dealers and underwriters are not allowed to put the securities on their shelves for sale later at prices above the public offering price. Where the issue has been priced too high, however, or where war or the happening of some other catastrophe sends general market prices down, what actually happens? According to the record before me, if the dip in the market is of a minor character or if the issue, while well worth the public offering price in sound value, is for some reason not appealing at the moment, stabilization may help to tide over for a short interval the difficulty of placing a large issue with investors, under not particularly favorable circumstances.37 But if there is a general market recession, or the issue has really been priced too high, no sensible manager would waste the funds of the syndicate by pouring them down a stabilization ‘rathole’; and the syndicate would be promptly terminated or the price lowered or the price restrictions removed entirely, in which event the underwriting participants and the dealers would be free to do whatever they wished with the securities they had taken down. Some might prefer to put the securities ‘on the shelf’; others might sell them for what they could get. In other words, stabilizing, as thus far sanctioned by the SEC in connection with new security issues, has had nothing to do with price fixing in the sense of the Sherman Act cases, but only as a means of assisting in the placement distribution of such issues in an orderly way. If the stabilization powers were used by way of manipulation in order to raise or fix prices or *695 do anything other than to facilitate an orderly placement of the securities, there is ample reason to suppose that the SEC, pursuant to its undoubted statutory powers on the subject, would promptly issue a new rule or regulation putting a stop to such manipulation.

After these preliminaries we come to the question of what are the provisions of the statute relative to stabilization?38 The long and short of the matter is that the Congress decided not to prohibit such activities, or to include any specific statutory regulation thereof, but left it to the SEC to prescribe appropriate rules and regulations.
The Senate Committee Report of April 17, 1934, reporting on the bill of which Title I became the 1934 Act and Title II the most important amendments yet made to the 1933 Act (No. 792, 73d Cong., 2d Sess., 1934, pp. 8-9) states:

‘The impropriety of practices such as ‘pegging’, or fixing or stabilizing the price of a security has received most careful consideration by the committee. The committee recommends that such practices be not abolished by statute but subjected to regulation by the Commission.’

In similar fashion House Report No. 1383 of April 27, 1934, on the same bill, states (p. 10):

‘The evidence (as developed by the Senate Committee on Banking and Currency) as to the value of pegging and stabilizing operations, particularly in relation to new issues, is far from conclusive. While abuses are undoubtedly associated with such manipulation, because of the desire of the committee to proceed cautiously such operations have not been forbidden altogether, but have been subjected to such control as the administrative commission may find necessary in the public interest or for the protection of investors.’

And (at p. 21):

‘Many experts are of the opinion that the artificial stabilization of a security at a given price serves no useful economic function. On the other hand the practice has been widespread on the part of many investment bankers who regard it legitimate, particularly if the public is aware of the plan. Instead of being prohibited, therefore, this practice is left to such regulation by the Commission as it may deem necessary for the prevention of activities detrimental to the interests of investors.’

And that is precisely what the Congress proceeded to do by provisions *696 of Sec. 9(a)(6), which relates to ‘pegging, fixing or stabilizing the price’ of any listed security. This subdivision of Sec. 9 is not self-operating but contemplates implementation through Commission rules and regulations.

Thus Sec. 9(a)(6) makes it unlawful:

‘To effect either alone or with one or more other persons any series of transactions for the purchase and/or sale of any security registered on a national securities exchange for the purpose of pegging, fixing, or stabilizing the price of such security in contravention of such rules and regulations as the Commission may prescribe as necessary or appropriate in the public interest or for the protection of investors.’

And this is supplemented by Sec. 10, relative to manipulative and deceptive devices employed in connection with the purchase or sale, not only of any security registered on a national securities exchange but also of ‘any security not so registered’. So that these sections, together with Sec. 17 of the 1933 Act and Sec. 15(c)(1) of the 1934 Act, added by amendment in 1936 cover every possible loophole and have the general effect of providing that stabilization, a well-known species of manipulation, should not be outlawed but should be subject to such rules and regulations as might be formulated by the SEC.

The language of these various sections is, by reason of the subject matter, technical; but the intent is plain. No distinction is or should be made between securities already outstanding and those currently issued. The scheme of regulation is made broad and general as well as flexible; it includes listed and unlisted securities, those traded on national exchanges and those dealt with in the over-the-counter market. Any other interpretation would be contrary to the whole spirit of the statutory scheme and to the expressions found in the Senate and House Reports above referred to.

The integration of the 1933 Act and the 1934 Act relative to stabilization is reflected in various rules and regulations of the SEC.

Thus, pursuant to authority found in Sec. 17 of the 1933 Act, the SEC adopted Rule 426 (formerly Rule 827) requiring a statement in bold face type ‘either on the outside front cover page or on the inside front cover page of the prospectus’, if ‘any of the underwriters knows or has reasonable grounds to believe that the price of any security may be stabilized to facilitate the offering * * *.’ And Rule X-10B-5, issued under Sec. 10(b) of the 1934 Act, and applicable alike to newly issued and already outstanding securities, significantly uses in effect the substantive language of Sec. 17(a) of the 1933 Act. Cf. Rule X-15C1-2; and Items 23(a) and (b) of Form S-1, under the 1933 Act, which require disclosure in the registration statement of prospective stabilizing activities.

Rule X-17A-2 requires that full information be filed with the SEC with respect to all purchases and sales of a security being stabilized by ‘the manager of the stabilizing syndicate.’ (Exchange Act Release No. 2008.) See also Form X-9A6-1, relative to the giving of notice of intention to stabilize.

It would serve no useful purpose to discuss in greater
detail the various releases issued by the SEC on this subject. Suffice it to say that there is ample evidence of a belief on the part of the SEC that it has the power to promulgate, whenever in its judgment it is necessary or expedient to do so, ‘in the public interest or for the protection of investors,’ such rules and regulations concerning the stabilization of new issues of securities as circumstances may require, or even to prohibit such stabilization entirely. (See especially pp. 22-3, 41, of the SEC opinion in the PSI case, Securities Exchange Act Release No. 3700, quoting *697 from Securities Exchange Act Release No. 2446 and commenting thereon.) The fact that it has not done so is perhaps to some extent due to the organization and functioning of the NASD, pursuant to the terms of the Maloney Act, and to the fact that the thousands of reports already on file relative to such stabilizing activities indicate that no such rules or regulations are as yet, in the judgment of the SEC, necessary or desirable. Cf. SEC ‘Statement’ of March 18, 1940; Barrett & Co., 1941, 9 S.E.C. 319, 328; Masland Fernon and Anderson, 1941, 9 S.E.C. 338, 345, 347.

Turning to clauses for repurchase or withholding of commissions, the so-called ‘penalty clauses’, it will be found that such clauses are entirely consistent with SEC registration requirements. That these clauses serve the purpose of orderly distribution and are intended, and often expressly stated, to be applicable where the securities have ‘not been effectively placed for investment’, is reflected in Item 23(c) of Form S-1, the general form for registration of securities under the 1933 Act, which requires a statement concerning any arrangement for ‘withholding commissions, or otherwise to hold each underwriter or dealer responsible for the distribution of his participation.’

In view of what has already been said, it would not seem to be necessary to comment on the uniform selling concessions, discounts and re-allowances, except to point out that, in discussing Schedule A(16) and (17) of the 1933 Act the opinion of the SEC in the PSI case states:

‘Clearly the fixing of an offering price to the public, and an agreement or understanding as to fixed commissions or discounts, are contemplated by the Securities Act.’

The fundamental problem would seem to be the same whether viewed with relation to general uniform price offerings or with relation to uniform concessions, discounts and re-allowances.

Do the provisions of the Act of 1933 and the Act of 1934 (except the Maloney Act) amount to an implied exemption, in whole or in part, from the provisions of the Sherman Act? In my opinion they do not. Where it was thought desirable and necessary to do so the Congress made specific provision for such exemption, as in Sec. 15A(n) of the Maloney Amendment to the 1934 Act, where it was thought that the Rules of Fair Practice of the NASD might run afoul of the Sherman Act.

It must be borne in mind that this whole statutory scheme was worked out with the greatest care by members of the Congress thoroughly aware of antitrust problems, often in close contact and cooperation with those who were later to administer the intricate phases of this well articulated and comprehensive plan of regulation of the securities business, and in possession of the fruits of many prolonged and penetrating investigations. They intended no exemption to the Sherman Act; and it is hardly probable that they would inadvertently accomplish such a result. The real point is that all those who worked together on the formulation of this most significant and beneficial legislation went about their task of integrating into the statutory pattern the current modes of bringing out new security issues then in common use by investment bankers generally, with complete assurance that no violation of the Sherman Act was even remotely involved. This recognition by the Congress of the Legality and utility to the American economy of the General features of the syndicate system cannot lightly be disregarded by any court or judge.

That the so-called Reece Bills, the first of which was introduced in the House on August 22, 1944 (H.R. 5233, 78th Cong., 2d Sess.), Shortly after the filing by the Antitrust Division of its brief in the PSI case on February 10, 1944, never came out of committee need cause no surprise. These Bills were an ill-considered attempt to legalize certain features of the uniform-price offerings of new securities generally, without reference to the attendant circumstances of their use in particular cases, and had little merit. If passed by the Congress the effect could not have been otherwise than to muddy the waters.

C. The Opinion of the SEC in the Public Service Company of Indiana Case

Rule 1 of the Rules of Fair Practice of the NASD, approved by the SEC, provides:

‘A member, in the conduct of his business, shall observe high standards of commercial honor and just and equitable principles of trade.’

On December 7, 1939, under the management of Halsey Stuart, there was placed on the market an issue of $38,000,000 of First Mortgage 4% Bonds of Public Service Company of Indiana. There were 67 underwriters.
and 396 selected dealers. The Agreement Among Underwriters and the Selling Agreement contained price maintenance, 'penalty', stabilization, uniform concession and re-allowance, and other clauses, such as have been attacked here as illegal per bonds was taken by the underwriters in bonds was taken by the underwriters in severalty and the selected dealers similarly took title to the bonds for which they subscribed and which they took down. The Selling Agreement provided that it would terminate at the close of business on February 7, 1940, but that Halsey Stuart might extend it for not more than 60 days, or terminate it, whether or not extended, without notice. The Agreement Among Underwriters was to terminate 30 days after the termination of the Selling Agreement, except that it could be extended by Halsey Stuart upon the consent of underwriters who had agreed to buy an aggregate of more than 50% of the bonds, and except that Halsey Stuart could terminate the agreement any day after the date of settlement with the issuer, without notice, whether or not extended.

The issue was ‘sticky’ and there were numerous breaches of the price maintenance provisions of the agreements, both by underwriters and by members of the selling group. Distribution was not substantially completed until March 18, 1940, at which date Halsey Stuart terminated the Selling Agreement. It will be recalled that the invasion of Poland began on September 1, 1939.

Disciplinary action by the NASD for alleged violation of Rule 1 resulted in the imposition of a number of fines on the offending members of the NASD; and in the course of time the proceedings resulting in such disciplinary action came on for review in the SEC under Sec. 15A(n) of the 1934 Act as amended.

We need not concern ourselves with the elaborate arguments advanced by the parties on the question of whether or not the NASD had power to impose the fines. Suffice it to say that a majority of the SEC found that such action was not warranted and the orders imposing the fines were reversed. But, in the meantime, and at the close of the hearings before the trial examiner, the Antitrust Division of the Department of Justice intervened and, on February 10, 1944, filed a brief attacking the various clauses of the agreements above referred to as per se violations of the Sherman Act. The same position was taken by counsel for the trading and Exchange Division of the SEC. The filing of the brief by the Antitrust Division fell like a bombshell on the Investment banking industry.

The antitrust issue thus raised was given the most careful and exhaustive examination. Having been requested by *699 the Antitrust Division to pass on the legal and factual questions involved, the SEC did so; and illuminating and well-reasoned opinions resulted. Chairman Purcell and Commissioners Pike and Healy agreed that there was no per se violation of the Sherman Act. The concurring opinion of Commissioner McConnaughey does not discuss the merits of the antitrust issue, but there is no indication of disagreement with the other Commissioners thereon. Commissioner Healy agreed with the Chairman and Commissioner Pike on the antitrust phase of the case but thought the NASD had properly interpreted its Rule 1. Much of the factual material in the opinions relating to the history and development of the syndicate system was verified and authenticated by Harold L. Stuart on his cross-examination, and forms a substantial basis for part of the preliminary portion of this opinion. My only disagreement with the SEC is on the subject of implied exemption of stabilizing transactions from the provisions of the Sherman Act. The opinion concurred in by Chairman Purcell and Commissioner Pike appears to consider the various statutory provisions relative to stabilization, which have been discussed supra, as having ‘removed that problem from the scope of the Sherman Act.’ Counsel for Morgan Stanley and Harriman Ripley agree with the Commission on this point. I do not. It will serve no useful purpose to set forth quotations from what the SEC has written on the antitrust questions thus placed before it. The general conclusion, with which I am in complete agreement, is:

‘Our views on the application of the antitrust laws to the securities field may be summarized as follows: the mere making of agreements containing provisions for a fixed offering price, price maintenance and stabilization is not per se unlawful. But, like many other contracts, these may be entered into and performed under circumstances that amount to an unlawful suppression of competition.’

These views are not binding upon me, or upon any other court or judge; but they are persuasive and helpful, especially as they are those of public officials of ripe experience in dealing with this very subject matter from day to day. Moreover, the very commissioners who expressed these views had been in close cooperation with the members of the Congress who formulated the terms of some of the statutory provisions under consideration. After all, these antitrust problems are largely factual and their true solution depends in the last analysis upon an intimate familiarity with the characteristic features of the particular industry in which these problems arise.

Some Interim Observations
Before leaving the syndicate system and the general subject of the history and development of the investment banking business, it will perhaps be helpful to consider, in a preliminary and tentative fashion, the bearing of such matters upon the charge of an integrated, over-all conspiracy and concert of action between these 17 defendant investment banking firms. If, on the important and fundamental phase of the case which has just been examined, there was no joint action nor any combination by the seventeen acting as a group, lack of such concerted action among them may likewise appear in other phases of the case as well. The process of reasoning by which the use of the syndicate system, the opposition to the campaign for compulsory public sealed bidding, the alleged ‘Pink’ agreement, the so-called infiltration of boards of directors of issuers and a host of other minor issues were brought in to support the ‘triple concept’ charge of ‘traditional banker’, ‘historical position’ and ‘reciprocity’ was that only is such fashion could the alleged conspiracy be proved. There is much to be said in support of this reasoning; but the converse of it is equally sound. As each of these several *700 props to the government charge is disproven and thus eliminated, the structure as a whole finds less and less support. The principal factual issue in the case from first to last has been whether or not there was any joint action, combination or conspiracy as between the seventeen defendant firms.

It was only after the connecting statements and oral arguments at the close of plaintiff’s case, and after some months of study of the evidence as a whole, that I at last became fully to appreciate why government counsel, and defense counsel as well, had so earnestly insisted that all the principal phases of the charge must be taken into consideration. At first it seemed to me that the ‘triple concept’ charge could well have been thoroughly examined and the rest eliminated or greatly reduced in scope. But as I proceeded to study the mass of detail it became more and more apparent that counsel for the government had perhaps taken the only course open to them. The basic facts about ‘reciprocity’ and ‘historical position’ were such that it might well in the end be clear that the ‘traditional banker’ part of the ‘triple concept’ could scarcely stand up in isolation and without substantial support from the balance of the alleged conspiratorial scheme. In the final analysis, it might come down factually to one of two possibilities: either the all pervasive, integrated, over-all conspiracy existed or there was no conspiracy at all. Differently expressed, one might be forced by the facts of the case to the conclusion that nothing short of the entire scheme as charged, with its theoretically perfect articulation and symmetry, could have been expected by hard-headed and experienced business men in their sound minds, to have had even the slightest hope of success. In a circumstantial evidence case there must always be the possibility of a negative as well as of a positive answer.

It now appears that counsel for the government have been led astray in connection with their claims relative to the syndicate system by a fundamental, factual misconception of the way investment bankers in general function and have functioned for many years. It will soon appear that this same misconception of the basic facts runs through the entire case. The problem of elucidating this mass of evidence and doing so in such fashion as to hold up to view from time to time the framework constructed in the complaint is not easy of solution. It must be constantly kept in mind that we are dealing with a multiplicity of alleged restraints all supposed to be cunningly devised and fitted together by these defendants.

It would put the whole case out of focus and perspective if I proceeded to discuss the ‘triple concept’ of ‘traditional banker’, ‘historical position’ and ‘reciprocity’ without first reviewing the evidence which it is claimed demonstrates that, in other ways, the seventeen defendant investment banking firms combined and conspired together to dominate and control the financial affairs of issuers, so that new issues of the securities of such issuers should be brought out by the negotiated underwritten method in connection with which the ‘triple concept’ could operate, and then be parceled out to the conspiratorial ‘traditional bankers’. For, if issuers were free agents, they could always turn to any one or more of the dozens of other competent and well-equipped investment bankers, said to be eager to get the business but unable to do so because of the operation of the combination and conspiracy of the seventeen. Private placements and agency transactions were always available, too. The fact that certain of the leading firms had, as is alleged, agreed not to compete for business against their coconspirators who were ‘traditional bankers’, would not bind such other leading firms as Halsey Stuart, Merrill Lynch Pierce Fenner & Beane, Salomon Bros. & Hutzler, Lazard Freres, Paine Webber Jackson & Curtis and many others who were admittedly not in the alleged combination or conspiracy. No amount of judicious parcelling out of *701 occasional participations to these so-called independent firms would suffice to induce them to refrain from competing for the much more lucrative managements, which carried so much kudos, and were concededly coveted by all investment bankers so staffed as to be able to handle the business. In the absence of substantial domination and control of issuers, as alleged, the ‘triple concept’ charge may come down to mere dialectics.
PART IV

Did the Seventeen Defendant Investment Banking Firms Combine for the Purpose of Dominating and Controlling and Did They in Fact Dominate and Control the Financial Affairs of Issuers by Directorships and Solicitation of Proxies?

As with so many other phases of the case the government charge of domination and control of issuers by the 17 defendant firms acting in concert underwent a very considerable shrinking process as the trial proceeded; and substantially all that remained at the close of the case was the 'red flag' or 'signpost' claim, supplemented by a certain amount of fragmentary material relating to the possible use of confidential information by one or two of the defendant firms and a showing that at times a director who was a partner, officer or employee of one of the defendant firms withdrew from the meeting when the issue was voted on or otherwise showed consciousness of the inconsistency between his position as a director and his interest arising out of the profit his firm might make out of the transaction, and other miscellanea all of which have been carefully considered, but which require no discussion other than as stated herein.

The charge in the complaint as amended is comprehensive and explicit. Paragraph 44 alleges:

'44. The conspiracy has consisted of a continuing agreement and concert of action among the defendants, the substantial terms of which have been that defendants:

'E. Agree to influence and control the management and financial activities of issuers, among other means—

'(1) By severally securing the appointment or election of directors, officers and members of protective committees, of issuers who, in addition to the performance of their duties, as such, would promote the interests of securing further underwriting business for each of the several defendant banking firms.

'(2) By causing the voting power of large blocks of stock held by investment trusts and others in security issuing companies to be exercised in the interests of securing further underwriting business for the defendant banking firms.

'(3) By inducing and utilizing friendly or allied stockholders of issuers, commercial banks, and other financial institutions serving the financial needs of issuers to influence such issuers to favor defendant banking firms in the sale of security issues.

This is supplemented by the following paragraph.

'45. During the period of time covered by this complaint, and for the purpose of forming and effectuating the conspiracy, the defendants, by agreement and concert of action, have done the things they agreed to do as hereinafore alleged, and, among others, the following acts and things:

'A. Defendants formulated and adopted, subsequently operated, and now operate pursuant to, among others, the following restrictive customs and practices:

'(10) Defendant banking firms maintain and preserve their relationships with issuers by achieving and continuously exercising an effective *702 degree of influence and control over the financial and business affairs of issuers. In many instances, they have severally caused one or more of their partners, officers, or other nominees to be appointed or elected to the board of directors or as an officer of issuers for whom they severally act as financial adviser or from whom they severally purchase security issues. Such appointees thereafter develop, and are in a position to exert, within the issuers’ organization, strategic influence against the employment of other investment bankers and against the disposal of security issues by methods or under circumstances not favored by defendant banking firms. *

* * *

The charge about ‘members of protective committees’ in subdivision (1) of Paragraph 44E was achieved; subdivision (2) of Paragraph 44E, together with its counterpart Paragraph 45A (11), was withdrawn in its entirety; the charge in Paragraph 44E(3), as supplemented by Paragraph 45A(12) and (13) relative to utilizing the influence of ‘commercial banks, and other financial institutions serving the financial needs of issuers’ was withdrawn, except as to J. P. Morgan & Co. and the Guaranty Trust Company of New York, and no substantial evidence was offered in support of the charge as thus limited. Further allegations on the subject of domination and control, relating to ‘securing clearances from * * * issuers before making available to competing business enterprises’ the facilities of defendant firms, refusing ‘to act as advisers or as underwriters for small business concerns,’ the encouragement and promotion of ‘consolidations, mergers, expansions, refinancings, and debt refundings,’ and the alleged agreement ‘to concentrate the business of purchasing and distributing security issues in a single market,’ contained in Paragraphs 44F, G and H, were all abandoned and withdrawn. The reference to influence and control of ‘business’ affairs of issuers in Paragraph 45A(10) was
There were many colloquies on the subject of whether government counsel intended to charge joint or group action by the 17 defendant firms on the subject of directorships. It is plain to me that such is the clear meaning of the allegations above quoted, but counsel for the government seemed reluctant to take this view.

Probably the government position is sufficiently clearly stated in the following:

‘The Court: Either this matter of directors goes to the heart of the case or it is just on the periphery, and if it is just on the periphery and relates only to a few defendants and is not something that they agreed to and adhered to together, then its importance is certainly less than it would be if it was one of the terms of the alleged agreement.

‘Mr. Kramer: The part your Honor read (Paragraph 45A(10)), the government says, is not a term of the conspiracy, but it does relate to each of the defendants.’

And, about six months later:

‘The Court: I thought the thrust of the directorship was the idea that I was told at the very opening of the trial, a red flag to the other conspirators to hold off. I hadn’t understood that it was illegal or any violation of the Sherman Act for a firm, an investment banking firm, to have a man on the Board and to tell him, ‘Now, Joe, you go out and get this business. We really want it.’

‘Mr. Piel: That is right. I don’t think Mr. Kramer contends anything different from that.

‘The Court: All right.

‘Mr. Piel: But he does claim that the alleged conspiracy has as one of its terms that representatives of the defendant conspirators will go on boards of directors not to represent their own firms but to represent the *703 conspiracy to influence and control the affairs of the issuers.

‘The Court: That is right.

‘Mr. Kramer: That is right, not only to represent their own firms.

‘Mr. Piel: That is the other half of his claim on the subject.

‘Mr. Kramer: That is very well put.’

Throughout the case government counsel have frankly recognized the fact that the use of a directorship to further competition for investment banking business gives no offense to the Sherman Act. Thus in the closing statements one of the government counsel said:

‘If this was a free, open competitive business without a conspiracy operating therein, what conditions would we find?

‘4. You would find a member of an investment banking firm on a board of directors of an issuer, and that aside from the moral or legal question as to whether they are entitled to so act, but you would find that, your Honor, because one of the keenest competitive maneuvers there is in the investment banking business would be to put a director on a board of an issuer; he would be the man the issuer might be looking forward to for financial advice.’

And the record discloses many other ways in which having a partner, officer or employee on a board of directors of an issuer may be used competitively.

In fact, as we shall see, there were about as many different policies toward directorships as there are defendant firms in the case. Goldman Sachs and Lehman Brothers, largely influenced by the character of their business and their historical background, has partners and employees on the boards of directors of a large number of issuers, especially in the marketing and merchandising field, but also generally. Earle Bailie, who was Chairman of the Board of Union Securities, wrote to Fitzpatrick of the Chesapeake & Ohio Railway Company in 1938, when Bailie was a director of the C. & O.:

‘The ideas I have expressed above are simply my preliminary thoughts on the subject which I am passing on to you for whatever they are worth. I have not discussed them with any other director. I have not, of course, discussed them with any banker. You already know my ideas about the propriety of unauthorized conversations with bankers by directors * * * I do not want my firm to have any financial connections with the Chesapeake & Ohio or any of its affiliated companies as long as I am a director of the Chesapeake & Ohio.’

In strong contrast to the course previously followed by J. P. Morgan & Co., Morgan Stanley had and maintained a policy of keeping to a minimum, participation by its partners on the boards of directors of issuing companies. In the entire period 1935-1949, Stone & Webster did not manage a single underwritten new negotiated transaction for an issuer on whose board of directors there was any officer or employee of that defendant firm.
It would serve no useful purpose to attempt to resolve the controversy over whether or not these directors were the ‘representatives’ of their respective firms. It is natural enough that they should sometimes be referred to as ‘representatives’ of this or that investment banking house. But no legal connotation was intended or is to be inferred as a general proposition. Sometimes they were put on for the specific purpose of representing their firms in a limited way; in many instances they were not.

Proxies
Before proceeding to discuss the evidence it will be well to mention another subject which loomed large in the beginning, but which has now receded into the shadows. One of the ‘practices’ charged against all the defendants in the government’s trial brief on the facts, was that of systematically causing *704 a wide distribution of the stock issues of an issuer and then getting ‘control of the proxy gathering machinery of their issuers so that they could secure votes for perpetuating such a friendly management or for ousting an unfriendly management.’

Proof of this phase of the case collapsed entirely; and there was no reference whatever to it in the closing statements of counsel for the government, who assured me: ‘We haven’t left out anything that we think your Honor ought to consider or needs to consider in ruling on the motions to dismiss.’ This was in accordance with the spirit and intent of my Pretrial Order No. 3, so that my consideration of this colossal record should not be made so burdensome as to prevent a determination of the issues within a reasonable period of time.

There was some evidence that Goldman Sachs helped a few issuers in connection with proxy gathering; there are incidental references to the subject in evidence introduced against two or three other defendant firms. As to the rest the record is silent. There is no evidence whatever to support the claim that a wide distribution of stock issues was ever made by any defendant for such a purpose; and the most that can be inferred against Goldman Sachs is that the solicitation of proxies in the few instances where this was done, notably for the B. F. Goodrich Company, was at the request of the management and probably as a service which might ingratiate the firm with the executives of the company and thus give the firm some competitive or other advantage later on. The charge as made is without any foundation in fact.

Were there any domination and control of issuers one would suppose that numerous witnesses would be available to testify in support of the charge. The documents in evidence bring into sharp relief a considerable number of company executives of dynamic and fearless personalities, who were far from being ‘in the pockets’ of the defendant banking firms or any of them. And yet only one financial or executive officer of an issuer was called. Robert R. Young, Chairman of the Board of the Chesapeake & Ohio Railway Company, proved an unfortunate choice. It is difficult for me to picture him as under the influence and control of anyone; and anyone who tried to influence and control him would probably live to regret it. He seemed eager to renew his old controversy with the Guaranty Trust Company of New York, which went back to 1938 and 1939, and issued fulminations against what he called ‘The House of Morgan’, composed of J. P. Morgan & Co., Morgan Stanley and the Guaranty Trust Company of New York, and Earle Bailie, Tri-Continental and Selected Industries together as ‘a Morgan banking satellite’; but such picturesque expressions added little of probative force to the case; and he frankly admitted that he never had any trouble finding investment banking houses, including a number of the defendant Firms, to compete for his business.

The government might have called J. Spencer Love, President of Burlington Mills, but it did not. And a scrutiny of the numerous Burlington Mills documents in evidence plainly shows the reasons for not calling him, despite some of the statements in his letters.

Burlington Mills

It so happens that many letters and memoranda, supplemented by deposition testimony, are in evidence on various phases of the government charge, all having to do with transactions between a number of investment bankers, including several of the defendant firms, and J. Spencer Love, whose career in the textile field is described as ‘meteoric.’ As with most of the other documentary evidence, government counsel are interested in detached phrases, sentences or paragraphs, containing language thought to be helpful to the plaintiff’s case. But here we have a substantial sequence, enough, taken together with the static data relative to a long series of security issues of Burlington Mills, to give a fairly clear picture of the way investment *705 bankers compete against one another and the shrewd and effective measures taken by corporation executives to get the most out of the investment bankers by way of services, suggestions and prices. This series of documents is of special significance as government counsel rely upon them so heavily and refer to them again and again.

In connection with the charge of domination and control of issuers, some of Love’s letters are stressed because he
states in one of them, with reference to William J. Hammerslough, a partner of Lehman Brothers, ‘we didn’t elect him on the board to tie ourselves in with Lehman Bros. but because we wanted an outside director and we thought he was a man of ability and skill and that he was interested in us.’

In another, Love writes:

‘Invariably, when we meet other people who might be people to be helpful to us, we meet with the response that we are a Lehman company and that others aren’t going to approach us or be interested in us as long as we are so known. They feel that everything they might propose to us would go right straight to Lehman because of your being on our board.’

The letters would indicate that Love was unable to get suggestions from other investment bankers, lacked ‘a free opportunity to select our own syndicate,’ and would be better off if he could get Lehman Brothers ‘in much less of a dominating position.’ My own conclusion, in the absence of testimony by Love himself, and from the documents and deposition testimony, is that Love was a ‘tough’ and canny trader, who from first to last sat in the driver’s seat alone, who took the initiative in the selection of several members of the syndicates and who over the years and from issue to issue had the advice of, and the full benefit of competition by, a number of investment banking firms, defendant and non-defendant, in addition to Lehman Brothers, including Union Securities, Kidder Peabody, Blyth, Commercial Investment Trust and Merrill Lynch. He was also to some extent in touch with Dickson of Greensboro, N.C., where Burlington Mills was located and Wertheim. Far from being ‘dominated,’ it was Love who kept the investment bankers constantly on the qui vive and traded them off against one another. Non teneas aurum totum quod splendet ut aurum.

If at times Lehman Brothers told Love ‘that we considered ourselves to be Burlington’s bankers and that we felt he should discuss any new financing with us first,’ this was merely a competitive maneuver, which, as it turned out, had no effect whatever on Love. Indeed, he turned it to his own advantage in the correspondence which later ensued. And it is not without significance that, in the period 1935-1949, Burlington Mills brought out no more than eight issues of securities by private placement, without using the services of any investment banker.

The negotiated underwritten issues shape up as follows: April 14, 1937, $3,578,000 of common stock, co-managed by Commercial Investment Trust and Lehman Brothers; December 11, 1940, $4,240,000 of convertible preferred stock, managed by Lehman Brothers; September 23, 1942, $2,562,000 of convertible preferred stock managed by Lehman Brothers; March 3, 1943, $6,792,000 of cumulative preferred stock, co-managed by Kidder Peabody and Lehman Brothers; July 3, 1945, $15,600,000 of preferred stock managed by Kidder Peabody alone; and, finally two issues of $5,000,000 and $10,400,000, preferred and convertible second preferred stocks respectively, on February 20, and April 10, 1946, both managed by Kidder Peabody alone.

If the ‘traditional banker’ and ‘red flag’ devices or practices had been functioning Kidder Peabody would have refused to compete for the business. When Love, after the original solicitation of business in 1939 or 1940 by Albert H. Gordon of Kidder Peabody, approached Gordon in December 1942 or January 1943, Gordon made no attempt to get ‘clearance’ from Lehman Brothers. Indeed, Love and Gordon, each with different motives, were careful to keep their negotiations to themselves. Lehman Brothers had no suspicion or intimation of what was going on; but Love was careful to send Gordon a copy of his long complaining letter to Gutman of Lehman Brothers of January 23, 1943. The last paragraph of this letter is a masterpiece of shrewd negotiation. It reads:

‘In writing this letter, please do not feel that we are unmindful of the many constructive things that you have done for us and the friendly relationship that has always existed. We hope that we can work things out so that this relationship will not be in any way seriously disturbed and that our future operations can be strengthened and be handled in such way that all of us may ultimately benefit.’

This would keep Lehman Brothers on their toes and impress them with the fact that the ‘friendly relationship’ still existed. As a copy went to Kidder Peabody it would be clear to that firm that they might get the business, but would have to give the best possible service and the best possible terms in order to get it. The net result was exactly what Love had hoped for, the issue came out with the dividend rate for which he had been contending, and Kidder Peabody and Lehman Brothers managed the issue together.

But this was the very thing the conspiracy was supposed to have been formed to prevent, according to the claims of government counsel.

To make matters worse, Kidder Peabody succeeded in ousting Lehman Brothers from the co-managership; and one cannot help feeling that the state of mind which led Love, on August 5, 1944, to ask for Hammerslough’s resignation as a director of Burlington Mills, had been
inspired at least to some extent by the competitive efforts of Kidder Peabody to get Lehman Brothers out of the picture entirely. And when Lehman Brothers tried to hold onto their joint managership by taking the matter up with Love, Gordon testified on deposition, that he told Love ‘we did not think anything would be served by having them joint manager in the issue; we thought that the company would be better off if it relied on us alone.’ Ironically, too, Gordon of Kidder Peabody ultimately and in the spring of 1948 became a director of Burlington Mills, despite Love’s statement in his letter to Hammerslough of August 5, 1944, that he had reached the conclusion that Burlington Mills ought not to have on its board any ‘banker or lawyer or efficiency expert, or even an outside textile man’ or anyone else who would ‘likely be doing direct business with us.’

What the record shows of the unsuccessful competition of Union Securities and Blyth is in bare outline but, against the background of Love’s equivocations and trading proclivities, and in a practical rather than a theoretical business world, it is sufficient to indicate that the first attempt by each of these firms with Love was to get a participation, and the contact thus made was followed by suggestions and other competitive measures, designed to lead to the managership or co-managership of some or all of the securities business of Burlington Mills.

On February 2, 1942, Gutman of Lehman Brothers wrote to Love, acceding to Love’s suggestion that Union Securities be given a participation ‘in any Burlington financing.’ As early as July, 1941, according to a memorandum of July 30, 1941, by Siff of Lehman Brothers, Love told Siff that ‘Joe King’ of Union Securities ‘had called him last week.’ Correspondence with King ensued and King was not only prompt to make suggestions, but was soon talking to Siff in terms of what ‘we’ should do in the matter of formulating a ‘joint opinion and program for future financing.’ It was in this connection that Siff in a memorandum to Hammerslough, wrote:

*I would recommend that you do not call King on this, and that in any dealings with Love you take the position that Lehman Brothers are bankers for the company and any discussions regarding additional financing should be carried on through to a conclusion with us before discussions are entered into with Union Securities or anyone else. I believe that we are entitled to take this position in view of the considerable, and I believe effective, work that we have been doing in the way of creating public knowledge and acceptance of the Burlington securities during the past six weeks.’

Had the alleged conspiracy been functioning, as charged, Siff would have recommended that Hammerslough call King and reminded him of the term of the conspiracy about deferring to the ‘traditional banker,’ as there can be no doubt of the ‘satisfactory relationship’ then existing between Lehman Brothers and Burlington Mills; and King would have ‘deferred’ to Lehman Brothers. Moreover, as King must have known that there was a continuing relationship between Lehman Brothers and Burlington Mills, it is difficult to reconcile Siff’s fears with the government claim of conspiracy. The whole tenor of Siff’s memorandum would seem to refute rather than support the charge.

In the spring of 1945, just as Kidder Peabody was succeeding in ousting Lehman Brothers entirely, George Leib of Blyth called on Love at Greensboro, N.C., and on May 30, 1945, Love wrote Gordon suggesting that Blyth be given a second position in the underwriting. That this visit was designed as the beginning of a competitive effort to follow in the footsteps of Kidder Peabody, and get the managership, or if possible at least the co-managership, of some or all of the business of Burlington Mills seems probable. As we shall find later, one does not compete for managerships by ringing doorbells or by direct solicitation to company executives. They normally resent this sort of thing. Approaches such as made by King of Union Securities and Leib of Blyth are much more sensible. If one can get a participation in the underwriting of an issue, this may lead to direct contact with the executives; and many officers of issuers are only too glad to talk about their problems and discuss suggestions. This is the sort of competitive effort that gradually builds up a critical attitude on the part of an issuer toward the investment banker who has been bringing out its securities. It is all very subtle, and for that very reason the more effective.

Jewel Tea

John M. Hancock became a director of Jewel Tea on December 9, 1919, and has remained such over the years. On August 1, 1924, he left the presidency of Jewel Tea and became a partner of Lehman Brothers. On September 6, 1941, Hancock wrote a memorandum for the attention of certain of his partners with reference to a forthcoming issue of securities and mentioned the fact that he had agreed to a form of indemnity clause slightly less favorable to Lehman Brothers than their standard clause. The particular sentence culled from this memorandum by government counsel reads:

‘The reason for agreeing to this departure from the standard is the fact that Jewel is particularly upon to the
I cannot find on the evidence before me that the financial affairs of Jewel Tea were dominated by Lehman Brothers or anyone else; but it does appear that Goldman Sachs and Lehman Brothers had jointly offered $4,000,000 preferred stock in January, 1916, an issue of $3,500,000 notes in May 1919, and 50,000 shares of 1 1/4% preferred stock in September, 1941. This interval of more than 22 years between issues co-managed by Goldman Sachs and Lehman Brothers can hardly be said to support plaintiff’s claim that banker-directors ‘promote the interests of securing further underwriting business for each of defendant banking *708 firms.’ In the meantime and in December, 1928, Jewel Tea had offered $4,000,000 of common stock to its security holders without any investment banker.

Henry S. Bowers, a partner of Goldman Sachs, had become a director shortly after the 1916 issue and remained such throughout the period with which we are concerned in this case; and Arthur Lehman, a partner of Lehman Brothers, became a director on February 13, 1918 and remained on the board until his death on May 16, 1936.

What Hancock was probably referring to in the memorandum was his own period of service as president of the company before he became a partner of Lehman Brothers in 1924 and to his position as a director since then. During World War I, Herbert H. Lehman, then a partner of Lehman Brothers, met Hancock, who was at the time a regular Navy officer, who had been in charge of Naval procurement. Because of the favorable impression thus formed, Herbert H. Lehman asked Hancock to go with Jewel Tea, which was in financial difficulties. Hancock became president of Jewel Tea and, with extraordinary resourcefulness and administrative efficiency, he succeeded in putting the company back on its feet. Thinking, not because of any delicacy but to avoid possible criticism, that even the use of the standard Lehman Brothers indemnity clause might appear to give Lehman Brothers some advantage due to Hancock’s prior service for and relationship to the company, he agreed to the use of a clause more favorable to the company than that generally used by his firm. This does not support plaintiff’s charge, despite the fact that it contains the phrase ‘banker dominated.’ The few remaining letters relating to Jewel Tea show a similar concern for the affairs of the company, and they require no further comment. It is also in evidence that, contrary to the advice of counsel, Goldman Sachs and Lehman Brothers loaned money to Jewel Tea during the period of its difficulties.

The Evidence Generally Applicable to Directorships Discloses No Conspiratorial Pattern but Rather the Contrary

From stipulated data set forth in the record, counsel for the government prepared 17 ‘directorship charts,’ one for each of the defendants. The chart for each defendant lists every new negotiated underwritten security issue during the 15-year period, 1935-1949, offered by an issuer whose board of directors at the time of the issue included a partner, officer or employee of that defendant. From these charts it appears according to the claim of government counsel ‘that when a defendant had a director on the board and an issue was done, that that defendant who had the man on the board acted as either manager or co-manager in approximately 86 per cent of the cases.’ No attempt was made to show the circumstances under which any of these men became directors; the charts do not indicate those instances where a defendant firm was the managing underwriter for the issuer before one of its partners, officers, or employees went on the board, nor which investment banking house managed issues brought out by the issuer after the partner, officer or employee left the board, nor the private placements or offerings to security holders made without the services of any investment banker while such partner, officer or employee was on the board. Moreover, in computing its figure of 86% correlation between directorships and managerships, counsel for the government included a large number of instances in which the defendant firm with a director on the board of an issuer co-managed issues of that issuer together with one or more other investment bankers, either defendants or non-defendants. If the other co-managing firm had no partner, officer or employee on the board of the issuer, and there were many instances of this, it would seem that such issues should not be included in the figures used to arrive at the aggregate of 86%. Nor is any explanation offered for the *709 fact that in numerous instances investment bankers from two or more firms were on the board of the same issuer at the same time.

The charts would seem to add little or real evidentiary value to support the ‘red flag’ or ‘signpost’ theory, in the absence of some proof of attendant circumstances, as it requires little argument to demonstrate that in many cases the men in question were invited by the management to come on the board of directors because a prior relationship with them had demonstrated their ability and usefulness, as with Hammerslough and Burlington Mills, and the mutual confidence reflected in such a relationship would make it probable that the issuer would turn to the director’s own investment banking firm when bringing out a new issue of securities, even though there were no conspiracy whatever in operation. Moreover, one must
not be blind to the fact that the men who served on these boards in such considerable numbers were in most cases men of wide experience, and of proven competence and judgment, many of whom had in one way or another rendered conspicuous service to the nation; and, in the natural course of events, they were doubtless urged and importuned by company executives to join this or that board of directors, wholly apart from considerations having to do with the raising of capital.

For my own enlightenment I have prepared a chart (subject to a checking of my figures by counsel for the respective parties) and have included therein an enumeration of the total number of issues of new negotiated underwritten security transactions, $100,000 and larger, managed by each of the defendants during the 15-year period, so that a comparison can be made with the government directorship charts. Pro-rating co-managerships, it appears that the defendants managed, in all, a total of 139.7 new negotiated underwritten security issues offered by issuers during the 15-year period, 1935-1949, at a time when a partner, officer or employee of one or more of the defendants was on the board of directors of that issuer. But the defendant firms managed a pro-rated total of 1117.0 of such issues, with or without directorships, during the same period. Thus, only 12.5% of defendants’ business in these issues was obtained from issuers upon whose boards there was any partner, officer or employee of a defendant at the time of the issues. And almost half of this ‘directorship’ business was done by three firms, Goldman Sachs, Lehman Brothers and Kuhn Loeb, the older firms who had in the early days become more or less accustomed to have a partner on the board of an issuer because of their sponsorship of the issue, and as a measure of protection for the investors to whom the securities were sold.

The variety of policies of the 17 defendant firms toward directorships are also to some extent reflected in the chart, which follows:

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
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<tr>
<td>Number</td>
<td>Percentage of Managerships</td>
<td>Where</td>
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<tr>
<td>Total</td>
<td>When Partner, Director</td>
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<td>Number</td>
<td>Officer or Employee on Board</td>
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<td>of</td>
<td>to Total Managerships</td>
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<tr>
<td>Managerships</td>
<td>a Director</td>
<td>Managerships</td>
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<tr>
<td>Firm</td>
<td>Total</td>
<td>Commission</td>
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<td>-------------------------</td>
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</tr>
<tr>
<td>Blyth</td>
<td>137.2</td>
<td>13.0</td>
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<tr>
<td>Dillon Read</td>
<td>87.7</td>
<td>2.1</td>
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<tr>
<td>Drexel</td>
<td>14.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Eastman Dillon</td>
<td>36.3</td>
<td>5.5</td>
</tr>
<tr>
<td>First Boston</td>
<td>122.4</td>
<td>8.0</td>
</tr>
<tr>
<td>Glore Forgan</td>
<td>47.7</td>
<td>6.3</td>
</tr>
<tr>
<td>Goldman Sachs</td>
<td>49.6</td>
<td>27.5</td>
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<tr>
<td>Harriman Ripley</td>
<td>54.6</td>
<td>6.5</td>
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<tr>
<td>Harris Hall</td>
<td>24.0</td>
<td>2.0</td>
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<tr>
<td>Kidder Peabody</td>
<td>65.8</td>
<td>3.0</td>
</tr>
<tr>
<td>Kuhn Loeb</td>
<td>69.5</td>
<td>19.6</td>
</tr>
<tr>
<td>Lehman Brothers</td>
<td>81.1</td>
<td>19.7</td>
</tr>
<tr>
<td>Morgan Stanley</td>
<td>128.3</td>
<td>4.0</td>
</tr>
<tr>
<td>Smith Barney</td>
<td>88.2</td>
<td>4.5</td>
</tr>
<tr>
<td>Stone &amp; Webster</td>
<td>43.5</td>
<td>—</td>
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</tbody>
</table>
Union Securities ...................... 30.7 9.5 30.9
White Weld ............................ 35.9 6.0 16.7

Totals ........................................ 1117.0 139.7 12.5%

*710 The documents relied upon to support the government case make the lack of any conspiratorial pattern all the more apparent. There were 89 such documents in all, in connection with which 17 additional documents were considered on behalf of certain defendants. A large number of the government documents were concentrated in the period 1934-1937; and they were all received against Blyth, Dillon Read, Goldman Sachs, Kuhn Loeb and Lehman Brothers. In the closing statements government counsel in effect conceded that they had practically nothing on directorships against: Eastman Dillon, Drexel, Glore Forgan, Harris Hall, Kidder Peabody, Morgan Stanley, Smith Barney, Stone & Webster and White Weld. A sampling will indicate that there was ample basis for the concession, despite the charts above referred to.

The government chart with reference to Eastman Dillon contains but four issuers. The first directorship complained of was in 1940 and the first issue complained of was in 1944. The complete story about the Eastman Dillon directorships is set forth in a chart prepared by its counsel, based upon the static and stipulated data, in the nature of a brief for the information of the court. It includes all security issues offered during the 15-year period by every issuer which, at any time during that period, had a partner or employee of Eastman Dillon on its board of directors. Of the 25 negotiated underwritten new issues of such issuers, Eastman Dillon was manager or co-manager of, or agent for the seller for, 18 issues. Eastman Dillon was manager or co-manager of, or agent for the seller for, 10 of these 18 issues at a time when Eastman Dillon had no director on the board; and of the remaining eight, four related to Suburban Propane Gas, of which Eastman Dillon was one of the promoters.

The government tabulation with respect to Glore Forgan indicates that there were 12 negotiated new underwritten security issues for 7 different issuers, during the 15-year period, which were offered at a time when a partner of Glore *711 Forgan was on the board of directors of the issuer. Of these, Glore Forgan was the sole manager of only 4 and co-managed 7. The remaining issue, which was the only one listed for one of the issuers, was managed alone by Lehman Brothers. And an examination of all the new security issues offered by 13 issuers during this period (except at public sealed bidding), each of such issuers having offered at least one issue during that period while a partner of Glore Forgan served as a director thereof, indicates that of the 34 such issues, 17 were not managed by Glore Forgan. Ten of such issues were offered without the services of any investment banker, and 7 were managed alone by other defendant firms.

Similarly, with respect to Kidder Peabody, of the four issuers who brought out negotiated new underwritten issues during this period at a time when a partner of Kidder Peabody was on the board, the security issues of two of them were managed by other defendant firms. Of the eight issuers represented on the government’s Smith Barney chart, Smith Barney managed or co-managed the issues of only four of them. Despite Stone & Webster ‘representation’ on the boards of two issuers, who offered three negotiated new underwritten issues during this period, Stone & Webster neither managed nor co-
managed any of them. Proof against others of these nine defendant firms can be analysed in like manner.

As to three of the defendant firms, First Boston, Harriman Ripley, and Union Securities government counsel claims that, despite the absence of documents introduced against these firms on the directorships issue, there is some significance in the static data, or other proof.

First Boston
Addinsell and Phillips Petroleum

In the connecting statements by government counsel, despite the fact that no documents had been offered against First Boston on the directorships issue, it was insisted that the circumstantial effect of certain letters received against Eastman Dillon indicated that First Boston had adhered to the so-called ‘practice’ to using directorships as a ‘red flag’ or ‘signpost’ to remind other defendant firms that there was a ‘traditional banker’ relationship to which they must defer, in accordance with the terms of the conspiratorial arrangement. These letters were written in 1935 and the one principally relied upon is from Frank Phillips, President of Phillips Petroleum Company to Lloyd S. Gilmour, a partner of Eastman Dillon, of which a copy was sent to First Boston, under date of April 1, 1935. In this letter Phillips wrote:

‘We naturally are looking to Mr. Addinsell, Chairman of the Executive Committee of The First Boston Corporation, who is one of our directors and who originally purchased the entire issue.’

As the various documents and deposition testimony relative to Phillips Petroleum are heavily relied upon by government counsel on various phases of the case, particularly the so-called ‘practice’ of ‘giving advice’ and the ‘concept’ of ‘traditional banker,’ it will be convenient briefly to review the salient facts which concern the relationship between Phillips Petroleum and First Boston. Taken as a whole they prove no adherence to any ‘practice’ or ‘concept’; nor do they support the allegations of conspiracy and combination. On the contrary, they show a continuing relationship, which had its origin in the twenties and which became stronger over the years due entirely to the ingenuity, skill and integrity of Harry M. Addinsell and his associates.

The Issuer Summaries show an unbroken and continuous relationship with First Boston. In 1935 First Boston acted as agent for the company in connection with a private placement of $14,000,000 Joint Serial Notes; there was an offering to shareholders, without investment banker assistance, in 1936, two private placements without the services of any investment banker in 1937 and 1939; the remaining seven financings *712 were all managed by First Boston and consisted of $25,000,000 of 3% Convertible Debentures in 1938, another of a negotiated underwritten offering to shareholders of $20,000,000 of 1 3/4% Convertible Debentures in 1941, another of 1,007,517, shares of common stock in 1947 and three negotiated underwritten public offerings, two of which came out on January 9, 1941, and the other on February 16, 1944.

There was no reason under the Sherman Act or any other law which should deter First Boston from resorting to every legitimate means in its power to hold on to this business. And it is strange that government counsel should think the following testimony by Addinsell helped plaintiff’s case:

‘The thing I tried to point out to you this morning, Mr. Stebbins, was that we, under one label or another over a long period of years, had performed services for Phillips Petroleum that they found eminently satisfactory, and I don’t think that they were particularly interested in changing to somebody else just as the client of an individual lawyer who may go from one place to another, I mean, from one firm to another, may follow the lawyer.’

How this business followed him personally from the old firm of Harris Forbes to First Boston is also used against First Boston. Addinsell testified:

‘But, broadly speaking, we have, through that period, established a relationship, and I hope you won’t think I am immodest if I say that I think I, in particular, have established a relationship with that company where, strange as it may seem, they value my point of view and value the relationship that they have had with the, first, old firm of Harris Forbes, and then when we, some of us, moved over the the First Boston, with the First Boston. Because, while I don’t want to exaggerate my opinion about the value of my services, that has only been possible because I have had a team that could do whatever the job was that was to be done. We had a firm that had the capital, and the standing, and the organization, to do the necessary things for them.

‘That is a broad outline of the background.

‘In order to get to one point that, of course, you will come to, I would like to say that I think it was in 1932, when I was president of Chase Harris Forbes, Mr. Phillips came to me, entirely unsolicited as far as anybody I know about was concerned, and said that they would like very much
to have me go on the board of directors which, after consulting with my associates in the Chase bank, I told him I would do. That is a simple statement of the background and facts about it.'

When Addinsell testifies that Phillips ‘is a strong-minded individual * * * he is a rugged individualist * * * he built that company in the face of competition from the old line companies * * * it is a so-called independent company,’ I believe him. There is ample evidence in this record to support a finding that there was no domination of control of Phillips of Phillips Petroleum asserted or even attempted by Addinsell or by First Boston. Indeed, the very documents relied on by government counsel, supplemented by others offered on behalf of First Boston, show that the services performed by First Boston, under the able leadership of Addinsell, were of a superlative quality, amply justifying the confidence in First Boston which is revealed in the letter to Gilmour of April 1, 1935. The reference to the fact that Addinsell was a director of the company is incidental and has no significance whatever.

To characterize the effective and valuable services performed by First Boston over the years for Phillips Petroleum as an ‘adherence’ to the ‘practice of giving advice’ is unwarranted. As shown in the preliminary part of this opinion on the history and development *713 of the investment banking industry, Addinsell was following the course of competitive effort which had gradually and functionally developed from the early days as a normal and ordinary way of doing the business. Automobile salesmen, plumbers, real estate brokers and innumerable others whose business is fundamentally the rendering of services, all try their best to establish and hold on to continuing relationships with their customers, by doing a great variety of acts for which they make no separate and specific charge. When a real estate broker works hard getting information for a substantial property owner, attending endless conferences relative to the state of the market, the price to be asked for certain properties, the advertising to be used, and so on, he well known that he will be compensated only when, as and if he makes a deal.

The bearing of all this on the directorships phase of the case is merely further to weaken another of the supports upon which the government charge of over-all conspiracy rests.

Harriman Ripley

Some of the situations involved were of a special character, such as Cramp Shipbuilding Co., were...
underwriting. The only firms identified by Newey were F. S. Moseley and First Boston; but Patterson had told Ripley that ‘he was fed up with having investment bankers coming in to see him.’ Justin Dart, a director, had discussed the matter with Smith Barney. Some time prior to the sending of the telegram of October 27, 1943, Ripley had recommended to Patterson that the business be given to Blyth and G. M.-P. Murphy as co-managers, evidently because G. M.-P. Murphy had a number of aviation experts on its staff and the Blyth wire system was closely identified geographically with the United Air Lines route.

In view of this background it was quite natural that Ripley should think that Cutler was going to ask his ‘permission’ to approach Patterson.

True it is that, when the issue of 105,032 shares of 4 1/2% Convertible Preferred stock came out on December 29, 1943, it was managed by Harriman Ripley. The reason for this is that, after the exchange of telegrams between Ripley and Patterson on October 27, Patterson changed his mind about keeping Ripley on the board, and decided that it was more important to the company to have the services of Harriman Ripley, which would of course include those of Ripley himself, in connection with the financing. Patterson’s memorandum to the directors, under date of November 2, 1943, supports Ripley’s deposition testimony, and is interesting on the subject of the attitude of issuers toward continuing relationships with investment bankers. Thus his memorandum concludes:

‘Our management has had many difficulties from the day of the air mail cancellation up to the recent abnormal passenger demand. Thanks to Mr. Ripley and his organization we have never had a financial problem owing to the soundness of the development of our financial structure. It would have been impossible on many occasions to have overcome the obstacles over which we had little control without the sound financial foundation previously established.

‘In my opinion there are two ways to go about financing. One is to bargain and drive for the best terms by playing one underwriter against the other. When such transactions do not work out favorably to the underwriter who may get the business on this basis, I think it can be said quite definitely that a relationship that can be counted upon in the future does not exist. The other method is to select bankers who have demonstrated by their past methods and commitments an interest in an organization and its success between intervals of financing.

‘I prefer that this company follow the latter policy. This does not mean that we should be careless in the terms we finally negotiate. In the interests of our stockholders, arrangements that are fair and reasonable to both parties to the transaction must be accomplished.’

Union Securities

The static data relative to Union Securities is typical of that discussed generally above, and proves just as little. The chart lists 11 issues for 8 issuers; Union Securities managed 10 issues for 7 of these issuers, 9 as sole manager, and one, the only issue for that issuer, as co-manager with Kidder Peabody, which also had a director on the board.

In addition, reliance is placed upon the letter from Bailie to Fitzpatrick of the Chesapeake & Ohio Railroad, of June 23, 1938, from which I have already quoted. This letter advises Fitzpatrick that the Chesapeake & Ohio, in his judgment, should continue with Morgan Stanley and ‘maintain its existing banking affiliations so long as they are satisfactory.’ The charge that Morgan Stanley placed Bailie on the board of the *715 Chesapeake & Ohio remains unproven. The writing of this letter under the circumstances seems to me to be thoroughly consistent with Bailie’s duties as a conscientious director.

I find no significant difference between Harriman Ripley, First Boston and Union Securities, and the other nine defendant firms with respect to which the government concession was made. Thus, as to 12 of the 17 defendant firms, there is no substantial evidence that any of them used directorships as a ‘red flag’ or ‘signpost’ to others, defendants or non-defendants, or that they deferred to any other firm because one of its partners, officers or employees was a director of an issuer.

Directorship Evidence against Goldman Sachs, Lehman Brothers, Kuhn Loeb, Blyth and Dillon Read

The mass of these documents is so heterogeneous in character as almost to defy description. Of the 89 documents introduced by the government on this issue, 24 were against Goldman Sachs and 35 against Lehman Brothers. As pointed out in Part I of this opinion, these firms were associated with one another over considerable periods of time, and historically they had many directors on the boards of issuers at a time when their sponsorship of new issues, especially of closely owned family affairs or others whose securities had not previously been publicly owned, made the presence of one of their partners on the board more or less essential, in their judgment. It was a matter of policy with them to place partners or employees on the boards of directors of
issuers, and there is evidence that they each used the presence of such men on these boards in various ways in support of their competitive efforts, partly to get business but principally to hold on to such business, once it had been secured.

Goldman Sachs

The government chart lists 41 issues by 17 issuers in the 15-year period, offered at a time when a Goldman Sachs partner was on the board of the issuer. Goldman Sachs was sole manager of 15 of these issues, and co-managed 25. Twenty of these 25 co-managerships were with Lehman Brothers. Of the 17 issuers shown on the chart, Goldman Sachs’ directorship relations with 14 of them began prior to 1935. Thus, while Goldman Sachs obtained more than half its managerships in negotiated new underwritten securities offered by 19 issuers during the 15-year period 1935-1949, at a time when a partner or employee of Lehman Brothers was a member of the issuer’s board of directors. Of these issues Lehman Brothers managed 12 and co-managed 17. Seven of the 17 co-managerships were with Goldman Sachs, and one with Goldman Sachs and a non-defendant. Of the 6 issues in which Lehman Brothers had no share in management, Goldman Sachs managed 3. It is interesting to note that Lehman Brothers’ directorship relations with more than half of the issuers shown on this chart date from prior to 1935, a further and significant indication that the genesis of investment banker directorships is historical, not conspiratorial.

Lehman Brothers

The government’s directorship chart for Lehman Brothers is an extensive one. It includes 35 issues of negotiated new underwritten securities offered by 19 issuers during the 15-year period 1935-1949, at a time when a partner or employee of Lehman Brothers was a member of the issuer’s board of directors. Of these issues Lehman Brothers managed 12 and co-managed 17. Seven of the 17 co-managerships were with Goldman Sachs, and one with Goldman Sachs and a non-defendant. Of the 6 issues in which Lehman Brothers had no share in management, Goldman Sachs managed 3. It is interesting to note that Lehman Brothers’ directorship relations with more than half of the issuers shown on this chart date from prior to 1935, a further and significant indication that the genesis of investment banker directorships is historical, not conspiratorial.

Lehman Brothers, together with Goldman Sachs, was a leader in the pre-Securities Act period in developing directorship relations with its customers. And, with the development of the Industrial Department of Lehman Brothers, these directorships became an important feature of Lehman Brothers’ method of servicing its customers. Elaborate pains were taken to add to its staff some of the foremost experts in the merchandising and marketing fields and others, and some of the very memoranda relied upon by government counsel reveal the studies made by various partners and employees designed to further the firm’s competitive efforts. Two of these memoranda, dated respectively September 15, and 27, 1934, were prepared by H. J. Szold for the attention of Monroe C. Gutman, one of the partners. Another, expressing quite different views of the proper policies to be pursued, was prepared by Hammerslough, one of the partners, on March 25, 1935, and still another, at a much later period by Frank J. Manheim, a recently admitted partner, on June 1, 1946. This last memorandum was apparently offered because one of the lists therein contained was headed ‘Lehman Brothers’ Companies,’ although Gutman testified on deposition that the companies on the list were not known or described in the firm as ‘Lehman Brothers’ Companies.’

The interesting and I think the most significant feature of these frank inter-office memoranda of Lehman Brothers is

that there is no direct or indirect reference in any of them to either of the two reasons alleged by government counsel to be the reasons for Lehman Brothers attempting to get directorships: to control financial affairs of issuers, or to serve as a ‘red flag’ to warn of other defendant firms.

Eight of the 35 documents introduced or referred to as against Lehman Brothers on the directorships issue had to do with proxies, 4 related to Burlington Mills, 4 to Jewel Tea, 2 to the possible use of confidential information and 5 to policy statements, including the memoranda just discussed, and some excerpts *717 from Hancock’s TNEC testimony in 1940.*

In this case I am not concerned with the moral or ethical problem involved in the use of directorships as a means of furthering the competitive efforts of investment bankers to get business and to hold on to it. This is a conspiracy case under the Sherman Act and the more competitive are the policies of a defendant firm the stronger its position vis-a-vis the Sherman Act. This was candidly admitted by government counsel, as stated in the preliminary part of this opinion relating to directorships. What offends the Sherman Act is an agreement, combination or conspiracy not to compete.

And yet one of the documents offered on this phase of the case against Lehman Brothers, is an agreement of January 15, 1940, between the partners of Lehman Brothers, to the effect that Robert Lehman, one of the partners and a director of Pan American Airways, ‘shall receive or be entitled to receive no interest or share, direct or indirect, in any profits’ which might accrue to the firm as a result of the forthcoming new negotiated underwritten public offering of 525,391 shares of Pan American Airways stock, under the joint management of Lehman Brothers and G. M.-P. Murphy. This would seem to be in the same category with evidence that a partner of an investment banking house which is about to manage a forthcoming issue of securities, goes out of the room when the vote is taken, or make an agreement which may comply with the letter of the law but surely is not consonant with its spirit. But my function is not to pass on incidental questions of propriety or even legality, but to decide the factual and legal issues in this case.

If, on the other hand, as seems not unlikely, the purpose of government counsel is not merely to make insinuations of impropriety, but to anticipate defense argument based on the fact that, after an intervening offering to shareholders without the services of any investment banker in June 1945, the next new negotiated public offering of securities by Pan American Airways, of $43,930,000 of common stock and purchase warrants on July 3, 1945, was co-managed by Blyth, Kuhn Loeb, Ladenburg Thalman and Lazard, without the presence of Lehman Brothers as co-manager, I can only say that there is *718 no reason to suppose that Lehman Brothers, had they been able to hold on to the Pan American Airways business, would not again have followed the advice of counsel and made a similar agreement, as Robert Lehman was still a Pan American Airways director when the later issue came out. The net result is that we have another instance where the ‘red flag’ or ‘signpost’ part of the alleged conspiracy should have been functioning but was not. Blyth and Kuhn Loeb and their associates evidently took the business away from Lehman Brothers, and they did it despite the fact that Robert Lehman was on the board of directors. And Lehman Brothers, having co-managed the last previous issue with G. M.-P. Murphy, was supposed to be the ‘traditional banker.’ Nothing appears in the record to indicate any deterioration in the friendly relations between Lehman Brothers and Pan American Airways in the interval.

Cluett Peabody

The few documents introduced against Lehman Brothers on this phase of the case and relating to Cluett, Peabody & Co. are so fragmentary as to be of little value. They relate to a period in 1937 when, in the course of the fratricidal strife between Goldman Sachs and Lehman Brothers over the business of issuers whose security issues the two firms had co-managed jointly, each was trying to oust the other. In the case of Cluett, Peabody & Co., Goldman Sachs won out and cries of anguish on the part of Hancock of Lehman Brothers are reflected in his letters. What government counsel were evidently interested in was a reference in one of the exhibits to what
seems to have been a piece of misinformation transmitted to Hancock, to the effect that Weinberg of Goldman Sachs had threatened to resign from the board of directors if the business were not given to Goldman Sachs alone and Lehman Brothers excluded entirely. As usual there is a word or phrase upon which reliance is placed. Hancock writes that ‘if’ Weinberg threatened to resign, ‘did he not control the Cluett financing by the threat which the board undoubtedly felt would, if carried out, harm the company.’ This seems rather farfetched; but Hancock was advancing every argument he could think of. What reduces all this to mere words is the fact that Hancock knew nothing of the facts concerning the alleged threat to resign, and he testified before the TNEC that he had been told that the rumor, which had been relayed to him about Weinberg’s supposed threat to resign, was untrue. The aftermath was that Goldman Sachs got the business and, after the issue came out, Hancock resigned as a director.

Food Fair

A single document, presented wholly without context, relates to Food Fair, Inc., originally known as Union Premier Food Stores, Inc. It is a memorandum of September 11, 1943, by an employee of Lehman Brothers, Lucille Schwartz, who reported a meeting of the employees in the Industrial Department at which no partner was present. The portion of the memorandum relating to Food Fair reads:

‘This business came into Lehman Brothers many years ago but was turned down because we had many other relationships in the field and Food Fair was very small at the time. Now this company is expanding dynamically and it is very anxious to do business with us. Eastman Dillon and Wertheim are on the board but nevertheless, the company still wants Lehman Brothers to do the business. We don’t want to have any bad relations with either of these investment houses. Therefore, we prefer to have Food Fair go to Wertheim and Eastman Dillon and say that they want Lehman Brothers to be in on the deal.’

What action on this suggestion was taken by the partners does not appear; nor do we know the basis or authorization for the statement that Food Fair was ‘very anxious to do business’ with *719 Lehman Brothers. In any event, it is clear that this document does not fit into the alleged conspiratorial scheme, as the last prior issue was one of 55,000 shares of preferred stock in December, 1940, co-managed by Hemphill Noyes and Wertheim. There was also a 1937 issue managed by Childs, Jeffries & Thorndyke, and another in 1938, co-managed by Childs, Jeffries & Thorndyke and Van Alstyne Noel. Wertheim is not claimed to be a co-conspirator; and, accordingly, there was no defendant firm ‘traditional banker,’ to whom Lehman Brothers was supposed to defer. The memorandum also shows on its face that some of the employees present at the meeting ‘are still unknown to the partners.’ The next issue was brought out by Eastman Dillon alone.

Allied Stores

The two documents relating to Allied Stores Corporation, formerly Hahn Department Stores, add little to plaintiff’s case. The first of these, suggestive of another of Lehman Brothers’ rescue operations, is a memorandum of agreement between the president of the company and Arthur Lehman, a partner of Lehman Brothers, to the effect that Arthur Lehman use his best efforts to assist in the filling of two vacancies on the board of directors by the election of men suggested by the president; Lehman reserves the right to object to one solely on the basis of ‘something involving that candidate’s integrity, moral position or standing in the community’ but may object to the other unless he is ‘a man either of merchandising experience or a man who stands so well in the business world that his counsel will be recognized as being of value to the company,’ with more to the same effect. The other document is a copy of the minutes of the annual Allied directors meeting on June 29, 1945, which show that Paul M. Mazur and Harold J. Szold, both at the time partners of Lehman Brothers, were elected members of the 11-man Executive Committee, and members of the 5-man Advisory Committee, Szold to be Secretary of each. Mazur was a merchandising expert of outstanding reputation and both he and Szold had much to offer in the way of knowledge and experience; they were each to be paid by the company, $10,000 a year for their services, and concessions by government counsel indicate that they were worth every cent of it.

Aviation Corporation

One document relating to Aviation Corporation, later Avco, is a letter of April 17, 1930, signed by Robert Lehman as chairman of the Executive Committee, to Sanderson & Porter, employing that firm of management engineers to provide the company with an executive head and serve it and its subsidiaries in an advisory capacity, with an option to purchase 50,000 shares of the company’s treasury stock. This was a speculative venture, organized a few months before the market crash in 1929, and there were 14 investment bankers on the board, a majority of whom were in no way connected with any of the defendant firms. Other documents concerning Avco relate to proxies and require no discussion.
Sears Roebuck

Only two documents relating to Sears, Roebuck & Co. were introduced against Lehman Brothers on the phase of the case now under discussion, but there is considerable other evidence in the case relating to that mail order house and it will be convenient to treat it all together at this point, especially as the dealings of various of the defendant firms having to do with prospective issues of Sears Roebuck are strongly relied upon by counsel for the government in support of its general charge.

It will be recalled, from Part I of this opinion, on the history and development of the investment banking business, that as early as 1906 Lehman Brothers and Goldman Sachs headed the offering of 90,000 preferred and 45,000 common shares of Sears Roebuck. By reason of their sponsorship of these securities, *720 Philip Lehman became a director on July 2, 1906, and Henry Goldman in 1907. Thereafter a partner of each of the two firms was on the Sears Roebuck board without substantial interruption until at least late 1951. In May and July 1909, Lehman Brothers and Goldman Sachs headed offerings, first of 50,000, and then of 25,000 shares of common stock. There was no further financing until October, 1920, when Chase Securities with Lehman Brothers and Goldman Sachs headed an offering of $50,000,000 of Sears Roebuck notes.

Fourteen years later on June 21, 1934, Burnett Walker, a partner of Edward B. Smith & Co., who had only a few days previously and on June 16, 1934, left the Guaranty Co., by reason of the Glass-Steagall Act, to come with Edward B. Smith & Co., heard a rumor that some Sears Roebuck financing was in prospect and he proceeded to investigate. He tried to get Hancock, of Lehman Brothers, who was a director of Sears Roebuck, on the telephone, but Hancock was out and he spoke to Gutman. We have in evidence the memoranda of this conversation prepared by Gutman, on the one hand, and by Karl Weisheit, then an employee and later a partner of Edward B. Smith & Co., on the other. A true understanding of this conversation will throw considerable light on one of the most important of the contentions advanced by counsel for the government.

Let us first examine the part relied upon by government counsel. It is the following memorandum by Gutman:

‘Mr. Burnett Walker of E. B. Smith & Company (formerly Guaranty Trust) called to tell us that they heard rumors of Sears Roebuck financing and would not of course encroach on this because it was our bailiwick, but, on the other hand would be very glad, if they could in any way pay their way, to have us remember them if any financing takes place.

‘I told Mr. Walker that we could not in any way commit ourselves, but that I would make a memorandum of my conversation with him and promised him that we would give the matter consideration at the proper time.’

From Walker’s standpoint, angling for information, he desired to ascertain: (1) whether financing was really in prospect; (2) whether the old relationship with Sears Roebuck, going back almost thirty years, had in any way deteriorated so as to make it seem worthwhile to go after the leadership of such financing as might be under consideration; and (3) if he found that Lehman Brothers had the situation well in hand, to lay a foundation for obtaining a participation.

From Gutman’s standpoint it was desirable to keep his ears open and say as little as possible. Walker merely commented ‘that he understood that such an issue was being planned,’ according to the memorandum made by Weisheit. Gutman’s attitude evidently convinced Walker ‘that they did have such an issue in mind’ and, thus considering it futile to waste time and effort working on the Sears Roebuck people in an endeavor to get the leadership of the business, it was then and only then that Walker made his remark about not encroaching because the business was in the ‘bailiwick’ of Lehman Brothers. This is an instance of the way a few investment bankers thought it smart to work up to a participation, when they had no reasonable expectation of obtaining the managership; and it explains a number of the documents upon which government counsel lean heavily.

Weisheit’s memorandum follows:

‘Mr. Montgomery was given to understand by a friend today that Sears, Roebuck & Co. were planning a convertible bond issue. Mr. Walker spoke to the Guaranty Trust Company about this possibility but they said that they knew nothing of it.

‘Mr. Walker also telephoned to Lehman Brothers and in the absence of Mr. Hancock (a Director of Sears, *721 Roebuck) spoke to Mr. Gutman. Mr. Walker purposely avoided asking him if they were working on such an issue but said that he understood that such an issue was being planned and from Mr. Gutman’s attitude Mr. Walker was convinced that they did have such an issue in mind. Mr. Walker said to Mr. Gutman that we realized this was their business and that we did not wish to interfere in any way but that if there were any place for us in the business on a basis where we ‘could pull our own weight’ we should
appreciate it if they would keep us in mind if and when an issue materialized.

‘Mr. Gutman said he would be pleased to make a note of the conversation for consideration at the proper time.’

There is no testimony to throw further light on these memoranda; and the record does not tell us whether financing was or was not then under consideration by the management of Sears Roebuck in view of the background. It seems extremely improbable that Walker telephoned Gutman with any real expectation that it would be worthwhile for Edward B. Smith & Co. to attempt to secure leadership. In any event, nearly two years later Weinberg of Goldman Sachs, as indicated by a letter of March 25, 1936, succeeded in ousting Lehman Brothers from its earlier position as co-manager and on December 26, 1936, Goldman Sachs alone managed an offering of 442,560 capital shares to Sears Roebuck shareholders. The Goldman Sachs participation was 15.25%, Lehman Brothers got 10% and Edward B. Smith & Co. only 5%. The letter was offered by government counsel because, as part of his competitive effort to oust Lehman Brothers, Weinberg had written to the president of Sears Roebuck:

‘As a matter of fact we always considered that, as the term goes here in the Street, Sears Roebuck was really our issue.’

Very likely, had the opportunity to do so arisen, Lehman Brothers would have told the president that they considered that Sears Roebuck was their issue.

Finally, there is a Hancock memorandum of September 22, 1943, indicating that Lehman Brothers did not wish to become interested in financing for a competing concern, Chicago Mail Order House (later named Aldens) if General Wood and Arthur Barrows of Sears Roebuck disapproved, which they did not. This memorandum also makes reference to the appointment of a committee, composed of Hancock as chairman, Weinberg, Humm and Barker, to consider financing in connection with post-war planning and expansion. But there was no post-war financing; in fact there was no further financing whatever.

Cleveland Cliffs Iron Co.

The last four of the documents introduced or referred to in the concluding connecting statement against Lehman Brothers on this phase of the case, have to do with Cleveland-Cliffs Iron Co. This was still another rescue operation, involving the consolidation of Cliffs Corporation and Cleveland Cliffs Company. Due to bad financial management the situation had become difficult; and the loan agreement of December, 1935, with the three banks holding the bank indebtedness, contained a provision that if either William G. Mather or E. B. Greene, who had come into the management after service as an officer of a bank in Cleveland, died or ceased to hold office, their successors should be satisfactory to all the banks. One of the documents is a letter of December 6, 1935, from Greene to Lehman Brothers, Field Glore, Hayden Stone and Kuhn Loeb, who had agreed on December 4, 1935, to purchase $16,500,000 First Mortgage 4 3/4% bonds, that in recognition of their ‘continuing interest, for the protection of the bondholders, in seeing that the company has a satisfactory management,’ he confirmed assurances that these underwriters would also be consulted about successors to himself and *722 Mather; and another document merely transmits a copy of this letter and certain other enclosures to Kuhn Loeb.

Of the remaining two, the first evidences the formation of a group consisting of Lehman Brothers, Field Glore, Hayden Stone and Kuhn Loeb on June 28, 1935, to do the financing. The part relied upon is: ‘Lehman Brothers are to manage the initial business; subsequent leadership is to rotate.’ But the ‘rotation’ never took place. The $16,500,000 issue was managed by Lehman Brothers and came out on December 10, 1935. In the next two financings Lehman Brothers acted alone, as sole agent for Cleveland-Cliffs, in two private placements in 1939 and one in 1940. In April, 1945, the company placed $5,000,000 of its notes privately without any investment banker.

The last document, a memorandum of December 12, 1935, has to do with compliance with an agreement between the company, Greene and the Adams Express Company, a substantial stockholder, to the effect that Adams Express should have representation on the board. Hayden Stone in some way came into the picture and Gutman had said he preferred an Adams Express man, but if a Hayden Stone man were being thought of he felt someone from Lehman Brothers should be elected rather than someone from Hayden Stone. Steele Michell of Adams Express was elected.

I find as a fact that there is no basis for plaintiff’s charge against Lehman Brothers on the ‘directorships’ issue.

Kuhn Loeb

The government chart lists 24 issues of negotiated new underwritten securities for 10 issuers during the period 1935-1949, offered at a time when a partner of Kuhn Loeb...
Loeb was on the issuer’s board of directors. Of these 24 issues, Kuhn Loeb managed 17 and was co-manager of 6. Kuhn Loeb’s directorship relations with half of these issuers were formed before 1935.

Nine documents were offered or referred to against Kuhn Loeb on the phase of the case now under discussion. Six of these were in the 1932-1939 period; the others were in 1944 and referred to Armour & Co.

The evidence fails to support the claim that Kuhn Loeb used any of these directorships as a ‘red flag’ or ‘signpost’ to warn off other defendant firms or that any of the other defendants ‘recognized’ any such signal.

Franklin Simon

The document chiefly relied upon by government counsel is a memorandum of November 19, 1934, by Benjamin J. Buttenweiser, a partner of Kuhn Loeb, reporting conversations relative to a proposal by a middleman or finder that the firm should interest itself in a secondary offering of all of the common and part of the preferred stock of Franklin Simon & Co., which was owned by the Franklin Simon Estate.

Two partners of the firm of Henrotin, Moss & Lewis, Inc., claimed to represent the Estate and called to see if Kuhn Loeb would be interested. No reason was suggested as to why the Estate did not speak to Kuhn Loeb directly. Buttenweiser remarked that the preferred stock had been brought out by Goldman Sachs & Co. and Lehman Brothers, and mentioned incidentally that they were represented on the board, but Henrotin claimed that there had been a resignation. The memorandum constitutes one of the principal pieces of documentary evidence against Kuhn Loeb, as it contains the phrase ‘Street etiquette.’ It has little significance on the directorships issue or the alleged domination and control of issuers. Indeed, as it refers to a secondary, there could be no ‘traditional banker,’ according to plaintiff’s definition.

It may be well to remark in passing, however, that, as will more fully appear hereafter, Kuhn Loeb in 1934 followed a competitive technique which was unique and finds no parallel in the conduct of any of the other defendant firms. It gave wide currency to that appeared on the surface to be a complete *723 and utter refusal to solicit or even accept underwriting business ‘belonging to some other house’ and statements of this attitude by Kuhn Loeb constitute a very considerable part of plaintiff’s evidence. The purpose of all this was not eleemosynary, or conspiratorial; on the contrary, this was itself a form of competitive effort, designed to give the impression that Kuhn Loeb was a firm of such prestige and eminence that it was beneath its dignity to run around after business. Otto Kahn called it ‘his show window.’ Underneath this facade, however, we shall find shrewd and ingenious methods used to get business of the highest quality, whilst all the time protesting that the firm would never, never take business away from another banker.

This particular document shows the operation of the Otto Kahn-Kuhn Loeb technique, when approached by a finder; and it also shows from another angle the currying of favor for possible future participations, as we have seen done by Edward B. Smith & Co. in its approach to Lehman Brothers, relative to Sears Roebuck. The chronological sequence of events is always important.

A paragraph of the memorandum reads:

‘We advised Messrs. Henrotin and Lewis that we appreciated their approaching us in this connection but it was our recollection that Messrs. Goldman Sachs & Co. and Lehman Brothers had offered Franklin Simon preferred shares and were represented on its board, and that, as Mr. Henrotin knew, we were always scrupulously careful not to intrude in any way on what might be considered other people’s business. Mr. Henrotin replied that he was aware of this situation and had anticipated our taking this view, but made clear that, according to his information, the Goldman, Sachs & Co. and Lehman Brothers’ representative had resigned as a director and consequently he assumed that these two firms were no longer interested in that situation. We then said that we would like to discuss this matter with our other partners and would advise them in due course.’

The reasons for this cautious response at once suggest themselves. It would be a mistake even to hint at the possibility of a commitment to a finder who might or might not be in the confidence of the Franklin Simon Estate. More important still, the maintenance of the ‘show window’ of prestige and eminence required that whatever be said or not said at the conference with Henrotin and Lewis be in every respect of such a character that, whatever happened thereafter, the Kuhn Loeb ‘show window’ would remain intact.

The reason for later deciding not to consider this business, as stated in the next paragraph of the memorandum, is not given; it may have been based on the fact that the Estate was selling out not only to raise money to pay taxes but also ‘because it felt that the management of Franklin Simon & Co. was being adversely affected by continuing disagreements between the late Mr. Simon’s son and son-in-law.’ The reason quite evidently was not that stated to
Henrotin and Lewis about not intruding on other people’s business. Had that been the reason, the business would have been ejected out of hand at the first conference.

Having decided to reject the business, the partners proceeded to step two. They must make sure that Lehman Brothers was informed of the attitude Kuhn Loeb had taken with Henrotin and Lewis at the first conference. Of course, had the decision been the other way, it is highly improbable that Lehman Brothers would have been told anything about the conference with these middlemen.

Accordingly, Buttenweiser suggested that Henrotin convey to Lehman Brothers the information that Kuhn Loeb did not wish to intrude, but Henrotin said ‘he would prefer our discussing the matter with Lehman Brothers.’ This *724 led to a call to Allan Lehman, because of ‘the recent discussions which we had with him with regard to our views on similar Street etiquette as it affected the government’s holdings of Pennsylvania equipment.’ But Allan Lehman turned Buttenweiser over to Mazur, who was more familiar with the Franklin Simon situation. When Buttenweiser spoke with Mazur he explained to him ‘that our only purpose in approaching them was to steer Mr. Lewis their way.’ This does not appeal to me particularly, but there is no denying the fact that it might well gain some competitive advantage for Buttenweiser and his partners, when the time came for making a close decision relative to a participation in some underwriting in which Kuhn Loeb desired a substantial position. The Lehman Brothers response is interesting too. It was that ‘they felt that their approach to the business was sufficiently strong that they would rely on it alone without bolstering it up through whatever contact Mr. Lewis may have.’

As no secondary sale of Franklin Simon & Co. stock appears in the Issuer Summaries, I cannot remove from my mind the possibility that neither Kuhn Loeb nor Lehman Brothers was really interested. If Kuhn Loeb had been interested, the course of events would have been very different, as we shall see when we come to Armstrong Cork. All this is matter of inference but that is what a documentary case such as this is about.

Miscellanea

Three of the documents refer to the subject of retiring from or not being present at meetings, and a fourth, from one of the Armour officials in 1937, suggests the possibility of Elisha Walker’s presence at a board meeting ‘to help convince some of our directors as to the proper conversion rate and other provisions.’ In view of what I have already written on the subject of the presence or absence of banker-directors at meetings where security transactions are passed on, there seems to be no reason to discuss it further in connection with these documents.

A memorandum of Lewis L. Strauss, a partner of Kuhn Loeb, makes reference on July 16, 1935, to what seems to be a dispute of no significance between him and Hertz of Lehman Brothers over a suggestion that Mr. Selig, said to be a director of General American Transportation Company, be elected to the Studebaker board. Evidently Strauss had first suggested Dr. Julius Klein, a well known economist and head of an engineering firm, and had withdrawn the suggestion upon objection by Hertz. The gist of the matter is that Strauss said he had asked and obtained Selig’s consent to serve and that he would not withdraw his name. As Hertz apparently took the position that he would not serve on the board with Selig, Strauss commented dryly, ‘I would be willingly resigned to the fact that he (Hertz) would not serve.’

Then there is a March 11, 1932 memorandum by Buttenweiser on the subject of directorships. It is argumentative and seems not to represent any firm policy. The principal reason for introducing it was because it lists separately the J. P. Morgan & Co. directorships. Perhaps Buttenweiser thought they should first try to get directors on the boards of issuers where there was a better chance of getting worthwhile financings, than there would be with issuers on whose boards there was a J. P. Morgan & Co. man.

The last two relate to Armour & Co. and are an exchange of letters between Chase Ulman, a director of Armour, and Elisha Walker. Ulman makes various suggestions relative to a forthcoming issue. There is some testimony by Harold L. Stuart to the effect that a previously proposed financial plan, suggested by Armour’s chairman, had proved impossible of consummation and that the credit of the company was so weak that it was not practical to resort to competitive *725 bidding, a subject mentioned in Ulman’s letter. The sentence selected by government counsel from Walker’s reply to Ulman, of August 24, 1944, reads, ‘As I have said before, my firm intends to give the Company the best terms that it considers advisable.’ This is claimed to demonstrate an arrogant attitude, suggestive of control. The difficulty with this is that the letter, read as a whole, will bear no such interpretation, nor could it have been viewed in that light by Ulman. In the second paragraph, immediately after the one containing the quoted sentence, Walker adds, ‘I am very hopeful that the terms we will work out with the management will be satisfactory to you.’

Dillon Read
The government chart and the potpourri of 18 documents used against Dillon Read on domination and control of issuers and use of directorships are far from impressive. The chart lists only two issuers, CIT Financial Corporation and B. F. Goodrich Co., who offered four negotiated new underwritten security issues during the period 1935-1949, at a time when a Dillon Read officer was on the issuer’s board of directors. Dillon Read managed one of these issues alone, and co-managed the other three. Two of the documents referred to proxies.

National Cash Register

Of the other documents, the earliest in point of time is an agreement of January 4, 1926 between the stockholders of the old, privately owned, National Cash Register Company and Dillon Read, relating among other things to the reorganization of the company and to the first public distribution of National Cash Register stock in the history of the company. The stockholders of the old company retained control. Among paragraphs dealing with various matters such as stock options, reimbursement agreements and employee stock, is the part relied on by government counsel, to the effect that Dillon Read is given the right to designate a minority of the directors of the new company. The only fair inference from this, it seems to me, is that in sponsoring such an offering Dillon Read wished to make reasonably sure that the new company had proper management, for the protection of those who bought the securities. For only a short period, after the first year, was there more than one Dillon Read man on the board.

It is interesting to note that in 1935 or 1936, despite the presence of this Dillon Read man on the board, Ripley, upon the invitation of Colonel Deeds, made a trip to Dayton, Ohio, and tried to get the National Cash Register business. When he was told by Colonel Deeds and Mr. Allyn ‘that they felt that if they did any financing that they wanted to do it through Dillon Read,’ Ripley continued to compete and asked if Brown Harriman could not be a joint manager. The ‘red flag’ or ‘signpost’ arrangement did not seem to be functioning.

Amerada Petroleum

A letter of January 30, 1926, with certain exhibits attached, constitutes an offer by two stockholders of Amerada Petroleum Corp. to sell common stock to a syndicate to be formed by Dillon Read. The transaction related to the transfer of control from British to American interests. The situation is similar to that of National Cash Register just referred to. Dillon Read is assured that, over a five year period, there will be elected to the board of directors ‘a majority of the members thereof’ satisfactory to you.’ Under these conditions it is understandable that, in offering the shares to the American public, Dillon Read should wish to give some assurance of a capable board for this limited period.

Outlet Company

Two documents going back to 1927 and 1928 relate to a piece of patently unattractive business brought to Dillon Read by Freeman, the middleman or finder, whom we shall meet again. In January, 1927, Freeman talked with Van Bibber, of Dillon Read, and said that any purchaser would have to provide management.’ On May 22, 1928, Shields of Dillon Read advised Freeman he was ‘concerned as to the future management’. Also that the price was too high. Freeman was persistent, however, and a memorandum of October 26, 1928, contains the phraseology which it is claimed helps plaintiff’s case. It reads:

‘M. L. Freeman again suggested the possibility of financing for this company or the purchase of control. I told him we would not be interested, partly because of the management and partly due to the fact that the company had their own bankers, Lehman Brothers, who had handled two issues of securities for them and were represented on the board.’

This is confirmed by a letter to Freeman of the same date.

I can find nothing here but the exercise of good business judgment on the merits. After an appraisal of the situation Dillon Read gives what seems to me to be entirely adequate business reasons for letting the matter drop.

Beneficial Industrial Loan

There are seven 1931 documents, in series, relative to Beneficial Industrial Loan Corporation. The emphasis is placed upon the following sentence contained in a letter of May 26, 1931, from Wilcox of Dillon Read to Alexander Randall of the investment banking house of Mackubin, Goodrich & Co., there being a Dillon Read man on the board at the time:

‘More important, I am somewhat troubled by your not approaching the company on this matter through the leaders (Dillon Read) of the investment banking group which was formed to handle the investment banking affairs of the company.’

The explanation appears on the face of the letters, read against the background of the static data.
In March, 1931, a security issue of Beneficial Industrial Loan was underwritten by Blyth, H. M. Byllesby, Dillon Read and Mackubin Goodrich, Dillon Read leading and handling the business. Of $10,000,000 6% convertible debentures, $7,000,000 were offered March 11, 1931, and there was an option on the remaining $3,000,000. It is this option feature of the 1931 financing which was the subject of the approach of Randall to the executives of the company. There is no doubt that any plan in which Blyth, Byllesby, Dillon Read and Mackubin Goodrich were jointly interested, by reason of their percentages of Dillon Read, 47.50%, Blyth, 23.75%, Byllesby, 23.75% and Mackubin Goodrich, 5%, should have been presented by Dillon Read; and Willcox, on May 26, 1931, wrote to O. W. Caspersen, Vice President of Beneficial Industrial Loan, substantially repeating what he had written on the same day to Randall.

Government counsel treats these letters as warning off a potential competitor, but such was not the case. They were all in the deal together, and Caspersen's reply to Willcox, of May 29, explains Randall's 'approach,' as follows:

'Mr. Randall wanted to discuss the matter with you, but as you were absent he asked us not to do anything about it until you returned and had the opportunity to pass on it.'

A memorandum of Willcox in this series, dated September 10, 1931, suggests that Dillon Read ask George Franklin to go on the board of Beneficial Industrial Loan. The phrase selected here follows a reference to two lawyers on the board, and is 'both of whom speak our language.' But the use of this common phrase would not seem to justify an invidious interpretation.

Part of the correspondence is between Warner of Byllesby and Willcox to the effect that Byllesby feels that it is entitled to have a ‘representative’ on the board. Willcox puts it up to Byllesby to work out with Blyth, so that there *727* may not be ‘three representatives of the banking group,’ in view of the willingness of the company to have two. But Byllesby and Blyth could not agree and the purchase contract accordingly only called for one. The emphasis here is placed by government counsel on the following sentence in the last letter by Willcox:

‘The Company has taken a very firm position on this subject, and it seems to us hardly proper to put pressure on it to change the agreement.’

Whatever ‘pressure’ may have been suggested, however, was suggested by Byllesby, and not by Dillon Read.

By way of sequel, it appears by the deposition testimony of Bogert, of Eastman Dillon, that Eastman Dillon took the business away from Dillon Read, and the next negotiated underwritten offerings of Beneficial Industrial Loan, starting in December, 1938, came out under Eastman Dillon management.

Union Oil

A letter from W. S. Charnley to Robert E. Christie, Jr., both of Dillon Read, dated July 20, 1931, mentions recommending Wilbur DuBois, ‘one of our men,’ to be named as a director of Union Oil Company Pantapec Liquidating Corporation. The sentence selected by government counsel here is:

‘I am very glad that you agreed to this request as in view of the possible future circumstances it is, I think, very necessary that we put the Union Oil under every obligation possible.’

Charnley was a director of Union Oil Company of California from before July 26, 1933, until after he left Dillon Read on March 10, 1934. Except for one issue in June, 1923, the pre-Securities Act Issuer Summary Sheet shows Dillon Read as ‘offeror’ or as being in ‘privity of contract,’ either alone or with others, with respect to all underwritten offerings between 1922 and 1930. All underwritten issues since 1935 have been managed by Dillon Read, and private placements in 1947 and 1949 were handled by Lehman and Dillon Read respectively.

That the reference to DuBois was merely part of Dillon Read’s competitive effort to get or keep business, by taking advantage of an opportunity to be of service to the company, seems apparent. It was only intended that he should serve ‘during the period of division of properties of Union National Petroleum Company.’ Gregg of Union Oil, in a letter to DuBois, refers to ‘the very limited services which you will be called upon to perform’; and DuBois resigned as a director after serving less than two months.

Commercial Investment Trust

A single document of February 28, 1941, is a combined notice of annual meeting of stockholders and proxy statement of Commercial Investment Trust Corporation, which merely states:

‘Mr. Bollard (an officer of Dillon, Read & Co.) was originally elected in 1929, and Mr. Altschul (a partner of Lazard Freres & Co.) in 1930 and Mr. Strauss (a partner of Kuhn, Loeb & Co.) in 1936 were without formal action designated as candidates, by the Boards of Directors then
in office because of their affiliation with underwriters of the Corporation’s securities.’

Rheem

Finally, there are three Dillon Read memoranda relating to Rheem Manufacturing Company in March and April of 1944. The last previous negotiated underwritten issue had been managed by Blyth, followed by a private placement without the services of any investment banker in 1943. The first memorandum, dated March 23, 1944, gives a summary of miscellaneous information about the company, probably prepared for the purpose of going after the business, and the part relied on by government counsel notes, concerning the board of directors, that it ‘is an entirely employee board with the exception of A. E. Ponting.’ The second, from Behr to McCain, both of Dillon Read, indicates that Keplinger who ‘was connected with Dillon, Read & Company before he was connected with Rheem,’ was still of the opinion that Rheem desired ‘to do business with us instead of Blyth,’ and would like to bring the president of Rheem in to see Dillon Read, to dispel any impression that Keplinger had misinformed them of the company’s position in the matter. The last memorandum, of April 20, 1944, without details notes a talk between Mr. Rheem and Keplinger with Mitchell of Blyth, a subsequent talk between Mr. Rheem and Keplinger with McCain of Dillon Read and concludes with the statement that ‘Blyth & Company is now working on a debenture issue for this company.’ Strange to relate, government counsel seem to think these memoranda indicate that Dillon Read started after the business, had a good chance to get it and then stopped competing because Blyth was the ‘traditional banker’ and because of the ‘red flag’ shown by the presence of Ponting on the board.

All the inferences are to the contrary. To begin with, as Dillon Read knew that Blyth had brought out the last previous negotiated underwritten security issue it should not have gone after the business at all, if the alleged conspiracy was in operation. No ‘red flag’ was necessary. The significant thing is that they did compete for the business and they lost out partly because Blyth was the ‘traditional banker’ and because of the ‘red flag’ shown by the presence of Ponting on the board.

was supposed to be designed to prevent. There is nothing whatever to indicate that Keplinger’s efforts were frustrated by the presence of Ponting on the board.

I find as a fact that there is no basis for plaintiff’s charge against Dillon Read on the ‘directorships’ issue.

Blyth

The government chart shows that Blyth had directors on the boards of 8 issuers, who offered 14 issues of negotiated new underwritten securities during the 15-year period. Of these 14 issues, Blyth managed all but one, the sole issue for one of the issuers. It appeared, however, that Blyth or Blyth Witter had handled financing for 6 of the remaining 7 issuers before its man was made a director; and all 8 are West Coast companies. Blyth never had any general policy of placing directors as a means of competing for business; but where continuing relationships existed in particular instances these may well have been improved and fostered by the presence of a Blyth officer on the board of directors.

In addition to the Dillon Read documents relating to Rheem, which have just been discussed, government counsel introduced only three documents on this phase of the case against Blyth, and one other, received against Lehman Brothers, was referred to in the connecting statements.

Rayonier

The Lehman Brothers document is a letter from Robert Lehman to Donald N. McDonnell of Blyth, dated October 6, 1943, asking for an underwriting position in a possible financing by Rayonier, Inc. The statement ‘with two associates on the board of directors, I presume your firm must know the whole story,’ is supposed to illustrate the power or advantage that a directorship gives an investment banker over potential competitors. But Lehman Brothers had no reason to suppose that it was in a position successfully to compete for the business nor does it appear that Lehman Brothers even contemplated doing so.

Pan American Airways

A letter from George Leib to Charles E. Driver, both of Blyth, dated June 1, 1937, indicates that Leib is after a participation and has not been able to make any progress with Lehman Brothers, which, Leib appears to have had some reason to believe, was about to manage a Pan American Airways issue. The letter comments, ‘Representatives of several investment banking houses are on the board— particularly Lehman,’ and goes on to
suggest that ‘if they have an underwriting’ about the only way Blyth could be included in the group was by an approach through Lew Manning, representing Aviation Corporation, one of the largest stockholders of Pan American.

Far from helping the government because of the phrase ‘particularly Lehman,’ the significance of the document seems to be that it was one of the early steps in a competitive effort which finally succeeded in getting the business away from Lehman Brothers, as is shown in the discussion of Pan American Airways financings under the sub-title of Lehman Brothers, on the phase of the case now under discussion.44

Another feature of the Pan American Airways financing tends to refute a contention of government counsel which seems to rest on no more substantial foundation than pure assertion. It is claimed that one of the features of the conspiratorial scheme is that, if a defendant investment banking house once has an underwriting position or participation in a financing managed by another defendant, this precludes the participant from competition for the management of future financings of the issuer whose securities are under consideration. But Blyth had participated in the 1940 issue of Pan American Airways, co-managed by Lehman Brothers; and this did not deter Blyth from joining with Kuhn Loeb, Lazard and Ladenburg Thalmann in seeking the leadership of the 1945 issue. There are numerous other instances of the same thing and I shall not mention the subject again. An appropriate finding of fact relative thereto may be submitted in due course.

Anaconda Copper

Mitchell, of Blyth, when with the National City Company, had for many years worked on Anaconda financings, which in the pre-Securities Act period were handled by the National City Company and the Guaranty Company. Mitchell had been a director of Anaconda for a long time, having been invited by John F. Ryan, then President of Anaconda, to become a director in 1929. During the summer of 1935, Anaconda became interested in a proposed financing which was to be the first substantial new money issue after the Bank Holiday of 1933. Blyth worked out a financing plan and Mitchell testified extensively by deposition concerning the details of what was done. Swan of Edward B. Smith & Co., Stanley Russell of Lazard and others were also after this business. It was only natural that the men who had previously handled Anaconda financings at the National City and Guaranty companies should be found competing against one another for this business after they had been forced to make new connections by the operation of the Glass-Steagall Act.

Despite all this, government counsel claimed, in connection with the ‘successorship’ phase of the case, that the business of Anaconda had ‘gravitated’ to Blyth by reason of a conspiratorial agreement among the defendants to the effect that ‘part’ of the business of National City should be ‘inherited’ by Blyth. As a matter of fact I find that Blyth got this business due to the competitive efforts of Blyth, under the able guidance of Mitchell; and, when Cornelius F. Kelley of Anaconda wrote Mitchell on August 2, 1935, that if National City should be ‘inherited’ by Blyth. As a matter of fact I find that Blyth got this business due to the competitive efforts of Blyth, under the able guidance of Mitchell; and, when Cornelius F. Kelley of Anaconda wrote Mitchell on August 2, 1935, that if National City Company and Guaranty Company were permitted by pending legislation to resume their investment banking activities, ‘inasmuch as they have always been the principal bankers of the Company, they would be entitled to lead in the financing if they so desired.’ Kelley was merely exercising the prerogative of an issuer to select its own investment bankers according to its own free choice. The pending legislation did not pass, however, and the $55,000,000 issue of debentures came out on October 15, 1935, under the management of Blyth.

This is all leading up to a document introduced against Blyth on ‘directorships,’ which is a letter from Mitchell to Kelley of August 21, 1935, tendering his resignation as a director of Anaconda, ‘in order that there may be no conflict of interests in my position as Chairman of Blyth & Co. and in my holding a Directorship in the Anaconda Copper Mining Company, with respect to consideration of the financial program of your Company.’ Mitchell testified that this was a ‘matter of judgment’ in this ‘particular case.’ He never came back on the board.

Iron Fireman

The final document against Blyth on directorships is a letter from T.H. Banfield, president of Iron Fireman Manufacturing Co., to Shurtleff of Blyth with reference to a vacancy on the board of directors and among the voting trustees of the company, caused by the death of Mansel Griffiths, manager of Blyth’s Portland office. The part relied upon reads:

‘When Blyth & Co. purchased part of the Iron Fireman Manufacturing Company’s holdings and put the same on the market to the public, there was an understanding that Blyth & Co. would have two directors on the Iron Fireman Manufacturing Company’s board.

‘During the life of this agreement, we have been very happy with the association of both Mansel Griffiths and Henry Boyd and it goes without saying that we regret very much the loss of Mansel Griffiths.'
‘The other Voting Trustees and Directors would welcome you to become a member of the Voting Trustees and also a member of the Board of Directors of Iron Fireman if same would meet with your pleasure. I understand that this is quite satisfactory to Charley Blyth.’

There is no evidence that Blyth sought to have any of its officers or employees selected as voting trustees or directors; and I do not see why it is not a reasonable inference that those who served as voting trustees or directors did so at the request of the stockholders or the management and for good business reasons.

With respect to Blyth I find the facts on the ‘directorships’ issue to be the same as with reference to the other defendants. There was no adherence to any ‘red flag’ or ‘signpost’ term of any agreement, and no domination or control over any issuer.

Some Further Interim Observations

It is because the allegation of domination and control of issuers presents one of the fundamental and crucial controverted issues of fact in the case, that I have gone to such pains to review the evidence in detail and in this comprehensive fashion. After all the talk about domination and control of issuers which is to be found in the TNEC hearings, and in the course of other investigations by numerous public officials over the years, it was to be expected that substantial evidence would be produced at this trial in support of the specific and detailed allegations in the complaint on this subject. Certainly there was nothing to prevent government counsel from having access to every living witness and every shred of documentary evidence in existence. Partners, officers and employees of investment banking houses were subject to subpoena before the Grand Jury, which considered these issues for many months but found no indictment *731 against any of the defendants. While I was adamant in refusing to permit any prying into the proceedings before the Grand Jury, and would take the same position if I were to go through this whole weary process again, there is ample indication in the long record now before me to indicate that truckloads of documents were produced before the Grand Jury. The precise number of the hundreds of thousands of documents, from the files of issuers and defendant and non-defendant investment banking houses, which were examined, tabulated and photostated by government investigators, will probably never be known. The intimate and confidential character of hundreds of the documents in evidence would seem to indicate that there was no suppression of evidence whatever by anyone.

And yet, as is shown by the detailed summary just concluded, the result is nothing but a hodgepodge of confusion. Mons parturibat deinde murem prodidit. No judge or court could possibly make a finding of domination and control of the financial affairs of issuers, by defendants or anyone else, on the basis of such proofs. The myth of domination and control of issuers by investment bankers, at least in the post-Securities Act period with which we are principally here concerned, which was fostered by the ex parte TNEC proceedings and blown up by the long continued propaganda in favor of compulsory public sealed bidding should, perhaps, be given a decent burial and quietly laid to rest.

There is further significance, however, in this discussion of the evidence on directorships. It illustrates the method pursued, and the strategy and tactics employed, in a documentary case such as this. Mere fragments are culled from a host of miscellaneous documents, in complete disregard of the transactions revealed by the context in which these words or phrases are used. But mere ‘words’ are as empty air. The facts concerning the transactions in the course of which these ‘words’ are used must constitute the building materials out of which court judgments are constructed.

Moreover, the same clear indication of the lack of any combination or concert of action by and between the seventeen defendant firms, which appeared in connection with the consideration of the evidence on the so-called price-fixing phase of the case and the operation of the syndicate system, is found again in the proofs relating to alleged domination and control of the financial affairs of issuers and the use of directorships and proxies. In a circumstantial evidence case of this character the lack of such joint action on these important and basic issues cannot fail to be mater of grave consequence.

PART V

The ‘Triple Concept’

The definition of ‘traditional banker’ contained in paragraph 22(II) of the complaint will be hereinafter referred to. The ‘triple concept’ is alleged in paragraphs 44 and 45. Thus, omitting the references in subdivisions A(1) and (5) which relate to the syndicate system, discussed in PART III of this opinion, paragraph 44(A) of the complaint as amended alleges as follows:

‘44. The conspiracy has consisted of a continuing agreement and concert of action among the defendants, the substantial terms of which have been that defendants:
A. Agree not to compete among themselves for and in the merchandising of security issues, and to divide among themselves, on a mutually satisfactory basis, the merchandising of the security issues obtained by each of the defendant banking firms from issuers, among other means—

(2) By recognizing and deferring to the claims of the defendant traditional bankers to manage and co-manage and control the merchandising of the securities of particular issuers.

(3) By determining their respective participations and positions in buying groups in accordance with the concept of historical position.

(4) By reciprocally exchanging participations in the buying groups which they manage.

* * * *

The reference to the same subject in paragraph 45 as amended in as follows:

45. During the period of time covered by this complaint, and for the purpose of forming and effectuating the conspiracy, the defendants, by agreement and concert of action, have done the things they agreed to do as hereinabove alleged, and, among others, the following acts and things:

A. Defendants formulated and adopted, subsequently operated, and now operate pursuant to, among others, the following restrictive customs and practices:

(1) Whenever an issuer agrees to permit one of the defendant banking firms to manage the merchandising of a security issue, the other defendant banking firms recognize this as establishing a continuing banker-client relationship and recognize such firm as the traditional banker for the issuer, exclusively entitled to act thereafter for the issuer in merchandising its future security issues. A defendant traditional banker’s recognized exclusive relationships in this respect continue indefinitely and, upon dissolution or reorganization of an investment banking firm acting as traditional banker, the other defendant banking firms agree as to which defendant banking firm or firms, if any, they will thereafter recognize as the successor or successors to the previously recognized relationships of such firm as traditional banker. When one of the defendant banking firms is the traditional banker for an issuer, none of the other defendants will discuss or undertake the merchandising of new security issues for that issuer. Defendant banking firms observe an ethic not to compete and refuse to ‘poach on each other’s preserves.’

(3) Defendant banking firms, in forming buying groups, select on a reciprocal basis, other defendant banking firms as underwriters. Over a period of time, the amount of gross spreads which one of such firms enables another to earn by selecting it for participation in buying groups is substantially equivalent (with due allowance for differentials in prestige and underwriting strength) to the amount of gross spreads it has earned in the same period of time, as a participant in buying groups formed and managed by such other firm. Each defendant banking firm keeps a reciprocity record to show the business it has given to each of the other defendant banking firms and the business it has received from each of such firms.

(4) Defendant banking firms claim and second to each other a continuing right to participate in the merchandising of all of the security issues of a particular issuer by respectively demanding and receiving from each other recognition of their historical position with respect to such issues. Once a defendant banking firm has been selected as an underwriter in a buying group formed to merchandise a security issue, it is recognized by the other defendant banking firms as having certain proprietary rights or historical position and is granted an opportunity to participate in every buying group thereafter formed to merchandise future security issues of the same issuer, and the extent of the participation and group position offered to such firm is usually the same. The historical position of an investment banking firm devolves through ‘inheritance’ upon the defendant *733 banking firm or firms agreed upon by defendants as successor or successors of such firm.

(5) The defendant banking firms employ their traditional banker and historical position concepts as devices to exclude other investment bankers from participation in the buying and selling groups they form and manage. Whenever such exclusion is not possible or practical, they avoid, or attempt to avoid, competition by inducing possible competitors to join with them in their buying groups.’

Plaintiff wholly failed to prove the ‘reciprocity’ part of the ‘triple concept’ as appears in the introductory part of this opinion under the sub-title, Certain Alleged Unifying Elements Abandoned or Disproved, which precedes Part I.40

Semantics

It must now be plain that a goodly portion of the time spent in formulating the complaint, and preparing for the presentation of the government’s case at the trial, was
devoted to semantics. There is a certain amount of this in every case; and the subject need not long detain us. Here we need only briefly comment on the subject by way of background to the discussion of the ‘triple concept’ and ‘successorships.’

Counsel for certain of the defendant firms assert that some of the fundamental misconceptions of counsel for the government, relative to the simple ABCs of the investment banking business, arose from an overly-persistent reading of the TNEC proceedings, where, it is claimed, those who conducted the proceedings sought to put into the mouths of the investment-banker witnesses, words carefully selected for their ‘dynamic power,’ seemingly innocent enough on their face, but having a hidden, but nevertheless very real, opprobrious meaning, detrimental to the interests of investment bankers. From an examination of the various extracts from testimony given in the TNEC proceedings by witnesses connected with defendant firms and others, I cannot find this charge substantiated, although the ex parte character of the investigation and the absence of any opportunity given to the investment bankers to state their side of the case, together with what often seems to me to be an unfair sort of questioning of the witnesses, give me the impression that the TNEC proceedings can scarcely be considered as a repository of uniformly dependable information on the subject of what investment bankers did generally in the 30s and prior thereto. This view is supported, at least to some extent, by the absence of any conclusions or recommendations on the subject of investment banking in any of the 43 monographs published by the TNEC.50

That the draftsmen of the complaint, and government counsel in the pretrial proceedings, and during the trial, persistently used words of the character above described in their references to various acts and transactions of the several, separate defendant firms, is too clear for reasonable debate. It cannot fairly be said that there was any general currency among investment bankers, defendant or non-defendant, of such words or phrases as: ‘caretaker’ accounts, ‘infiltration’ of boards of directors, ‘red flag,’ ‘signpost’ or ‘reciprocity.’ True it is that the words ‘reciprocity’ or ‘reciprocals’ appear two or three times, but that is without significance; and the others are mere characterizations of counsel, which are repeated so often, sometimes in questions put to witnesses giving testimony on deposition, and sometimes in argument or colloquy, that, unless one is watchful, it is easy to get the impression that the defendants, or some of them, brought these words into the case.

On the other hand, some of the words, such as ‘regular banker,’ ‘historical *734 position,’ ‘inheritance,’ ‘successor,’ ‘predecessor’ and ‘satisfactory relationship’ do appear in documents or in testimony of such a character that the words cannot be considered as having been suggested by counsel for the government. One of the questions in the case, which can only be resolved after a careful consideration of the evidence as a whole, has to do with the frequency with which such words are used, and by whom, and with what meaning. It must constantly be borne in mind that the essence of the charge is the alleged combination, conspiracy and joint action of the seventeen defendant firms.

It is alleged in the complaint that ‘traditional banker’ is the term used by defendant banking firms to describe an investment banker who has managed and participated in one or more syndicates to purchase the security issues of a particular issuer on a negotiated basis.’ I find against the government on this. None of the very numerous documents emanating from the files of one or another of the defendant firms contains this phrase. While Joseph H. King of Union Securities and Henry L. Bogert of Eastman Dillon gave some testimony on deposition to the effect that they had heard the term used, I am inclined to give more weight to the testimony of Harold Stanley on the point, in view of the state of the documents. If, after examining hundreds of thousands of miscellaneous documents in the files of defendant firms, and of issuers, many of them of the most intimate and confidential character, not a single document containing this term could be unearthed, this is strong corroboration of Stanley’s statement that he first heard the term during the TNEC proceedings in 1939 and 1940. It has been bandied about to such an extent since then that a certain amount of confusion on the subject is not to be wondered at.

When I inquired about the references to ‘satisfactory relationship’ in connection with the ‘triple concept,’ I was told by government counsel that ‘satisfactory relationship’ and ‘traditional banker’ meant the same thing. As I pondered on all this, after it had been explained by government counsel that ‘successors’ and ‘predecessors’ as alleged did not mean real successorship but were all part of a species of conspiratorial lingo, I had a vague notion that plaintiff’s theory was that ‘satisfactory relationship’ was some sort of double-talk claimed to be used by ‘the defendants’ for ‘traditional banker,’ and that this was equally true of the ‘negotiation’ of a price for a security issue, the description by investment bankers of themselves as ‘experts’ and the issuers as ‘clients,’ and of the references in the depositions by various investment bankers connected with some of the defendant firms to the investment banking business as having ‘professional characteristics.’ So also, selecting as a basis for the
assertion a word used by Harold L. Stuart in his testimony before the ICC, the description in depositions by these witnesses of the extensive work done by investment bankers in formulating plans, shaping up issues and discussing financial matters with issuers, is referred to by government counsel as ‘bunk.’ Quotation marks placed around many of the words in government briefs filed during the first year or so of the trial, when viewed in retrospect, strongly support the view that government counsel claimed that ‘the defendants’ used words with hidden meanings. But the multiplicity of the issues and the general confusion prevented me from understanding the matter sufficiently to insist upon some clarification by counsel for the government. At last, during the connecting statements by government counsel, at the close of the taking of the government’s proofs in support of its change, I began to see clearly that what had been insinuated from the beginning was that these seventeen defendant firms were in every sense of the word conspirators, consciously engaged in an illegal undertaking, and that they had ingeniously devised a language all their own to conceal their operations, just as counterfeiters or bootleggers might use a sort of canting speech. From this *735 point of view, talk about ‘satisfactory relationships’ would be a cover-up for ‘traditional bankers,’ ‘negotiation’ of a price for an offering of securities would mean a price forced upon a issuer under the control and domination of the ‘traditional banker,’ references to ‘inheritance’ and ‘successors’ and ‘predecessors’ would mean, to the initiates, the foisting upon an issuer of an investment banking firm which had been selected by the co-conspirators to take over the conspiratorial ‘rights’ of some banking house, and member of the conspiracy, which had been forced by the Glass-Steagall Act to give up investment banking; and every time one of the co-conspirators in testimony or in a document mentioned a sense of responsibility to the public, or a duty to be ‘fair’ to investors, or referred to ‘ethics’ or ‘professional characteristics’ of the business, or indicated any disposition to do other than selfishly feather his own nest, this was deceitful talk, a sort of special language agreed upon and designed by the co-conspirators to cover up their real purpose, which was to surround the entire operations of the investment banking industry with a series of unlawful restraints, and monopolize ‘the cream of the business’ for themselves.

At the close of the evidence such charges seemed extravagant, and the then chief trial counsel for the government, whose understanding of the early proceedings was naturally limited, as he first came into the case in the fall of 1952, vigorously denied that such insinuations had ever been intended. But they may again rear their ugly heads; and it is well to have everything out in the open.

This brings me to one of the most remarkable and one of the most significant shifts of theory made by counsel for the government. The ‘traditional banker’ allegations of the complaint are clear and unambiguous. When one of the defendant firms managed an issue of securities for an issuer, it was charged that he thus became the ‘traditional banker,’ and that ‘the other defendant banking firms recognize this as establishing a continuous banker-client relationship and recognize such firm as the traditional banker for the issuer, exclusively entitled to act thereafter for the issuer in merchandising its future security issues.’ This made sense in a practical, work-a-day world of profit-seeking business men; it was workable, assuming the ‘pay-off,’ by the practices of ‘historical position’ and ‘reciprocity,’ all of which are also alleged in the complaint, as we have already observed. It made sense vis-a-vis the Sherman Act, too, because it was patently artificial and could not reasonably be accounted for as a normal and to-be-anticipated result of the ebb and flow of natural, unrestrained competitive effort. All a member of the conspiracy would be required to do would be to consult one of the standard security manuals, see which, if any, member of the seventeen alleged conspiratorial firms, or other alleged co-conspirator, had managed the last issue of the issuer under consideration, and he would then know that he was supposed not to compete for the business of that issuer, but rather to defer to his co-conspirator, who thus clearly appeared to be the ‘traditional banker.’ It is also clear from the allegations of the complaint quoted in the preliminary portion of this part of the opinion, that the ‘triple concept’ only applied as between the seventeen defendant firms and to other firms who had joined the combination and conspiracy and who were referred to throughout the trial by government counsel as ‘co-conspirators.’ It would not matter whether or not the relationship between the issuer and the ‘traditional banker’ was ‘satisfactory,’ or slightly impaired or wholly bad. Even if the relationship was so bad as to be practically non-existent, one would be forced to infer from the allegations of the complaint that no member of the conspiracy could compete for the business previously done by the ‘traditional banker,’ without some new agreement among the co-conspirators, such as the obtaining of ‘clearance’ or *736 ‘permission’ from the ‘traditional banker.’

This ‘concept’ of ‘traditional banker’ was so thoroughly demolished during the trial that counsel for the government, during the connecting statements at the close of the government’s case, virtually abandoned the theory of the complaint and urged upon me a new and quite different theory, described as ‘this lesser charge,’ claimed...
in some way to be included in the ‘greater’ one alleged in the complaint. This ‘lesser charge’ was that there was a ‘code’ among the co-conspirators according to the terms of which the ‘traditional banker’ was the one who had brought out the last issue, providing his relationship with the issuer was still ‘satisfactory.’ Sometimes this is referred to merely as an ‘ethic’ to the effect that members of the conspiracy ‘will not interfere with satisfactory relationships, so long as they remain satisfactory,’ without reference to the leadership of the last security issue of the issuer; and there are numerous references by government counsel to alleged refusals by defendant firms to interfere with ‘satisfactory relationships’ where the defendant firms claimed to have the ‘satisfactory relationships’ had not managed the last prior security issue. These twists and turns are very confusing and they led to much argument which need not be summarized. That they indicate some fundamental weakness in the central theme of the government’s case seems probable.

But I cannot enter upon a discussion of the evidence relating to the ‘triple concept’ without first pausing to appraise the effect of this fundamental change of theory. In the first place it dilutes the charge to such an extent as to make it almost impossible to conceive of the existence of any such conspiracy. How is one to know with any degree of certainty whether in a given situation the relationship between the issuer and the investment banker who brought out the last issue has continued to be ‘satisfactory’? Then, too, there are so many different degrees of ‘satisfactory relationships’ that, on the same set of facts one person might infer that the relationship was ‘satisfactory,’ and another might reach the opposite conclusion. No standard is even suggested. Moreover, the plaintiff has the burden of proof, and it would seem that the very least the law should require by way of evidence to support this ‘lesser charge,’ is proof by plaintiff, in respect to a given issuer, that the relationship between the issuer and the investment banker who brought out the last issue has or has not continued to be ‘satisfactory,’ as government counsel endeavor to demonstrate that there is a deferral to the ‘traditional banker’ on the one hand, or endeavor to explain competition by one of defendant firms, on the other. Surely there can be no presumption on a subject such as this, especially where the initial ‘satisfactory relationship’ is proved by nothing more than evidence that the alleged ‘traditional banker’ managed the last issue.

Then, too, proof of the operation of the conspiratorial scheme as alleged in the complaint would disclose a pattern of behavior far removed from anything which could be considered as due to normal, ordinary business judgment, whereas evidence supporting the new and ‘lesser charge’ might go little more than show that investment bankers, like people in other lines of business, only go after business that they have some reasonable expectation of securing, which is pretty close to the exercise of normal and ordinary business judgment.

It is difficult to put out of one’s mind the thought that this ‘lesser charge’ is nothing more than a maneuver to cover up the lack of evidence to support the charge as formulated in the complaint. Anyone can see that, if the relationship between an issuer and an investment banking house is such that the investment banking house has brought out a long and continuous series of issues, and goes back uninterruptedly for many years, as in some of the instances already described in this opinion, it would be a mere waste of time for another investment banking house to formulate elaborate plans for future financing and otherwise do the things necessary to be done, in order seriously to compete for the business of that issuer. It is little wonder that, under such circumstances, many of the witnesses who testified on deposition said that they would not go after such business, they would not waste their time. After all, as testified by Harold L. Stuart, there is no point in doing this sort of thing unless ‘invited’ to do so by the issuer, who generally resents the ringing-door-bell type of approach.

If what is complained of is merely that, as a result of successful competitive effort, the seventeen defendant firms have too large a slice of the business, ‘more than their fair share’ as it were, whatever that may mean, then the avenue of approach would seem to be to the Congress for new legislation on the subject, as was done in the case of public utility holding companies, prior to the passage of the Public Utility Holding Company Act of 1935.

In the view of government counsel, this new maneuver provides a solution for all their difficulties. Thus, without calling a witness to describe the negotiations or the attendant circumstances or anything else, government counsel would place the defendants in the following dilemma. If the documents or deposition evidence show competition by one or more of the defendant firms for the business of an issuer whose last security issue was managed by another defendant firm, this shows that the relationship of that firm with the issuer could not have been ‘satisfactory,’ especially if the competing defendant firm succeeds in getting the management or co-management of the next issue. If what is complained of is merely that, as a result of successful competitive effort, the seventeen defendant firms have too large a slice of the business, ‘more than their fair share’ as it were, whatever that may mean, then the avenue of approach would seem to be to the Congress for new legislation on the subject, as was done in the case of public utility holding companies, prior to the passage of the Public Utility Holding Company Act of 1935.

Furthermore, how is the new theory about ‘satisfactory
relationships’ to fit into the allegations of the complaint as amended with reference to ‘predecessors’ and ‘successors’? At the beginning I was told that the conspirators parcellled out among themselves by agreement the conspiratorial ‘rights’ possessed by the various banking institutions who were members of the conspiracy, but who had to drop out on June 16, 1934, when the Class-Steagall Act took effect. How is one to ‘inherit’ a ‘satisfactory relationship,’ which must necessarily be of a personal character, as between specific individuals or groups of individuals? Moreover, a ‘relationship’ is a two-way street; it would not be practicable for investment bankers to agree among themselves as to which one as ‘successor’ would have at any time an ‘existing satisfactory relationship’ with an issuer, unless the latter is also a party to the scheme, which is not claimed.

But let us for the moment lay aside these shifts of theory and examine in detail plaintiff’s specific contentions as made at the close of the evidence, and the state of the proofs relative thereto.

At various parts of this large record are to be found very numerous instances of competition by each and every one of the principal defendant firms, and by the others as well, which are contradictory of the existence and operation of the alleged ‘triple concept.’ Only an opinion of inordinate length and proximity could cover even a sampling of this competition, which, in view of the many issuer situations which are the subject of extended comment herein, seems unnecessary. General findings relative to such competition by the several defendant firms may be submitted in due course. The evidence pertaining to the ‘traditional banker’ part of the case, however, which we are about to discuss, must be evaluated against the extensive background of the competition just referred to.

The inferences to be drawn from the words and phrases emphasized by government counsel depend in no small measure, as government counsel have contended from the beginning, upon the state of the proofs as a whole. We shall find that the fatal, underlying defect in *738 the approach by government counsel, which affects each of the principal factual supports of the theory of an integrated, over-all combination and conspiracy as alleged, is the misconception of the facts relative to the functioning of the entire investment banking industry, which has already been pointed out. Just as the operation of the syndicate system of today is the result of many decades of gradual, functional growth and development, so also will it be found that the habits and preferences of issuers and the whole pattern of competitive behavior of these seventeen defendant firms and other investment bankers as well, such as Halsey Stuart, are likewise the result of a similar gradual, functional growth and development. At the very heart of the case lies the fundamental principle which is implicit in every antitrust case, and which government counsel have never disputed, that the Sherman Act was not designed to compel businessmen in any industry to compete in any particular way, but rather to break up and dissolve monopolistic or restraining combinations, conspiracies or agreements not to compete.

‘Historical Position’

After some vacillation on the subject on the part of government counsel, it is now agreed by all that the ‘reciprocity’ and ‘historical position’ parts of the ‘triple concept,’ even if proved, would not in themselves give any offense to the Sherman Act. In other words, if the proof fails as to the ‘traditional banker’ feature of the ‘triple concept,’ the others have no significance.

The evidence concerning ‘historical position’ puzzled me for a long time, and the situation was not cleared up until after I heard the testimony of Harold L. Stuart. The competition for participations in the various underwritings, and to some extent even for positions in the selling groups, is intense, as many of the investment banking houses have large selling organizations and they need a constant and substantial amount of securities to sell. The documents are full of such words as ‘claims’ and ‘rights,’ sometimes based upon work done in the past in connection with the distribution of the securities of a particular issuer, but more generally passed upon the underwriting position of the claimant in the last or some previous security issue by the same issuer. There is a good deal of dissatisfaction with the participations which are finally allotted, and practically every investment banker seems always to be using various arguments to get a better position than before, or at least a position which is no worse than before.

At first blush one would suppose that the assertion of a ‘claim’ or ‘right’ to a certain position, based on the records of the prior issues, would indicate some sort of understanding or agreement. But this seemed hardly consistent with the fact that an investment banker who had at any time in the past participated in the underwriting of an issue of the particular issuer, seemed to have the ‘right’ to make the ‘claim,’ no matter how long ago he had thus participated and wholly irrespective of the fact that there had been numerous intervening issues in which he had not participated at all. If they all made ‘claims’ there would not be enough participations to satisfy the ‘claims.’ While there might be some ‘declinations,’ one
could never be certain of that. Moreover, such ‘claims’ were asserted by defendant and non-defendant firms alike.

Several partners of officers of some of the defendant firms had testified on deposition that the references in the documents to ‘claims’ or ‘rights’ were really in the nature of arguments supporting the requests for participations, and that these were ‘considered,’ together with all available relevant data affecting distributing ability and underwriting strength, and a decision made strictly on the merits. I was skeptical about this before I heard Stuart’s testimony.

I questioned Stuart on the subject and found that the fact was as some representatives of defendant firms had already testified on deposition; and a further *739 study of the documents shows that this testimony is thoroughly in accord with the general tenor of the documents which, more often than not, set forth arguments which go to the merits in support of their ‘claim.’ Moreover, ‘claims’ based on ‘historical position’ are made throughout the industry as a whole, and not by any single group, such as the seventeen investment banking houses made defendants in this case.

The upshot of the matter is that a participant in prior issues has already had experience in the distribution of the securities of that particular issuer and thus must know a good deal about the company and the type of investor, individual of institutional, who would be in the market for securities of this character; and the very fact of prior participation as an underwriter is some indication of sufficient underwriting strength to support the risk involved. Accordingly, it would not be fair to deny him a ‘right’ to present his ‘claim.’ Stuart waxed quite eloquent on the subject, using such expressions as ‘moral right’ and ‘decent commercial ethics.’ But, as I had already been informed by the others, the catch is that neither the manager nor the issuer, to whom these ‘claims’ are not infrequently addressed, is under any obligation to honor the claim. All that is required is that the ‘claim’ be ‘given consideration,’ which means a consideration of the whole picture on the merits, including present underwriting strength, past performance, improvement or deterioration in distribution facilities and so on. Stuart evidently considers it morally wrong to exclude a participant who has been ‘doing a good job.’ There is nothing conspiratorial about this; and I find no discrimination against non-defendant firms, despite the considerable number of letters written by a few of the defendants to non-defendant firms, which give as an excuse for not granting or recommending participations the fact that there are ‘obligations’ to firms who participated in the last issue, or too many ‘historical’ claims, or that the list could not be extended beyond ‘those underwriters who participated in the various past issues.’ These letters are mere ‘polite refusals,’ calculated to give the least offense to the applicant. Occasionally a document will indicate some selfish reason for including a particular firm as a participant, without too much regard for the merits; but this is true of a very few defendant firms, and has little significance.

While these ‘historical position’ requests are described in the complaint as ‘proprietary rights’ and are alleged to be ‘usually’ granted, counsel for the government conceded that the most the plaintiff’s evidence showed was that they were ‘frequently’ allowed. There is no substantial evidence to sustain the definition of ‘historical position’ in the complaint as a ‘term used by defendant banking firms to describe the recognized claim of an underwriter to continue to participate in future syndicates to merchandise security issues of the same issuer.’

At times the positions of the underwriters in successive issues of a particular issuer were the same, or more or less so; more often they were not. Moreover, new underwriters were often added to the syndicate which was being formed to underwrite the next security issue, and underwriters who had been participants in the syndicate which had underwritten the previous issue were frequently eliminated. And there is abundant proof that issuers had the final say, and that in many cases the issuers gave directions and made suggestions relative to including this or excluding that investment banking firm from the list of participants, or changing their positions up or down, as we have already had occasion to observe. While it is difficult to generalize on the subject, however, it seems to me that the issuers more or less left it to the manager to make up the group, as the manager would be in *740 a better position to know who should be included.

In instances too numerous for detailed discussion, both defendant and non-defendant firms were denied a participation in a forthcoming issue, despite ‘claims’ asserted on the basis of ‘historical position’; and even the ‘polite refusals’ are inconsistent to some extent with the theory of over-all conspiracy, as in most such cases, although the letters would indicate that the firm sending the letters was more or less bound by the ‘historical positions’ of the participants in the last issue, it is established by the static data that the underwriting groups being made up, or having already been constituted at the time the letters were sent, included non-defendant firms who had not participated as underwriters in the previous
issue of the same issuer.

That all managerial houses give some consideration to the positions and percentages of the participating underwriters in past issues of the same issuer seems not in substantial dispute. Otherwise, I do not see how they could make up the underwriting groups without lost motion, and considerable waste of time collecting data, which is necessarily reflected in the past positions and percentages.

Chicago Union Station

There were twelve security issues of Chicago Union Station in the period beginning February 8, 1916, and ending March 15, 1940. Counsel for the government continually refer to this as a ‘frozen’ account, and the static data and a long series of documents in evidence are claimed by government counsel to give some support to the ‘traditional banker,’ ‘historical position,’ ‘successorship,’ and opposition to the campaign for compulsory public sealed bidding phases of plaintiff’s charge. Accordingly, it will be convenient to discuss the whole matter here. I may say, at the outset, that, as will presently appear, the evidence relative to the Chicago Union Station does not fit into any of the government claims above referred to.

In 1912 Kuhn Loeb and Lee Higginson formed a nucleus group to ‘try to get the Chicago Terminal business’; and they agreed that each would undertake responsibility for carrying 50% of any such purchase, whether alone or with associates. Kuhn Loeb invited National City Bank and Clark Dodge to be associated with it on original terms for any financing which might eventuate, and Lee Higginson invited J. P. Morgan & Co., First National Bank of New York and Illinois Trust & Savings Bank. On this basis the group purchased and offered $30,000,000 of 4 1/2% Series A bonds on February 18, 1916. The purchase group consisted of all except J. P. Morgan & Co. and Clark Dodge, and these two, although participants on original terms, did not enter into the purchase contract with the issuer.

In the remainder of the pre-Securities Act period substantially this same group purchased six additional issues and the seven issues together make up what is called the ‘frozen account,’ because the percentage interests, except for the elimination of Clark Dodge at the time of the purchase of the 1921 issue, remained about the same.

As this was a purchase on original terms and is of a character quite different from the other issues generally involved in the case, there would seem to be no room for the application of the ‘triple concept,’ especially as six of the seven issues were brought out under the same $60,000,000 mortgage executed in 1915. There seems to be no illegality connected with the formation of this group nor anything to indicate that it was an overly large one or that the underwriting strength of the members of the group was such as to constitute any illegal restraint. Perhaps, if witnesses had been called and all the relevant details fully disclosed, there might have been some basis for a ruling that the specific arrangement violated the Sherman Act. But no such issue is presented in this case, no witnesses were called to testify on the subject, and government counsel made it plain that they desired no such ruling.

An incident connected with the $850,000 issue of 1924 is stressed by counsel for the government but seems to merit no extended discussion. $7,000,000 of the Series B bonds had been sold subject to ICC approval, and, in March 1924, the ICC gave its approval, but, relative to the $850,000 of Series A bonds, directed that they ‘be sold to the highest bidder after public advertisement for competitive bids.’ No bids were received. Halsey Stuart did not bid, although there was no reason why the firm should not have observed the usual public announcement of the decision of the ICC; nor is there anything to indicate that the lack of bids was in any manner due to any activity on the part of any of the defendant firms. The suggestion that members of the purchase group ‘controlled’ the issuer seems gratuitous, and is unsupported by evidence. The proprietary roads were the Chicago, Burlington & Quincy, the Chicago, Milwaukee & St. Paul, the Pittsburgh, Cincinnati, Chicago & St. Louis and the Pennsylvania, each of which guaranteed the Station’s bonds pursuant to an operating agreement executed in 1915, and supplemented in 1919.

The remaining five issues all came out in the post-Securities Act period. Only two of the original group remained in the investment banking business—Kuhn Loeb and Lee Higginson. The answer to the claims of government counsel is to be found in the conduct of these two leaders or managers of the two 50% interests above referred to. Kuhn Loeb took in Harriman Ripley, which was no more than natural as Pierpont V. Davis of the then Brown Harriman had represented the National City Bank in the negotiations for the 1924 issue, and was highly regarded by the issuer and the representative of the Pennsylvania. This does not seem to me to be any recognition of ‘successorship.’

The Lee Higginson side of the picture is complicated by the fact that First National and Continental Illinois

The net result, accordingly, is that this was a special among themselves upon who the ‘successors’ shall be.

Indeed, plaintiff’s theory is that the co-conspirators agree part of the conspiratorial scheme alleged in the complaint. ‘historical position’ could nom inate a ‘successor’ is not

The notion that an investment banking firm having ‘interest of J. P. Morgan & Co. in the pre-Securities group with a 15% interest, which was slightly larger than organization of Morgan Stanley, for reasons similar to those which had motivated Kuhn Loeb in taking in Brown

The First National seemed quite sanguine about the prospects of a change in the law, and wrote to Lee Higginson ‘We would like to nominate E. B. Smith & Company to receive 1/2, Lazard Freres 1/4 and White Weld 1/4 of our previous interest,’ adding later that they ‘hoped that banks were not permanently out of the underwriting business and if and when we could legally do so, we would expect to recapture this business from them.’ Accordingly, the Lee Higginson group as reconstituted included, in addition to Lee Higginson, Edward B. Smith & Co., First Boston, White Weld *742 and Lazard Freres. In 1936 Morgan Stanley came into the group with a 15% interest, which was slightly larger than the interest of J. P. Morgan & Co. in the pre-Securities Act period. There is nothing to show that Morgan Stanley was not invited by Lee Higginson to come in, after the organization of Morgan Stanley, for reasons similar to those which had motivated Kuhn Loeb in taking in Brown Harriman.

The notion that an investment banking firm having ‘historical position’ could nominate a ‘successor’ is not part of the conspiratorial scheme alleged in the complaint. Indeed, plaintiff’s theory is that the co-conspirators agree among themselves upon who the ‘successors’ shall be. The net result, accordingly, is that this was a special situation having little relevance to any of the terms of the alleged conspiracy, concert of action and agreement. From whatever angle the matter is approached, it is clear that a new group of an entirely different character was formed, under circumstances met with nowhere else in this case.

The final contention has to do with the 1940 issue. In December 1939, Bovenizer of Kuhn Loeb proceeded to negotiate as representative of the purchase group for the sale of new Series F bonds, to replace approximately the equal amount of outstanding Series D 4% bonds; and on February 5, 1940 the group offered to pay Chicago Union Station 101 1/2, or a basis of 3.16 to the Station, for new 3 1/4% bonds. An informal conference with the members of the ICC on February 26, 1940, elicited the suggestion that the proposed issue was one which might lend itself particularly to competitive bidding. This was authorized by the directors of the Chicago Union Station. The invitation for competitive bids was mailed on March 5, 1940, to 107 bankers, banks and insurance firms. Halsey Stuart submitted the only bid, in the amount of 98.05 for the 3 1/8% bonds which had been authorized. Without rejecting the bid or discussing the price which had been offered by Halsey Stuart, Pabst of the Chicago Union Station called Bovenizer to find out what the purchase group would now offer for the bonds. Bovenizer replied that Kuhn Loeb did not make competitive bids and would give an answer only in the event that the Chicago Union Station should decide to reject the one bid which it had received. Apparently after further conference with the ICC, Pabst advised Bovenizer that the Halsey Stuart bid had been declined, and Kuhn Loeb then informed him that the purchase group would continue the offer previously made, which, on the same basis of 3.16, was for the 3 1/8% bonds, almost 1 1/2 points better than the Halsey Stuart bid. The bonds were accordingly sold to the purchase group, whose members sub-under-wrote about half of their commitment, and the transaction received the approval of the ICC. While Stuart, in his testimony, claimed that Halsey Stuart should have been given an opportunity to make another bid, contemporary correspondence shows that at the time Halsey Stuart had described the Kuhn Loeb purchase group bid as ‘over pricing and inadequate margin of profit’; and the outcome appears to have been that the market had gone down after the date of the Halsey Stuart bid, and Kuhn Loeb and its associates were in fact obliged to reduce the public offering price to 100 3/4.

The Alleged ‘Practice’ of ‘Traditional Banker’ and ‘Successorships’

As we are now dealing with the central theme of the government charge, I shall follow the course pursued when analyzing and evaluating the plaintiff’s proofs on
the subject of alleged domination and control of issuers, discussing the evidence principally relied on as against each of the seventeen defendant firms. I shall follow the order in which the defendant firms are named in the complaint, so that reference can easily be made to the basic facts relative to each firm, described, also in the same order, in Part II of this opinion, under the *743 title, The Seventeen Defendant Banking Firms.81

1. Morgan Stanley

In the 1935-1937 triennial, immediately after the establishment of this firm, the statistics show that Morgan Stanley managed about 20% of the total new negotiated underwritten security financing. Accordingly, if there was to be a charge of conspiracy, Morgan Stanley had to be named as one of the co-conspirators. There was some difficulty about this, however, as none of the hundreds of thousands of documents, examined by the government investigators, indicating or even hinting at the alleged ‘rights’ of ‘traditional bankers’ or claims to ‘historical position’ or ‘successorship,’ had emanated from the files of Morgan Stanley. No Morgan Stanley memorandum or report, diary entry, letter or telegram gave the slightest indication that Morgan Stanley had ‘deferred’ to any other investment banker, defendant or non-defendant, or that Morgan Stanley had ever urged any investment banker to ‘defer’ to it. No amount of argument or explanation can supply this significant absence of documentary evidence admissible testimonially against Morgan Stanley.

To make matters worse for the plaintiff, even government counsel asserted that Morgan Stanley ‘had more business than they could handle,’ and there is much in this record to show that their strong competitive position was due to the experience, the very numerous personal relations with issuers, the technical skill in matters of finance, and especially the absolute integrity of Harold Stanley, the head of the firm.

Sensing from the outset the importance of his credibility as a witness, I followed with great care and attention the reading of his deposition testimony and of the excerpts taken from testimony given by him in other proceedings. I checked every statement of fact with other parts of the record, and with the testimony of Harold L. Stuart, in search for discrepancies or possible equivocations or lack of frankness; and I submitted his statements, under oath and otherwise, to every one of those tests which an experienced judge applies in his everyday search for the truth. As a result I became convinced that his testimony could be relied upon.

The fact that Stanley denied the existence of any such conspiracy as charged, and that it was wholly unknown to Stuart, is one of the significant features of the case.

The ‘Master Mind’

And yet, having in the beginning taken the position that there was ‘not up to this time’ any claim of the existence of a ringleader or ‘master mind’ to direct the operations of the alleged combination, government counsel, in the connecting statements and summations after the close of the evidence, came out flatly with the assertion that Stanley, or Morgan Stanley, which meant the same thing, was the ringleader, and that he substituted for J. P. Morgan in this role, after J. P. Morgan & Co. had decided, upon the passage of the Glass-Steagall Act, to withdraw from the investment banking business. It seems likely that government counsel had all along planned ultimately to take this position, if hard pressed, as it was originally charged that the conspiracy was formed at the time of the Anglo-French loan in 1915, under the management of J. P. Morgan & Co.; and a reluctance to make such a serious charge understandable, because the law does not require the prosecution in a conspiracy case to show that there is a ‘master mind’ or even to show when and under what circumstances the combination of co-conspirators was formed. Proof of such matters is always relevant, however, as it makes more probable the existence of a conspiracy; and, once a conspiracy is shown to exist, slight evidence is necessary *744 to connect individual co-conspirators with the illegal undertaking, as, in the natural course of such lawless operations, particular individuals are bound to join for a time and then drop out.

And so, the proof against Morgan Stanley, to establish the revised version of the ‘triple concept,’ as at least in effect ‘prior to 1933’ instead of ‘in or about 1915’ as originally claimed, and as reduced to the ‘lesser charge,’ concerning non-interference with ‘satisfactory relationships,’ all of which is supposed to be one of the regulations or terms of a ‘code,’ starts with a part of the statement prepared by J. P. Morgan and read by him on May 23, 1933, when he testified before a Subcommittee of the Senate Committee on Banking and Currency. This was received ‘subject to connection.’

Thus in giving his views ‘on the subject of the duties and uses of private bankers,’ as contrasted with those arising from ‘the laws and regulations of the government,’ reflected in the charter of an incorporated bank, J. P. Morgan said:

‘The private banker is a member of a profession which has been practiced since the Middle Ages. In the process
of time there has grown up a code of professional ethics and customs, on the observance of which depend his reputation, his fortune, and his usefulness to the community in which he works.

‘Some private bankers, as indeed is the case in some of the other professions, are not as observant of this code as they should be; but if, in the exercise of his profession, the private banker disregards this code, which could never be expressed in legislation, but has a force far greater than any law, he will sacrifice his credit. This credit is his most valuable possession; it is the result of years of fair and honorable dealing and, while it may be quickly lost, once lost cannot be restored for a long time, if ever.’

There is nothing in the context even to suggest that the witness before the Senate Committee is referring to investment banking, much less to refraining from competition with other bankers having ‘satisfactory relations’ with their clients or customers. The remainder of this short statement by J. P. Morgan makes it plain that he has other matters in mind. The reference to the Middle Ages probably concerns such private bankers as the Fuggers of Augsburg or the Medici of Florence, any of whom, were he alive today, would doubtless be shocked at the very notion that there was a code among private bankers to prevent him from competing with anyone for anything he wanted. When it came to honoring one’s obligations on the very due day and keeping one’s word, despite hardship and inconvenience and the absence of any writing, that would be a different story, one quite in keeping with the traditions of the Fuggers, and the Medici as well, when it came to matters of business.

The document containing this testimony was not admissible testimonially against Morgan Stanley, and it would in all probability never have been mentioned but for the fact that, at a subsequent hearing on June 27, 1933, Otto H. Kahn also referred to a ‘code,’ which we shall find, when we come to the evidence against Kuhn Loeb, was a ‘code’ of a very different character, expressive of the Otto H. Kahn ‘show window’ policy of Kuhn Loeb. Even this reference by Otto H. Kahn was perhaps an improvisation, suggested by the NRA which was at the time in the forefront of everyone’s mind. The two references to a ‘code’ concern matters as far apart as the poles. J. P. Morgan was making an effort, after careful preparation and mature consideration, to explain what he thought was the very real contribution of private banking houses, such as J. P. Morgan & Co., to the economic well-being of the nation, wholly unmindful of the fact that those who heard or read his statement might be wondering whether or not such unregulated power in a firm of private bankers was consistent with the general welfare of a democratic nation. Otto H. Kahn, on the other hand, was merely polishing up his ‘show window.’ It is highly improbable that either of these witnesses had up to 1933, when their testimony was given, even considered the possibility that there might come a time when the Supreme Court would regard insurance or the business of investment banking as ‘trade and commerce’ between the states.

The first excerpt from Stanley’s testimony in other proceedings comes from his examination as a witness in Morgan Stanley & Co., Incorporated v. Securities and Exchange Commission, 2 Cir., 1942, 126 F.2d 325, which dealt with a claim of statutory affiliation between Dayton Power & Light Company and Morgan Stanley, through J. P. Morgan & Co. and United Corporation. The standards to be applied were those of Rule U-12F-2, adopted by the SEC on December 28, 1938, and revoked on April 8, 1941, just after the decision of the Commission on March 27, 1941, in the Dayton Power & Light case. This Rule contained an alternative definition of statutory affiliate, for purposes of financing only, as to any person found by the SEC ‘to stand in such relation’ to the company ‘that there is liable to be or to have been an absence of arm’s-length bargaining’ in transactions between them. The parent company was Columbia Gas & Electric. The questions put to Stanley related to efforts or lack of efforts on the part of J. P. Morgan & Co. to compete for the management of a $50,000,000 issue of Columbia Gas & Electric, which came out in 1931, while Stanley was still a partner of J. P. Morgan & Co.

The background is, as always, relevant and interesting. Stanley was a director of Columbia Gas & Electric in the period 1922-1935; he had been vice-president of Guaranty Trust Company of New York in 1916-1927, and president of its securities affiliate, Guaranty Company, in 1921-1927. Columbia Gas & Electric brought out eight underwritten issues during 1924-1931; Guaranty Company had offered one together with four other investment banking houses, and was alone as the underwriter in privity of contract with Columbia Gas & Electric for the seven others.

When questioned on the subject Stanley said:

‘Well, there was no reason to consider approaching Columbia. I knew personally that Columbia had adequate and satisfactory arrangements with the Guaranty Trust Company, and I assumed so long as they were satisfied with them they would continue with them.’

He also testified that while he was a partner, J. P. Morgan & Co. did not, he thought, try to obtain the business of
other companies who had done business repeatedly with other underwriters; that he could not think of any case of their having done so; and that there is no reason to try to break up such relations if they are satisfactory to both parties.

Evidently he did not at the moment recall the Missouri Pacific issue of $61,200,000 on January 26, 1931, which was managed by J. P. Morgan & Co., following nine issues handled by Kuhn Loeb in the period 1925-1930.

But the more significant fact is that Stanley’s testimony in the Dayton Power & Light case is quite consistent with his testimony by deposition in this case and with his testimony at the SEC open hearing on January 28, 1941, just prior to the adoption by the SEC of Rule U-50, requiring compulsory public sealed bidding in connection with security issues of companies affected by the Public Utility Holding Company Act of 1935.

In explaining to the SEC his reasons for thinking that Rule U-50 should not be adopted, Stanley took the position that if the issuers found the services of an investment banker satisfactory to them, he could not see why the SEC was so anxious to force public sealed bidding on them against their will. That was what the hearing was about.

Accordingly, Stanley volunteered the statement:

‘Mr. Stanley: Mr. Chairman, just for the sake of the record, I think you stated that you understood the investment bankers assumed theirselves to be free to solicit business. I would like to say so far as I am concerned that I do consider myself free to solicit business without responsibility to anyone excepting myself. Every man in the bond business is free to do what he wants. The reason I have not done it is that there has not been business that I wanted that I did not think was being satisfactorily done by others. If the business is satisfactorily done, it would be fair enough to think that the fellow who has it should keep on with it.’

This gives no support to the theory that there was a ‘code,’ prohibiting interference with ‘satisfactory relationships.’ Indeed, Stanley testifies precisely to the contrary.

His testimony in this case is to the same effect. Thus he said:

‘Q. Has your practice in this regard (interfering with satisfactory relations) changed since you testified (in 1941) before the SEC? A. I don’t thinks so. If we thought we would get the business we would go after it, before and after. Ordinarily when the issuer is satisfied we have not any chance of getting the business away from the man who had done business before or who is in negotiation with him.

‘Q. Well, has it been your practice to go to issuers where another banker has been negotiating or is handling prior issues and offer competing prices on better terms? A. Well, if asked to do so by the company we have expressed our opinion of the price.

‘Q. But you have not gone in and made unsolicited bids where another banker was negotiating for an issuer? A. Where you knew the terms of the issue?

‘Q. Whether or not you knew the terms of the issue? A. Well, I think we did in the case of Norway at the request of the Norwegian representative in New York.

‘Q. But you did not where the company does not ask you to do so? A. Yes, in the case of— yes, that was subsequent to this testimony, in the case of Denmark, we endeavored to arrange to do the next piece of business for the Government, and we knew others were trying to get it. We knew negotiations were at the point where bankers were being discussed, and we endeavored to be selected by the Danish Government over the other people and were selected.

‘Q. You did not do that unsolicited for industrial issuers though, did you? A. Yes, we have in the case of the Socony-Vacuum in 1946. We went to the company and asked if they were going to be considering some financing, knowing that previously other bankers had done business with them, and they asked us to negotiate with them on an issue that shortly afterwards they did decide to consider, and told us they were negotiating with other people at the same time.

‘Q. The prior transactions with Socony-Vacuum had been done on an agency basis, had they not? A. Yes, one had. Another transaction some years before that I think was done on a public issue through Dillon, Read.

‘I might add that we— well, that was probably before this date, I don’t remember it, but we went to them knowing that at the time they were considering an agency transaction and tried to get them to make a public issue.’

The central theme about which all this discussion revolves is of course compulsory public sealed bidding, which men connected with various government agencies had for years been trying to force upon unwilling issuers. Despite all the minor questions which serve to confuse and blur the outlines of the scene of battle, and whether or
For, on the one hand, there is the old, established way of conducting the investment banking business, which had slowly grown up functionally over the years. The testimony of Harold L. Stuart, the principal witness for the government, makes it clear that the reason why the major part of the competitive effort of investment bankers generally was devoted to an attempt to establish relationships with issuers was that the issuers willed it so. The preferences of issuers were the controlling factors. As Stuart said, if an investment banker had any sense he would not push himself in, but would wait to be ‘invited,’ and many an anxious hour was spent by investment bankers of all ranks in devising ways of playing their cards so that the ‘invitation’ might be forthcoming. That is why there is so little price competition after the issues have been shaped up; and it is also due to the preferences and desires of issuers that suggestions are made, plans submitted and what is called by government counsel ‘advice’ given, all without specific and separate charge. As we enter the first and second triennials, 1935-1937 and 1938-1940, the competition for business is intense and continuous, including many instances fully described in this opinion and many others in addition thereto, where one of the defendant investment banking houses competed for the business of an issuer, despite the fact that another defendant firm had managed successive prior issues of that issuer; but generally speaking they did not. The reason they did not do so more often is not that they were under any obligation or conspiratorial duty to refrain, but because of the plain common sense of the matter. In most cases where one investment banker had brought out a number of successive issues for an issuer, there was no reason whatever for a competing investment banker to think he could dislodge the firm which had been doing the business for years. This is one side of the picture.

On the other hand, as we shall observe more closely when we come to the part of the case dealing with the campaign for compulsory public sealed bidding, there were certain men connected with the government in one capacity or another, who sincerely felt that the relationships which had thus become established in the natural, normal course of competition, should be broken up and that there should be forced upon issuers and investment bankers alike, a new way of doing business, on the basis of price competition alone, in order to ‘give the little fellow a chance.’ We shall see later the extent to which the position of the ‘little fellow’ was improved by compulsory public sealed bidding. We shall also see how a few determined and resourceful men aided in the effort to advance the day when the views of those above referred to would be transferred from the realm of theory into that of positive and binding governmental rulings and regulations.

But the theories were there and the facts were there. These never changed. Were the old-fashioned ways to continue; or would the new day dawn? We shall now see the results of a period of investigating, which we may take to have been carried on steadily from the public hearings before the SEC in January, 1941, down through the Grand Jury proceedings in the Southern District of New York and the six thousand odd pages of depositions taken in the course of discovery proceedings in this case. Stanley, in his effort to convince the SEC that the issuers should be permitted to run their own affairs, had told the SEC that ‘if the business is satisfactorily done, it should be permitted’ and government counsel, in an avalanche of words, which did not change the basic facts one iota, came back to the subject of a ‘satisfactory’ job, ‘satisfactory relations,’ and the like again and again. Perhaps another myth had been in the making.

No amount of questions and answers, repeated endlessly, with varying formulas and a bewildering variety of ways of saying the same thing in a slightly different fashion, can obscure the basic fact that there was no ‘code,’ there was no agreement or ‘practice’ on the subject, but that the common experience of investment bankers generally—not these seventeen firms alone—was that, because of the habits and preference of the issuers, as explained by Stuart, and the normal and ordinary functioning of the investment banking industry, there was no point in running around, wasting one’s time, in a patently futile attempt to get business, where a competitor was on good terms with an issuer and doing a good job.

Once in a while, after seemingly interminable questioning, a witness may finally use some expression deemed by government counsel to be particularly helpful, as when Joseph R. Swan, of Smith Barney, in answer to a leading question says there was a ‘custom,’ or where Henry L. Bogert of Eastman Dillon speaks of not ‘upsetting the apple cart.’ But the testimony of each of these witnesses must be read as a whole and the net effect is as above stated. And if each of these investment banking houses was, pursuant to its own particular policies and in keeping with its own staff and capital and needs, using every reasonable effort to get all the business within its reach, every financing that there was some hope of getting, I do not see how there can be any violation of
the Sherman Act.

There are no documents emanating from the files of Morgan Stanley to support the charge that Morgan Stanley ever claimed to be the ‘successor’ to the investment banking business of J. P. Morgan & Co., or that it on any occasion ‘recognized’ any other defendant firm as ‘successor’ to the investment banking business of any of the institutions which ceased to do investment banking after the dead-line of June 16, 1934, fixed by the Glass-Steagall Act. Indeed, contemporaneous documents show that Stanley repeatedly characterized such ‘claims’ as ‘far-fetched’ and ‘silly.’ The references in a few of the documents of five of the other defendant firms to, ‘if Morgan came back in the bond business,’ or to Morgan Stanley as ‘the investment security end of J. P. Morgan & Co.,’ indicate no conspiratorial agreement that Morgan Stanley would be considered the ‘successor’ to the ‘rights’ of J. P. Morgan & Co. as ‘traditional banker,’ but only the expectation on their part that Stanley and his associates, because of their experience and their numerous personal relationships with the executive and financial officers of issuers, and their natural acumen and standing in the financial community, would in all probability be able to secure by normal and ordinary competitive means, the business of many issuers whose financings had previously been handled by J. P. Morgan & Co. There is nothing strange or surprising about this attitude on the part of Blyth, First Boston, Smith Barney (then Edward B. Smith & Co.), Glore Forgan and Goldman Sachs; and that is very likely the way the rest of the investment banking industry thought on the subject.

From Stanley’s point of view, however, the prospect did not look quite so alluring; and he and his associates did everything in their power to make the *749 new firm widely known and to get every piece of desirable business they could secure. This competitive effort is briefly described in the recital of the basic facts concerning Morgan Stanley in Part II of this opinion, and need not be repeated here.

One must not forget the superlative equipment and background which Stanley possessed; and his associates also were men of wide experience and excellent reputation. If their former connection with J. P. Morgan & Co. was a circumstance which helped them to get business, which seems highly probable, there is no reason perceptible to me why it should not have done so. After all, the Glass-Steagall Act was designed to effect the discontinuance of underwriting by the great banking institutions and their affiliates, not to destroy the livelihood of those individuals who had spent their lives working in and for these institutions and who were now making new connections and establishing new firms. Had Stanley himself for any reason dropped out of the picture shortly after Morgan Stanley was formed, I venture to say that the history and success of the firm would have been far otherwise than as is reflected in this record. Then too, it seems not unlikely that some of the railroads and other issuers who had previously done investment banking business with J. P. Morgan & Co., sought advice and the recommendation of that firm and that what they were told played some part in their decision to select Morgan Stanley. There is no proof of this in the record, but I can see no reason why the partners of J. P. Morgan & Co. should not have spoken well of their former associates, just as is commonly the case with those in other lines of business, when a long continued relationship is terminated with no loss of mutual esteem and friendliness.

There were only three pieces of business that Stanley definitely knew were coming to the new firm before it opened its doors on September 16, 1935, and each of these was explained to my entire satisfaction. None of them lend any support to the government’s claim of ‘successorship,’ de jure or de facto, conspiratorial or otherwise.

The Telephone Business

The final decision to set up Morgan Stanley was made around the middle or 20th of August 1935. The discussions leading to this decision were paralleled by conversations between Whitney and Stanley, of J. P. Morgan & Co., with executives of the Telephone Company who were planning to bring out an issue for Illinois Bell Telephone Company.

Walter S. Gifford, president of American Telephone & Telegraph Company, had asked if he could borrow some people in J. P. Morgan & Co. to advise his staff in the preparation of a registration statement, and Young and Jones had been given this assignment of work. Gifford had been told in July that consideration was being given to the question of whether any of the partners or employees of J. P. Morgan & Co. would form a separate company; Gifford had heard rumors about it; and in a conversation with Stanley, at about the time the decision to organize Morgan Stanley was made, Gifford was informed of it. Stanley testified that thereupon Gifford said, ‘that solves my problems,’ and put on his hat and went home.

Further talks with Gifford and with Charles P. Cooper, vice-president of the Telephone Company in charge of finance, ensued after Morgan Stanley opened for business on September 16, 1935. What Morgan Stanley did is
summarized by Stanley in his testimony:

‘Sometime after we had opened our new offices I had talked with Mr. Gifford and Mr. Cooper, having had talks with them earlier before the formation of Morgan Stanley, to the effect that Morgan Stanley was going to be formed. I knew then that a great many people had approached Mr. Gifford wanting to undertake business for him. By ‘people’ I mean investment bankers. The substance of my talks with Mr. Gifford and Mr. Cooper after September 16th was that they wanted to go ahead with this Illinois Bell issue, that they had talked with the Securities and Exchange Commission, who were very anxious that the Telephone Company be one of the ones who would help get the market going under the SEC regulations and registration, and that they would like to have Morgan Stanley & Co. manage the financing. They wanted to deal with one person in the negotiation of their contract, and not be bothered by having to talk with a lot of different people at the same time, who might have several contracts of purchase, under the procedure that was current, namely, having a group of people make a several purchase from the borrower. They said they wanted us to guarantee the performance of the people that we had as underwriters, because they looked to us to select the underwriters and get good ones— people of financial strength— and make the marketing a success. They were very keen about making it a success. They and we both wanted a small group. Almost everybody in the business had approached them. It is obvious that you could not have everybody as an underwriter unless you had a very large group. So we selected the ones that we thought best fitted to do the job. There were other people who would be helpful but we did not need them. We thought this was a compact, good group of people, of high standing and ability.’ The issue came out on October 16, 1935, in the amount of $43,700,000; and it is hardly probable that Gifford and Cooper were being led by the nose.

In this connection, and in my study of the record as a whole, I have given careful consideration to the very numerous documents and other evidence relating to the pre-Securities Act period; and I find nothing in this evidence to change the factual conclusions which are set forth in this opinion. In view of the ample and detailed discussion of numerous transactions in the 1935-1949 period, it would seem that any further references to ‘ancient history’ would unduly prolong an opinion which already perhaps transcends reasonable bounds.

There is much to be found in documents emanating from the files of other defendant firms to show competition by defendant firms and others for the Telephone Company’s business, and also to show that Stanley made up the syndicate strictly on the merits and without perfunctory or other adherence to any ‘practice’ of ‘historical position.’ A memorandum by Mitchell of Blyth records a conversation on September 25, 1935, in which Stanley stated that Morgan Stanley ‘intended to consider each individual business separately.’ Other documents of Blyth, Kuhn Loeb, First Boston and the alleged co-conspirator Mellon Securities (prior to its merger with First Boston) indicate repeated statements later emanating from Morgan Stanley, to the effect that ‘no precedent was to be set by this,’ ‘it is expected that when the next financing is done that the group will be altered’ and ‘for this issue only, and not as a precedent.’

Government counsel, citing the pendency of the long-drawn-out investigation of the American Telephone & Telegraph Co., by the FCC, regard all these statements as mere window-dressing, but I do not. In fact, the absence of substantial proof against Morgan Stanley on every phase of the case except the position it frankly took on the subject of compulsory public sealed bidding, and its failure to submit bids on certain occasions, which will be discussed later in this opinion, is one of the striking features of the case. A few of the other defendant firms resorted to little or great competitive exaggerations or equivocations, the methods of some, particularly in regard to directorships, are questionable, and two or three sometimes sent ‘polite refusals’ of participations, containing statements which may be polite, but which do not accurately state the facts. But against Morgan Stanley there is none of this. Nothing emanating from Morgan Stanley and admissible against it testimonially shows any ‘reciprocity,’ or direct or indirect references to any ‘traditional banker’: there is nothing which can be construed as giving or seeking ‘permission’ to compete; no dallying with ‘historical position’; no talk of ‘successorships,’ other than a clear repudiation of the notion that there could be such a thing; no competitive policy as to directorships; no assisting in the gathering of proxies; no off-color practices of any kind. And yet I am told that Morgan Stanley is the ringleader of the conspiracy and Stanley its ‘master mind.’ It may perhaps be more reasonable to infer that the absence of any such dealings by Morgan Stanley had much to do with its reputation for integrity and for its success. We shall sometimes find indications in the statistics that the business of those few other defendant firms who occasionally used dubious methods of competition suffered as a result thereof.

Consumers Power

Stanley obtained another piece of business before Morgan
Enough has already been shown, however, to indicate that subject.

particular transaction will serve as an introduction to that accordingly, this government counsel described this as an example of what misgivings which will be discussed in a moment, hoped to be selected as co-managers, with some this issue before Morgan Stanley was formed, and as they were working on bonds, which came out on October 14, 1935. As Edward a $20,000,000 issue of Dayton Power & Light company, Morgan Stanley, be joint manager with Bonbright & Company for a Consumers Power Company bond issue that he was then considering and wished to issue very soon in the fall, and I said that we would be glad to do it, if there was time to do it, to get prepared on it.

`He spoke of the fact that he wanted to have someone in addition to the Bonbright firm who had managed a couple of Commonwealth issues previously, because the people that formerly had been the Bonbright firm had retired, and he had a very large amount of financing in contemplation at some date, and he wanted to have somebody in addition to Bonbright. He wasn’t critical of them in any way, but he just wanted additional help in this issue and possibly in others, but there wasn’t any discussion of others except in a vague way.’

The Issuer Summaries show that Bonbright alone had managed an $18,594,000 issue of Consumers Power, which came out on June 21, 1935; and Bonbright and Morgan Stanley together managed the issue referred to above, which came out on September 23, 1935, in the amount of $19,172,000.

*752 I have considered in this connection the evidence relating to the formation of United Corporation by J. P. Morgan & Co. and Bonbright, and it does not alter my conclusions.

The third and last piece of business which came to Morgan Stanley before the firm opened for business, was a $20,000,000 issue of Dayton Power & Light Company bonds, which came out on October 14, 1935. As Edward B. Smith & Co. and W. E. Hutton & Co. were working on this issue before Morgan Stanley was formed, and as they hoped to be selected as co-managers, with some misgivings which will be discussed in a moment, government counsel described this as an example of what they call ‘caretaker’ situations. Accordingly, this particular transaction will serve as an introduction to that subject.

Enough has already been shown, however, to indicate that Morgan Stanley would in all probability, be in a position to secure a large amount of the most desirable financings, and to do so strictly on the merits. That Stanley and his associates chose the most favorable time to start the new firm was soon apparent, as the great depression and the uncertainties connected with the new laws had brought new financings down to a mere trickle, and they were soon to come into the market like a cataract. It was not the fault of Stanley or his associates that their reputations had evidently not been damaged, as had those of others in the business, by losses and embarrassments of one kind or another connected with the great depression of 1929 and the closing of some of the banks, followed by the Bank Holiday. The collapse of the Insull ‘empire’ had done Halsey Stuart no good, and people were apt to remember what had happened to the Goldman Sachs Trading Corporation and others.

The Alleged ‘Caretaker’ Situations

Dayton Power & Light

Stanley had known Philip G. Gossler, chairman of the board of Columbia Gas & Electric, of which Dayton Power & Light was a subsidiary, since he was about 15 years old; Gossler and his wife were friends of the elder Stanleys, and it was Stanley’s father, an engineer, who got Gossler his first job when Gossler graduated from Lehigh. This led later to an intimacy between the two men which was such that Gossler used to visit at Stanley’s home as early as 1910, and they saw one another constantly, ‘inside and outside of business.’ It was while Gossler was president of Columbia Gas & Electric that Stanley became a director on March 25, 1922; and he served in that capacity until he resigned on February 7, 1935, just before the occurrences about to be related. From the early 1920s until the Securities Acts period almost all issues of Columbia Gas & Electric and its subsidiaries, including Dayton Power & Light, were managed by the Guaranty Trust Company of New York or by the Guaranty Company. Thus it was to be expected that Edward B. Smith & Co. would go after the leadership of a refunding issue which was at first planned for the summer of 1935. There was associated with Edward B. Smith & Co. the firm of W. E. Hutton & Co., who had participated in the last financing, and is included in the list of alleged co-conspirators.

The scene opens in April, 1935, probably in the office of William C. Potter of the Guaranty Trust Company of New York, and there is a conversation between Potter, Stanley and Gossler. No representative of Edward B. Smith & Co. was present. They spoke of the ‘timing’ for calling the outstanding bonds and obtaining the money for refunding them. Stanley urged Gossler very strongly against turning
redemption was December 1. Later in the spring Gossler redemption passed without action and the next date for right through the summer. The June 1, 1935, date for Hutton, and that he continued to have that understanding 
of intimacy between the two men and Stanley's reputation, this does not seem to me to be in the slightest degree strange, but, on the contrary, as rather to be expected under the circumstances. That Edward B. Smith & Co. and Hutton were 'on notice' that they might get the issue unless 'Morgan came back into the bond business,' in which event they would hand the business over to any new firm which should be formed for such a purpose.

The difficulty with this theory is that Stanley has in effect denied that he knew of any such understanding, and he testified that on September 10, 1935, Gossler came in to see him upon Gossler’s return from Europe, said he had seen the announcement of the formation of Morgan Stanley and that he wanted Stanley’s firm to undertake the management of the issue. In view of the background of intimacy between the two men and Stanley’s reputation, this does not seem to me to be in the slightest degree strange, but, on the contrary, as rather to be expected under the circumstances. That Edward B. Smith & Co. and Hutton were ‘on notice’ that they might not get the issue may well be due to something that Gossler or one of the officers of the parent or subsidiary companies had told them before Gossler left for Europe.

The claim is government counsel is that there must have been some understanding to the effect that Edward B. Smith & Co., had been careful not to get seriously into the question of a group 'as I was afraid we would do the ‘dirty work’ and then not get leadership of the account.’ From this memorandum the inference may be drawn that Edward B. Smith & Co. and Hutton were ‘on notice’ that they might lose out, but the general tenor of the memorandum is optimistic.

The government ‘caretaker’ claim is based on the fact that Morgan Stanley brought out the refunding issue of $20,000,000 of bonds on October 14, 1935, and upon a memorandum of Burnett Walker of Edward B. Smith & Co., dated August 23, 1935, relative to a conversation had with Reynolds, then president of Columbia Gas & Electric. The part of the memorandum relied upon by government counsel notes that Walker and Land, both of Edward B. Smith & Co., had been careful not to get

Atlantic Coast Line, Toledo & Ohio Central, Chicago & Western Indiana, Nypano (New York, Pennsylvania & Ohio) and Dominion of Canada

An issue of $12,000,000 Notes of Atlantic Coast Line on May 3, 1935, co-managed by Edward B. Smith & Co. and Brown Harriman; one of $12,500,000 Bonds of Toledo & Ohio Central on June 27, 1935, managed by First Boston; one of $6,100,000 Bonds of Chicago & Western Indiana on December 11, 1934, managed by Brown Harriman; another of $8,000,000 Bonds of Nypano on February 13, 1935, co-managed by Edward B. Smith & Co. and Brown Harriman; and two Canadian Government issues of $76,000,000 Bonds on August 12, 1935 and $48,000,000 of Bonds on January 14, 1936, both managed by First Boston, are claimed by government counsel to be ‘caretaker’ accounts. But the evidence does not support the charge and there seems to be no occasion for detailed comment.

In fact the Dominion of Canada situation shows successful competition by Morgan Stanley, who succeeded in obtaining the leadership of an issue of $85,000,000 Bonds on January 21, 1937, although First Boston was supposed to be the ‘traditional banker,’ and there is nothing to show that there had been any deterioration in the relations between the Canadian Government and First Boston when, early in 1936, Henry S. Morgan went to Canada and called on the head of the Bank of Canada and on the Minister of Finance to offer the services of Morgan Stanley. Perhaps Stanley had forgotten about this when he testified before the SEC on January 28, 1941, in opposition to the proposed Rule U-50. But it seems more likely that he thought *754 the incident not particularly relevant to the point he was trying to put across, which was that if the business was being done to the satisfaction of the issuers he could not see why government officials were so anxious to force them into public sealed bidding. After all, the issuers could always use public sealed bidding as a means of raising the capital they needed, and perhaps they knew their business better than those who had an axe to grind.

I find that Morgan Stanley at no time ‘adhered’ to any ‘practice’ of ‘traditional banker,’ nor was Morgan Stanley at any time a party to any conspiracy or agreement on ‘successorships,’ nor to any ‘code’ having such or any similar provisions.

2. Kuhn Loeb

With a small firm and a very choice and select clientele, Otto H. Kahn and his partners had evidently made a wise move when they worked out the Kuhn Loeb ‘show
’dignity and mystery.’ A few of those still alive today remember the rows of silk hats at the Lawyers Club in the old Equitable Building in New York City, as the leaders of the bar gathered for luncheon. Even the writer of this opinion remembers Samuel Untermeyer in court, with an always-fresh orchid in his coat lapel, and dressed in the height of fashion. Perhaps the appearance of Otto H. Kahn was in keeping with his ‘show window.’

Taking into consideration the fact that Kuhn Loeb took no part in public utility financing, its position in 1935-1937, the first triennial of our ‘evidence’ period, must have been viewed with envy by many other firms in the business. It led the entire industry in rail issues, with 12.5 issues for a total of $344,100,000, or over $27,500,000 per issue. It also led in dollar volume of negotiated industrials and was second in number of issues. The number of issues was 17.1 and the dollar amount $503,700,000, almost $30,000,000 per issue. The total of such issues for all investment bankers during this period was 316, and the total dollar amount $2,758,700,000, or less than $9,000,000 per issue. The steel financing headed or co-managed by Kuhn Loeb in the period included: Bethlehem $158,000,000; Republic, $94,000,000; Inland, $61,000,000; National, $60,000,000; and Wheeling, $35,000,000.

The operation of the ‘show window’ policy fitted perfectly into this background, as the competitive problem of Kuhn Loeb was to seek to maintain its position against the competition which such a position plainly invited And the Sherman Act makes no distinction between competitive effort to keep business and competitive effort to take business away from someone else. These are but two sides of the same coin.

Accordingly, as step one, it was necessary to broadcast as widely as possible, but still with restraint and discretion, the high-toned and exclusive character of the firm. This was done, as we shall see, by statements which must sometimes seem almost exaggerated and gratuitous, to the effect that Kuhn Loeb would never under any circumstances try to ‘steal’ business from any other investment banker. Indeed, it would apparently insist upon having the officials of an issuer, seeking to bring its financings to Kuhn Loeb, make a downright and unequivocal statement that they had completely severed all relations with their former bankers. We shall see later how flexible this formula was, in actual practice. What is more, Kuhn Loeb gave wide currency to the fact that it was their policy only to handle financings on the understanding that the negotiations would be had with Kuhn Loeb exclusively, and that they would under no circumstances engage in price competition, which was below their dignity. If issuers wanted tip-top service Kuhn Loeb was the firm to come to, but it must be one these terms. Consistently with the ‘show window’ policy, we find throughout the record numerous instances of Kuhn Loeb participating in various underwritings only with a ‘non-appearing’ or ‘silent’ position, where it did not want it generally known that it would stoop to take anything less than top position (or second only to Morgan Stanley), which was the only one consistent with its eminence and dignity.

With this background, it requires no unusual acumen to discover the reason why most of the ‘traditional banker’ documents in evidence in this case are written by partners of Kuhn Loeb, or are based upon something said by one of its partners or employees. In the early stages of the trial such statements were always described by government counsel as having been made by ‘the defendants,’ despite the fact that no one connected with any of the other sixteen defendant firms had anything to do with them, in most cases did not even know the documents were in existence, and had quite different business and competitive policies. But there is something of this in every conspiracy case; and the trial judge must be on his guard until the existence of a conspiracy and participation in it by the other defendants is established, lest the others, or some of them at least, suffer some prejudice.

Step two of the Otto H. Kahn ‘show window’ policy is ingenious and almost fool-proof. If the particular piece of business, brought in by a middleman or finder, for example, was not of such a character as fitted into the Kuhn Loeb picture, an unqualified display of the ‘show window’ was called for, perhaps to be followed up by transmitting a copy to or otherwise informing such other firm as might consider themselves as having the inside track, that Kuhn Loeb had refused to ‘intrude,’ in order to put such other firm into a friendly frame of mind with respect to a possible substantial participation in the future. Where the business looked attractive, however, there were various expedients which could be resorted to, in order to go after the business, but do so in such a way that there could in all probability be no loss of prestige, such as would be the inevitable consequence of a rebuff, news of which would be bound to get around. We shall see how varied is this technique when we come to discuss some of the issuer situations on which government counsel lean heavily for support, such as Commonwealth of Australia and especially Armstrong Cork.

A few of the documents, even as early as 1934, mention one or another defendant firm as ‘successor’ to some banking institution or affiliate which had ceased to do...
investment banking business because of the Glass-Steagall Act, but a glance at the context and the dates of the documents will show that these statements indicate no conspiratorial agreement or proposal to agree upon such firms as ‘successors,’ but only the normal expectation that anyone in the business might have that the individuals who had formerly been employed by such institutions, and who had personally handled the financings of particular issuers, probably would be able to take the security business of such issuers with them to their new firms. Accordingly, I shall make no further reference to ‘successorship’ in connection with Kuhn Loeb.

The Otto H. Kahn ‘Show Window’

The testimony of Otto H. Kahn and the questions of Senator Barkley and Mr. Pecora are given in full, as follows:

‘Mr. Kahn: Well, if you want a categorical answer, Mr. Pecora, I can only say it is always the other way around; has been with us for 50 years perhaps, or certainly for the last 30 or 40 years. It is not we that go to the corporations and ask them to do business with us. We hope that we have established a reputation which is our show window, which attracts customers. We hope that our trade mark, our sponsorship is recognized of some value to the corporation. We do not go after them. That may be conceited, but we do not. We would rather do less business. We do not go after them. But if a railroad comes to us, or if any corporation comes to us and says: ‘We want to place a $50,000,000 issue through you,’ and we know they have been doing business with somebody else, we ask them fairly and openly the question, ‘We know that you have been doing business with so and so; are you not doing business any longer with them?’ ‘Yes,’ ‘And you tell use you are free, without infringing upon our conscientious scruples, to do business with us?’ ‘Yes.’ I would not then hesitate to do business.

‘Senator Barkley: Do you know instances where other bankers have gone after your business?

‘Mr. Kahn: I have some, Senator. I hope you will not press me.

‘Senator Barkley: I am not going to press you, but it has occurred?

‘Mr. Kahn: Yes.

‘Mr. Pecora: Has it succeeded? Has the effort succeeded in those instances?

‘Mr. Kahn: In some instances, yes. We are poorer for that effort.

‘Senator Barkley: Do you still regard them as reputable bankers?

‘Mr. Kahn: I regard them as reputable bankers. I would...
not have done what they did, but who am I to sit in judgment upon others? ‘Let him who is without sin first cast the stone.’ I guess I am guilty of other sins, too. But this particular thing I do not believe in.

‘Mr. Pecora: Would you say fairly, Mr. Kahn, that in the banking profession a system or code of ethics exists among the well-recognized bankers, bankers of reputation, in pursuance of which there is no competition among them for the business of a corporation which has had financing previously done for it by some banker?

‘Mr. Kahn: As far as we are concerned, that is correct. As far as our firm is concerned, that is correct.’

This has no reference whatever to the ‘code’ of private bankers concerning which J. P. Morgan had testified at a separate hearing a month or so previously. Otto H. Kahn was questioned specifically on the subject of trying to take business away from another investment banking house, and he very plainly states that it is a Kuhn Loeb ‘code’ about which he is speaking. He describes it as the Kuhn Loeb ‘show window.’ Naturally the witness, not being questioned on the subject, adds nothing about the ingenious ways in which the ‘show window’ policy is manipulated as a competitive device to get business. There was no reason why he should disclose firm secrets, unless it became necessary to do so.

The prosecution emphasizes some TNEC testimony given by John M. Schiff in 1939 concerning his memorandum in the Armstrong Cork matter, which will be referred to shortly, but his explanation is quite consistent with the ‘show window,’ as he points out that this was not only because of ‘the code of ethics’ but ‘it is what is good business.’ His testimony by deposition in the present case to the effect that at the time he testified the Otto H. Kahn policy was still in effect, must be read with some reservation, as it is obvious that much water had gone over the dam since 1933, the era of ‘dignity and mystery’ was over, and no one in the 40s, and especially after World War II, could be expected to be greatly impressed by the sort of thing that Otto H. Kahn testified was done by Kuhn Loeb in the early 30s and prior thereto. As a matter of fact, we shall find less and less of the ‘show window,’ and a Kuhn Loeb competitive policy in later years which was more in keeping with the times.

Pursuing the matter chronologically, and in an attempt to give the full picture without discussing every one of the documents, we come to what is described as a ‘Memorandum regarding Bulgaria’ bearing the Kuhn Loeb filing stamp of October 16, 1928.

Bulgaria

This was a patently unattractive piece of business and we find the ‘show window,’ without any angling for a continuance of negotiations, and without qualification. The memorandum reads:

‘We would not care to compete for or attempt to secure the pending issues simply on question of price, but if the Bulgarian government has no commitments towards its present affiliations and wishes to terminate them, we would be prepared to study carefully and promptly the Bulgarian fiscal situation with a view to undertaking the financing of the government’s requirements, if in such case the government will make definite agreement for a term of years constituting us its American bankers and giving us a preferential position as to future issues. * * *’

There the matter ended, as far as appears in this record.

Anticipating somewhat, there is a letter from Buttenwieser of Kuhn Loeb to Oscar W. Rexford of Ley P. Rexford & Company, dated April 22, 1935, sent in obvious ignorance of what the Rexford approach, noted in the letter, referred to. Again the ‘show window’ is without qualification and the second and last paragraph of the short letter reads:

‘I might also point out for your guidance that, as you may know, we make it a strict rule not to compete for business and to discuss such matters only on an exclusive negotiation basis.’

It turned out that what Rexford was after was a participation in the forthcoming *758 issue of Southwestern Bell Telephone, and Buttenwieser informed Rexford on April 27, 1935, according to a Kuhn Loeb memorandum of that date, that Kuhn Loeb had a ‘group relationship in telephone business’ and that Rexford should not expect any ‘special treatment.’

Commonwealth of Australia

We now come to a substantial and attractive piece of business. In the period from 1925 to 1928 J. P. Morgan & Co. had placed three issues of Australian bonds in the United States totalling some $165,000,000. In April and May, 1930, there were conversations between Herbert Brookes and other representatives of the Australian Government, and Kuhn Loeb, relative to the handling of some new Australian financing.

The first Kuhn Loeb memorandum, of April 23, 1930, makes no reference whatever to J. P. Morgan & Co. The whole tenor of the conversation related in the
memorandum is one of anxiety to get the business and the qualifications to the ‘show window’ policy are conspicuous. To begin with, it was suggested that ‘the cost to the Australian Commonwealth should not exceed approximately 6% per annum.’ The mention of ‘price’ is significant. The reference to interference ‘with existing financial relationships with other banking houses,’ is qualified by the phrase ‘when these were more or less definite’; and the statement of the Kuhn Loeb policy not to make competitive bids is followed by, ‘except in very rare instances, such as City of New York bonds, and then only because of very special reasons.’ The ‘very special reasons’ are not explained.

The notion of an exclusive arrangement is watered down to the vanishing point, as the Kuhn Loeb representatives Mortimer Schiff and Sir William Wiseman

‘pointed out also that Kuhn Loeb & Co. had always felt and still feel that they could only render the best service when they had a continuing relationship and while they understood perfectly that no government could bind itself definitely as to the future they would still hope, if relationships were established with the Australian Commonwealth, that it would be the intention to continue such relationship after an initial issue, if the service Kuhn Loeb & Co. could render proved satisfactory to the Commonwealth Government.’

The standard Kuhn Loeb requirement, that there be an expression of severance of relations with the bankers with whom they had previously been doing business, is also skillfully worded. It follows:

‘Kuhn Loeb & Co. would consider it a very real privilege to become the bankers to the Australian Commonwealth, and would be most receptive and sympathetic to a proposal to this effect. They take it, of course, that the Commonwealth would not extend such an invitation unless they are entirely free from commitments, expressed or implied, toward other bankers for its financing in this country.’

The conversation closed with an expression of hope that, after these observations had been communicated to the Prime Minister, the conversations might be continued, ‘which would be most agreeable to Kuhn Loeb & Co.’

A few days later, however, these sanguine hopes of Kuhn Loeb received an unexpected setback, as James R. Collins, financial adviser of the Commonwealth Government, who had just arrived from London, called on May 5, 1930, with the bad news ‘that he had instructions from his government to come to New York but no further instructions, and therefore at the moment he had no mission.’ And so for the first time in these particular negotiations, as far as appears from the documents, a full display of the old ‘show window’ is made. Collins fully understands that Kuhn Loeb ‘should not be put in the position of appearing to have made an unsolicited bid,’ and that ‘an official request for a study of the situation *759 and an offer should come from the Australian Government.’ For the first time Morgan is mentioned: ‘particularly stressing our views regarding the Morgan situation and policy of noncompetitive and exclusive negotiations.’

Thus, despite Kuhn Loeb’s apparent willingness, three weeks earlier, to take the business away from J. P. Morgan & Co., the ‘traditional banker,’ if it could succeed in doing so, this new and unexpected development must have led to the suspicion that J. P. Morgan & Co.’s competitive position was stronger than they had thought, and the shift in strategy, which has just been described, was adopted by Kuhn Loeb. And so the matter was left that Collins would cable his government and see Kuhn Loeb again on the following Wednesday.

Accordingly, Collins called again on May 9, 1935. The answers to his cables had not been ‘entirely satisfactory to him,’ the Australian government evidently desired ‘the advice of several leading New York bankers.’ And so, now definitely abandoning the hope that Kuhn Loeb might get the business for itself alone, there is a further shift in strategy designed, if successful, to get the co-managership with J. P. Morgan & Co. This was just as inconsistent with the alleged conspiratorial scheme as was their first move to get the managership, as J. P. Morgan & Co. was obviously the ‘traditional banker,’ not a word had been spoken of any lack of ‘satisfactory relations’ between the Commonwealth and J. P. Morgan & Co., and Kuhn Loeb should have ‘deferred’; but it did not.

Accordingly, in this conversation with Collins on May 9, Schiff ‘strongly advised him not to consult any other bankers except Morgan’s; that he felt they probably ought to consult Morgan’s.’ The memorandum continues:

‘Mr. Schiff suggested that it might be in the best interests of the Australian Government if the banking basis is broadened to include both Morgan’s and ourselves, but, of course, this was not a suggestion that we could make to Morgan’s but could be properly made by Mr. Collins if he should come to the conclusion that would be a desirable thing.’

The conclusion of the memorandum is interesting, too, in view of the part of the Kuhn Loeb policy against price
competition, which also seems subject to qualification, according to the exercise of the Kuhn Loeb judgment and discretion. Thus the memorandum indicates discussion of price and Schiff, in his best competitive manner, but all the while seeming not to desire to ‘intrude,’ plants the seed that ‘he thought the former Commonwealth loans had been issued at too high a price,’ and he mentions figures which come down to a cost to the Commonwealth of ‘6% or a shade under.’ The price mentioned in the first conference with Brookes on April 17, 1935, had been ‘approximately 6% per annum,’ which might be 6% or a shade over.

The last memorandum of the series is dated May 13, 1935. Collins had seen ‘Morgan’s,’ had made it perfectly clear that he had taken the initiative in approaching Kuhn Loeb and that Kuhn Loeb had said they ‘would not care to enter into negotiations with the Australian Government without the knowledge of Morgan’s’ and ‘without a direct invitation.’ ‘Morgan’s’ expressed appreciation and Collins is going back to London.

Here the matter ends, as no financing was done at the time. Naturally, nothing appears to have been passed along to ‘Morgan’s’ about Kuhn Loeb’s first effort to get the business for itself; and Collins seems to have had enough common sense to realize that the suggestion about the co-managership was intended for his ears alone and not to be passed along to ‘Morgan’s.’ In any event the last memorandum, which records Collins report to Kuhn Loeb of his conversation with ‘Morgan’s,’ contains no reference to the co-managership.

*760 Armstrong Cork

This is one of the foundation stones of plaintiff’s case; and one of the Kuhn Loeb documents relating to Armstrong Cork furnishes the phrase which is the theme of the complaint, as paragraph 45A(1) alleges:

‘Defendant banking firms observe an ethic not to compete and refuse to ‘poach on each other’s preserves.‘

The subject is of additional significance as the transactions about to be related took place in 1934 and 1935, shortly after the Glass-Steagall Act deadline.

The background shows that in the pre-Securities Act period the last issue of Armstrong Cork was a financing of $14,931,000 of convertible debentures in June 1930, in connection with which Guaranty Company and Union National Bank of Pittsburgh were in privity with the issuer. And so we should expect to find, in accordance with the aggressive policy adopted by Swan when he left the Guaranty and joined Edward B. Smith & Co., an immediate effort on the part of Swan and his associates to get in touch with the Armstrong Cork people, and seek to continue the close personal relationship which had existed between the officials of the company and Swan and his associates while still with the Guaranty. That is precisely what the documents reveal, and this is further supported by the testimony of Swan that, ‘we immediately contacted’ the Armstrong Cork Co. As no financing seemed in immediate prospect, the matter was dropped for the moment; but we shall find Swan, and the others in Edward B. Smith & Co., in prolonged and continuous negotiations with company officials later on.

The scene shifts to the office of Kuhn Loeb where, on July 26, 1934, Freeman, the middleman or finder, arrived with a proposition that Kuhn Loeb become interested in ‘the possibility of doing some financing for the Armstrong Cork Company,’ with which Freeman claimed to have some connection. This was an attractive and desirable piece of business, and it will be interesting to see how the Otto H. Kahn ‘show window’ policy was put in operation.

The first paragraph of the memorandum of July 27, 1934, dictated by Schiff of Kuhn Loeb, reads:

‘Yesterday Mr. M. L. Freeman discussed with me the possibility of doing some financing for the Armstrong Cork Company, with which he has a connection. I told him that I would discuss it here in the office, and asked him to return today.’

This gave the partners of Kuhn Loeb an opportunity to confer about the matter and lay their plans.

The memorandum continues:

‘Having checked up on the Company and found that the original financing had been done by the Guaranty Company, I explained to Mr. Freeman that the Guaranty Company’s successor was E. B. Smith & Co., and that naturally we did not want to poach on their preserves.’

The reference here, at this early date, to Edward B. Smith & Co. as ‘the Guaranty Company’s successor’ cannot, it seems to me, mean more than the normal reaction of any firm in the investment banking business, to the fact that Swan, the former president of the Guaranty Company, and many of the old Guaranty Company’s employees had gone with Edward B. Smith & Co., and would probably make every effort to take along with them to the new firm the business of people with whom they had previous personal dealings.
The memorandum continues:

‘However, he told me that in 1932 the Company had wanted to borrow $2,000,000 from the Guaranty Trust Company, with whom they have an account, and that the Bank was not willing to loan them more than $500,000 at that time. The Armstrong Cork Company was very distressed at this and later raised the money through Pittsburgh banks *761 and therefore at present are not desirous of doing business with the Guaranty Company or their successors.’

As some indication of the many different interpretations which can be given to the phrase ‘satisfactory relations,’ government counsel claim that this rumor, relayed by Freeman, indicates that there was a lack of ‘satisfactory relations’ at this time between the Armstrong Cork people and Swan and his associates in Edward B. Smith & Co. But this could not have been so, if reliance is to be placed upon the numerous statements in the Edward B. Smith & Co. status book and the testimony of Swan, both of which indicate continuous and friendly negotiations, from the time that Swan went with Edward B. Smith & Co., up to the time that the next issue, a financing of $9,000,000 of debentures, came out on July 24, 1935, under the sole management of Edward B. Smith & Co.

The memorandum continues:

‘Likewise, Lehmans had approached the Armstrong Cork Company with the idea of buying a block of stock from them, either existing stock in the hands of present holders if they did not need new money or, if they needed new money, treasury stock. However, this did not appeal to the Company.’

This is the last we shall hear about competition by Lehman Brothers for the Armstrong Cork business, but it indicates that at least as to Lehman Brothers, the ‘practice’ of ‘traditional banker’ and ‘successorship’ was not being observed. They also knew, of course, that Swan and his associates had left the Guaranty and gone over to Edward B. Smith & Co., and could easily have ascertained the fact that the ‘traditional banker’ was the Guaranty.

We now come to the most interesting part of the memorandum as it shows the special technique put in operation by Kuhn Loeb as part of its ‘show window’ policy, when it really wanted the business. The memorandum continues:

‘Mr. Freeman explained that the Company needs from five to ten million dollars for improvement to their plants and would like to issue a preferred stock. He realizes, however, that probably a preferred stock would not be feasible at this time and suggested four or five year notes convertible into stock. I told him that provided he explained in detail to the company that they were coming to us of their own free will, we should be pleased to have a talk with them if he would bring in one of their senior officers the next time he was in New York, which he agreed to do.’

We do not know how long it took Freeman to persuade the Armstrong Cork officials to come in and confer with Kuhn Loeb ‘of their own free will.’ Certainly Swan and his associates in Edward B. Smith & Co., who had been seriously working on the negotiations since at least as early as October 1934, had no inkling of what Kuhn Loeb was doing. It does appear that sometime prior to March 14, 1935, Freeman had persuaded the executive officers of the Armstrong Cork to come in and talk to Kuhn Loeb. Strauss testified before the TNEC that the Armstrong Cork officials came in to see him after telegraphing for an appointment, and that he discussed financing with them. He also stated in response to a question by Mr. Nehemkis:

‘Q. But at that time you did not feel constrained to discuss the matter with E. B. Smith & Co.? A. I had nothing to discuss with E. B. Smith & Co.’

Accordingly, on March 14, 1935, when Strauss of Kuhn Loeb perhaps suspected that all was not going well, or perhaps with the ‘show window’ policy in mind, wished to be sure that nothing might occur to damage the ‘show window,’ such as would be the case if it appeared plainly that Kuhn Loeb was going after business and failed to get it, we find Strauss going over to Edward B. Smith & Co., where he told Swan and Cutler *762 that Kuhn Loeb ‘had this business,’ and he asked if they would be interested in joining them. This must have come as quite a shock to Swan and Cutler and they immediately ‘explained that this was an old account of ours and we believed it was still ours,’ according to one of the Edward B. Smith & Co. status book entries.

At this point things began to happen. We can only surmise the Kuhn Loeb end of the matter. It seems not unlikely that, when the Armstrong Cork officials made their ‘unsolicited’ call on Kuhn Loeb, the Kuhn Loeb partner who conferred with them went through the usual formula about having severed relations with their regular banker, or having no ‘commitments,’ or whatever other variation of the formula seemed appropriate. Business men catch on to this sort of thing very quickly, and from what occurred in the Bethlehem Steel financing and others, it seems probable that the Armstrong officials
gave the necessary ‘assurances,’ despite the fact that all the while their relations with Swan and his associates continued to be friendly and satisfactory in every way, and the negotiations with Swan and his associates were proceeding apace.

Having received notice that Kuhn Loeb was competing for the business, Swan and his associates redoubled their efforts. The same status book entry which contains the reference to the visit by Strauss indicates that Cutler immediately talked to Roy Passmore at the Guaranty ‘who said that he had been in conversation with officers of the Company within the last thirty days and felt very sure that there was nothing in KL’s contention, and that the Company would not do anything without discussing the matter with them at the Trust Co. first, and that he could not believe they would accept any other offer without giving us a chance.’ This entry on March 19, 1935 concludes:

‘I suggested it might be well for us to take a day and run down to Lancaster and see the plant and he (Swan) thought this would do no harm.’

The very next day, March 20, 1935, Cutler reports another talk with Strauss, at which Strauss was told that the Armstrong business was ‘our business and that when something could be done they would look to us.’ This entry concludes with some more of the same Kuhn Loeb ‘show window’ technique, as follows:

‘Strauss said if that were so KL would not compete, and that he would so inform the Armstrong people. If they really wished to make a change and clear with us, KL will then be willing to talk to them. We indicated that if and when the business would be done we would have a place for them.’

On March 21 Cutler called Suter, one of the Armstrong Cork officials, at Lancaster, about making the visit to the plant, but both Suter and Prentis were to be away and Suter suggested coming down the following week. The visit to the plant did not actually materialize until April 3, 1935, at which time there was considerable discussion of the forthcoming financing.

By this time Strauss had evidently got the lay of the land, and, according to Swan, ‘had done all the competing he could do.’ In the meantime, the conversations between the Kuhn Loeb partners and the officials of Armstrong Cork had so impressed these executives that we find later that Kuhn Loeb was, according to a memorandum of Horace D. Moore of Edward B. Smith & Co., dated September 21, 1935, included in the business with a 20% participation ‘at the request of the Company.’ This will be referred to again.

Now we shall see another phase of the ‘show window’ policy. Having competed for the business, and having done so behind the back of the ‘successor’ to the ‘traditional banker,’ and having failed, a face-saving maneuver was in order. Consequently, the later memoranda indicate Strauss exhibiting anxiety 763 to make it clear that he is reporting to Edward B. Smith & Co. whenever he confers with the officials of the company, and that, whenever he confers with the officials of the company, he is reporting conversations had with Edward B. Smith & Co. Kuhn Loeb having told Freeman in the beginning, with reference to Edward B. Smith & Co., that ‘we did not want to poach on their preserves,’ Kuhn Loeb is careful to leave the matter at the end on the same theme, despite the fact that they had in the interval been quietly and secretly making every possible effort to get the business. And, whilst thus competing for the managership, Kuhn Loeb had its eye on a substantial participation, which was always one of the desiderata when the ‘show window’ policy was working.

We have already noted that, due to hard work and continuous negotiations with the officials of Armstrong Cork, Edward B. Smith & Co. found it possible to hold on to the business, which they had handled as individuals while still with the Guaranty Company, and Edward B. Smith & Co. as sole manager brought out the $9,000,000 issue of debentures on July 24, 1935. But, in the interval, although Lehman Brothers had dropped out of the competition, other defendant firms, in complete disregard of the ‘practice’ of ‘traditional banker’ and ‘successorship,’ were making strenuous efforts to get this same piece of financing for themselves.

On February 5, 1935, according to a memorandum entitled ‘Armstrong Cork Co.’ of A. M. White, Jr. of White Weld:

‘I met with Al Gordon of Kidder Peabody today and it was agreed that Kidder Peabody and White, Weld would have 70% and 30% interests respectively on original terms in the above piece of business.’

It is interesting to see the way this came about, as we hear so much about ‘successorships.’ It seems that Moore, a former vice president of the Guaranty Company, had become associated with Kidder Peabody, and Albert H. Gordon of Kidder Peabody testified on deposition that Moore, evidently seeking to take advantage of his former association with the Guaranty Company, which was a perfectly proper thing for him to do, tried to get the
business of Armstrong Cork for the Kidder Peabody-White Weld nucleus group, ‘but he was unable to put us across.’

The outcome was noted in a White Weld memorandum of June 25, 1935:

‘Gordon of Kidder, Peabody told me yesterday that they had lost the lead in the above piece of business, and that E. B. Smith had landed it. Gordon stated that after a great deal of work K.P. had succeeded in obtaining a 16% interest for themselves, and that they had done everything possible to get us into the business, but did not succeed.’

Another memorandum indicates, as we have already noted in connection with other group competition arrangements described in the earlier portions of this opinion, that the Kidder Peabody-White Weld ‘partnership’ to go after this particular piece of Armstrong Cork business, had, only a short time previously, ‘appeared certain’ of landing it.

When the issue came out there were only four participants, Edward B. Smith & Co. in first position had 40%, and Kuhn Loeb, Kidder Peabody and Lazard Freres, all in second position, with 20% apiece; and an Edward B. Smith & Co. memorandum of September 21, 1935, states that Lazard Freres, Kidder Peabody and Kuhn Loeb ‘were included in this business at the request of the company.’

Government counsel assert that Kuhn Loeb ‘recognized’ the claim of Edward B. Smith & Co. that it had ‘inherited’ the Armstrong Cork business from the Guaranty. But, piecing all the documents together, it seems much more reasonable to infer that at least Kuhn Loeb and Kidder Peabody, and possibly Lazard Freres and others, competed for the managership and, having failed to obtain it, Kuhn Loeb and Kidder Peabody *764 were satisfied to settle for participations. Indeed, they did quite well, with 20% apiece, as above stated.

Thus we see the sort of competition for managerships and participations which has been going on for years in the investment banking business. Each firm follows its own policies and its own techniques. The ‘show window’ policy of Kuhn Loeb, with all its carefully planned and intricate maneuvers, finds no counterpart in the policies of any of the other defendant firms.

But there is one further document relating to the 1935 issue which stands alone, without attendant circumstances or explanation of any kind. It is a private wire telegram from R. Cheston, Jr., a Philadelphia partner of Edward B. Smith & Co., to Cutler in the New York office, dated June 28, 1935, only a few days before the $9,000,000 issue of debentures came out. It reads:

‘Don’t forget we owe Brown Harriman real consideration when as and if we wholesale the Armstrong Cork debentures on account of their attitude that we inherited the business.’

Perhaps someone in the Philadelphia office of Edward B. Smith & Co. was trying to get some credit for relaying a garbled version of some conversation, direct or reported, with someone in Brown Harriman. But there is no basis in the record for any speculation on the subject. In any event, Brown Harriman did not become a participant in the forthcoming financing, and we are told nothing more about the matter.

The subsequent financing, however, shows that the competitive efforts of Kidder Peabody in connection with the 1935 issue were ultimately rewarded, as is so often the case.

Gordon of Kidder Peabody explains how Kidder Peabody became co-manager of the July 10, 1937, issue of $9,068,000 of common stock as follows:

‘In 1937 we again attempted to obtain the business. We submitted a proposition to the company that was superior to the proposition submitted by E. B. Smith & Company.

‘E. B. Smith & Company was successful in gaining their way back into the business and we became a joint manager.

‘Since that time whenever there was an issue in prospect we have done everything that we could to obtain the leadership of the business. We have submitted proposals and we have talked to the company industriously to advance our cause.’

This 1937 issue was brought out under the co-managership of Edward B. Smith & Co., Kidder Peabody and Mellon Securities. Edward B. Smith & Co. is having difficulty holding on to the business. Not only have both Kidder Peabody and Mellon Securities elbowed their way in, but there are now five underwriters, all in first position at 20% each, and Edward B. Smith & Co. has been forced to give up half of the 40% participation it held in the 1935 issue. How Mellon Securities succeeded in obtaining a co-managership does not appear; but one would suppose that, if a conspiracy were in operation, Kuhn Loeb, Lehman Brothers, Kidder Peabody, White Weld and Mellon Securities, which is also claimed as a co-conspirator by government counsel, should all have ‘deferred’ throughout to Edward B. Smith & Co. as the
A $16,596,000 issue of cumulative preferred stock came out on September 13, 1945 co-managed again by Smith Barney (Edward B. Smith & Co. in the meantime having merged with C. D. Barney & Co.), Kidder Peabody and Mellon. The efforts of Mellon Securities to improve its position and its disappointment at being unable to do so are related in a Mellon Securities inter-office memorandum, dated June 1, 1945, by Charles W. Kennard, who describes a conversation which took place on May 29, 1945, between himself and Warnock, one of the Armstrong Cork executives. It *765 is worth reading as it reflects a good deal of the sort of thing described in this opinion. It follows:

‘Mr. Warnock then said that upon his return to Lancaster the previous week after visiting with the two other co-managers and myself, he had delved into the history of the Company’s financing. He found that the individual who had had the longest personal association with the company was F. L. Moore of Kidder, Peabody & Co. He added that, furthermore, Moore had remained in closest contact with the Company over the years since the last financing and had been most helpful to them. In view of this, if there were any special perquisites attached to the financing, he thought it would be only fair if they went to Kidder, Peabody & Co. However, the longest association with an organization was with that of Smith, Barney & Co. with whom was the organization that handled the financing when done by the Guaranty Company. The record showed that the financing had been well handled by this organization. Taking into account all the circumstances Mr. Warnock said that he had made the following determination. The three firms, Mellon Securities Corporation, Smith, Barney & Co. and Kidder, Peabody & Co. would be true co-managers in every meaning of that word although in the previous financing this had not been the case. The three co-managers were to sit down together and select the members of the underwriting syndicate and each member would be entitled to invite one-third of these members into the account. On the general set up of the deal and on the preparation of the various papers, etc., each of the co-managers would have an equal voice. However, it was still necessary for one firm to act generally as clearing house and to run the books in the sense of handling the mechanics of the deal. He had decided that Smith, Barney & Co. should continue to do this and that the three firms should appear in the same order as in the previous financing. I thanked Mr. Warnock, but said that of course I could not help being a little disappointed. I had hoped that in view of the Pennsylvania nature of the deal, the

Company’s Pittsburgh relationship and the position of Mr. Prentis on the Board of the Union Trust, we would be selected to handle the books and act as clearing house. Mr. Warnock said that he understood how I felt, but that under his proposal nobody would lose face and there would be no hurt feelings. He thought that this was of substantial benefit to the Company. I told him that I would like to discuss his proposal with my associates and would get in touch with him in the near future.’

Bethlehem Steel

Government counsel have blown hot and cold on the series of post-Securities Act issues of Bethlehem Steel, but they came back to this issuer in the connecting statements. As usual, a phrase here or there seems to help plaintiff’s case, but the documents and deposition testimony taken as a whole show vigorous competition at variance with the rules of the supposed conspiracy. We shall see how the Kuhn Loeb ‘show window’ fits in.

During the pre-Securities Act period the Guaranty Company or the Guaranty Trust Company of New York had been identified with Bethlehem financing since 1917, and for the last four issues, 1926-1929, only the Guaranty Company is known to have been in privity of contract with the issuer. As ‘I suppose this was the biggest account we had,’ Swan testified that he got right after the business even before June 16, 1934, the Glass-Steagall Act deadline. After some conversations with the executives and on June 12, 1934, Swan organized a nucleus group to handle Bethlehem business, *766 consisting of Edward B. Smith & Co., Brown Harriman, First Boston and J. & W. Seligman, all of which firms then included persons who had been associated with Swan in handling Bethlehem business at the Guaranty. Government counsel claim that it was at this conference that Swan invented the ‘successorship’ term of the conspiracy; but I place no stock in that.

The group worked for some time shaping up the issue but ran into difficulty over the price. The figure they suggested was not acceptable to Eugene Grace, president of Bethlehem, who went to Elisha Walker of Kuhn Loeb. Then followed a variation of the usual Kuhn Loeb formula, and Grace solemnly assured Walker ‘that there was a complete cessation of conversations with Edward B. Smith & Co.,’ after which Kuhn Loeb made some changes in the set-up of the issue and was able to meet Grace’s price.

The flexibility of the Kuhn Loeb ‘show window’ policy is worthy of note. It can be manipulated ad infinitum, depending upon the exigencies of the particular occasion,
and fits in well with an assumed attitude of standoffishness. That the whole affair is competitive rather than the contrary is plain. Where the business is highly desirable and the opportunity to get it seemingly promising, as in the first stage of the negotiation with the representatives of the Commonwealth of Australia, the very minimum compliance with the ‘show window’ policy is suggested: ‘are they entirely free from commitments, expressed or implied, towards other bankers.’ As such commitments are seldom made, an affirmative answer would be easy to give. Where the business is not of high quality, as with Bulgaria, only a ‘definite agreement for a term of years’ will suffice. One is tempted to surmise that sometimes the executives of issuers may not regard some of these requests for assurances too seriously.

As far as I can make out, the relationship between Grace and the Edward B. Smith & Co. people remained satisfactory and even friendly; the only disagreement was on the subject of price. In any event, Grace seems to have had no objection to taking the Swan group into the syndicate, which came out under the co-management of Kuhn Loeb and Edward B. Smith & Co., with participations of 22.36 apiece, followed by Brown Harriman in second position with 18.18, First Boston in third position with 12.09, and J. & W. Seligman in fourth position with 7.45. The concluding negotiations were all done with Kuhn Loeb, however, and Swan felt that he had lost the business.

As is so often the case, however, the aftermath is interesting. A memorandum of Burnett Walker of Edward B. Smith & Co., dated May 22, 1935, notes an arrangement with Kuhn Loeb which contemplated co-management by the two firms, with agreement on certain details, and concludes ‘the present arrangement as to negotiations, syndication, appearance and inclusion of our associates is to be a precedent for future Bethlehem Steel business.’ The $55,000,000 issue which is the subject of the above discussion came out on July 2, 1935.

On August 17, 1936, or over a year later, according to another memorandum by Walker, after much fussing over using the Kuhn Loeb form and type in the advertising, it seemed as though the two firms were about to ‘get the Bethlehem Steel business set down into a mold.’ But they were both counting their chickens before they were hatched, as another Burnett Walker memorandum of August 27, 1936, just ten days later, noted an entirely new agreement by which the business was to be split three ways between Kuhn Loeb Edward B. Smith & Co. and Mellon Securities Corporation. The way Mellon Securities had worked its way in is explained in a memorandum by Denton of that firm, dated August 31, 1936. It reads:

‘Recently we learned that this Company proposed to issue the above bonds, and that the group would be headed by Kuhn Loeb and Edward B. Smith & Co., Jointly, as [767] was done in the issue of July, 1935. The matter was immediately taken up with Mr. Grace and Mr. McMath of the Company; and with their assistance, we were able to convince Kuhn Loeb and EBS that we should have a large place in the financing.’

But Mellon Securities was an alleged co-conspirator and had no right to be interfering with ‘satisfactory relations’ of ‘traditional bankers.’

On September 14, 1936, another $55,000,000 issue of Bethlehem came out with equal participations to Kuhn Loeb, Edward B. Smith and Mellon Securities, all in first position. Later issues in 1937, 1939, 1940 and 1945, were all comanaged by Kuhn Loeb, Edward B. Smith & Co., Smith Barney ‘Edward B. Smith & Co. having in this period merged with C. D. Barney & Co.’ and Mellon Securities. By the time the 1946 and 1949 issues came out Mellon Securities had merged with First Boston, but in some way the Mellon Securities comanagership was lost, and Kuhn Loeb and Smith Barney remained as sole comanagers, despite the fact that the position of Mellon Securities as ‘traditional banker’ should have gone to its ‘successor,’ First Boston.

R. H. Macy & Co.

Two memoranda in May 1935 show the ‘show window’ policy of Kuhn Loeb in full operation. The first of these is dated May 10, 1935, and is by Felix M. Warburg, a Kuhn Loeb partner, at whose home Macy’s Percy Straus had dined the evening before the memorandum was dictated. Straus had indicated that Macy’s ‘had given a declaration of independence as far as bankers are concerned.’ Warburg noted that he ‘was glad to learn of it’ and

‘that, while we were not in a position to go after business which belonged to somebody else, if in connection with their refinancing we could be of any service to them we would be glad to be called in.’ The last paragraph of the memorandum is the most significant:

‘I would not be surprised if he would approach us about this soon.’

Warburg’s surmise was correct. On May 13th John M. Schiff of Juhn Loeb had luncheon at Macy’s with Jack Straus, Paul Hollister and Beardsley Ruml, their Treasurer. Straus asked Schiff to step into his office and
asked if Warburg ‘had spoken to me about their finances.’ The reply was that Warburg had done so, ‘but, as Lehman Bros. had sold their last issue, we felt that they would probably like to continue that relationship.’ Straus replied ‘that they considered they had no bankers’ and that, as a matter of fact, he had four or five propositions on his desk at that moment from as many different bankers. Then followed the usual Kuhn Loeb talk about not entering into any competitive situation because there had already been ‘too much chiseling and stealing business in Wall Street and that we did not countenance such practices.’ The memorandum continues, ‘However, if they decided they wished to form a banking connection with us, we would be pleased to listen to him but the suggestion would have to come from them, as we did not wish to put ourselves in the position of soliciting business.’ There was also some further conversation about the desirability of ‘a continuing relationship.’

It seems not improbable that this type of approach, especially in 1935, would be more likely to result in business with Macy’s than a display of eagerness to enter into negotiations at once.

Crucible Steel

A Buttenwieser memorandum of May 22, 1936 reports a conversation with Wilson and Trost of Stein Bros. & Boyce, intermediaries, who were seeking to interest Kuhn Loeb in some financing of Crucible Steel, and states that Wilson was well acquainted with Wilkinson, Chairman of Crucible Steel. Buttenwieser consulted the manuals, noticed that Chase Harris Forbes and Mellon *768 National Bank had offered an issue of bonds which was to be refunded through the financing mentioned by Wilson and Trost, and he informed these intermediaries that he doubted that Kuhn Loeb would be interested if First Boston, as ‘successor’ to Chase Harris Forbes, and Mellon Securities Company, as ‘representative of the Mellon interests,’ considered this their business. The matter was later discussed over the telephone with Addinsell of First Boston, who advised that ‘They had had conferences with officials of the Crucible Company through certain officers of the Chase National Bank, with whom the Crucible carries an active account, all with a view to discussing the financing in question, and that they considered themselves in close contact with this business.’ Accordingly, Wilson and Trost were informed that Kuhn Loeb would not consider the matter further. It is possible that, as suggested by counsel for Kuhn Loeb, the commanding position of Kuhn Loeb in the management of financings of many leading steel companies in large amounts, made it the better part of wisdom not to take the risk of a rebuff.

General Cable

There are two phases of the General Cable situation, reflected in documents introduced against Kuhn Loeb, one in 1940 and another in 1946. The 1946 incident is especially significant as it indicates what had happened to the Kuhn Loeb ‘show window’ policy in the interval between 1933 and 1946, despite the testimony of John M. Schiff, above referred to, to the effect that the firm policy at the time of his deposition just before the trial started was the same as it was in 1933, when Otto H. Kahn gave his testimony before the Subcommittee of the Senate Committee on Banking and Currency.

The first is a memorandum dated April 25, 1940, by Strauss of Kuhn Loeb. Smith Barney had prepared a plan for General, Cable, apparently upon a fee basis, although it is not clear whether the fee was to be absolute or contingent, and this had been done without consulting Kuhn Loeb. The memorandum indicates a protest by Kuhn Loeb based upon the fact that in 1936 there had been, according to the Kuhn Loeb claim, a joint arrangement between the two firms that they should go after the business of General Cable together. There was evidently some misunderstanding about the making of this original arrangement.

The portion of the memorandum stressed against Kuhn Loeb is the part at the end, where Kuhn Loeb in effect states that, if the situation had been reversed and they had been asked to work out a plan, ‘we should have considered ourselves obligated to discuss it with Smith Barney & Co.’ When originally offered it was contended by counsel for the government that this indicated a state of mind on the part of Kuhn Loeb to the effect that if the situation had been reversed Kuhn Loeb would not have competed without getting some sort of ‘permission’ from another co-conspirator. Strangely enough, the same document is referred to in the connecting statements as evidencing a ‘talking’ between the co-conspirators Smith Barney and Kuhb Loeb, ‘about the obligations which one banker owes to another under the code and nothing else.’

It had nothing to do with any ‘code’, but expressed views quite natural to a ‘partner,’ who had entered into an arrangement to go after a particular piece of business, when he learned that the other ‘partner’ had sought to get the business for himself.

But when we come to glance at the background, it will be found that the transaction reflected in the document is inconsistent with plaintiff’s theory of deferring to a ‘traditional banker.’ For the ‘traditional banker’ quite plainly was Dillon Read. There had been four issues in
the period from November, 1927, through February, 1928, all of which were handled by Dillon Read and Kissell Kinnicutt. If Kuhn Loeb and Smith Barney, or in 1936 Edward B. Smith & Co., formed a group to go after *769 the business of General Cable, this would seem clearly to have been in derogation of the ‘traditional banker rights’ of Dillon Read, nor does there seem to have been any lack of ‘satisfactory relations’ between General Cable and Dillon Read, as, six months after the date of the memorandum under discussion, the company made a private placement through Dillon Read as agent.

The 1946 situation is also, as we shall see, not only totally at variance with plaintiff’s theory of the ‘rights’ of ‘traditional bankers,’ but it shows Kuhn Loeb getting right down into the arena and fighting in the open for a piece of business, even though there was a prospect of not getting it and, as the event proved, Kuhn Loeb did not get it.

Whatever dispute had existed earlier between Kuhn Loeb and Edward B. Smith & Co. had not lasted long, as we now find Kuhn Loeb and Smith Barney working together, and trying to get leadership of a General Cable issue which came out under the management of Blyth on June 11, 1946. The memorandum dated January 29, 1946, is a Lengthy one by Buttenwieser of Kuhn Loeb. Blyth, who should have been deferring to Dillon Read as the ‘traditional Banker,’ had been working on a plan for submission to General Cable and had been careless enough to give an outline of the plan to the Wall Street Journal, which published it on January 10, 1946. Using their personal relations with Roger Straus, president of American Smelting and Refining Company, the parent company of General Cable, there were conversations supposed to lead up to the preparation of a competing Kuhn Loeb-Smith Barney plan, which it was hoped might be more acceptable to the company than the Blyth plan.

Evidently Strauss of Kuhn Loeb called up Blyth to get information, as is so often the purpose of these telephone calls, and Mitchell of Blyth, at once perceiving that Blyth was faced with some competition, which might get the business away from them, went immediately over to the Kuhn Loeb office where he had a talk with Strauss. Buttenwieser’s memorandum states:

‘As I understand it, Mitchell’s visit was prompted by LLS telephoning him to discuss the matter in order to learn just how far advanced Blyths were in the picture.’

Mitchell’s purpose in calling upon Strauss was the purely competitive one of trying to make it clear to Strauss that Kuhn Loeb and Smith Barney had no chance to get the business and had better quit, because

‘he felt that Blyth had the matter quite well in hand, that they had expended much thought and work on formulating the plan which they had presented to the Company, and, as he put it, that they felt that any effort on our part to formulate a plan would only ‘muddy the waters.”

The expression ‘muddy the waters’ is the part of the memorandum relied upon by counsel for the government.

But the reaction of Strauss was quite different from his earlier reaction when a similar dispute arose between him and Swan over Armstrong Cork. Then the ‘show window’ policy was in full force and effect and Strauss followed a cautious course. In 1946, however, he fought the matter out to the bitter end. He thought he had made it ‘crystal clear to Mr. Mitchell’ that the position of Kuhn Loeb and Smith Barney was a strong one, because they had either alone or with Smith Barney ‘sponsored many offerings of securities for the Smelting Company’ and ‘there was every propriety in our interesting ourselves in the financing of a company in which the Smelting Company had so large an interest as it has in General Cable.’

As a matter of fact, this argument had little weight. Although Kuhn Loeb had brought out an American Smelting issue in 1922, another in 1923 with Guaranty and Bankers, and a third in 1930 with Bankers, Guaranty and Chase, the 1932 issue was brought out through Hallgarten, Halsey Stuart and, Edward B. Smith & Co. There were also other intervening issues, and the fact was that Kuhn Loeb had not managed any American Smelting securities for ten years, and four such issues had intervened.

The upshot of the conversation with Mitchell on January 10, 1946, was that things had evidently not been made ‘crystal clear’ to Mitchell, who proceeded to go ahead with the Blyth negotiations. And the same memorandum discloses that Kuhn Loeb also proceeded, with undiminished vigor, to try to sell its plan to General Cable. The matter was taken up with John Loeb of Carl M. Loeb, Rhoades & Co. and it turned out that this firm was actively working on the situation with Mitchell, and they joined in the chorus about ‘putting in.’ But Strauss went ahead, nevertheless, talked the matter over again with Roger Straus, showed Straus the Kuhn Loeb-Smith Barney plan and was told by him ‘not to discuss the matter with any other firm.’ This led to an embarrassing situation at a luncheon engagement, which had previously been made with John Loeb, at which Strauss tried to avoid discussing the Kuhn Loeb-Smith Barney plan. He
finally gave some of the details, but not enough to indicate the full scope of the proposed plan. In any event, on the date of the memorandum, January 29, 1946, Straus informed Strauss that ‘he and his associates had come to the conclusion that they preferred the Blyth plan.’ Even this did not cause Strauss to desist, as the memorandum indicates that he pursued the matter further.

This is supposed to help plaintiff’s case because counsel for the government infer that there must have been a ‘satisfactory relationship’ with Blyth or Blyth would not have been so far advanced in the negotiations; and that this in turn would indicate that the preexisting ‘satisfactory relationship’ with Dillon Read had deteriorated. But this is all speculation, in the absence of proof. The significant fact is that Blyth was competing, and not deferring to Dillon Read, the ‘traditional banker’; and both Kuhn Loeb and Smith Barney, far from deferring to either Dillon Read or Blyth, continued competing for the business to the end. The talk about ‘muddying the water’ was no more than a competitive effort by Mitchell to get Kuhn Loeb and Smith Barney out of the picture.

I find that Kuhn Loeb at no time ‘adhered’ to any ‘practice’ of ‘traditional banker,’ nor was Kuhn Loeb at any time a party to any conspiracy or agreement on ‘successorships,’ nor to any ‘code’ having such or any similar provision.

3. Smith Barney (Edward B. Smith & Co.)

Many issuer situations have already been discussed, including Armstrong Cork, Bethlehem Steel, the alleged ‘caretaker’ situations, General Cable, and Sears Roebuck, all of which concern Edward B. Smith & Co., and the competitive pattern of Swan and his associates has definitely emerged.

What Is Now Taking Shape Is Not a Static ‘Mosaic’ of Conspiracy but a Constantly Changing Panorama of Competition Among the Seventeen Defendant Firms

The ‘mosaic’ is definitely taking on form and substance; but its character is far different from what was predicted with such confidence by government counsel in their Trial Brief on the Facts and in their openings. In fact it is not a ‘mosaic’ at all, but rather a panorama of competitive effort, in which each defendant firm plays its several part; but the policies are constantly shifting and changing as the years go by, and the impact of political events and social changes is felt. That is why it seems so futile to be threshing over the old straw *771 of 1934-1936, or almost twenty years ago. Probably the Otto H. Kahn ‘show window’ policy is now as defunct as the dinosaurs; certainly Smith Barney has long since ceased to study over the available material concerning issuers served by the Guaranty. But we proceed.

We find Swan, in 1934, in charge at Edward B. Smith & Co.; with the large accession of officers and employees from the Guaranty, the staff of the firm had about doubled; and hustling about for business was the order of the day. That Swan’s competitive policy was aggressive appears conclusively from the very numerous status book entries in evidence; and it is equally clear that the bulk of the competitive effort, but by no means all of it, was immediately expended upon the business of issuers whose financings had been handled at the Guaranty, by the very men who had just joined Edward B. Smith & Co. That Swan should make every effort to establish the firm as the ‘successor’ to this business, previously done at the Guaranty, seems explainable on the face of the matter. It is significant that the ‘claims’ to this Guaranty business were vigorously opposed by other defendant firms, as we have seen and shall see again. There was no conspiratorial plan about it, nor any ‘invention’ by Swan of a ‘term’ of any conspiracy about ‘successorships.’ that he also entertained ideas about the desirability of continuing relationships with issuers is simply part of the man’s personal point of view. He tells us again and again that he did not believe in wasting his time and the resources of the firm going after business which would almost certainly elude his grasp; but he also felt that continuing relationships with issuers were good for the issuers, as well as for investment bankers and the public in general. This was no conspiratorial camouflage.

In order to get the discovery proceedings started in a proper way, and as part of the administration of the whole complicated and unwieldy mass which made up the case as a whole, I personally presided over the taking of his deposition; and it is only fair to record the fact that the made a very favorable impression upon me. One of the phases of his testimony which helped me to form this impression, was his statement that the position his firm had in a particular financing was not so important to him as the money they made out of the transaction. In other words, he was in business for profit and not for prestige.

That there was no ‘deferring’ to ‘traditional bankers’ by Edward B. Smith & Co., and later by Smith Barney, under the guidance of Swan, will sufficiently appear from the discussion of particular issuer situations, when the documents concerning them are all read together. No further reference will be made here to those already commented on or mentioned later on in this opinion. Each of the documents referred to by government counsel, in
the connecting statement against Smith Barney, will now be discussed.

Wilson & Co.

Chronologically, this is the first general issuer situation relied upon by government counsel against Smith Barney. The background shows an issue of $2,500,000 6% Notes in 1927 and a $3,000,000 issue of First Mortgage 6s in 1921, brought out by Guaranty, Hallgarten, Blair, Chase Securities and certain Chicago banks, the latter having minor positions. The outcome of the competition which we are about to consider was a $20,000,000 issue of 4% First Mortgage Bonds, which came out on July 30, 1935, under the joint managership of Field Glore and Edward B. Smith & Co. This was the result of a general scramble for the managership. According to a letter from James D. Cooney, a company adviser to Thomas E. Wilson, president of the company, dated May 23, 1935, the firms competing for the business included Kuhn Loeb, Edward B. Smith & Co., Speyer & Co., Field Glore Lazard, Hallgarten, Hornblower & Weeks, White Weld and Lee Higginson.

*772 Government counsel, endeavoring to support its ‘traditional banker’ and ‘successorships’ claims, rely upon a statement in a memorandum by Addinsell of First Boston dated May 16, 1935, stating that he had given a favorable response to Swan the day before, when asked by Swan whether he would join Edward B. Smith & Co. ‘in reconstituting the old group,’ whereas the memorandum indicated that some time previously, in response to an inquiry from Miles Warner of Byllesby, First Boston had told Warner that ‘we would not want to be drawn into competition for the business.’

There appears to have been no good reason why Addinsell should think that Byllesby would have been in a position successfully to compete for the business. On the other hand, Swan and his associates in Edward B. Smith & Co. were close to Wilson & Company because of their prior association with the Guaranty, and it must have seemed probable to Addinsell that the reconstitution of the old group would work out well, as it subsequently did.

Swan testified:

‘* * * Wilson & Company at some time, and I am not clear in my mind at what time, went through a reorganization. In connection with that reorganization I became very close to Wilson & Company. I was either a member of the reorganization committee or a member of one of the protective committees, or I was connected with it in an official capacity. I became very close to Wilson & Company. When various members of the Guaranty Company joined Edward B. Smith & Company, one of the first efforts I made was to try to get Wilson & Company’s business, and we did. We realized that it was a highly competitive situation, that there would be many other people trying to get this business, just as we were, and we went after it in the strongest way we possibly could. I was a great friend of, I think, of Mr. Thomas Wilson’s, and I made all the effort I could to get this business * * *’

Swan also testified:

‘We used, in trying to get business, we used every resource we could. When we left the Guaranty Co. and went into Edward B. Smith & Company, we went out into a cold world. We had taken on great responsibilities, and we made a great campaign all over this United States to get our names before people who would know who we were and what we were trying to do, and what our capital was, and who firm was composed of, and we went after every piece of business that we could, and we used such approaches as we could use. Amongst other approaches that we used, naturally we used as an approach to Wilson & Co., we used not only my acquaintance with Mr. Wilson, but we used our friends in the Guaranty Trust Company to see if they would not tell Wilson & Company that we were, in this new connection, competent to do this business.’

The Edward B. Smith & Co. status book entries indicate vigorous efforts beginning as early as September 11, 1934, by the Edward B. Smith & Co. people to get the business; and these entries indicate the way in which the old group was reconstituted.

Swan testified further:

‘Yes, I do know what is meant by the old group. The old group was the group that handled Wilson & Company business with Guaranty Company: Chase Securities Company, Blair & Company, Hallgarten & Company. The Guaranty Company had gone out of business and certain individuals had gone into Edward B. Smith & Company and they wanted to try and get this Wilson business. They thought that if they got together with the same individuals, the same personalities, that had been in the previous business they would stand a better chance of getting this business. Now, Addinsell was in The First Boston Corporation, I think, by this time, but Chase Securities Company had ceased to exist. But he was known, well known and liked by the Wilson people. I think I may say I was well known and liked by the Wilson
people. The Hallgarten people were well known and liked by the Wilson people. So that we tried to get together a group of people that would be persona grata to Wilson & Company and that Wilson & Company would decide should be the people who would handle this business, and we added to that group Glore, Forgan & Company because, from our point of view, from a competitive point of view, we wanted to have a Chicago house in the group with us, and we thought they would add strength to our efforts to get this business.'

M. L. Freeman again appears, this time advising White Weld; and White Weld evidently made some progress, as its name is included in the list submitted by Cooney to Wilson, as above indicated.

In the end, the decision was made by the executives of the issuer. The same letter from Cooney to Wilson above referred to states that Buethe, one of the executives, and Freeman (Halstead G. Freeman, a banker advising the company, who later, and on July 6, 1935, became a partner of Field Glore) ‘definitely recommend that the two houses should be picked out of the last above named three firms, namely, E. B. Smith & Co., Speyer & Co. and Field Glore & Co.’ Wilson’s cable in reply reads:

‘Cooney: Letter 23rd— would use two houses number four and selection between two, three, one— according present attitude favorable trade— because of present borrowings am leaning toward all bonds Sailing Thursday Both fine—’

This meant that Wilson was selecting Field Glore as his number one choice, and the company officials evidently agreed that the other co-manager should be Edward B. Smith & Co. One of the status book entries notes that Buethe called Swan on June 6, 1935 advising of the decision ‘to put the matter in our hands jointly with Field Glore.’

Thus, there appears to have been competition for leadership of the issue by a number of the defendant firms, in derogation of the alleged ‘traditional banker’ and ‘successorships’ terms of the conspiracy; and the outcome in no sense reflects any ‘recognition’ of the ‘successorship’ of Edward B. Smith & Co. by First Boston, Field Glore, or anyone else.

That the competition for underwriting positions was equally keen appears from a memorandum by J. J. Buckley of Edward B. Smith & Co., dated September 9, 1935, which tells the whole story, from the time of a preliminary meeting in the Chicago office of Field Glore on June 10, 1935, down to the time the issue came out.

Company officials and advisers joined in the discussions; Buethe ‘specifically excluded White Weld by name,’ for reasons which we must assume were satisfactory to him, and which went to the merits; and the final list showed Edward B. Smith & Co. and Field Glore, the co-managers, in first position, with $4,500,000 each; Kuhn Loeb in a ‘non-appearing’ position, with $2,000,000; Speyer, First Boston and Hallgarten in second position, with $1,800,000 apiece; followed by Goldman Sachs, Bancamerica-Blair, Lazard, Hornblower & Weeks and Lee Higginson, all in third position, with $720,000 each.

Rochester Gas & Electric

A series of documents introduced by government counsel are claimed to have some significance in connection with the ‘traditional banker’ and ‘successorship’ charges, against Smith Barney, First Boston, White Weld and Harris Hall. In my opinion, the whole Rochester Gas & Electric Situation has received much more attention in the case than it deserves. *774 While the documents, in the aggregate, do not give us as clear a view of the negotiations from beginning to end as we find in many of the others, which have already been discussed, there is sufficient to indicate that there was no ‘adherence’ to any ‘practice’ of ‘traditional banker,’ nor to any ‘term’ of an agreement relative to ‘successorships.’

In the pre-Securities Act period, the last financing for the company had been an issue of bonds offered on August 18, 1932, with Chase Harris Forbes and Guaranty as the only underwriters in privity of contract with the issuer. Accordingly, as the leading personnel of these two firms had gone over to First Boston and Edward B. Smith & Co. after the effective date of the Glass-Steagall Act, the Edward B. Smith & Co. status book entries show First Boston and Edward B. Smith & Co. joining together as early as October 3, 1934, to go after any business of Rochester Gas & Electric which might eventuate. Looking ahead, we find that the negotiations, which are about to be related, were ineffectual, as the next issue of the company was $4,000,000 of 4% General Mortgage Bonds issued in December 1935, without using the services of any investment banker. Later on, there were two simultaneous issues of preferred stock brought out on September 29, 1936, under the leadership of First Boston; one of these First Boston underwrote alone, and in the other Edward B. Smith & Co. had an equal participation but was not a co-manager.

The first development in 1934, which is stressed by government counsel, was a call on First Boston by Miller of White Weld in which he stated that he had discussed the possibility of refunding an issue of 5 1/2s with an
issue of $4,000,000 4% Bonds. He added, and this is the part especially relied on:

‘He was advised (by the president of Rochester Gas & Electric) that the Company had no obligation to do business with any of the banking firms which handled the Company’s financing in the past and that the possibility of refunding the 5 1/2s was very interesting.’

None of the documents disclose the reason for Miller’s communicating with First Boston; nor does it appear that the statement, which had evidently been made by the president of Rochester Gas & Electric to Miller, was in response to any request for such an ‘assurance’ by Miller. The White Weld background makes it seem improbable that the statement was other than volunteered by the president of the company.

The reaction of government counsel to this initial competitive effort by White Weld is interesting. By the terms of the alleged conspiracy White Weld should not have been competing, but should rather have deferred to First Boston and Edward B. Smith & Co. as the ‘successors’ to the ‘traditional bankers.’ I inquired as to whether or not the statement by the president of Rochester Gas & Electric indicated that the ‘satisfactory relation’ between the company and its bankers had ceased to exist, as the question of whether or not later developments would fit into the alleged conspiratorial pattern, depended somewhat upon the existence or non-existence of a ‘satisfactory relation.’ The answer by government counsel, however, was ‘yes and no,’ and he added ‘There is some doubt * * * as to whether White Weld’s information was correct or not.’

The conversation at First Boston occurred on November 30, 1934.

As often happens when an investment banker sees a chance that a competitor will get business that he is after, we find an immediate reaction on the part of First Boston and Edward B. Smith & Co. Their most likely contact with the company was through a director, Raymond N. Ball, president of Lincoln-Alliance Bank and Trust Co. of Rochester, to whom letters were sent urging the ‘claims’ of First Boston and Edward B. Smith & Co. on the grounds that ‘it was * * * felt that the directors of the Corporation would recognize a *775 moral obligation to continue the mutually satisfactory relationship which has been enjoyed over such a long period of years’; and there are further statements to the effect that First Boston was ‘the successor to the business of Harris, Forbes & Company’ and that Edward B. Smith & Co. ‘as a practical matter has succeeded to the business of the Guaranty Company of New York.’ I interpret this as no more than a legitimate attempt on the part of First Boston and Edward B. Smith & Co. to go after business which they had agreed to seek together, and to advance such arguments as they could, based upon their prior relationship with the business. That the ‘claim’ is addressed to the issuer is perhaps of some significance; and the fact that, according to another memorandum, First Boston and Edward B. Smith & Co. planned to inform White Weld that they considered Rochester Gas & Electric to be their business and were writing to Ball about it, seems no more than a competitive maneuver to get rid of White Weld, if they could.

Before a reply was received from Ball, and sometime between December 3rd and about December 11th, there was a conversation between Addinsell of First Boston and Cliff Miller of White Weld. The subject of the discussion had to do with what participation would be given to White Weld if First Boston and Edward B. Smith & Co. got the business. No conclusion was arrived at, but the tenor of a memorandum by Webb Wilson of Edward B. Smith & Co. is that ‘Addinsell and Walker decided that they would rather lose this business than open the doors for White Weld just because they had talked to the President who said his Company had no commitment to bankers.’

This leads up to the concluding portion of the same Webb Wilson memorandum, which is strongly relied upon by government counsel. It follows:

‘Shortly after Addinsell had talked with Cliff Miller, Addinsell discussed the matter with Ben Clark and Faris Russell of White Weld, who apparently had not previously understood the historical basis for First Boston and ourselves feeling that Rochester Gas & Electric financing should be our business. When that historical basis was explained to them, Clark and Russell agreed with Addinsell that White Weld obviously had no basis for feeling that they were entitled to be invited into the account.’

If this refers to giving White Weld a participation, which in my view is the only interpretation consistent with the attendant circumstances and the balance of the memorandum, the document is without significance, as this interpretation will not support an inference that White Weld agreed to or thereafter did cease to compete for the managership. This was also the view of government counsel when the matter was first discussed in the connecting statements. Later on, however, a different view was taken, and counsel stated ‘we at least lean to the view that this language probably concerns managership.’ With this I disagree.
There is no evidence as to what White Weld did or did not do thereafter.

While all this was going on, one of the Edward B. Smith & Co. status book entries under date of August 22, 1935, states: ‘Blyth & Co. competing and Paterson has been to Rochester.’

The final phase of the Rochester Gas & Electric situation is a Harris Hall letter addressed to Woods of First Boston on September 24, 1936, just before the 1936 issues came out, calling attention to ‘our joint interests in Rochester Gas and Electric Company business which goes back into the grass roots of both the utility company and the Harris Organization.’ While the letter speaks of seeking the aid of First Boston by trying to make sure that First Boston ‘felt that our interests had been protected,’ the letter does no more than advance a ‘claim’ based on former association with the business. No participation was forthcoming, perhaps because of delay in sending the letter; but in the 1937 *776 issue, co-managed by First Boston and Edward B. Smith & Co., Harris Hall is in second position with 13.33% participation with Goldman Sachs and Langley.

The net result of all the above is rather against than for plaintiff, as several defendant firms are competing for business which supposedly belonged to other defendant firms as ‘traditional bankers,’ on the basis of ‘successorship’; but the proof is so sketchy as to amount to comparatively little one way or another. I refer to it only because it has been emphasized again and again by government counsel in the connecting statements.

A. E. Staley Manufacturing Co.

Three documents received against Smith Barney, and relating to the above issuer, are referred to in the connecting statement as some evidence of ‘adherence’ by Smith Barney to the ‘practice’ of ‘traditional banker’ and ‘successorships’; and a few additional documents on ‘successorships’ merely disclose Swan and those working with him, advancing every argument they can to capitalize on the former connection of Swan and his associates with issuers whose financings had been handled by the Guaranty.

In the pre-Security Act period Blair and Stifel Nicolaus had brought out a $6,000,000 issue of 6% First Mortgage Bonds in connection with which the company had signed an agreement, giving these two non-defendant firms ‘preferential rights’ on future financing. The references in the status book entries such as, ‘Staley advises he had cleared that they are under no obligation to Stifel Nicolaus (sic) & Co.,’ and ‘he had advised old bankers that he was dealing elsewhere, but there was no evidence that old bankers were content with such an arrangement,’ and more to the same effect, have no reference to any suggestion emanating from Edward B. Smith & Co. or from First Boston, but reflect Staley’s efforts, entirely on his own initiative, to extricate himself from a difficult situation; he having decided, again without receiving any suggestion from anyone else, that he did not want to do business with his former bankers.

Accordingly the scene opens with Staley, through some contact at the Guaranty Trust Company of New York, meeting and conferring with Swan on May 13, 1936. He had a conference at the office of Edward B. Smith & Co. on the following day and talked with Swan, Cutler and Buckley, all of Edward B. Smith & Co., whom he informed that he had discussed the matter of financing with First Boston. Neither Edward B. Smith & Co. nor First Boston was willing to expend the necessary time and money connected with a study of the affairs of the company and the formulation of a plan, on the basis of competing with one another. The amount involved was relatively small. There was the difficulty of the ‘preferential rights’ contract with Blair and Stifel Nicolaus and, as a purely business proposition, the decision, that Edward B. Smith & Co. and First Boston should work jointly on the matter, seems sensible, especially as the suggestion that they do so may have come from Staley.

In any event, the balance of the status book entries indicate prolonged negotiation and considerable work on the formulation of the plan and the preparation of the registration statement. Since this was the first post-Securities Act issue for this company, the work involved was necessarily much greater than it would have been had there been a previous issue registered under the Securities Act. After considerable hesitation and dickering, Blair and Stifel Nicolaus finally signed an agreement cancelling the ‘preferential rights’ contract, and the issue came out on February 14, 1936 under the sole management of Edward B. Smith & Co. There were only four underwriters: Edward B. Smith & Co. in first position with $1,500,000; First Boston in second position with $1,100,000; and Bancamerica-Blair and Stifel Nicolaus with $700,000 apiece.

In 1940 there was a $1,700,000 private placement without the services of any investment banker; in 1941 Smith Barney *777 alone handled two simultaneous registered secondary issues of common and preferred stock; and there were two simultaneous offerings of preferred stock in 1946 brought out by First Boston and Smith Barney as
co-managers.

In connection with this last issue, there is testimony by Gordon of Kidder Peabody that Kidder Peabody had solicited this business, and that in May 1945, Kidder Peabody submitted a competing plan for what turned out to be the 1946 issue, despite the fact that he knew that prior financing had been done by Edward B. Smith & Co. and First Boston.

Aluminum, Koppers, Jones & Laughlin, Lone Star Gas, Gulf Oil

A memorandum of September 19, 1935 by Weisheit of Edward B. Smith & Co. reads:

‘Mr. C. S. Cheston has asked that we do not pursue directly any Mellon business such as Aluminum, Koppers, Jones & Laughlin, Lone Star Gas, Gulf Oil, etc. as the Mellon Securities Company is planning to handle these accounts themselves and our contact work in such cases should be only with Mellon Securities Company through Mr. Cheston.’

Evidently government counsel thought Cheston was connected with Mellon Securities, but the fact that he turned out to be a Philadelphia partner of Edward B. Smith & Co. and had no connection with Mellon Securities, did not deter government counsel from emphasizing this document in the connecting statement relative to Smith Barney, where the exhibit is cited as an example of refusal to compete ‘without clearance from any “traditional banker.”’

There could not be any ‘traditional banker’ situation involved, as Mellon Securities was organized on February 11, 1931, and had no alleged ‘predecessor.’ It had never managed any financings for any of the companies referred to in the memorandum, and no theory is suggested which could make Mellon Securities the ‘traditional banker’ of any of them.

From the static data Edward B. Smith & Co., as ‘successor’ to the Guaranty, should have been the ‘traditional banker’ for the Aluminum Company of America, Jones & Laughlin Steel Corporation and Lone Star Gas Corporation, and Blyth or Brown Harriman and not Mellon Securities should have been ‘traditional banker’ for Gulf Oil.

The explanation very simply is that, against prospective competition from Mellon Securities, it was thought as a matter of business judgment that Edward B. Smith & Co. should attempt through the efforts of Cheston to get a participation rather than to seek the management of financing by these companies. The document has nothing to do with getting clearance from any ‘traditional banker.’

Southern Pacific

A series of four status book entries beginning July 17, 1935 and ending June 10, 1936, relating to Southern Pacific require no more than passing reference. Kuhn Loeb had been the only investment banker listed as in privity of contract with this issuer for five successive issues in the pre-Securities Act period.

Swan attended an executive committee meeting of the New York Botanical Association on July 17, 1935, where he met Henry De Forest. After the meeting ‘they discussed business to some extent and the matter of Southern Pacific financing came up.’ The entry of this date continues: ‘** ** Mr. De Forest said that the road was not considering any financing now, and went on to say that owing to the changes in the personnel of their old banking firm (KL & Co) he did not consider the railroad had any banking connection at present. This brings up a very interesting situation and one which should be followed carefully.’

On the government’s original ‘traditional banker’ theory Swan should have deferred to Kuhn Loeb and kept away *778 from the business; on the revised theory of ‘satisfactory relations,’ it might be claimed that there was some basis for considering that there was no longer any ‘satisfactory relation’ between Kuhn Loeb and Southern Pacific, in which event Swan would not be required by the terms of the alleged conspiracy to defer. Whether the situation be looked at from one angle or another, other documents in the case show that Edward B. Smith & Co. followed the Southern Pacific situation with great care, until a news item in the New York Times on June 4, 1936 announced that ‘a banking group, understood to be headed by Kuhn, Loeb & Co.’ was expected to handle a forthcoming issue of $50,000,000 to $60,000,000 notes of Southern Pacific.

Then comes the entry especially relied on, under the same date, June 4, 1936:

‘Spoke to JWC about rumored financing and he said in view of company’s past relations with K.L. & Co. he did not think we could properly approach the company in spite of Mr. DeForest’s statement above.’

Six days later, on June 10, 1936, a $60,000,000 issue of Southern Pacific bonds came out under the management of Kuhn Loeb, and Edward B. Smith & Co. did not even participate in the offering.
Standard Oil of New Jersey

A letter from Land of Edward B. Smith & Co., dated November 6, 1936, to Gallegher of Standard Oil of New Jersey, has no background to support it and seems to be merely an angling for some natural gas secondaries. The sentence relied on is ‘I should like to add, however, that we do not wish to be construed as soliciting any business in which Morgan Stanley & Co. would be interested.’ Perhaps Land hoped that the letter might find its way to Morgan Stanley and help Edward B. Smith & Co. to improve its position in some of the participations in issues brought out by Morgan Stanley. There is no reason to doubt that Land was interested in the secondaries; and the document would seem to lend little support to the ‘traditional banker’ charge.

The contrast to the proof adduced against Kuhn Loeb is striking. As we proceed, we shall find that there is little or nothing of significance against the other defendants on the ‘traditional banker’ issue.

I find that Smith Barney (Edward B. Smith & Co.) at no time ‘adhered’ to any ‘practice’ of ‘traditional banker,’ nor was Smith Barney (Edward B. Smith & Co.) a party to any conspiracy or agreement on ‘successorships,’ nor to any ‘code’ having such or any similar provisions.

4. Lehman Brothers

From what we have already observed of the energetic competitive practices of Lehman Brothers in connection with the discussion of several issuer situations under directorships, the paucity of evidence against that firm on the ‘traditional banker’ and ‘successorships’ phase of the case need cause no surprise.

The few documents referred to in the connecting statement by government counsel will be commented on in the order there presented.

Crown Zellerbach

In the pre-Securities Act period Blyth had offered the five most recent public offerings of securities of Crown Willamette Paper Company, Zellerbach Corporation and Crown Zellerbach Corporation, all part of the same organization located on the West coast.

Lehman Brothers heard there was some financing under consideration, and decided to go after it, despite the fact that Blyth was the ‘traditional banker’ and Charles R. Blyth was a director. Accordingly, M. F. Hellman, a Lehman Brothers employee, made the trip to San Francisco and obtained an introduction to J. D. Zellerbach, having been informed by Lipman, president of the Wells Fargo Bank, who was advising Hellman, to ‘go over and speak to Mr. Zellerbach, laying my cards on the table, and ask for his advice.’

The report of this conversation, made by Hellman on July 22, 1935, affords government counsel a few short quotations on the subject of the submission of competing bids, but the net result is a fine piece of shrewd negotiation by both Hellman and Zellerbach, reminiscent of others previously discussed in this opinion. Zellerbach, on the one hand, very plainly stated that he and Mills, a member of the Finance Committee, ‘were the closest friends to Charles Blyth’ but that ‘if we made the best proposition the Finance Committee would accept our proposition with the proviso that we agreed to take Blyth & Co. and some other firms into the deal.’ It was plain that there was no lack of ‘satisfactory relations’ between Crown Zellerbach and Blyth.

The conversation covered quite a range of subjects, each negotiator sounding the other out. If Lehman Brothers made the lowest bid it would get the business; ‘Blyth could raise as much hell as he wanted and it would not do him any good’; Lehman Brothers had better not approach Blyth to make a joint proposition for, if Lehman Brothers felt it had to do that, ‘we might as well forget the whole thing.’ If Lehman Brothers did not make the best proposition, there was no assurance that it would even be taken into the deal, as Zellerbach could not ‘take care of all the banking houses who offered him some kind of a proposition which was not acceptable.’

The upshot was that Hellman recommended that Lehman Brothers make a proposition. Two elaborate alternative plans were prepared and later submitted to Zellerbach by Hellman; and in connection with these the usual caution was observed as to exact prices, so that their plans might not be taken over by someone else, at what seemed a lower price, but which amounted to ‘the same basis as our original price.’

After all this trouble Zellerbach was non-committal; and there was no Crown Zellerbach financing for another ten years.

Thus we find Lehman Brothers, in flat defiance of the alleged ‘practice’ of ‘traditional banker,’ not only making the initial competitive approach, but persisting in the formulation and submission of elaborate plans, after being assured that the relations with Blyth were intimate and friendly.

Giannini Interests
The claims advanced by government counsel based upon a letter of July 3, 1943, from Hammerslough of Lehman Brothers to Francis Callary of Consolidated Vultee Aircraft Corp. in California, are wholly unsupported by evidence and require no comment. There had evidently been some misunderstanding between Lehman Brothers and Eastman Dillon, the nature of which is not clear. In the absence of evidence of attendant circumstances, it is not possible to understand what the letter is about.

The So-Called ‘Treaties’ Between Lehman Brothers and Goldman Sachs

As background to the discussion of the claims of government counsel relative to a letter from Robert Lehman of Lehman Brothers to Thomas H. McNerney of National Dairy Products Corporation, dated February 18, 1936, it seems necessary briefly to comment on the dispute between Lehman Brothers and Goldman Sachs which led up to the writing of that letter.

It will be recalled that, commencing with the underwriting of the United Cigar Manufacturers preferred and common stocks in June, 1906, Lehman Brothers conducted its business of heading security issues in an informal partnership with Goldman Sachs which lasted for nearly 20 years and was never reduced to writing.65

*780 From 1906 to 1924, the two firms were, in effect, a single partnership as to the heading of security issues, and neither one had a separate business in the heading of security issues.66 During the period 1906-1924, Lehman Brothers conducted its business of heading security issues in an informal partnership with Goldman Sachs which lasted for nearly 20 years and was never reduced to writing.65

In view of the very aggressive competitive policies of each of these firms, which we have already had occasion to observe, it was inevitable, or so at least it seems to me, that they should eventually come to a parting of the ways. Disputes gradually developed between the two firms over a division of the profits arising from financings which they handled together as partners. In one instance after another, work done by the partners or employees of one firm, either in getting or holding on to the business of a particular issuer, or in servicing the accounts, seemed greater than that done by the partners and employees of the other.

In any event, the storm clouds gradually gathered, and, as a result, after Lehman Brothers and Goldman Sachs had thus headed together 114 negotiated issues in their joint venture, sharing equally as partners in both risk obligation and profit participation, the two firms during the years 1925-1926 gradually worked apart, and during this period each firm headed new issues without the other.

The altered relationship of the two firms is reflected in two memoranda, dated October 26, 1925, and January 5, 1926, which, together with a later memorandum, dated June 30, 1938, were called ‘treaties’ by government counsel. The first of these memoranda, dated October 26, 1925, described a conference between representatives of the two firms, and noted that ‘The conference throughout was marked by a temperate and amicable spirit.’ The 1925 and 1926 memoranda in essence recognized the dissolution of the partnership as to the business of new issuers, and provided for the relation of the firms to each other, as to the future business of those issuers whom they had served in the past as partners. As to the business of new issuers, each firm was henceforth free to pursue its own course independently of the other. With respect to any new financing that might arise in any company for which they had already in the past handled financing together as partners, the two firms were to operate on the same basis as before. The memorandum of January 5, 1926, made detailed provisions as to how the two firms would handle such financings in the future, and attached to the memorandum was a list of the issuers, segregated according to the firm which would handle the books if any such business arose. Sixty corporations, counting the separately named subsidiaries, were listed; 41 in connection with whose financings the books were to be handled in the office of Goldman Sachs, and 19 in connection with whose financings the books were to be handled in the office of Lehman Brothers.

While it is contended by government counsel that these memoranda represent ‘something superimposed on the general conspiracy,’ I find in them nothing to support this contention. They represent a serious effort on the part of both firms to compose their differences and to hold on to their business. It would unduly lengthen this opinion to attempt any detailed discussion of the various provisions of these so-called ‘treaties.’

The enactment of the securities legislation in the years 1933-1934, resulted in vastly increased work and expense on the part of the managing underwriter in connection with the registration of securities to be publicly offered. Inevitably, the managing underwriter who handled the books on an issue came increasingly to regard any management fee as largely compensation for its own greatly increased expenditure of time and money. The division of the management fees, which arose from financings headed by Lehman Brothers and Goldman Sachs, became a subject of controversy between these two firms. No provision for the division of management costs and fees had been made in the memoranda of October 26, 1925, and January 5, 1926. This led to an exchange of letters on February 6 and 7, 1936, discontinuing the
arrangements for handling the old partnership accounts set out in the memoranda of October 26, 1925, and January 5, 1926. The separation between the two firms was now complete.

The discontinuance of these arrangements, which had previously governed the duties of each firm toward the other with respect to issuers whom they had served in the past as partners, gave rise to a bitter strife between the two firms, which, by involving the issuers, threatened the interests of both firms, made less effective the competition of each firm against the rest of the field, and resulted in the loss of considerable business.

A new memorandum, dated June 30, 1938, which took account of the problems arising out of the disputed management fees, was agreed on. Of the 60 corporations which were listed in the memorandum of January 5, 1926, only 42 appear in the memorandum of June 30, 1938, and no new companies are listed. The 42 companies are divided on the basis of the share which each of the two firms was expressly recognized by the two firms toward the other with respect to future hoped-for issues of the 42 listed companies.

I find nothing in these agreements to support the government’s claim of an over-all, integrated conspiracy and combination, as there is no evidence that any of the other defendant firms were parties to the arrangements between Lehman Brothers and Goldman Sachs, or that they knew of the existence of these memoranda. The complete independence of the issuer corporations from the two firms was expressly recognized by the two firms in the memoranda of January 5, 1926, and June 30, 1938; and, in fact, the issuer corporations were not, so far as I can see, restrained by virtue of the relationship between the two firms, in the selection of either investment bankers or methods of financing. Nor do the memoranda in any way support the existence of any alleged ‘code.’

National Dairy Products

During the interval of two years when the two firms went their several ways alone, Goldman Sachs succeeded in persuading National Dairy Products to come into the Goldman Sachs camp. The letter to McInnerney of February 18, 1936, above referred to, is reminiscent of the cries of anguish by Hancock of Lehman Brothers in 1937, which have already been noted in connection with Cluett Peabody. 67 Robert Lehman tenders his resignation as a director of National Dairy Products, and goes on to protest the action of the company in going along with Goldman Sachs, which firm is attacked vigorously on the ground of its ‘clear violation of a written agreement dated January 5, 1926,’ and he accuses the company of ‘taking sides in the dispute between Goldman Sachs & Co. and ourselves,’ and not acting ‘fairly,’ unless National Dairy Products decides to change its mind, despite the fact that Robert Lehman had already been told by McInnerney ‘that this matter has gone so far that it cannot be and should not be reopened.’

Neither the letter nor the series of agreements between Lehman Brothers and Goldman Sachs, when read against the background of the other documents and the deposition testimony, demonstrate any ‘adherence’ to the alleged ‘practice’ of ‘traditional banker’ or ‘successorships.’

Butler Bros., Associated Gas & Electric, Indianapolis Power & Light and Tidewater Associated Oil

Miscellaneous documents referring to the above-named issuers are described in the connecting statement against Lehman Brothers as evidencing additional ‘treaties,’ showing a disposition by Lehman Brothers ‘to combine rather than to compete.’ None of them, when read in context with other documents in evidence and with the testimony taken by deposition, support the charge that Lehman Brothers ‘adhered’ to any ‘practice’ of ‘traditional banker’ or ‘successorships.’

Three documents relative to Butler Bros. supply quotations such as ‘use your influence to make Cunningham (of Butler Bros.) stop shopping and concentrate negotiations with Lehman,’ and ‘have talked to Cunningham like a father about mistake in shopping his business.’ But no alleged ‘traditional banker’ situation was involved. Lehman Brothers, together with Blyth and Laurence Stern, had formed a nucleus group to go after some Butler Bros. financing, and the telegram from Mitchell to Stevens, both of Blyth, on April 15, 1935, and Stevens’ reply of the following day, with copies to Lehman Brothers, disclose competitive efforts to get Cunningham in to talk business. These efforts proved of no avail, as the group lost out.

A single Lehman Brothers memorandum of January 25, 1937, ‘with respect to all future financing for Associated Gas & Electric or its subsidiaries,’ is commented on, in
complete disregard of the half dozen or so other documents and the deposition testimony of Gutman, which supply the background necessary to understand the subject matter of the memorandum. When viewed in that setting, it turns out that the wording of the memorandum was inadvertently misleading, as it was the understanding of First Boston that Lehman Brothers would come in as co-manager only if the company made a request that they do so ‘in the light of circumstances and conditions existing at the time.’ In other words, there was no such ‘treaty’; and, even if there had been, its contribution to the ‘traditional banker’ phase of the case would seem to be minimal.

There are many documents in evidence relating to Indianapolis Power & Light. In my view of the case the position of government counsel is based upon a series of erroneous inferences from the documents and deposition evidence taken as a whole. Neither the single document relied upon in the connecting statement against Lehman Brothers, nor all the documents taken together, give support to the ‘traditional banker’ charge. Under these circumstances I have decided to pass it over without extended comment.64

However, in connection with ‘successorships,’ government counsel assert that, when the 1938 issue of Indianapolis Power & Light was under consideration, Lehman Brothers, who succeeded in getting the leadership of the issue, ‘recognized’ the ‘successorship’ of Harris Hall to an alleged ‘historical position’ of its ‘predecessor,’ N. W. Harris & Co. Harris Hall had competed for the managership of the 1938 issue and hoped to get a participation as an underwriter. After setting forth its ‘claim’ in a previous letter, which was not offered, Edward B. Hall evidently thought up some additional arguments. Accordingly, on June 15, 1938, he wrote to Lehman Brothers and stated ‘I neglected to mention our historical connection with the financing of some of those properties.’ He went on to mention the fact that at the time of the formation of the Merchants Heat & Light Company in 1912 *783 ‘our house acted as its principal investment banker in connection with the purchase and distribution of its First Mortgage Bonds.’

Lehman Brothers had never headed any previous issue of Indianapolis Power & Light securities, and from the mere fact that Harris Hall was given a small underwriting participation of 1.80% in the forthcoming issue, I do not see how I would be justified in finding that there was any ‘recognition’ of ‘successorship.’ There is every reason to suppose that this belated and fanciful ‘claim’ had nothing whatever to do with the matter, especially in view of the recent competition of Harris Hall for the managership of the issue.

The final document referred to in the connecting statement against Lehman Brothers is a memorandum of June 21, 1945, formalizing the mechanical procedures of Kuhn Loeb and Lehman Brothers, as to the position of the names in the advertising, the running of the books and similar matters in connection with future issues of Tidewater Associated Oil. The two firms had co-managed Tidewater Associated Oil financings in 1937, and four additional issues between August, 1940 and April, 1945. Perhaps government counsel had not noticed this.

This is the last time I shall note such odds and ends, although much of the evidence relied upon in support of plaintiff’s case against the remaining defendant firms on the issues of ‘traditional banker’ and ‘successorships’ is of this general character.

I find that Lehman Brothers at no time ‘adhered’ to any ‘practice’ of ‘traditional banker,’ nor was Lehman Brothers a party to any conspiracy or agreement on ‘successorships,’ nor to any ‘code’ having such or any similar provisions.

5. Glore Forgan

The competitive pattern of Glore Forgan throughout the entire period under examination in this case is clear. When Marshall Field III retired from the firm on July 6, 1935, and withdrew his capital and the prestige of his name, Glore Forgan virtually started business all over again. We have had some glimpses of Glore Forgan’s competitive efforts, completely at variance with the alleged conspiratorial scheme, in the Wilson & Co. and Chicago Union Station issuer situations, which have already been commented on.66 The record abounds with other instances, some of which will be hereinafter discussed, in connection with the case presented against other defendants.

It is worthy of note that of the large number of plaintiff’s exhibits received in evidence, only 9 were offered against Glore Forgan. Five of these relate to Chicago Union Station; one is a purely formal exhibit received against Glore Forgan, ‘to show how records are kept’ with reference to some phase of syndication; one is a letter from John F. Fennelly, one of the partners, to the SEC, in which he wrote, ‘I am opposed to the theory of compulsory competitive bidding, but it seems to me particularly unsound if the theory is applied to second-grade securities and equities’; and the last two concern Indianapolis Power & Light, previously discussed,67 to which we shall now return.
It will be recalled that on August 5, 1938, a $32,000,000 issue of First Mortgage Bonds came out under the sole management of Lehman Brothers. In 1937 and at least until some time in the early spring of 1938, when Charles True Adams was appointed trustee in reorganization of the parent company, Utilities Power & Light Co., negotiations for financings of Indianapolis Power & Light had been handled by its own executives. The last prior issue was one of $8,000,000 of Bonds in August, 1930, with Blyth and Chase Securities in privity of contract with the issuer. On *784 plaintiff’s theory this would make Blyth and First Boston the ‘traditional bankers.’

Glore Forgan seems to have paid no attention to the ‘traditional bankers,’ however, but competed in 1937 for the financing which, as it turned out, did not materialize until August 5, 1938. Glore Forgan learned from Pritchard, president of the company, that ‘Lehman Brothers had been awarded the leadership of this financing’; this was in July 1937, as indicated by another document after which Glore Forgan joined the Lehman Brothers group ‘for this specific piece of business.’ Having joined the group it seems to me that Glore Forgan was at least under a moral duty to stay with the group and not yield to any temptation to try thereafter to get the business for itself.

But government counsel think otherwise. There is a letter from Fennelly to Glore, dated May 24, 1938, which must otherwise than say they were obligated to the Lehman Brothers’ group ‘for this specific piece of business.’ Having joined the group it seems to me that Glore Forgan was at least under a moral duty to stay with the group and not yield to any temptation to try thereafter to get the business for itself.

The record discloses no deferring by Glore Forgan to any other investment banking house, nor any suggestion that any other firm defer to it. Nor is there any substantial evidence to indicate that Glore Forgan ‘recognized’ any other firm as ‘successor’ to any of the institutions which had, prior to the effective date of the Glass-Steagall Act, engaged in investment banking and had later given it up.

No document offered against Glore Forgan contributes in the slightest degree to any ‘mosaic’ of conspiratorial plans and operations; and it is difficult to understand why this Chicago firm was joined as a defendant in the case. As we proceed we shall find other defendants against whom there is also a conspicuous lack of evidence.

6. Kidder Peabody

The statement of the history and development of this firm in Part II of this opinion indicates that Kidder Peabody started from scratch in 1931, greatly expanded its personnel and facilities after the Glass-Steagall Act took effect, and, as the result of an aggressive competitive policy, which included efforts to obtain leadership, participations and even selling positions in every sort of investment banking business, large and small, including private placements and competitive bidding accounts in large volume, forged its way, strictly on the merits, from a minor position in 1931 to that of one of the country’s leading underwriters, with many offices and a large staff, at the time of the filing of the complaint.

The record is replete with examples of competition by Kidder Peabody, during the entire period from its organization in 1931 down to the time the action was *785 commenced, all in derogation of the alleged ‘practice’ of ‘traditional banker,’ and the existence of a ‘code’ relative thereto. Some of the situations principally relied on by government counsel, but which in fact disprove the existence of the alleged conspiracy, have already been commented on, including Burlington Mills,71 Wilson & Co., Staley,72 and Armstrong Cork.73

Others referred to in the connecting statements and the briefs of government counsel as against Kidder Peabody, on the ‘traditional banker’ and ‘successorships’ issues, will now be discussed to the extent deemed necessary.

The ‘successorships’ phase of the case has already been so fully developed that little need be added. After a few short references to certain documents received against Kidder Peabody, the subject will not be further commented on in the portion of this Part V of the opinion.
concerning other defendants. There was no joint action or agreement or concert of action by the seventeen defendant firms or any smaller group on he subject of ‘successorships.’ In the hustling for business, amidst the chaotic and confusing conditions which inevitably followed the Glass-Steagall Act, dislocated personnel, scattered here and there, in groups or individually, made desperate efforts to recapture or reestablish whatever relationship they had with business which they had personally conducted in the institutions where they had worked for years and from which they had been forcibly separated by the operation of the new law. These men had not merely been forced to live on short rations during the great depression; they were fighting for their very livelihood, and there were many who struggled in vain. As groups and as individuals they used every argument they could think of to hold on to business which they considered was theirs, in the same sense, and no other, as would have been the case of men who left a real estate or insurance office, which had been liquidated and closed, forcing them to seek employment elsewhere. The customers or clients or whatever they may be called were theirs because they as individuals had rendered the service customers or clients or whatever they may be called were theirs because they as individuals had rendered the service.

As groups and as individuals they used every argument they could think of to hold on to business which they considered was theirs, in the same sense, and no other, as would have been the case of men who left a real estate or insurance office, which had been liquidated and closed, forcing them to seek employment elsewhere. The customers or clients or whatever they may be called were theirs because they as individuals had rendered the service customers or clients or whatever they may be called were theirs because they as individuals had rendered the service.

Sometimes the ‘claims’ are exaggerated. Whenever an erroneous statement finds its way, by accident, carelessness or design, into correspondence or office memoranda written by a partner, officer or employee of a defendant banking firm, this is taken by government counsel as positive fact, despite satisfactory and credible evidence to the contrary. There are several instances of this, and the subject comes up again in connection with a letter by Hovey to Baring Brothers of April 25, 1931, and another by G. Hermann Kinnicutt to Dillon Read on April 21, 1939, both men being, at the time of writing the letters, Kidder Peabody partners. They are cited by government counsel on the subject of ‘successorship’ by ‘inheritance.’

In Hovey’s letter to Baring Brothers he states:

‘. . . We have been assured by Messrs. J. P. Morgan & Co. and other houses that we will receive the same participations which Kidder, Peabody & Co. have formerly enjoyed in the financing of such corporations as the American Telephone & Telegraph Co., New Haven Railroad, Boston & Maine Railroad, etc.’

But no such assurances had been given, although perhaps Hovey hoped things would work out that way. The testimony of Gordon and Stanley on this subject is convincing and in accordance with the probabilities; and the participation in the Illinois Bell issue of 1935 was allotted to Kidder Peabody by Stanley strictly on the merits. The rather mild excerpt from Gordon’s long letter to Western Cartridge Company on November 10, 1939, is of the same variety.

Pennsylvania Power & Light

On August 9, 1939, a $95,000,000 issue of First Mortgage Bonds of Pennsylvania Power & Light was brought out under the joint management of Bonbright, Dillon Read, First Boston and Smith Barney. On October 28, 1936, some three years prior to the time the issue came out, Matthews heard a rumor about the proposed financing, and a Kidder Peabody office memorandum of that date indicates that Matthews thought that, despite the fact that Kidder Peabody had not participated in the original Pennsylvania Power & Light Bonds which came out in 1931, a ‘claim’ might be made for the position that the Philadelphia National Company had in the business ‘in view of the large number of holders of the bonds who are now customers of the Philadelphia office.’

Matthews followed the matter up again later and another Kidder Peabody office memorandum of October 11, 1938, shows that Matthews had been in touch with Cheston of Smith Barney, and had been advised ‘that they would give Kidder Peabody definite consideration on the basis of this past participation when, as and if the business
developed.'

Finally, we come to the letter chiefly relied on by government counsel, which was written by G. Hermann Kinnicutt, a Kidder Peabody partner, to Dillon Read on April 21, 1939. In this letter, after referring to the fact that the Philadelphia National Company had been affected by the Glass-Steagall Act, the letter continues:

'At that time, Kidder, Peabody & Co. took over the entire business of the Philadelphia National Company, ‘lock stock and barrel,’ including their offices, their entire personnel and all their accounts.'

There is no evidence that any ‘accounts’ were transferred, and I cannot believe that this statement is more than an inadvertence by Kinnicutt. The whole tenor of the letter indicates that the ‘claim’ is being presented on the merits. It is true that ‘our past position in the business’ is referred to, but the letter concludes:

'Beyond all this, of course, is the fact that the Kidder, Peabody & Co. of today has made great strides in their distributing organization and I feel that in this particular issue, with our outlet in Pennsylvania, which is the logical market for bonds, we can make a very good showing.'

When the issue came out the four managers were in first position with 5.67; Morgan Stanley, Harriman Ripley and Halsey Stuart were in second position with 4.86; Mellon in third position with 2.84; and Kidder Peabody together with Blyth, White Weld, Union Securities, *787 Langley and Shields in fourth position with 2.43. From what I have learned of the investment banking business and the activities of the various investment banking houses, during the almost three years of this trial, this is exactly where I should expect to find Kidder Peabody strictly on the merits.

The testimony of Gordon lends no support to the claim of counsel for the government that it was any part of his policy or ‘practice’ to keep away from situations where there was a ‘satisfactory relation’ between an issuer and an investment banker. Swan, who had much of his experience with the Guaranty, and who had retired from Smith Barney in 1943, personally felt that continuing relations between issuers and investment bankers were a good thing; but there is no trace of this in Gordon’s testimony. The whole competitive behavior of Kidder Peabody from first to last belies any such notion. What Gordon testified was:

‘Do you go after every big account in the United States? A. We have neither the time nor the organization which can go after every big account in the United States. It is our policy to study the field to determine which industries are likely to be in need of funds, or which companies can advantageously refund their securities. Having made those studies, we then decide which companies we might be able to successfully solicit. We try to find weaknesses wherever we can. We go after those weaknesses to the best of our ability. If there is time left over from those situations, we get after other situations.

‘One cannot go to a company and say merely it would be nice if you did business with us. It is necessary to develop a program, and to present facts and figures that the company is interested in. The preparation of such facts and figures and terms, the development of terms— each situation is different—such development takes a great deal of time, and it would be impossible to solicit every company in the United States. We advertise, we do everything we can to get business. In addition to that, we go after any piece of business we think we have much chance of getting.’

The remaining miscellaneous documents used against Kidder Peabody merit no comment. They are all of the variety which have already been evaluated, in the light of the whole record.

I find that Kidder Peabody at no time ‘adhered’ to any ‘practice’ of ‘traditional banker,’ nor was Kidder Peabody a party to any conspiracy or agreement on ‘successorships,’ nor to any ‘code’ having such or any similar terms.

7. Goldman Sachs

The evidence taken as a whole, much of which has already been the subject of extended comment, discloses Goldman Sachs pursuing throughout the entire period, from the turn of the century down to the date of the filing of the complaint, a competitive policy which was in every sense of the term aggressive. This firm was at no time a party to any scheme or plan involving deferring to any other investment banking house, or holding off because of ‘satisfactory relations’ between an issuer and any of the defendant firms or any other firm named or not named as an alleged co-conspirator, nor to the ‘term’ of any conspiracy or agreement on ‘successorships.’ On the contrary, there are indications that Goldman Sachs even transcended the bounds of reasonable competitive effort in its endeavor to get every piece of business it could possibly secure, within the limits of its personnel and its resources.

While it is claimed that the testimony of Bogert, of
Eastman Dillon, about ‘upsetting the applecart’ applies to all defendants, what he said on his deposition, which will be more closely examined when we come to Eastman Dillon, falls far short of proving any ‘adherence’ by Goldman Sachs, or any of the other defendants, to the alleged ‘practice’ of ‘traditional banker.’

On this phase of the case the charge against Goldman Sachs, in view of the paucity of other evidence, rests solely upon documents which expose to our view a long series of conversations and negotiations relating to a security issue of Pillsbury Flour Mills. The other miscellaneous documents referred to by government counsel in the connecting statements and in the briefs require no discussion.

Pillsbury

There are no less than 66 documents in evidence relating to Pillsbury. In substance the claim of government counsel is that White Weld ‘deferred’ to Goldman Sachs as the ‘traditional banker’ having ‘satisfactory relations’ with this issuer, as a result of a ‘policing’ operation by Goldman Sachs. This is alleged to be a ‘classic example’ of what ‘the defendants’ habitually do in carrying out the ‘terms’ of the combination and conspiracy. What we shall find is competition by White Weld throughout; not, it is true, competition of the purely selfish variety, but competition in the setting of a close personal relationship, which made sincere helpfulness and the giving of sound advice considerations superior to that of gaining pecuniary advantages to the possible detriment of the interests of an intimate friend. That White Weld’s competitive efforts were unavailing was due to unremitting, continuous and effective maneuvers, by Goldman Sachs and its ‘partner,’ Lane Piper & Jaffray (later Piper Jaffray & Hopwood) of Minneapolis, to hold on to the business. That the competitive efforts of these two firms were wholly unrestrained will soon appear. There is nothing in the Pillsbury documents which requires conspiracy to explain it; and, if the testimony of Harold B. Clark (described throughout the case as ‘Ben’) is to be credited, the documents describe a condition of affairs inconsistent with the existence of any conspiracy.

Goldman Sachs and Lane Piper & Jaffray had been in privity with Pillsbury in connection with the last pre-Securities Act financing of this company in 1927.

Accordingly, when our story begins in 1934, these two firms were the ‘traditional bankers’ on the plaintiff’s theory; and the relationship was definitely ‘satisfactory,’ as each of these two firms had men on the Pillsbury board of directors and the evidence otherwise indicates that they were well entrenched. Throughout the discussion which follows it is important at all times to bear in mind that the issue around which the competitive efforts of the various firms revolve, and which from time to time seemed to be taking definite form, did not materialize until 1938, when it was sold as a private placement to the Equitable Life, with Goldman Sachs and Piper Jaffray & Hopwood getting the entire agency fee.

‘Ben’ Clark and John S. Pillsbury, the principal stockholder and chairman of the board of directors of Pillsbury, were close friends. How close the friendship was is indicated not only by the fact that Pillsbury wanted Clark to be trustee of a trust for his children, consulted him about schools for his boys, had his personal account, ‘a very valuable one,’ in the White Weld office, and sought advice from Clark on financial affairs ‘right up to the present date,’ but by the following incident which helped Clark, on the taking of his deposition, to fix the time when he and Pillsbury first met.

‘It is over twenty years ago. It would be more then that. I tie it in with the Sunday evenings. All six kids were about knee high, and we would all go over and mother would play the piano and we would all sing, and now they are all fathers and mothers.’

With knowledge of the prior financings by Goldman Sachs and Lane Piper & Jaffray and of the fact of the directorships, Clark, when Pillsbury asked him for advice as a banker concerning what should be done about refunding a $6,000,000 issue of 6% First Mortgage Bonds, decided to go after the managernesship for White Weld. The documents do not indicate *789 when the subject was first discussed between Pillsbury and Clark; but it seems likely that Pillsbury at first brought it up as a matter of personal advice. At least as early as January 8, 1935, the details were being talked of and whatever took place between Pillsbury and Clark was known to J. I. Beatty, the controller of the company, as a letter from Pillsbury to Clark of that date mentions the fact that, if Clark’s reply ‘does not arrive before my departure, it will be referred to our controller, Mr. J. I. Beatty.’ On the following day Clark sent Pillsbury two copies of the White Weld refunding plan, which had been revised in the light of suggestions contained in the Pillsbury letter of January 8, 1935, with the hint that one copy be left ‘with your man to stew over,’ after which the matter can be further developed ‘with Mr. Wattles (a White Weld employee) who will be here all the time and available.’

Subsequent memoranda show Wattles in contact with Harry H. Whiting, president of Pillsbury; and one of the Significant features of the whole negotiation is that the
White Weld activities were conducted under a promise of secrecy, exacted by Pillsbury from Clark. Of this there can be no doubt. The deposition testimony of Clark would indicate that Pillsbury was seeking independent help from his old friend and financial adviser. Clark testifies

"* * * but my policy was to do everything John asked us to do with the hope we would build up a picture that John would feel so good and would show such advantages that he would say either ‘Put in a bid’ or ‘Benny, I want you to do that business or a large proportion of it.’"

Neither Goldman Sachs nor Piper Jaffray & Hopwood (the firm name having been changed in the interval) had any suspicion of the White Weld activities. These two firms had been active in the matter since the preceding July, most of the activity revolving about efforts by Goldman Sachs to strengthen its position with Piper Jaffray & Hopwood, who were much closer to the executives and had enjoyed a long and continuous relationship with the company. By January, 1935, Goldman Sachs and Piper Jaffray & Hopwood were tied closely together; and they gave little thought to the possibility that any other competing house could dislodge them.

An interesting sidelight is provided by two letters from Beatty, one of January 14, 1935, to Bowers of Goldman Sachs, which tersely states that he has explained to Piper that the Goldman Sachs-Piper Jaffray & Hopwood program ‘does not appear to us to be favorable enough to justify the Company in undertaking to accomplish it;’ and the other, of January 15, 1935, to Clark, which is cordial in tone, indicates that the White Weld plan ‘has been carefully studied and reviewed with a group of our executive officers,’ suggests a number of circumstances involving possible delay, and concludes by saying that the plan ‘has interested us’ and that ‘any further ideas on this subject’ will be appreciated.

Further elaborate details were submitted by White Weld, and we find a long letter of March 29, 1935, from Whiting to Clark which, after asking Clark to ‘please try to fix it so that they will not be talked about,’ gives Clark further information, including a decision against making a private placement with several insurance companies; but which mentions incidentally that ‘these ideas * * * have been similarly expressed to others who have suggested plans for refinancing.’ Somewhere around this time, and before the next development, which upset the plans of all concerned, Clark went to Europe.

Thus in the first stage of the Pillsbury incident White Weld, with full knowledge of the facts, and in the face of what must have seemed an almost impossible situation, had barged ahead, in complete disregard of any ‘practice’ of ‘traditional banker,’ and was making surprising headway, all of which would have been difficult in the extreme had Goldman Sachs or Piper, Jaffray & Hopwood known what was going on. Far from seeking ‘clearance’ from them, White Weld was doing exactly what the alleged conspiracy was supposed to be designed to prevent. No adequate explanation of this conduct of White Weld has ever been proffered by government counsel.

On April 4, 1935, in Clark’s absence, Wattles ‘upset the applecart.’ Forgetful of or in ignorance of Clark’s promise to Pillsbury, and thinking White Weld had the situation well in hand, Wattles went around to see Piper and told him, what was probably the fact, ‘that Mr. Clark had expressed to Mr. Whiting, Pres., that we wanted to ask Piper, Jaffray & Hopwood to join us in the business.’ Piper’s reply to Wattles was non-committal; but his reaction was immediate and vigorous. A long letter to Bowers in New York is the result; and his version of the talk with Wattles differs considerably from Wattles’ own memorandum on the subject. His inclination is to go around and have it out with Whiting at once, but he does not dare to act without advice from Bowers. He adds:

‘Just what will develop in the way of competition on this business I do not know but I cannot believe the business could eventuate anywhere but with us. I am however somewhat disturbed by Whiting apparently keeping the door open of his own volition with White Weld.’

Occasionally, when an investment banking firm in competition for the management of an issue finds that another firm may win out, we find a suggestion that the two work together as is sometimes done by real estate brokers with a deal in prospect. But in this situation Goldman Sachs must have thought of the lean years just behind them, and the losses connected with the Goldman Sachs Trading Corporation, and it decided to get everything for itself and Piper Jaffray & Hopwood, and to keep White Weld out of the deal at any cost, if it could. The inveterate zeal with which these two firms pursued their policy of depriving White Weld of any interest in the Pillsbury business will be developed in due course. It is another significant aspect of the Pillsbury incident, as the plaintiff’s claim is that the seventeen defendant firms were acting together, in concert and conspiracy.

Not yet aware of the mistake he had made by calling on Piper, Wattles writes to Whiting on April 5, 1935, asking for additional information ‘prior to setting forth an exact proposal,’ and this letter perhaps furnishes the key to one
of the later conversations. One of the questions put up to Whiting by Wattles is:

‘(3) Whether you would wish to consider this business directly with us to a conclusion or prefer to put it on a competitive bidding basis. We, of course, feel that better results are obtained by negotiating business of this character to a conclusion with one banking house or group of houses and if a satisfactory proposal is not reached then undertaking the same proposal with another banking house. However, we are very desirous of doing this business with you and are ready to follow whatever procedure you may deem best.’

This is precisely in accord with the testimony of Clark; if the White Weld shape-up of a plan looked good enough to the company officials Clark was willing to follow any course his friend John Pillsbury might suggest; he hoped White Weld might get the business in the usual way, but he was also willing to have the matter shopped around and take the chances that the White Weld price would be the most attractive. And it is also to be inferred that Clark would not complain or ‘raise hell,’ an expression we have found in other situations, if White Weld were left out entirely. The contract between this attitude on the part of White Weld and that of Goldman Sachs and Piper Jaffray & Hopwood is striking.

The first salvo from the Goldman Sachs-Piper Jaffray & Hopwood batteries is fired on or just prior to April 10, 1935. ‘Ben’ Clark is still away. Bowers has telephoned to Faris Russell of White Weld; a neat little sparring match ensued; we may suspect that Faris Russell’s version, if we had it, would not quite match with that of Bowers, which is contained in his letter to Piper of April 10, 1935. Be that as it may, the gist of what Bowers had been trying to do is contained in the concluding paragraph of his letter to Piper, which reads:

‘He and Benny Clark are friends of John. I told him, of course, John would talk with him, as with everybody, but that I was absolutely confident that you and we could hold the business and all that White, Weld would do would be to bother us and make us do the business on a closer basis than was fair; that if White, Weld, who claimed to be hightoned people, felt that that was a sound and fine action to take in competing with other friendly houses, members of whom were on the Board of Pillsbury, it would be a surprise to me. I tried to put a little shame into him, and to leave him with a feeling that his conscience would have to be his guide.’ (Emphasis by Bowers)

This is the old story of trying to frighten off a competitor by telling him that he has not got a chance of securing the business, and will only ‘muddy the waters,’ a competitive maneuver as old as the hills. We shall see more of this when Clark returns from Europe.

That Faris Russell was no amateur appears from a Bowers’ office memorandum of April 12, 1935. He had been thinking the matter over and called Bowers back. Bearing in mind that neither Bowers nor Piper knew just what progress White Weld had made, and that this was quite apparent to Russell, we shall now see the return volley from the White Weld guns. Perhaps Bowers got some comfort from this, but it seems unlikely:

‘Faris Russell called me up this morning to say he’d like to make it clear that White, Weld & Co. were not going to be interfering with us on the Pillsbury business if the Pillsbury people finally decided that we were the bankers they wished to use; that, of course, if the Pillsbury people thought they wanted different bankers and asked White, Weld & Co. to Consider financing, naturally White, Weld would be glad to do it.’

The stiletto in the remark that followed is thinly veiled.

‘He further went on to state that he had told John Pillsbury—the whole thing with White, Weld undoubtedly arises with John—that if he, John, was considering cutting loose from us because of, as Russell put it, unpleasantness back in ’29 and ’30, he was making a mistake. Russell went on to say how he had told John Pillsbury that he considered our standing and management after Catchings’ elimination just as high as anybody’s. Russell said that when Ben Clark came back, he and Ben would like to get together with Walter, Sidney and me and talk things over and see if the two firms perhaps couldn’t do a bit more business in the future, to mutual advantage, than had been done in the past.

‘I am posting Harry Piper, and, although I think, John may have had in his mind back in ’30 and ’31 a feeling that we were, if not down and out, considerably lowered in prestige, that has pretty well disappeared.’

The reference is undoubtedly to something connected with the ill-fated Goldman Sachs Trading Corporation.

That Bowers was seriously disturbed is only too evident. And yet government counsel seem to regard what Russell said as some sort of a promise to hold off, which it definitely was not. This is confirmed by a letter from Clark to Whiting on May 8, 1935 expressing the continued interest of White Weld, Clark having returned from Europe, according to this letter, about April 28, 1935.

Then followed the crucial luncheon attended by Walter
Sachs, Bowers, ‘Ben’ *792 Clark and Russell on May 20, 1935, concerning which we have Bowers’ office memorandum and the deposition testimony of Clark. After a certain amount of sparring around, concerning which Bowers does some speculating which seems to me to be of the wish-father-to-the-thought variety, the meat of Bowers’ version is:

‘Ben finally remarked— repeated this several times— that he would not compete for the business (earily in the conversation he had stated that John or Harry Whiting had written asking them to submit competing bids, which, of course, Ben said White, Weld would absolutely decline to do— against Piper, Jaffray & Hopwood and us, nor would he form a group to compete for the business; that, on the other hand, if a responsible official or officials of the company— John is Chairman of the Board— told them that the business was to be done and that the wish was White, Weld should be included, he would fight as hard as he could to be included. At the same time, he wouldn’t blame us or criticize us if we endeavored to keep them out. We told him we certainly saw nothing to criticize in his attitude as finally expressed.’

Supplementing this we have the deposition testimony of ‘Ben’ Clark:

‘Q. Just give us the substance of the conversation. A. I told Mr. Bowers, as I remember the conversation, that we would not compete— and by ‘compete’ I mean only one thing; put in a competitive bid for this particular issue which was being set up— unless we were asked to by John Pillsbury; but if we were asked to, John wanted us to, we would put in a bid for the whole thing or for any part of it and fight as hard as we could to get it.

‘Q. What do you mean by ‘competitive bid’? A. I mean if John asked us to put in a bid, we would put it in and he could judge it as against any other bid.

‘Q. That is, in competition with any bid that might be put in by Goldman, Sachs & Co.? A. Any way he wanted it we would put it in.’

I believe the testimony of Clark. He alone knew what had transpired between himself and Pillsbury; he alone knew that from the first his policy had been ‘to do everything John asked us to do.’ From Clark’s standpoint he could talk all he wanted to about not competing and not submitting competitive bids, provided he always mentioned the important qualification that he would compete, and he would even submit a competitive bid, if a responsible officer of the company, such as John Pillsbury, asked him to. It was only natural that Bowers should give the conversation an interpretation favorable to his own hopes and desires. As no writing by Pillsbury or Whiting relative to the submission of competing bids has been unearthed, I conclude that the portion of Bowers’ memorandum which mentions this is the result of some misunderstanding of what Clark said.

While government counsel insist that there was given at this luncheon meeting a definite and unqualified promise by White Weld not to compete further for the business, I find that no such assurance was given. Moreover, it seems reasonably plain that Bowers gave no such interpretation to the conversation, as Bowers’ memorandum of May 20, 1935, concludes, ‘In the meantime, Harry and I are going to cultivate Whiting as best we can.’ Whatever Bowers may have thought Clark said, the net result was anxiety as to what the future course of White Weld would be.

As late as August 2, 1935, Bowers is still worried. His memorandum of that date tells of a very friendly talk with Whiting and all the main executive officers ‘on all sorts of subjects, including, in a general way, the financing,’ but notes that John Pillsbury ‘had to go away to a bank meeting before we got into details on financing.’ The memorandum continues:

*793 ‘We discussed prices of various issues, spreads, and the entire talk was, as it were, ‘in the family,’ so that I really don’t see how they could very well push us out of the picture if and when financing is done. They very well may, however, drive a pretty hard bargain with us.’

Concerning the interval prior to November 20, 1935, the record is silent. I infer from the correspondence between ‘Ben’ Clark and John Pillsbury in December that, prior to this exchange of letters, to be discussed in a moment, there had been significant personal conversations between these two men. I also infer from Bowers’ letter of November 20, 1935, to Whiting, that Goldman Sachs and Piper Jaffray & Hopwood had been trying desperately to get White Weld out of the picture. Taking the evidence as a whole I conclude as matter of fact that White Weld did not stop competing after the luncheon meeting of May 20, 1935. That Goldman Sachs and Piper Jaffray & Hopwood were having serious difficulties holding on to the business is evident from the tone of Bowers’ letter.

He tells Whiting, ‘I have thought a good deal about our talk on my last visit to Minneapolis.’ Plaintiff has not called Pillsbury or Whiting as witnesses, nor did it take any deposition of Bowers in the discovery proceedings. I can only infer that the conversation with Whiting had been disturbing to Bowers, as the whole tenor of the letter is a strong appeal to Whiting to continue negotiating with

his firm and Piper Jaffray & Hopwood ‘until they (the
executives of the company) are satisfied that a deal cannot
be made on a proper basis.’ The two paragraphs
principally relied on by plaintiff follow:

‘I think perhaps we differ somewhat in our approach to
the problem. From the background and experience which
Harry and I have had, we know that, in accordance with
sound usage and custom, where men who deal in
investments are close to a company through previous
business done and other long association, as is the case
with Harry and me and your company, the executives of a
company about to do financing take same up with those
occupying the position similar to Harry’s and mine, and,
and follow the matter through along that line until they are
satisfied that a deal cannot be made on a proper basis, and
then, and only then, go outside.

‘On the part of the bankers or dealers in securities, Harry
and myself, for instance, there is, in such cases, a definite
responsibility to serve the company in good times and
bad, in easy situations and difficult ones. Of course, right
now selling securities, particularly those of the primest
quality, such as is the case in your company, is all ‘beer
skittles.’ I don’t think, however, that in the comparatively rare and unusual cases where a company
shifts about, using one banking house this time and
another one another, there is, in the long run, anything
bad, in easy situations and difficult ones. Of course, right
ow selling securities, particularly those of the primest
quality, such as is the case in your company, is all ‘beer
and skittles.’ I don’t think, however, that in the comparatively rare and unusual cases where a company
shifts about, using one banking house this time and
another another, there is, in the long run, anything
 gained, and, in fact, I am convinced that there is a definite
loss. As a matter of fact, most of the leading and most
reputable houses look at the question in the way I have
outlined it, and, where there is a connection already
existing, refuse to compete. In the case of your own
company, a number of heads of first-class houses have
specifically stated to us that this was their position.’

What other pressures were brought to bear on the
company officials by Bowers and Piper, before and after
the sending of this letter, can only be surmised. These two
men had been directors of the company for many years;
and it was quite plain that Pillsbury could not at the time,
or perhaps ever, conclude a negotiated underwritten deal
with White Weld without a serious quarrel, which could
do the company no good. The whole competitive pattern
of Goldman Sachs and the letters of Piper Jaffray &
Hopwood indicate the lengths to which they might be
expected to go.

We are not given the details of the conversations between
John Pillsbury and ‘Ben’ Clark during the ensuing
fortnight, but on December 3, 1935, Clark writes to
Pillsbury advising him to continue with Goldman Sachs
and Piper Jaffray & Hopwood until such time as ‘you
have found it impossible to agree with them on terms.’ He
praises the fai rmindedness of both firms, their high
standing and the importance of continuity in banking
relations, and concludes by stating, ‘I am sending copies
of this letter to Harry Piper and Henry Bowers.’ Clark
testified that he sent this letter, with copies to Piper and
Bowers, to put Goldman Sachs and Piper Jaffray &
Hopwood ‘on the spot to do a swell job for John
Pillsbury.’ That it did put them on the spot is indicated in
part by the long delay before any further developments
took place, and partly by the enmity toward White Weld
which we shall soon see take tangible form.

Clark’s letter to Pillsbury of December 3, 1935, opens
with a reference to ‘the talk you and I had in connection
with the financing.’ Clark had been ‘mulling’ it over in
his mind. Pillsbury’s response of December 5, 1935 is
short and significant. He wrote:

‘Your letter of the 3rd is at hand and carefully noted. Mr.
Whiting has read it and we all thoroughly understand the
situation and appreciate your advice.’

Clark testified that his advice was sound and that if he had
it to do over again he would take the same position. Under
the circumstances I believe he was right.

That Bowers and Piper fully realized that they were ‘on
the spot’ is further indicated by a memorandum by
Bowers on December 11-12, 1935. The executives now
show a disposition to ‘negotiate with us to a definite
conclusion without talking to all and sundry,’ as ‘we have
all along insisted they should do,’ but

‘The business will have to be done closely, but, if done, it
seems to me we should be able to handle it.’

The concluding portion of the memorandum, ‘to be held
strictly confidential,’ is even more significant. Piper has
been lending valuable assistance in getting all the mills
together to ‘prevent the terrible price cutting which was
going on,’ Goldman Sachs has been helping ‘in getting
proxies for their meeting,’ all of which ‘helps to give
Harry Piper and me a better position on the bond
negotiations,’ which are slowing up due to some trouble
caused by the executives trying to handle some details
with the SEC themselves instead of through Sullivan &
Cromwell.

We hear nothing more of the matter for almost two years.
But, apparently, White Weld has not yet been squeezed
out. A letter of June 8, 1938, from Bowers to Piper refers
to further talks with John Pillsbury. ‘As will develop
below, I gathered that he had been talking with his friend
Ben Clark, and Ben probably had put a lot of ideas in his
head.’ What these ideas were is then disclosed:

‘It seems that the Equitable holds the group insurance on the Company. Ben Clark was a friend of the President of the Equitable—that’s Parkinson. Formerly, Ben and I were both directors of the Chase with him. And Parkinson wanted to meet John. John at once said he wished to make it clear that Ben was entirely out of this, and was simply doing this friendly service at Parkinson’s request.

‘John said he’d like to duck the interview with the Equitable President, but it seemed to him he couldn’t do anything more than drop in to see him. He went on to imply, or, more than that, to state that he wouldn’t think of doing anything more than explain to the Equitable President your position and my position on the board, the idea being that if they do anything, or could do anything with an insurance company. *795 we should arrange it for the Company. He asked the direct question, how could it be worked out that a refunding be arranged with an insurance company or companies and you and I be taken care of.’

Private placements had been the subject of prior discussions between Clark and Pillsbury, as noted above. The general statement concerning White Weld in Part II of this opinion shows that this was an area of activity in which White Weld was something of a specialist. Clark undoubtedly thought he had handled the whole matter so adroitly, in carrying out his policy, that the very course of events would make it highly improbable that White Weld could be excluded from the business. But Bowers’ letter suggests that the pressure he and Piper had exerted on John Pillsbury was so great that Pillsbury even hesitated to talk with Clark’s friend Parkinson, president of the Equitable, and had ‘asked the direct question, how could it be worked out that a refunding be arranged with an insurance company or companies and you and I be taken care of.’

This presented no problem to Bowers and Piper. The conference with Parkinson took place, one of the White Weld men being present after arranging for the interview, and the bonds were privately placed with the Equitable. But the pressure upon John Pillsbury was such that, to the amazement and disappointment of ‘Ben’ Clark, the agency transaction was consummated by Goldman Sachs and Piper Jaffray & Hopwood, who took the entire agency fee and White Weld got nothing for its pains.

A faint hint as to how all this had been accomplished is to be found in another letter from Bowers to Piper, of October 31, 1939. There had been some discussions of the possibility of some changes in the Pillsbury board of directors, which might involve the elimination of Piper and perhaps Bowers also. Bowers definitely wants to stay on, even if he could not always attend meetings in Minneapolis, ‘not only from my own personal point of view, but from the point of view of what seems best for the interests of G.S. & Co.’ Bowers then expresses the hope that they can both stay on, ‘where we can do some more good, constructive work.’

It need cause us no surprise to find later that what had been done to White Weld in 1938 caused John Pillsbury many a twinge of conscience, nor that Bowers and Piper fully expected this. ‘Ben’ Clark had evidently let the matter pass without a word of protest or complaint; and this must have troubled John Pillsbury all the more.

In any event, a new Pillsbury issue was coming up in August, 1944, and on this occasion Bowers writes to Piper’s partner Jaffray. At all odds White Weld must be kept out, if possible. The part of the letter of August 9, 1944, which refers to this subject, follows:

‘Incidentally, neither of us has said a word about White, Weld, and as Harry, I think, knows, Benny Clark used to be very close to John. It is possible from that that we might get almost a ‘must’ from John to include White, Weld in the underwriting. We have no idea of including them unless we absolutely had to.’

But on August 14, 1944, they got the ‘must’ from John Pillsbury, who wrote asking that White Weld, as one of two people ‘that have done a lot of favors for me in the investment business’ be given a participation. He adds:

‘You will remember that when the Equitable deal came up, Ben Clark sent one of his men with me to call on the president of the Equitable, and then later when it was explained they could not be in this picture, he certainly was pretty broad-minded, although he had every reason in the world of saying that he initiated this deal.’ (Emphasis that of John S. Pillsbury)

The word ‘later,’ underlined by Pillsbury in his letter, tells the story in a word. When ‘Ben’ Clark arranged for the conference with Parkinson, which led *796 to the private placement with the Equitable, he naturally expected White Weld to get the business. He had never promised to defer to anyone, but had gone on competing to the end, in what he thought was the most effective way. It was only ‘later’ that it was explained to him that White Weld ‘could not be in this picture.’

This was no ‘policing’ operation by Goldman Sachs and Piper Jaffray & Hopwood. It was downright competition
of the most ruthless variety. But in the 1944 issue, as a result of the insistence of John Pillsbury, and not as a ‘pay-off’ for ‘deferring,’ White Weld received a participation of 2000 shares in a 75,000 share offering.

8. White Weld

The few remaining scraps received in evidence against White Weld do not merit discussion in view of what has already been written. The Pillsbury story speaks for itself. Other competitive efforts by White Weld, completely at variance with the alleged conspiratorial scheme, have already been referred to. There are many others. I find that White Weld at no time ‘adhered’ to any ‘practice’ of ‘traditional banker,’ nor to a ‘term’ of any conspiracy or agreement on ‘successorships.’

9. Eastman Dillon

Having in the course of two and one-half years introduced only 13 documents against Eastman Dillon, none of which require comment, plaintiff’s chief trial counsel prefaced his connecting statement against this firm with the remark

‘You see, we found at the end of the case in chief, as I suppose all prosecutors do at the end of all cases, that there is quite a variance in the quantum of evidence that has been produced against different defendants, and in the case of Eastman Dillon the evidence that we want to rely on was very largely the deposition testimony of Henry L. Bogert, and that is primarily what I would like to discuss this morning.’

During the second day of the taking of Bogert’s deposition the questioning touched upon getting business away from other investment bankers, then veered away and returned again to the subject. Thus he testified that when Eastman Dillon ‘has a friendly and satisfactory relationship with its account’ it unfortunately did not always continue to get the business; and, later, ‘we got all our accounts away from other people.’ Again, still later:

‘Q. As a matter of your experience, Mr. Bogert, does Eastman, Dillon & Co. attempt to solicit the business of an issuer which is an account of another investment banker with which it has maintained satisfactory and friendly relationship? A. We have done so.’

And he proceeds to give examples. The questioning goes off to other subjects for eight pages and then government counsel is back to the same old subject, but in a slightly different form, and he gets the answer which is supposed to prove that every defendant banking firm in the case ‘adheres’ to the ‘practice’ of ‘traditional banker.’

‘Q. Isn’t it a fact, Mr. Bogert, that it is customary in the investment banking business for investment bankers not to solicit the business of issuers where there is a satisfactory relationship between that issuer and a banker who had already done business for it?

‘A. Courtesy generally requires that you conduct your business in a way so as not to make enemies, and if you think that a man, a firm, a friend of yours, is engaged in doing a piece of business, it is not quite the polite thing to muscle in and upset the applecart. I think that goes for a great many other businesses as well as the investment banking industry.

*797 ‘Q. And that goes for the defendants in this case too, does it?

‘Q. The defendant bankers in this case? A. It goes for all of them, everybody.’

The part of Bogert’s deposition which precedes this, and that which follows, indicates plainly that the witness is not attempting to describe the ‘practices’ of the various firms, where the house which brought out the last issue is known to have ‘satisfactory relations’ with an issuer. There is no reference whatever to the bringing out of the last issue. Nor is he expressing views similar to those of Swan, who favored continuing relationships with issuers, but stressed the futility of wasting his time and money trying to get business which was beyond his reach.

This ‘burst of frankness,’ which is said to be so revealing, signifies no more than is said, and repeated later, that, in the opinion of the witness, when ‘a friend of yours is engaged in doing a piece of business,’ investment bankers, and those in other lines of business as well, do not generally ‘muscle in and upset the applecart.’ This gloss on human nature must be read against the background of the case as a whole, and the balance of Bogert’s testimony.

I find that Eastman Dillon at no time ‘adhered’ to any ‘practice’ of ‘traditional banker,’ nor to a ‘term’ of any conspiracy or agreement on ‘successorships,’ nor to any ‘code’ having such or any similar provisions.

10. Drexel

While at no time indicating any willingness to consent to a dismissal against Drexel & Co., and save it the burden of going through a seemingly interminable trial, government counsel finally conceded that they relied on no evidence whatever against Drexel & Co. on any issue in the case, except that relating to the so-called price-fixing features of the syndicate system, which are
common to the entire industry.

With respect to Drexel, I make the same finding as that in the case of those defendant firms previously discussed in connection with the ‘traditional banker’ and ‘successorships’ issues.

11. First Boston

The history and development of First Boston as set forth in Part II of this opinion, would lead us to expect to find most of the First Boston documents in the category of ‘successorships,’ and that is where they are. The officers made some use of the Harris Forbes name, which First Boston had legally taken over, and there were the same strenuous efforts to renew old personal contacts with issuers that we have already found in the case of Edward B. Smith & Co., only more so. The stipulated static data tell the story; there we find what each investment banking firm did with respect to every single security issue, whether or not it was part of a series brought out by the same banking firm, and we also find who the participants were, with their respective positions.

Against this solid background of indisputable facts, and the competitive pattern of First Boston already developed in the detailed discussion of the Bethlehem Steel, Dominion of Canada, Phillips Petroleum, and Rochester Gas & Electric situations, together with those to come, Shell Union Oil, discussed under the sub-title of Dillon Read, Pacific Gas & Electric, discussed under the sub-title of Blyth, and the Scandinavian financings, discussed under the sub-title of Harriman Ripley, it is of little significance that, in an endeavor to reestablish a personal relationship with Columbus Railway, Light & Power Co. and get the managership of a forthcoming issue for First Boston, Addinsell should report to Macomber on September 16, 1935:

‘I also pointed out that we had adopted as a matter of policy the idea that we did not try to go after business that had banking relations even if they were inherited ones, but that, on the other hand, we were doing everything we could to retain the accounts that our antecedents had had and that we had an organization which was entirely competent to handle these matters.’

We must remember that this was little more than a year after the effective date of the Glass-Steagall Act, and the investment banking business of the ‘antecedents’ had been of very large proportions. Naturally the primary efforts of the new First Boston organization were directed into channels where they would likely be most productive. There is no mystery whatever about the matter; nor the slightest inconsistency with Addinsell’s testimony that First Boston has had an ‘aggressive policy with regard to continuation of business and clients that we had in the past and development of new ones.’

Province of Cordoba, Androscoggin Electric Corp., and Central Maine Power

The other documents referred to by the government in the connecting statement on the ‘traditional banker’ issue against First Boston are isolated and without circumstantial background. Despite the fact that one of them contains the phrase ‘walking on our grass’ they seem to have little to do with any ‘traditional banker’ situation, and each probably reflects competitive efforts of the sort that we have met before.

The evidence as a whole compels a finding that First Boston never deferred to any so-called ‘traditional banker,’ made no agreement with other firms as to conspiratorial ‘successorships,’ and that it gave no adherence to any ‘practice’ of ‘traditional banker’ or ‘successorships,’ nor to the terms of any ‘code.’

12. Dillon Read

In the case of each defendant firm the description of the history, development and general nature of the business of each, as set forth in Part II of this opinion, should be read together with what is here said about the documents, deposition testimony and static data which concerns the issues of ‘traditional banker’ and ‘successorships.’ As against Dillon Read no deposition testimony was read, but the record sufficiently discloses that we are here dealing with an investment banking firm which holds a major position in the investment banking business. This has been true for many years; and we may expect to find those in charge of such a prominent and successful organization reluctant to chase after every will-o’-the-wisp or every piece of business that ‘they had the slightest chance of getting.’ The competitive policies of Dillon Read naturally differed markedly from those of Kidder Peabody, which started with little besides a name, and which went after practically every piece of business where they thought they might perhaps succeed in getting a managership or co-managership, to fall back if need be to a participation, large or small, or even to a selling position. Dillon Read was not particularly interested in participating in the underwritings of other firms and consequently developed no such intricate techniques as we have seen developed by other firms willing to take whatever they could get. Nor had Dillon Read felt that its particular brand of skill and ingenuity would flourish in such an atmosphere as we have found in Lehman Brothers
and Goldman Sachs, which developed special service features to ferret out and even to create situations where financings could be effected, even though the management of the issuers had no financing in contemplation.

But once having decided that a piece of business was worth their while, we *799 shall see Karl H. Behr, James V. Forrestal, Dean Mathey, William H. Draper, Jr., and Ralph Bollard, fighting for the business to the very end, without any thought or intimation of ‘deferring’ to any other banker ‘traditional’ or otherwise. The notion that they might ‘upset the applecart,’ if it had occurred to these men at all, would perhaps have been an additional inducement to go ahead. Moreover, there is nothing in the evidence against Dillon Read which even suggests the existence of any ‘code.’

As one might expect, under these circumstances, there is no evidence against Dillon Read on ‘successorship,’ except documents of such trifling significance as to be de minimis.

On the subject of ‘traditional banker’ we have a series of disconnected scraps, in addition to the Outlet Co.,11 Beneficial Industrial Loan,82 and Union Oil83 situations, which have already been commented on under ‘directorships.’ Others not referred to in the final briefs or in the connecting statement against Dillon Read, have also been discussed, including Amerada Petroleum,46 National Cash Register,89 and Rheem.90 Each and every one of these other miscellaneous documents reflects no more than the consideration of purely business factors which the Dillon Read executives mulled over before they decided that they did not wish to compete. Again and again we meet M. L. Freeman, the intermediary or finder. Pacific Gas & Electric will be treated later.119


In three of these situations, Scovill and Scripps, brought in by Freeman, and Puerto Rican American Tobacco Co., about which we know nothing but the fact that it never brought out any financing, so far as disclosed by the static data, the matters were discussed in the Dillon Read office and rejected, either without any statement of reasons or as ‘unwise’ or ‘we would not be interested in this business.’ Had the conspiracy been in operation and had there been any ‘traditional banker,’ there would have been no occasion for discussion, the business would have been refused out of hand, even assuming there was any reasonable chance of getting it, and further assuming that Dillon Read considered it desirable business, neither of which appear. With respect to the Argentine Government and American Radiator there was little to suggest that the business could be got away from Morgan Stanley and much to indicate that it could not. Dillon Read showed interest in the Grand Trunk Western Railroad (of Canada) financing in February, 1930, and Waddell recommended to Forrestal, Bollard and Riter that a letter be written to Sir Henry Thornton, suggesting that the matter be discussed with him as soon as convenient; but we know nothing further.

United Drug

A variety of miscellaneous documents introduced against Dillon Read and Kidder Peabody and some deposition testimony by Gordon, Forgan and Ripley, supplemented by documents introduced by Glore Forgan and Smith Barney, enable me to piece this situation together.

‘Old’ Kidder Peabody, together with Chase Securities, Bankers Trust, Shawmut and F. S. Moseley had offered the last pre-Securities Act issue in April, 1928. The next issue, which the various documents above referred to concern, was a simultaneous issue on August 5, 1943, of $20,000,000 Sinking Fund Debentures *800 and $10,000,000 of Cumulative Preferred Stock, both managed by Smith Barney alone. According to the testimony of Gordon, Forgan and Ripley, each of the three firms, Kidder Peabody, Glore Forgan and Harriman Ripley, competed actively for the business but lost out to Smith Barney.

Freeman, who had some contact with Liggett, came to Dillon Read on December 9, 1936, but Behr told him ‘we might not want to be put in a position of negotiating with a client of Kidder Peabody.’ Freeman explained that Liggett had told him the United Drug had dealt through Windsor who had died and that United Drug ‘felt no obligation whatsoever to the new firm of Kidder Peabody.’ The upshot was that the Dillon Read people conferred together and decided to talk, not to Kidder Peabody, but to United Drug. The next memorandum of Behr is dated December 8, 1936, and indicates that Behr had discussed details of the proposed financing with Lewis J. Hunter, a director of United Drug who was handling its financial matters, but Behr came ‘to the conclusion that at the present time we could not work out a refunding of this issue to show any real savings to the United Drug.’ Hunter hoped Behr would call again when next in Boston, and promised to see Behr ‘and just chat about the matter’ when Hunter came to New York. A further memorandum of December 29, 1936, tells us that Behr had told Hunter over the phone that he did not wish to go further if the company had notified Kidder Peabody.
that they would not discuss the matter elsewhere, but Hunter said that he no longer considered Kidder Peabody (the new firm) their bankers ‘although they would be very happy to do business with them or any other first class banking house.’

Prior to all this, Hovey of Kidder Peabody had formed a nucleus group with First Boston to go after this same business, according to a letter from Hovey to Webster of Stone & Webster and Blodget, Inc., under date of September 9, 1936, and there was discussion with Hunter on September 12, 1936, relative to taking Field Glore into this group, which Hunter approved. The matter was further discussed between the Kidder Peabody partners at a luncheon meeting on November 24, 1936.

What all this adds up to is merely that Dillon Read, Kidder Peabody, First Boston and Field Glore were going after the business, despite the fact that on plaintiff’s theory only Kidder Peabody, as ‘successor’ to the ‘old’ firm was the ‘traditional banker’ by ‘inheritance,’ and they all lost out to Smith Barney who, as above stated, brought out the next two simultaneous issues of United Drug on August 5, 1943. It is interesting to note, however, that Dillon Read succeeded Smith Barney and was manager of the next issue in 1946.

Shell Union Oil

The documents relating to Shell Union are numerous; pieced together they give a fairly complete picture of a series of negotiations relative to a number of Shell Union financings; and they affect Lehman Brothers, First Boston and Dillon Read.

Following their usual procedure, counsel for the government stressed, in their connecting statement against Dillon Read, a single document, which was an Addinsell memorandum of March 10, 1937, giving the substance of a luncheon conference with Mathey of Dillon Read. The part emphasized by counsel for the government reads.

‘Having in mind the tremendous trading proclivities of the management and the experience with the debenture issue, Mr. Mathey is determined to avoid being crowded up by the company with regard to the terms of the setup and the price. He feels, especially in view of the fact that the Shell is not as favorably regarded as some of the other oil companies in spite of what he says is its better statistical position as compared, for example, with Texas and Tide Water, and in view *801 of his experience with the note issue, that it is absolutely essential to a successful offering that it be put out on an obviously attractive basis.

‘He is sure that the company will be shocked at the proposal he has in mind making, and that their first impulse will be to try to go somewhere else. You will recall that the syndicate in the last issue was a pretty comprehensive one and he thinks that the only possible place they might go to is Kuhn Loeb, and there are probably reasons why they would not go even to them. He is anxious, however, to have his group present a solid front to the company and in effect, to agree that if the Shell Union does not trade with the Dillon Read-Hayden Stone-Lee Higginson group, the members of this group will not join any other bankers who may attempt to form a group to figure on the business. In view of the well-known trading proclivities of the Shell people, I have agreed in principle to Mr. Mathey’s suggestion on the theory that if our large and strong group cannot get the business on terms that we feel attractive we will be better off to be out of the business.’

As disclosed by other documents, the conversation was proper in every way, as First Boston was a member of a Dillon Read-Hayden Stone group, which had been formed at the suggestion of Shell Union, and which was competing for a preferred stock refunding financing which was later abandoned. Mathey was speaking as the spokesman or negotiator for Dillon Read, the group leader, as he testified before the TNEC; and Addinsell could have dropped out had he thought Mathey’s suggestion not in the best interests of First Boston. The last previous issue was one of $60,000,000 Debentures offered by Dillon Read and Hayden Stone on March 10, 1936. This issue had not been successful.

The history of the competition for the various earlier issues, which forms the background to the Addinsell memorandum is revealing and significant, when the documents are considered in chronological sequence.

In the pre-Securities Act period Hayden Stone had offered a common stock issue as an underwritten offering to shareholders in 1922; but in most of the issues, including the last one of $50,000,000 Debentures in 1929, Lee Higginson was alone in privity with the issuer. The first post-Securities Act issue was a private placement of $9,000,000 of Serial Notes, with Hayden Stone, Kuhn Loeb, Lee Higginson and Edward B. Smith & Co. acting together as agents for the seller.

Lehman Brothers started competing for Shell Union business prior to June, 1935, when we find Lehman Brothers heading a group including Speyer and Salomon Bros. & Hutzler. On that date Lehman Brothers proposed to make an offer ‘which of course should be confidential and not to be disclosed to any competitive bankers’ at a
fixed price, and with a forfeiture of $100,000, if later not prepared to go ahead with the deal. We have already observed that market changes during any lag in time, between the naming of a price and the preparation of the details, make it impractical for a banker to make a firm proposal applicable to some uncertain future date. This forfeiture proposition of Lehman Brothers was not satisfactory to Shell Union, but the company expressed its willingness to receive a bid.

In July, 1935, Lehman Brothers said it would submit a bid, ‘providing we had your assurance that if our bid were more favorable to the company than that of any other bankers, the business would be given to us, and provided our bid were not used for the purpose of renegotiating with others.’ But this proposal was not acceptable.

There were then two other groups competing for the business, Dillon Read heading one group, and Hayden Stone–Lee Higginson the other. As early as December 11, 1935, First Boston was a *802 member of the Hayden Stone–Lee Higginson group. Various documents show Dillon Read in active competition at an early date.

Accordingly, the next proposition of Lehman Brothers was that the three groups submit bids, with the understanding that the leadership of the business was to go to the submitter of the best bid, the other two bidders each to be offered one-third participation in the business on equal terms. After some deliberating Shell Union finally, and on January 22, 1936, rejected the simultaneous bid suggestion and undertook discussions which resulted in an agreement that Dillon Read and Hayden Stone would proceed jointly. A confidential message from the Shell Union New York office to van Eck of Shell Union in London, on January 22, 1936, states almost in so many words that the two groups were brought together at the request of Shell Union.

The immediate result of the combination of the two groups was that on January 31, 1936, Egly of Dillon Read called Ford of First Boston, told him the groups had joined and asked him if First Boston would go along. Ford checked with Gernon of Hayden Stone, his previous team leader, verified the fact that the groups had joined, and then called Forrestal of Dillon Read and told him that First Boston would accept the proposal that it become a member of the newly formed group. Accordingly, when the $60,000,000 issue of Debentures was brought out by Dillon Read and Hayden Stone as co-managers on March 10, 1936, First Boston was a participant, in the amount of $3,600,000.

Two months later, Lehman Brothers, despite the fact that Dillon Read was the ‘traditional banker,’ on plaintiff’s theory was still competing for the management of whatever new issues Shell Union might bring out. There was some Batavian Petroleum refunding to be done. The Shell Union setup was: Royal Dutch owned 60% of Batavian Petroleum, the other 40% was owned by Shell Transport and Trading; and Batavian Petroleum owned 64% of Shell Union. The competition by Lehman Brothers was vigorous but unavailing.

Then there came up the possible refinancing of Shell Union’s outstanding 5 1/2% preferred stock, which brings us almost back to Addinsell’s memorandum of March 10, 1937, which is where we started.

A cable of March 2, 1937, from Shell Union’s London office to van der Woude in New York states:

‘Our opinion is it would be a mistake to start bargaining with bankers and as in case of recent bond issue best course would be decide what are fair terms and then wait until bankers can meet them (fullstop) Feel that Dillon Read Lehman Bros. certainly are entitled to participate even if you do not feel either should sponsor issue but we shall wait for your proposals’

There are other documents of March 5, 1937, and March 8, 1937, indicating further competitive maneuvers by Shell Union and Lehman Brothers.

Hence, when Matthey told Addinsell at their luncheon meeting on March 10, 1937, that he was anxious ‘to have his group present a solid front to the company,’ it was one ‘partner’ talking to another, and what he proposed was no more than reasonable, as ‘the well-known trading proclivities of the Shell people’ are clearly reflected in the documents in evidence in this case. Addinsell thought that First Boston would be better off out of the Shell Union business if not done on terms he believed attractive, and, in view of the unprofitable experience had with the last issue, I believe he was right. And so he agreed to go along with Matthey’s suggestion.

In the meantime, according to a Lehman Brothers memorandum by Walter A. Weiss, an employee, the New Business Department had discussed the Shell Union financing, and Robert Lehman ‘thought we should call Forrestal at Dillon Read and tell him that we are going to try and get this business if we *803 can, since he paid us this same courtesy in the past.’ Probably the fact that Lehman Brothers was after the business and had been after it for some time, was no news to Forrestal. In any event, Lehman Brothers tried to get van der Woude to designate Lehman Brothers as co-manager; when this did
Butler Brothers, 89 Pan American Airways, 90 and shaping up. It is partly disclosed in the discussion of The competitive pattern of Blyth has been gradually 13. Blyth the terms of any 'code.'

'trading as' of 'traditional banker,' nor to  made no agreement with other firms as to conspiratorial 'practice' of 'traditional banker' or 'successorship,' and, surprisingly enough, van der Woude cabled the London office on March 17, 1937, to the effect that, provided it is made clear that negotiations with Dillon Read have come to an end, 'suggest we consider Kuhn Loeb/Lehman combination or Morgan Stanley as leaders.' Whatever might become of Dillon Read, Lehman Brothers was still in. Even as van der Woude wrote van Eck on June 13, 1937, that economic conditions were such that it was inadvisable to offer Shell Union securities at that time, an optimistic memorandum by Weiss of Lehman Brothers, about a month later, expresses the opinion 'that this deal is getting very close to being doable.'

But the preferred stock financing never was done; the next financing was a private placement of $25,000,000 Serial Notes without the services of any investment banker; and Morgan Stanley managed the next three issues in 1939, 1941 and 1946.

The part played by Dillon Read in the Scandinavian financings will be discussed later,88 but it will do no harm to mention here that Forrestal went after this business as hard as he could, and refused to be frightened off by the competitive maneuvers of other defendant firms. He gave in only when he was beaten and some of the others got the business.

The evidence as a whole compels a finding that Dillon Read never deferred to any so-called 'traditional banker,' made no agreement with other firms as to conspiratorial 'successorships,' and that it gave no adherence to any 'practice' of 'traditional banker' or 'successorship,' nor to the terms of any 'code.'

13. Blyth

The competitive pattern of Blyth has been gradually shaping up. It is partly disclosed in the discussion of Butler Brothers,88 Pan American Airways,88 and Anaconda.88 But the chief reliance of government counsel is placed upon a long series of documents having to do with various financings of Pacific Gas & Electric, and a secondary relative to 700,000 shares of Pacific Gas & Electric common stock held by North American Company, all of which will now be closely examined. Plaintiff's claim is that the inferences to be drawn from the very numerous transactions reflected in these documents go far to establish government claims on the issues of 'traditional banker,' 'successorships' and the 'devices adopted by defendants to circumvent' regulations of the SEC relative to competitive bidding, against Blyth, Dillon Read, First Boston and Lehman Brothers, but especially against Blyth. It will soon appear, however, as it has already appeared upon a close scrutiny of so many other issuer situations, that, despite a few quotations of scraps taken from the documents here and there, the Pacific Gas & Electric negotiations show a healthy state of vigorous competition, quite at variance with any 'practice' of 'traditional banker' or conspiratorial 'inheritance.' As the Pacific Gas & Electric story cuts through the very center of the case, it will also serve as an introduction to Part VI of this opinion, which will presently bring us within sight of the end, under the title, 'Alleged Conspiratorial Opposition of the Seventeen Defendant Banking Firms to 'Shopping Around,' and to the Campaign for Compulsory Public Sealed Bidding; and the Alleged Adoption of Devices to *804 Sabotage SEC Rule U-50 and Compulsory Public Sealed Bidding in General.'

Pacific Gas & Electric

Pacific Gas & Electric, the largest public utility on the West Coast, has since 1905 been a lighting and gas operating company in Northern and Central California, with its main offices in San Francisco. Over the years it acquired the plants of, or gained control of, several local light and gas utilities, but remained primarily an operating company in function and structure, with local interests and a preference for Californians on its board of directors.

In June, 1930, Pacific Gas & Electric made an arrangement with North American Company whereby Pacific Gas & Electric stock was traded to North American in exchange for the control of three local operating companies, including Great Western Power Company. From this latter concern came James Black, a vice-president of North American and a director of Pacific Gas & Electric, whose president was the redoubtable A. E. Hockenbeamer, described in many of the documents as 'Hock.' Shortly after Hockenbeamer died on November 11, 1935, Black became president of Pacific Gas & Electric. Harrison Williams was a dominant figure in North American.

During the pre-Securities Act period Blyth Witter, and later Blyth, was forging ahead as an investment banking firm especially interested in public utilities, and gradually developing an efficient sales and distributing organization in the California area. One of the prize plums was the financing of Pacific Gas & Electric. Hockenbeamer, at least later on, and probably at all times, was a believer in
continuing relations between his company and the firm selected to manage its numerous financings, which necessarily had to fit into the elaborate and complex plans of the company for expansion. And so it was quite a feather in the cap of Blyth Witter when, in July 1919, it became the sole offeror of a $5,000,000 underwritten offering of Pacific Gas & Electric preferred stock. On a bidding basis Blyth Witter also won out against National City Company on the next issue, which was brought out as an underwritten public offering in May, 1920. To assist the firm in underwriting and distributing the issue, which Blyth Witter had already been selected to head, Blyth Witter teamed up with Continental & Commercial Trust & Savings Bank, and Halsey Stuart. Harold L. Stuart testified that the proposal was that if his firm joined, 'the three of us would become the future bankers for Pacific Gas & Electric.'

But the Fates ruled otherwise. Stanley Russell, a vice-president in the buying department of National City, got ahead of the rest, and in the balance of the pre-Securities Act period National City served Hockenbeamer to his satisfaction, and brought out all the remaining security issues of Pacific Gas & Electric, which were numerous.

Competition for Leadership 1934-1936

After the effective date of the Glass-Steagall Act, there was a mighty struggle for the Pacific Gas & Electric business, and the principal contestants were precisely those one would expect to find in the arena, wholly apart from the existence of any conspiracy, and they acted in a manner not at all consistent with the conspiracy as charged. Naturally, the men who had been with the National City were on the job; Stanley Russell, with his long established personal relationship with Hockenbeamer, had gone to Lazard Freres and he seemed to have the best chance; but the greater part of the National City employees, including no doubt many who had worked on Pacific Gas & Electric business, had gone with Brown Harriman, and so we find Ripley after the business. Mitchell did not join Blyth until June 17, 1935, and it is clear that Blyth’s efforts, which began some little time before February, 1935, were in no way based upon or connected with any claim by Blyth that it had ‘inherited’ this business from National City. As a matter of fact, *805 Blyth at no time, before or after Mitchell joined the firm, claimed that they had ‘inherited’ the Pacific Gas & Electric business. Despite the presence of Lazard and Brown Harriman, Blyth is in the melee fighting manfully; some of Blyth’s arguments have great weight, others seem less cogent, but there is no doubt Blyth realized the man to beat was Russell.

A letter from Leib to Black on February 21, 1935, is relied on by government counsel simply because it contains the words ‘heirs,’ ‘historic’ and ‘legacy,’ the use of which is supposed to indicate adherence to the conspiratorial scheme. But the letter as a whole will bear no such interpretation. Leib is not claiming that Blyth has inherited any ‘traditional banker’ rights. How could he, as the ‘traditional banker’ on plaintiff’s theory must be Brown Harriman. Lazard Freres could have no conspiratorial rights, as that firm is described throughout as not a member of the combination. Leib is trying to refute the argument that he knows will be made by both Lazard and Brown Harriman that each ought to get the business because of the former association of their personnel with the Pacific Gas & Electric business, and the letter is replete with insinuations that there is no ‘heir.’

In the very first paragraph Leib uses the word ‘heirs,’ with an entirely different meaning, not in the slightest helpful to plaintiff:

‘As you know, Elsey and the American Trust would like to have us heirs to their sixteen percent interest in the Pacific Gas business. This, coupled with our historic connection with the business, would appear to entitle us to head this account * * *.’

The American Trust had never brought out any Pacific Gas & Electric business; it could not be ‘traditional banker.’ The reference is to an underwriting participation had by American Trust in prior issues, and this also is the significance of the reference to Blyth’s ‘historic’ connection, as Blyth or Blyth Witter had been a participant also. What this all adds up to is serious and effective competitive effort having nothing to do with any ‘traditional banker,’ nor to any ‘claim’ by Blyth to ‘successorship’ nor any ‘recognition’ by Blyth of ‘successorship’ in or by any other firm. Knowing that Elsey and Black were directors of Pacific Gas & Electric, Blyth had sought Elsey’s assistance in the Blyth struggle for the managership. In prevailing upon the American Trust through Elsey, its president, to say it would like Blyth to be ‘heirs’ to its sixteen percent participation, Blyth was merely using another argument to get the managership. As matters turned out later on, it is clear that obtaining the assistance or Black and Elsey was a master stroke; and the expression of confidence by American Trust, and Blyth’s own historical position in the business, were indications that Blyth understood the background and had the necessary sales force and connections to do a good job of distribution.

Indeed, there is no need for speculation on the subject, as
the letter to Black on its face goes directly to the merits:

‘I believe that we represent the best balanced outfit in the syndicate. We have our own wire and private telephones to Boston—Philadelphia—Cleveland—Chicago—San Francisco—Los Angeles—Portland—Seattle. We use these wires and telephones exclusively. No one else is on them.

‘We have nineteen offices, and we have one hundred and twenty-five salesmen.

‘We have a large dealer following as we trade daily with most of the important dealers throughout the country.

‘Our historic connection with Pacific Gas & Electric Company dates back many years, and we have not changed our identity throughout the past few years.

*806 ‘I believe that Blyth & Co., Inc. should head this syndicate. We appear to be the logical selection from every standpoint.’

Leib also sketches out two alternate plans, the first along the line of ‘giving no consideration to Hock’s personal feelings for Stanley Russell,’ and the second based upon the ‘practicabilities’ of the situation. Needless to say, in each plan Blyth is in first position as sole manager.

The Blyth competition made such progress that Hockenbeamer suggested the possibility of Lazard and Blyth handling the issue together as co-managers, according to a telegram from Leib to Charles R. Blyth on February 21, 1935; and at one time Blyth thought Russell had accepted this proposal. But it turned out that he had not, and, after a short period of uncertainty, Blyth was reluctantly forced to admit defeat. First Boston had been after the business too. Indeed, Addinsell had written directly to Hockenbeamer on the subject as early as August 3, 1934. And it is interesting to note in an inter-office communication by Woods, dated February 25, 1935, that First Boston knew before Blyth did that Lazard had won out.

Accordingly, Blyth lost the first engagement in the post-Securities Act period; and Lazard as sole manager brought out the $45,000,000 issue of First and Refunding Mortgage Bonds of Pacific Gas & Electric on March 28, 1935.

It is not necessary to follow so closely the competition for the next succeeding issue, $30,000,000 of additional First and Refunding Mortgage Bonds, which came out on June 26, 1935, under the co-managership of Blyth and Lazard. By this time Brown Harriman had been eliminated as a competitive factor, and First Boston had never been any better off than any one of the host of other investment banking houses going after this business. Thus Blyth by sheer tenacity and the use of arguments based on its increasingly important position as a Californian underwriter and distributor of securities, had strictly on the merits won the second engagement; and had won it while Hockbeamer was still alive and Mitchell not yet functioning. It will be recalled that he joined Blyth on June 17, 1935, and there is nothing in the record even to suggest that he had anything to do with the $30,000,000 issue just referred to. And the status quo was maintained throughout the year 1935, as a $20,000,000 issue of additional First and Refunding Mortgage Bonds was brought out by Blyth and Lazard as co-managers on September 25, 1935.

In the next few months, Hockenbeamer having died on November 11, 1935, to be succeeded by Black as president, Blyth’s efforts were at last rewarded and Lazard was eliminated as a co-manager. On March 24, 1936, Blyth as sole manager brought out a $90,000,000 issue. This was partly due to some good work by Mitchell who sought aid from Harrison Williams, who ‘certainly had no leaning for Lazard.’

The documents here furnish government counsel with a few more quotations, but they are as chaff in the wind when compared with the continuous and uninterrupted competitive efforts by Blyth in derogation of the terms of the alleged conspiracy. Charles R. Blyth writes Mitchell, ‘We might well break into some of Dillon’s preserves there, in a way they couldn’t criticise too severely.’ Mitchell writes Blyth that Williams had told him ‘that he is no more tied to Dillon Read & Co. for his financing than he is tied to us.’ When they are about to oust Lazard from its co-managership, Leib is worried lest they be criticized for ‘partner knifing’ and ‘boring from within against a partner’ and writes further ‘we are walking on dangerous grounds, and that much thought should be given to each step we take.’ But Mitchell testified on deposition, ‘It never bothered me for one minute.’ And he was right. Had Lazard and Blyth been operating together from the first on joint account, as might appear to be the fact to others in the investment banking industry, *807 who did not know the facts, criticism might well have been forthcoming and on such a state of facts it might perhaps have been justified. But Mitchell knew that the firms had been competing against one another for the management from the time of the elimination of National City by the operation of the Glass-Steagall Act, and that the co-managaships in connection with the last two issues gave rise to no fiduciary duties whatever. He knew these facts were easily demonstrable. It is just another
instance of the personal reactions of different individuals to the same state of facts. Blyth was not ‘walking on dangerous grounds,’ even though Leib might have thought so; nor was there any sound basis for a ‘terrific yell’ by Lazard and the making of a claim of ‘partner knifing.’

It is a tedious but necessary task thus to review the contents of this prodigious record; but in no other way can light and air be permitted to enter and dispel the impression which might otherwise be created by the accumulation of such disconnected phrases as those just set forth. The very accumulation of them might well lead to the suspicion that where there is smoke there must be fire. Such a suspicion can be laid at rest only by a careful and persistent study, in the case of each document, of the context in its entirety, and the attendant circumstances whenever they are revealed in deposition testimony or in other documents in evidence. Thus, and thus only, can the true ‘mosaic’ be put together.

In view of the fact that Pacific Gas & Electric had embarked upon a vast and continued program of expansion, requiring a long series of interrelated security issues, the suggestion that Blyth succeeded in maintaining its position as ‘the banker’ for Pacific Gas & Electric for many years, due to the operation of the alleged conspiracy, is without evidence to support it. Blyth’s position on the Pacific Coast and its fine record of performance seem to afford a much more natural and reasonable explanation; and the same is true with respect to the use of the same group of underwriters in one issue after another. Blyth was thoroughly familiar with the capital structure of Pacific Gas & Electric, had a splendid distribution record, worked well with the management in the shaping up of the various security issues, and had a complete understanding of its long range plans for future financings.

The Alleged Overly-Large Syndicate Formed By Blyth in Connection with the $80,000,000 Issue of March 27, 1945

We now enter a phase of the long-drawn-out campaign of Halsey Stuart and others for compulsory public sealed bidding. In substance it will appear in the end that an underwriting group was formed by Blyth with the intention of offering a negotiated underwritten issue, with the cooperation and approval of Black, but the decision of the Supreme Court sustaining the ruling of the SEC that Pacific Gas & Electric was a subsidiary of North American, and hence subject to the provisions of the Public Utility Holding Company Act of 1935 and Rule U-50, together with a ruling of the California Railroad Commission on the same day, March 12, 1945, that the issue should be sold at public sealed bidding, forced the abandonment of the plan of the management to offer an underwritten negotiated issue. When the bids were opened it was found that Blyth won, and the only other bidder, Halsey Stuart lost.

Plaintiff’s claim with reference to alleged overly-large syndicates is succinctly *808 stated in its Trial Brief on the Facts as follows:

‘One of the devices used by defendant bankers to defeat the spirit, if not the letter, of statutes requiring compulsory competitive bidding in the merchandising of securities is the creation of syndicates which are larger in size and in underwriting strength than necessary to handle the particular issue involved. Such overly-large syndicates usually include not only a larger number of participants than necessary, but also a number of underwriters who, standing alone, are strong enough to handle the leadership of a syndicate. The net result of the formation of such an overly-large syndicate is that with most of the large and capable houses included in the syndicate there is little or no possibility of anyone else forming a syndicate from the remaining available underwriting strength to compete with the overly-large syndicate. Hence, the issuer is confronted with a single bid, that bid coming from the overly-large syndicate. In such a situation there is obviously no real competition and the mere observance of the forms of competitive bidding is camouflage and does not change the substantive non-competitive character of the transactions.’

There are two items of background. One is a letter sent by Blyth on May 11, 1942, to 87 investment banking firms. We shall return to this later; it seems to have no connection with the $80,000,000 issue now under discussion. The other such item is the offer by Blyth on October 24, 1944, of a $115,000,000 negotiated underwritten issue, as part of the Pacific Gas & Electric refunding program. It is conceded by government counsel that this large issue ‘was not financed through a syndicate that was “overly-large,”’ despite the fact that there were 167 underwriters. It has significance only by way of comparison with the later $80,000,000 issue and because of certain telegrams by Eaton, making extravagant charges of monopoly and conspiracy in connection with this particular issue, which government counsel do not appear to support. Otis & Co. was not one of the participating underwriters.

On November 18, 1944, Blyth informed Halsey Stuart that it was forming an underwriting group and invited that firm to join. Stuart’s response was that he was going to ask permission to have the issue put up for bidding. Again
and again Stuart approached Black on the subject, but Black refused to change his decision that the issue come out as a negotiated underwritten piece of financing. Stuart then sought the assistance of Leslie Fournier, assistant to the chairman of the SEC, got his bidding group together and appealed to the California Railroad Commission. Black was adamant, saying that he thought highly of Blyth and had always received the price he wanted from Blyth and did not desire that the issue be sold at public sealed bidding.

But the course of events favored Stuart, as above stated. Blyth then informed the members of its group that there would have to be a change over to public sealed bidding, and that any who wished to do so might drop out. Some of them did. The bids were then presented and Halsey Stuart lost. There is no basis here for a finding that Blyth had an overly-large syndicate, despite the fact that Stuart testified that his account was "weak." The Blyth syndicate was formed with the usual consideration for elements of underwriting and distributing strength relevant to a negotiated transaction, and no one could have foreseen what the Supreme Court or the California Railroad Commission would decide nor when a decision might be handed down by the Supreme Court. The very circumstance that the group was formed to offer a negotiated transaction, which might well have eventuated, goes far to dispel any notion that an overly-large number of underwriters were assembled for the purpose of sabotaging public sealed bidding.

*809 That Blyth was using every legitimate and proper means to stay with Pacific Gas & Electric business provides no basis for criticism; nor is it to be wondered at that almost all of the underwriters remained in the Blyth syndicate, as Blyth's familiarity with Pacific Gas & Electric financings and plans for the future, as well as its intimate knowledge of the problems of distribution, would make it seem probable that Blyth would be in a better position to make the best and safest bid.

While Morgan Stanley had informed Mitchell on November 25, 1944, that it was not likely Morgan Stanley would go along if a court decision required public sealed bidding, the fact is that they did join the Blyth account.

Accordingly, I find that what was done by Blyth and those who joined its group as participating underwriters had no relation to any over-all, integrated combination and conspiracy, and that there was no effort or design to form an overly-large account. This conclusion is also supported by the testimony of Harold L. Stuart that there is no objective test known to him by which a judge or anyone else can tell whether or not an account is overly-large. The factors are too subjective and nebulous. We shall return again later to this testimony by Stuart.

The Sale in 1945 of 700,000 Shares of Common Stock of Pacific Gas & Electric Held by North American

The substance of plaintiff's charge here is that Blyth, Dillon Read and Lehman Brothers combined and conspired together with the intent and purpose of assisting Blyth to form a public sealed bidding account of such formidable proportions as to make the submission of a competing bid impractical, thus furthering the plans of Blyth to consolidate its position as alleged 'traditional banker' and with the further intent and purpose of circumventing the operation of Rule U-50, all within the framework of the alleged integrated over-all conspiracy of the 17 defendant firms. While admitting that the ruling is not binding on this court, counsel for the government repeatedly stress the finding of the SEC, in a proceeding to obtain approval of the acceptance of the Blyth bid, which was the only one submitted, to the effect that "we are satisfied that competitive conditions were not maintained; on the contrary, effective competition was stifled or precluded."95

The various features of this alleged Blyth-Dillon Read-Lehman Brothers scheme are complicated and cover a period of several years; the 'opinion and findings' of the SEC contain a number of demonstrable factual errors; the evidence before the SEC and the proofs before me are far from similar; and the whole incident is of no more than peripheral consequence, in view of the state of the evidence taken as a whole. While the actual decision of the SEC that 'competitive conditions were not maintained' seems supported by substantial evidence, there is grave doubt that the dictum and supporting findings were warranted. For reasons which will presently appear, upon a review of the evidence before me on this issue, I disagree with the supplemental and unnecessary conclusions thus arrived at by the SEC, but merely find that the evidence in this record is insufficient to warrant findings similar to those made by the SEC.

Rule U-50 took effect May 7, 1941. For some time thereafter no one knew whether Pacific Gas & Electric would be held to be a subsidiary of North American under Section 11 of the Public Utility Holding Company Act of 1935; the SEC Trial Examiner had found in favor of Pacific Gas & Electric; the SEC ruled otherwise; the Ninth Circuit Court of Appeals sat en banc and affirmed, with two judges dissenting; and, finally, as we have already noticed, the Supreme Court affirmed on March 12, 1945, but *810 by an equally divided court, Mr. Justice Douglas not voting.96

Curiously enough, government counsel made no attempt
to establish its charges against Blyth, Dillon Read and Lehman Brothers by calling any witnesses or by producing the full documentary record; they did not even offer evidence of the number of underwriters in the Blyth bidding account nor of their identity or underwriting strength. It was thought sufficient to rely upon a few documents and some deposition testimony of Mitchell, but I was asked again and again to read and carefully to study the SEC ‘opinion and findings’; and I did so.

The net result, without making a long story of it, may be summarized. The Blyth letter of May 11, 1942, to 87 investment banking firms, including those with underwriting positions in a $110,000,000 issue in March, 1941, ‘which failed to eventuate,’ merely informed those to whom the letter was sent that if ‘sizeable business’ came along, ‘we would expect to form an account under our management and to invite you to participate.’ No commitment was requested, only an expression relative to commitments which might interfere. There is the usual reliance by government counsel on statements erroneously made. Mitchell later referred to this as a ‘standby account’; but it was not. That any plan to organize an overly-large syndicate to be made up years later was in the minds of the Blyth people when this letter went out seems most improbable. That Mitchell had been requested by Dillon Read in early May, 1942, to join a Dillon Read account for the possible sale of securities in the North American treasury, and that Mitchell had said Blyth would go along, except that it expected to form its own account on Pacific Gas & Electric, proves no agreement whatever; Blyth formed no standby account in the ‘subsidiaries,’ even if a similar conversation was had between Dillon Read and First Boston relative to Detroit Edison, and despite the fact that on May 9, 1942, Dillon Read started forming an account, which made no reference to securities of Pacific Gas & Electric and Detroit Edison. There is no evidence whatever of any conversations between Blyth and First Boston. Moreover, each firm was proceeding in a way which seems normal and proper; and the subsequent acts of Dillon Read belie the making of any deal or promise that it would not compete for Pacific Gas & Electric or Detroit Edison business. That Blyth, with its rich background of knowledge and experience, both with respect to the complicated financial structure and the difficult problem of distribution of Pacific Gas & Electric securities, should do everything possible to retain the position it had fought so hard to attain, is merely further evidence of healthy competition, and helps not one iota to sustain any part of the ‘triple concept.’

True it is that an undated ‘compilation’ from the files of Blyth describes Dillon Read and First Boston as having ‘accepted.’ But the letters from both firms, which are in evidence and before me, merely answered the question contained in the Blyth letter of May 11, 1942, and stated that they had ‘no commitments,’ and would be glad to hear further from Blyth in due course.

This step one is important. Statements in documents from the files of alleged co-conspirators are generally significant, when the statements are made contemporaneously with the events they describe; but they lose significance when other contemporary documents demonstrate their falsity or when they are merely misdescriptions of writings which read the same today as when they were composed. There is no proof here that Blyth, Dillon Read and First Boston made any agreement whatever; Blyth formed no standby account in May, 1942; and Lehman Brothers wrote a declination, indicating its intention to form a competing account which it later did.

Almost three years elapse before we come to step two. The $115,000,000 negotiated underwritten issue, and the $80,000,000 issue which was offered at public sealed bidding, both of which have already been discussed, came out under Blyth management, on October 24, 1944 and March 27, 1945, respectively.

In the meantime, without taking the trouble to set forth the details, Blyth’s public sealed bidding record was such as to make any charge that Blyth was attempting to sabotage public sealed bidding under Rule U-50, mere empty words, completely at variance with the indisputable facts.

In March, 1945, Fogarty, president of North American, knew that his Company’s holdings of Pacific Gas & Electric common stock must be sold. No previous block of common stock of comparable size and dollar value had been disposed of pursuant to the mandate of the Public Utility Holding Company Act of 1935; and it is not strange that Fogarty preferred a negotiated underwritten transaction, and made application to the SEC for an exemption, which was denied. The events of March and April, 1945, developed quickly and followed one another in rapid succession. The first two public sealed bidding accounts to be formed were by Dillon Read and by a Lehman Brothers-Merrill Lynch Pierce Fenner & Beane combination. Both were natural under the circumstances, as Dillon Read had made no agreement, with Blyth or anyone else in 1942 or at any other time, not to bid for Pacific Gas & Electric securities, and Dillon Read had for years brought out an unbroken series of North American financings. Lehman Brothers may have had its eye on this block of stock all along, as it sent a ‘declination’ at the
time the Blyth letter of May 11, 1942, was received. I
cannot believe that these two accounts were formed as
part of a conspiracy with Blyth, going back to May, 1942.

The formation of the two public sealed bidding accounts
just referred to seems to have caught Blyth almost
unawares, and the telegram of April 9, 1945, which was
sent to a number of the firms to whom the letter of May
11, 1942, had been sent, and also to the additional firms
which had participated in the $115,000,000 issue of
October 24, 1944, or 173 firms in all, was perhaps hastily
composed; in any event, it furnishes government counsel
with a slight amount of additional ammunition. It reads:

‘With possibility North American may sell portion their
holdings Pacific Gas & Electric common we remind you
that in accordance with our letter May 11, 1942 we head
an account for private negotiation or competitive bidding
& consider you in our account. Please confirm.’

The telegram is just a shade off-color. As there had been
no standby account established in May, 1942, there is no
reason apparent to me, for Blyth stating that it considered
the firms to which the letter had been sent, ‘in our
account.’ But this is of trivial significance, as many had
doubtless written that they would go along; and the part of
the telegram which reads ‘please confirm’ indicates
clearly that the 173 firms to which the telegram was sent
were now being invited definitely to join the account, ‘for
private negotiation or competitive bidding.’

There is no evidence with respect to the replies received,
nor, as above stated, is there any evidence of the number
of firms which joined the account, or their names or
identity or their underwriting strength. Such evidence
might have been before the SEC, but it is not in the record
here.

Dillon Read became discouraged and dissolved its
account soon after it began to get the firms together; the
Lehman Brothers-Merrill Lynch Pierce Fenner & Beane
account was not abandoned until April 25, 1945, two
weeks later. There is no justification on this record for a
finding that the Dillon Read and Lehman Brothers-Merrill
Lynch Pierce Fenner & Beane accounts were
conspiratorially formed for the purpose of temporarily
taking out of circulation some 812 firms which might
form or join competing accounts, thus giving aid and
comfort to Blyth’s alleged ‘traditional banker’ position.

Bearing in mind Eaton’s reaction to the fact that his firm,
Otis & Co., had not been given a participation in the
$115,000,000 issue of October 24, 1944, it is not
surprising that some ugly rumors were soon afloat to the
effect that the Blyth account was so large that it was
interfering with the formation of competing accounts.
Whoever circulated the rumors did so with telling effect,
as Blyth was promptly maneuvered into writing to the
members of its account on May 3, 1945, that

‘We understand statements have been made that our
account is so complete in distributing ability that others
have refrained from forming a competing account. This
letter is to advise that any member of our account,
including yourselves, is free to withdraw at this time and
to form or to become a member of another account to bid,
without prejudice on future business headed by us. From
our standpoint a competing account will be welcome.’

Perhaps it would have been more prudent not to send the
letter; but Mitchell, while forthright, is not always
prudent. He is not the type artfully to contrive as the chess
player who is willing to take hours on end to outmaneuver
an adversary. Mitchell’s strength lies in barging in and
having things out without too much fancy sparring; or at
least such is the portrait of him which this record paints.
In any event, I think the letter means just what it says, no
more, no less.

We already know the sequel. The Blyth bid was the only
one; the SEC rejected it; Blyth refused to bid again unless
assured that there would be at least one more bid; Blyth
and Dillon Read bid against one another, and Dillon Read
won out.

Counsel for the firms included in the Pacific Gas &
Electric charge of government counsel, relative to the
700,000 shares secondary offering of common stock just
commented on, tell me that they had no intimation that
there was any issue before the SEC of conspiracy to ‘stifle
or preclude’ competition, that the proceedings were in
effect ex parte, as the only lawyers present were those
designated by North American to represent the successful
bidder should the bid be approved, and that I should give
no consideration whatever to the ‘opinion and findings’ of
the SEC. I do not pass on these matters, as it is clear that
nothing said or done by the SEC is binding on me here.

Before leaving the subject of overly-large public sealed
bidding accounts, to which I shall not return, as the
evidence does not justify further discussion of this
particular part of the plaintiff’s charge of an integrated,
over-all combination and conspiracy, a final word should
be added to pull the Pacific Gas & Electric series of
financings together. If ever there was a situation in which
a continuing relationship with an issuer had definite and
substantial advantages to the issuer it is that of Pacific
Gas & Electric. The background, including the state of
war with Japan, the Central Valley Project, the Sacramento Condemnation proceedings, the Hetch-Hetchy Project, and serious and disturbing litigation, combined to present a problem of distribution which required delicate handling, and the exercise of sound judgment, by an investment banking firm thoroughly conversant with every phase of the numerous complications involved. It was natural under the circumstances for the management, and for the North American executives as well, to turn to Blyth; and it was equally natural for Blyth to use every competitive strategy at its disposal, to hold on to the Pacific Gas & Electric business, in negotiated underwritten, or public sealed bidding, or any other type of financing which might eventuate.

Moreover, as testified by Harold L. Stuart, an old hand at competitive bidding, when he explained to me that there was no objective test by which he or I or anyone else could determine that an account was overly-large:

‘Well, it depends on the issue and the market conditions. Looking at anybody else’s group I am simply an outsider. I don’t know anything about what happens in that group or what their other commitments are, or whether they think the bonds are hard to sell or easy to sell. I would not know anything about anybody else’s syndicates, so if I don’t know anything about the group I cannot judge whether at the time it was larger or smaller or the participations should be smaller.’

Accordingly, I find that Blyth never deferred to any ‘traditional banker,’ made no agreement with other firms as to ‘successorships,’ and that it gave no adherence to any ‘practice’ of ‘traditional banker’ or ‘successorship,’ nor to the terms of any ‘code.’

14. Harriman Ripley

The evidence relative to Harriman Ripley on the ‘traditional banker’ and ‘successorships’ issues requires little comment. Ripley’s own testimony shows plainly that the firm made every effort within reason to get business, and that it succeeded in doing so, often in derogation of the terms of the alleged conspiracy. That it definitely solicited business generally is shown by its booklet ‘Capital for Industry,’ which was published and widely distributed in 1944, as a means of attracting new business, and was revised and republished in 1945. This booklet concludes:

‘The Company is thus equipped to place mature judgment, specialized training and broad experience at the service of corporations and other issuers who desire its advice or assistance in obtaining equity capital or in borrowing funds secured by bonds or other obligations. Inquiries from such corporations or issuers are invited.’

There is nothing in the evidence relating to Harriman Ripley which even remotely suggests any disposition not to ‘upset the applecart,’ and nothing to justify an inference that there was any ‘code.’ Not a single document emanating from the files of Harriman Ripley supplied any quotation applicable to the plaintiff’s claim that it adhered to the alleged ‘practice’ of ‘traditional banker.’

On ‘successorships’ we have the same effort we have found in the case of a few other defendants to cultivate relationships which individuals in the firm had previously formed with issuers, prior to the time they were forced out of their previous employment as a result of the Glass-Steagall Act.

In this connection, the letter from James H. Perkins, chairman of the board of directors of the National City Bank, to its shareholders, on June 4, 1934, is relevant. It concludes with the statement, ‘There will be no successor to the City Company.’ Concerning good will he remarks:

‘Good-will is a nebulous thing. In so far as it is attached to the name of the City Company it cannot be realized on, because the continued use of the name would identify the user with the Bank and that cannot be permitted without control by the Bank, which is forbidden by law. In so far as it may be represented by personnel trained in the investment banking business, such personnel consists of free individuals whom the City Company is not in a position to deliver to a prospective purchaser.’

Several issuer situations, involving Harriman Ripley, have already been discussed, including, National Cash Register,95 Pacific Gas & Electric,96 United Airlines,97 and United Drug.98 Other evidence discloses Harriman Ripley competing, in derogation of the ‘traditional banker’ term of the alleged conspiracy, *814 for the management of security issues of American Cyanamid, Bell Telephone of Canada, Firestone Tire & Rubber, Price Brothers, Shell Union Oil, and many others; and Ripley testified that when competing price offers are requested by an executive or financial officer of an issuer, ‘we give it to him,’ citing examples.

Only one additional issuer situation, relied upon by counsel for the government, will now be commented on briefly.

Scandinavian Financings
The background takes us back to the old Kuhn Loeb ‘show window,’ which was in full display in 1929. Under no circumstances would Kuhn Loeb permit it to get around that they were interested in any competitive situation. The scene opens after White Weld, who had brought out a $6,000,000 issue of Norway Municipalities Bank financing in November, 1927, approached James P. Warburg of the International-Manhattan Co. about a prospective $25,000,000 issue. Warburg called on Schiff on May 21, 1929, to ascertain whether Kuhn Loeb would join the group. Buttenwieser’s memorandum indicates that the Kuhn Loeb reaction was favorable, but on the understanding that the Kuhn Loeb name was not to be disclosed ‘unless the negotiations are on an exclusive basis.’ Warburg had already been advised that ‘our name was not to be disclosed in any competitive situation’ until the competition was over and the group had won out. This is simply another variation of the ‘show window’ policy in operation.

Accordingly, it seems quite in keeping with what we have already observed that the next document, in which the entire argument of government counsel on the Scandinavian Financings is rooted, turns out again to be a Kuhn Loeb memorandum, dated July 10, 1929. Warburg has again interviewed Schiff; White Weld has another proposal, this time with reference to a proposed issue of ten to twenty million dollars by the City of Oslo, Norway. The part relied on reads:

‘Mr. Schiff advised Mr. Warburg that if cooperation of the International Manhattan Company and White Weld & Co. with us meant real stifling of competition so that this larger group could negotiate with the city on practically an exclusive or at least preferential basis, we would be pleased to have them join with us.’

This is in no manner connected up with Harriman Ripley, nor does the evidence indicate that this Kuhn Loeb ‘show window’ technique was even reported to White Weld. But it runs like a melody through the argument of government counsel concerning events in 1935 and 1945, as though it represented a policy somehow ‘inherited’ by firms who, so far as appears in this record, knew nothing about the conversation in 1929, but who later formed groups to compete for various Scandinavian Financings. As far as I can make out there is no connection whatever between these 1929 conversations and the groups formed later.

On January 16, 1935, a memorandum of agreement between Brown Harriman, Edward B. Smith & Co., Kuhn Loeb, First Boston and White Weld, evidences the formation of an entirely new group to compete for Scandinavian Financings. In this way expenses connected with trips to Europe were shared and it was anticipated that the combined strength of such a group would make a favorable impression upon foreign ministers of finance. The agreement covered many details concerning management, participations, advertising, order of names, treatment of situations involving any ‘special relationship’ or ‘extraordinary circumstances,’ the bringing in of ‘others either here or abroad,’ and having the negotiations conducted jointly by Brown Harriman and Edward B. Smith & Co. The essence of the agreement is in the following two paragraphs:

‘In order to coordinate the studies involved in determining what, if any, Norwegian, Danish and/or Swedish business may be done in this market in behalf of public or private obligors, Edward B. Smith & Co. and Brown Harriman & Co., Incorporated have agreed to assume the management of a group consisting of themselves, Kuhn Loeb & Co., The First Boston Corporation and White Weld & Co.

Consistent inquiries from abroad convey the desire, primarily on the part of Norwegian and Danish authorities, to arrange for a number of refunding transactions. The management above mentioned intends to make on behalf of the group a study on the ground at the earliest possible date and seek contact with their correspondents abroad, in the endeavor to ascertain whether such business could be done on practicable terms.’

Blyth was taken into the group on January 20, 1936.

The competition which followed contributes in no small measure to the disproof of plaintiff’s charges, despite the fact that most of the documents were placed in evidence by government counsel. There were three groups after the Scandinavian business. In addition to the Brown Harriman-Edward B. Smith & Co. group, which was made up of six of the defendant firms, as above stated, there were other groups headed by Dillon Read and Lazard, and each of these groups turned out to be a formidable and tenacious competitor. In the Dillon Read group was Lehman Brothers; and in the Lazard group we find Goldman Sachs, Kidder Peabody, Stone & Webster, Field Glore and Harris Hall. Here, indeed, is competition on a grand scale between the very firms which are supposed to have combined together in an over-all conspiracy ‘to stifle competition.’

The Lazard group won two issues, and the Brown Harriman-Edward B. Smith & Co. group won two issues. In connection with the $17,000,000 20-year External Bond issue of Kingdom of Norway, offered on March 2,
1936, by the Lazard group, an effort was made, on the suggestion of the officials of the Enskilda Bank of Stockholm, to merge the Dillon Read and Brown Harriman-E. B. Smith & Co. groups, but no merger could be effected.

In the years immediately prior to 1939, as international conditions rapidly deteriorated, there were many negotiations back and forth, some dissension within the groups, a disinclination to be drawn into the submission of competing price bids and so on. The documents furnish government counsel with occasional quotations, but the whole situation is replete with competition quite at variance with the supposed over-all integrated scheme set forth in the complaint.

In 1945, after the end of World War II, the old group was to some extent reconstituted, and Harriman Ripley, Smith Barney and Kuhn Loeb worked together, the three forming an account on August 21, 1945. They had some success, but were superseded by Morgan Stanley who, in derogation of the alleged ‘practice’ of ‘traditional banker,’ where a ‘satisfactory relationship’ existed, took the Danish Government business away, although the Harriman Ripley-Smith Barney group thought they were doing very nicely and had the situation well under control. Despite all this, the Danish loan finally failed to materialize, and Morgan Stanley wasted a fine piece of competitive effort.

In 1947 there was vigorous competition for a Norwegian bond issue. This time the successful account was comanaged by Kuhn Loeb, Harriman Ripley, Lazard and Smith Barney, each with a 10% participation; Blyth, Kidder, Peabody, Drexel, Dominion Securities Corp., and Ladenburg Thalmann had 5% each, and White Weld and Hallgarten 4.25% each. Eastman Dillon and Morgan Stanley lost out.

I find that Harriman Ripley never deferred to any ‘traditional banker,’ nor requested any other firm to defer to it as ‘traditional banker’; that it made no agreement with other firms as to ‘successorships,’ nor gave adherence to any ‘practice’ of ‘traditional banker’ or ‘successorship,’ nor to the terms of any ‘code.’

15, 16 and 17. Stone & Webster, Harris Hall and Union Securities

Nothing of consequence was introduced against these three peripheral defendants. Only 13 documents were introduced against Stone & Webster during the entire trial, 10 against Harris Hall and 4 against Union Securities.

I find that neither Stone & Webster, Harris Hall nor Union Securities ever deferred to any ‘traditional banker,’ or requested any other firm to defer to it as ‘traditional banker’; and that neither of said firms made any agreement with other firms as to ‘successorships,’ nor gave adherence to any ‘practice’ of ‘traditional banker’ or ‘successorship,’ nor to the terms of any ‘code.’

PART VI

Alleged Conspiratorial Opposition of the Seventeen Defendant Banking Firms to ‘Shopping Around,’ and to the Campaign for Compulsory Public Sealed Bidding; and the Alleged Adoption of Devices to Sabotage SEC Rule U-50 and Compulsory Public Sealed Bidding in General

There is considerable evidence in the record on this subject, which was in the beginning said to be an important part of the government case, as it was supposed to lend support to the ‘traditional banker’ concept, and also to constitute substantial proof of the way in which the 17 defendant banking firms carried out some of the essential terms of the conspiratorial scheme.

The charge against ‘the defendants’ on this phase of the case is comprehensive and has many aspects. Boiled down to essentials, government counsel undertook to prove: (1) that ‘the defendants’ were opposed to public sealed bidding generally; (2) that they agreed ‘to prevent, restrain, minimize, and discredit the use of competitive bidding, private placements, agency purchases, and agency sales’ by various means, and by ‘seeking to prevent the adoption by duly authorized Federal and State administrative agencies of rules and regulations requiring security issues to be sold at competitive bidding,’ and that they sought to ‘induce’ and ‘coerce’ issuers not to resort to competitive bidding, private placements or agency transactions; and (3) that ‘the defendants’ further agreed to ‘eliminate and prevent’ competition for security issues offered at competitive bidding and ‘to circumvent’ or sabotage the regulatory orders of Federal and State administrative agencies requiring competitive bidding by ‘forming overly-large’ public sealed bidding accounts, and by the elimination of potential competing accounts through the ‘device’ of inducing leading investment bankers to join defendants’ accounts by offering them substantially equal participations with that of the manager, and by reducing substantially or eliminating defendants’ management fees.

As part of this phase of the over-all, integrated conspiracy and combination, ‘the defendants’ are further charged with entering into an agreement to induce institutional investors to refrain from making bids for security issues
offered at competitive public sealed bidding. This will be the subject of comment in Part VII of this opinion, relating to the so-called ‘Pink’ agreement.

We need not tarry over the charge relating to private placements and agency transactions. This has been overwhelmingly disproved. Indeed, the effort to sustain this part of plaintiff’s allegations was no more than perfunctory. The only firm thoroughly committed to opposition to private placements appears to be Halsey Stuart, which apparently would have most if not practically all security issues disposed of by public sealed bidding, a field in which Halsey Stuart, with its large capital, specialized pricing experience and knowhow,*817 has met with such conspicuous success.

As with every other feature of this complicated case, we shall find that here again there was no joint action whatever by any conspiratorial combination. The views expressed by individuals connected with a few of the defendant firms, and the policies adopted by some of them, with respect to competitive bidding and ‘shopping around,’ are conceded to have been formed in good faith. It is not disputed that the views thus expressed were the genuine views of those who formulated them; nor is it claimed that they lack merit or were part of any artificial camouflage or pretense. Indeed, there is proof that these same views were shared by many non-defendant investment banking firms not named as co-conspirators, and by issuers and investors as well.

General Views on Competitive Bidding and the Advantages to Issuers Arising Out of Continuing Banker Relationships

Fundamentally, the contentions of government counsel on this and other phases of the case stem from a misconception of the investment banking business. And yet the advantages to an issuer, which are incidents of a continuing relationship with a good investment banker, seem too obvious for comment. In every business the customer feels that there are cogent reasons why he should continue with the firm which has rendered good service in the past. But with a series of security issues, the saving in the time and labor of the officers and employees of an issuer, which would have to be spent in teaching a new investment banker the intricacies of the business, and the financial set up of the company, are a matter of real consequence; and it must not be forgotten that many of the matters to be discussed are of such a character that company officials desire to have such conversations only with those whom they trust, and in whose integrity and competence they have complete confidence.

The views expressed by Harold Stanley in his memorandum of November 29, 1939, for submission to the TNEC, make sense to me; the wonder is, why did the TNEC fail to accept it and make it part of the record of their proceedings.99 Whenever an investigating body, thought to have positive views on a subject, refuses to hear the other side, the effect may be, at least to some extent, to impair the validity of the very proceedings themselves. In view of the failure by plaintiff to produce in this adversary proceeding any convincing testimony of the domination of even a single issuer by any one, or all, or any combination of the defendant firms, it is interesting to read Stanley’s denial of ‘banker domination,’ and his forthright challenge on the subject, which follow:

‘One critic has recently gone so far as to say that, even though competitive bidding has some disadvantages, it should be made universal because it is the only way in which companies can be freed from ‘banker domination.’ Whatever may have been said pro and con about the existence of so-called ‘banker domination’ in the past, the truth is that it simply does not exist to-day, and any contention to the contrary must be based only on ignorance or wilful misinterpretation of the facts. Allegations of ‘banker domination,’ like those of the ‘spider web’ theory of control, have been repeated so *818 often and arbitrarily, and so fancifully, that they shape the thinking on economic questions of many well-meaning and intelligent citizens who have never stopped to analyze the matter or who have had little opportunity to form their own views about industry at first hand. For the most part such talk has been advanced by persons who have had no practical experience in banking or in industry and by persons intent on creating sentiment for the abolition of private enterprise.’

Morgan Stanley and Kuhn Loeb had opposed competitive bidding for years and had refused to submit sealed bids, perhaps with some exceptions in the case of Kuhn Loeb; and representatives of each had insisted on the advantages which accrue to issuers from continuing banker relationships. As early as October 25, 1922, and long prior to the ruling with respect to equipment trust certificates, Kuhn Loeb had submitted a lengthy memorandum to the ICC on ‘The Marketing of American Railroad Securities,’ opposing compulsory public sealed bidding. Individuals connected with a few of the other defendant firms had expressed somewhat similar views. Edward B. Hall of Harris Hall took the same position in a speech he made as president of The Investment Bankers Association at the Bond Club of New York on April 21, 1937. This had nothing to do with any conspiracy.

Without attempting again to consider the evidence
applicable to each of the 17 defendant firms, it will suffice to say, that as to some there is no proof in the record that they had formulated any policy or entertained any views on the subject, and as to others, the stipulated static data prove that they actively managed and participated in numerous public sealed bidding accounts, long before public sealed bidding was made compulsory as to certain types of securities of certain classes of issuers hereinafter referred to.

**The Eaton - Young - Halsey Stuart Campaign**

The less said about the fight for compulsory public sealed bidding the better. It is an unsavory subject. Success, to the extent covered by SEC Rule U-50, effective May 7, 1941, concerning the securities of issuers affected by the Public Utility Holding Company Act of 1935, and by the ruling in *Ex parte 158* by the ICC, effective July 1, 1944, relative to debt issues of railroad securities, came partly as the result of arguments addressed to the merits, but partly also, and in no small measure, as the result of a campaign of misrepresentation and pressure, political and otherwise, described by Young as ‘putting the heat on,’ in which revenge for real or fancied wrongs played no small part.

The idea perhaps originated with the loss of the Insull business by Halsey Stuart, which in the 1925-1931 period had amounted to the amazing total of $2,250,000,000. Whether or not such was its origin, the campaign was in full swing shortly after the purchase by Halsey Stuart and Otis of a $30,000,000 issue of Chesapeake & Ohio Refunding and Improvement Mortgage Bonds on December 10, 1938. The ingenuity displayed by Eaton and Young, in outwitting Harold Stanley and Elisha Walker, deserves description, but I shall pass it by. Harold L. Stuart was unaware of much that was done, and later believed statements that Morgan Stanley and Kuhn Loeb had made a bid, whereas the proof before me establishes in the clearest possible manner that they did not.

Thereafter, in one financing after another, the pressure campaign of ‘putting the heat on,’ forced one issuer after another to resort to public sealed bidding, despite the wishes of the management to negotiate with Morgan Stanley. The difficulty was that there was no forum at which the misstatements of fact could be exposed, and the prospect of a public exchange of vituperation with Eaton and Young was far from alluring, *819* to say nothing of the distaste for threatened stockholders’ suits, telegrams to political figures in high places, news releases and magazine articles.

It seems a pity that the whole subject could not have been threshed out in a manner more in keeping with its importance to our national economy, rather than in such an atmosphere of bitter invective. While there is doubtless much to be said on each side, and the subject is far more difficult and complicated than one unfamiliar with such matters would at first suppose, it is clear to me that it is no part of my function to pass on the merits of the controversy over competitive public sealed bidding; and I shall not do so.

Morgan Stanley and Kuhn Loeb lost a $12,000,000 issue of Cincinnati Union Terminal, which came out at public sealed bidding on February 14, 1939, after Eaton and Young had ‘put the heat on.’ Naturally, under the circumstances, Morgan Stanley and Kuhn Loeb, who were working together as a group, submitted no bid; to have done so would merely have played into the hands of their adversaries. But other defendant firms did submit bids. Lehman Brothers, with Eastman Dillon in its account, won. First Boston, whose account included Kidder Peabody, was second; and Halsey Stuart and Otis submitted the lowest bid.

Morgan Stanley commenced a particularly complicated negotiation with Terminal Railroad of St. Louis on February 9, 1939; there were frequent meetings with the Finance Committee and counsel, as a result of which the proposed issue was formulated and the various documents prepared. But nothing was of any avail against the hundreds of telegrams to directors, Interstate Commerce Commissioners, political figures, life insurance executives and the presidents of the 16 guarantor railroads. The old misrepresentations were renewed, press releases given to the Associated Press, Time Magazine and newspapers; and the management gave in.

The most curious feature of the whole affair is that it is supposed to be some proof of conspiracy, when it is shown not only that Morgan Stanley submitted no bid, but also that it politely refused to accept from the Terminal Railroad of St. Louis the compensation offered for its services rendered in formulating the plan and shaping up this complicated transaction. To have accepted compensation when none was legally due, would have furnished Eaton and Young with another weapon to use against Morgan Stanley in the next engagement, which followed shortly thereafter.

Had the offer been accepted, the amount of compensation paid would doubtless have been large, and perhaps government counsel expected this factor to affect my judgment. A judge, when on unfamiliar ground, must be careful not to infer wrongdoing simply because the figures in dollars are so much higher than he has been
acustomed to deal with. When, in the early stages of the trial, evidence was offered of the commissions or fees paid to J. P. Morgan & Co. in connection with the Anglo-French Loan in 1915, without any proof of what had been done to warrant the payment of such amounts, I inquired of counsel for the government whether it was claimed that the amount was exorbitant, as one of the allegations of the complaint charged that an effect of the conspiracy was that exorbitant spreads had been foisted upon issuers. As soon as counsel for the government were informed that I would have to be guided by expert testimony on such a subject, of which I knew nothing, the matter was taken under advisement, and the charge of exorbitant spreads was later withdrawn.

Eaton, Young and Halsey Stuart pursued the same tactics in connection with other security issues in 1939, 1940, 1941 and 1943; but there is no occasion to follow the details.

As we shall see when we come to the informal conference at the SEC, attended by those invited to express their views relating to the then proposed Rule U-50, *820 Stanley and Stuart had a conversation just after the conclusion of one of the sessions, which Stuart describes in his testimony in this case, as follows:

‘The Witness: I think I said to this effect: ‘Can’t you see by the attitude of the Commissioners that they are in favor of competitive bidding, because all you fellows that have been up there before them today, they have put you on the defensive?’ and he said, ‘No, I don’t think so,’ he said, ‘I think we are going to beat it’ I think that was it’.

Stanley would not have felt so confident had he known that Stuart had, according to his testimony before me, been assiduously conferring with the SEC commissioners and members of the staff, over a long period of time, explaining the virtues and advantages of public sealed bidding. Stuart knew that his persistent and long continued efforts had succeeded in impressing the very men who, thereafter, were not convinced by the arguments made at the open hearing by Stanley and the other investment bankers, defendants, and non-defendants, and institutional investors, who were in attendance in response to the invitation to come and express their views.

It will serve no useful purpose to trace further the trial of the Eaton-Young-Halsey Stuart campaign, except to say that after their initial success before the SEC with Rule U-50, this combination redoubled their efforts until they were rewarded by the much more significant victory evidenced by the ICC ruling in 1944.*801

Responses to Requests from SEC to Express Views Relative to Proposed Rule U-50 and Further Amendments to Rule U-12F-2

On December 28, 1938, pursuant to authority found in the Public Utility Holding Company Act of 1935, the SEC promulgated Rule U-12F-2, effective March 1, 1939. It contains elaborate provisions, and was amended from time to time. We are concerned only with a reference therein to a requirement that, under certain states of fact, no payment of an underwriter’s fee would be approved where ‘there is liable to be or to have been an absence of arm’s-length bargaining with respect to the transaction.’ In the course of time various applications for exemption were made to the SEC, and these were occasionally granted on condition that there be ‘shopping around’ among a number of investment banking houses, rather than a negotiation solely with the firm which had brought out prior issues. This proved in practice to be unsatisfactory to all concerned. Accordingly, on March 4, 1940, the Public Utilities Division of the SEC sent out form letters, enclosing a copy of Rule U-12F-2, stating ‘We are * * * willing to consider techniques *821 which may be less burdensome from the standpoint of the issuer and more effective from the standpoint of the Commission,’ in meeting the requirement of competitive conditions and arm’s-length bargaining. The numerous investment bankers to whom this letter was sent were invited ‘to submit not later than March 18, 1940, a written memorandum,’ relative to a question asking for suggestions concerning methods which might be used to attain the desired end. The letter itself described ‘one method, in addition to the present ‘affiliate’ rule * * * has been a requirement of proof that the issuer has ‘shopped around’ among investment bankers for the most favorable terms.’ Another method is the possible ‘use of sealed bids.’ The letter adds, ‘There may well be others.’

Incredible as it may seem, the written replies to this formal invitation by an administrative body of the United States Government, asking citizens to express their views on a subject which vitally concerned their property interests, were offered in evidence by government counsel as some proof of the existence of the conspiracy charged in the complaint, despite the fact that it is not questioned but that the views expressed were honestly held and were submitted in good faith.

Hall, of Harris Hall, wrote:

‘We think that ‘shopping around’ for terms is a particularly unintelligent approach to the question which has been asked.’
A long and well reasoned memorandum by Blyth has this to say:

‘This suggestion (‘shopping around’), if it is properly understood, ignores the realities involved in doing business and is an ineffectual and unnecessary procedure.’

While many of the defendant firms submitted to memoranda, others pointed out that the naming a price ‘far in advance of the offering date leads to unrealistic price offers,’ and that one could not tell what was being ‘shopped around,’ as the issue might be in the formative stages of being shaped up. Certain deposition testimony on the subject is to the same effect, with greater detail.

My own conclusion is that the machinery of ‘shopping around,’ which favored the less scrupulous bargainer, had little to commend it.

The next step was another formal invitation to attend an open conference on January 27, 1941, at the SEC office in Washington, this time to express views concerning the contents of a Report of the Public Utility Division Staff, entitled ‘The Problem of Maintaining Arm’s-Length Bargaining and Competitive Conditions in the Sale and Distribution of Securities of Registered Public Utility Holding Companies and their Subsidiaries,’ which made a strong plea for compulsory public sealed bidding, and at least to some extent must reflect the good work Stuart had been carrying on for some time with some of the commissioners and members of the staff, as he testified.

Some carefully prepared memoranda were submitted expressing various views. Dillon Read thought that the SEC ‘has become a strong advocate’ and should defer action until the matter could be taken up at a public hearing ‘before committees of Congress.’ A committee report of the NASD to the Board of Governors, expressed the view that the proposed action ‘is a step toward the complete control by government of the private capital market.’ Significantly, on the conspiracy issue, this report of the NASD to the Board of Governors, expressed the view that the proposed action ‘is a step toward the complete control by government of the private capital market.’

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What witnesses before investigating bodies, administrative agencies or elsewhere, may say or do in carrying out an illegal scheme or conspiracy may of course be used, and should be part of the evidence proffered in a subsequent court proceeding, in which the existence of such illegal conspiracy is an issue. But here we are dealing with concededly honest expressions of opinion, in response to an invitation from public officials to state views on an important public question, with respect to which there was ample room for honest difference of opinion, on the merits. The witness or speaker, whether or not under oath, is placed in the position of remaining silent, telling the truth about his thoughts on the subject under consideration, or pretending to agree with what he thinks the public officials want him to say. If the exercise by American citizens of their constitutional rights in expressing their honest views on public questions vitally affecting their economic interests, can thus be used against them on a conspiracy charge in an anti-trust suit, whither are we bound? It is all well enough for government counsel to concede that the individuals in question had a right to express their views; the fact still remains that, if this procedure is to be consistently followed, many will hesitate to come before such public bodies and express views at variance with what is considered, perhaps erroneously, likely to be, or to become, the official policy. The purpose of free speech is to bring enlightenment and to insure our future welfare by forthright discussion of any and all matters affecting personal liberties and property rights. One of the surest ways to weaken and disintegrate these precious liberties, and to discourage communication between a citizen and his government, is to encourage such procedure as was here adopted in an attempt to bolster up a charge of conspiracy.

Alleged Overly-Large Syndicates and Other ‘Devices’ to Sabotage Public Sealed Bidding

While government counsel claim that there were other overly-large syndicates, the discussion of Pacific Gas & Electric will suffice. In fact there were no such overly-large syndicates formed by any defendant or group of defendants.

The claim that participations were given equal to those of the manager, and that the management fees in public sealed bidding transactions were considerably less than
those paid in negotiated transactions, and that these were
‘devices’ adopted by ‘the defendants’ in consummation of
the alleged illegal enterprise, finds no other support than
the misconception of the way investment bankers
function, which has already been referred to. It will
suffice to refer to what has already been written in Part I
of this opinion.

But what about the plight of the little fellow? Unfortuna-
tely for him, the record shows that compulsory
public sealed bidding has made the big firms bigger, and
the little fellow is worse off than he was before. This was
predicted by Stanley and by others; but to no avail.
Government counsel claim that this has no relevance to
the case, because the Sherman Act was never intended ‘to
hold an umbrella’ over the little fellow, or the inefficient,
as a protection against competition by those more favored
by nature or by circumstance. They are right about this.

In the final triennial, 1947-1949, Halsey Stuart ranked
No. 1, with 36.60% *823 of the dollar volume of public
sealed bidding financing. The small spreads above
referred to have reduced the participation of the smaller
dealers and local investment bankers. Under present day
conditions the public sealed bidding accounts provide few
securities for the small dealers to sell.

The whole process of so regulating an industry that
everyone will have a reasonable opportunity to secure his
so-called ‘share of the business’ is not as simple as it may
appear to some, which is only to say that the approach to
a solution of such a problem should not by way of the
courts, in a so-called conspiracy case, but within the
framework of the constitution of a free people, entitled to
have their voices heard.

PART VII

The ‘Insurance Agreement,’ Alleged to Have Been Made
on December 5, 1941, and ‘Approved’ on May 5, 1942
This subject is introduced by paragraph 44D(4) of the
complaint which alleges:

‘44. The conspiracy has consisted of a continuing
agreement and concert of action among the defendants,
the substantial terms of which have been that defendants:

‘D. Agree to eliminate and prevent competition for
security issues offered at competitive bidding and to
circumvent regulatory orders of Federal and State
administrative agencies requiring competitive bidding in
the sale of security issues, among other means—

‘(4) By inducing institutional investors to refrain from
making bids for security issues offered at competitive
bidding in return for the preferential allotment to such
investors of substantial blocks of the securities purchased
by defendant banking firms.’

The ‘agreement’ is alleged in great detail in paragraph
45C of the complaint as follows:

‘45. During the period of time covered by this complaint,
and for the purpose of forming and effectuating the
conspiracy, the defendants, by agreement and concert of
action, have done the things they agreed to do as
hereinbefore alleged, and, among others, the following
acts and things:

‘C. On or about December 5, 1941, at New York City,
representatives of most of the defendant banking firms
met with representatives of Metropolitan Life Insurance
Company, The Prudential Insurance Company of
America, The Equitable Life Assurance Society of the
United States, New York Life Insurance Company,
Mutual Life Insurance Company of New York, and Home
Life Insurance Company, and entered into an agreement
(herein referred to as the ‘insurance agreement’). At New
York City on May 5, 1942, at a subsequent meeting
attended by representatives of most of the defendant
banking firms and a larger number of life insurance
companies (hereinafter referred to as the ‘insurance
companies’), the insurance agreement was approved and
adopted by such representatives. The aforesaid meetings,
and similar meetings, held during the months of October
and November, 1941, were held at the invitation of the
Superintendent of Insurance of the State of New York,
which invitation has been induced by the defendants.
Under the terms of the insurance agreement, the
defendant banking firms and the insurance companies
have concertedly done and now do, among other things,
the following:

‘(1) Defendant banking firms advise, influence, and
induce issuers to set up their security issues to meet the
requirements and preferences of *824 the insurance
companies as to price, size of issue, type of security,
yield, and other terms.

‘(2) Defendant banking firms have retained for direct or
group offering to the insurance companies approximately
50 percent of every issue in which such companies
indicate an interest, and have determined the amount to be
so offered to each of such companies by giving weight to
two factors: first, the size of such companies, as
determined by their assets, and second, in the case of
refunding issues by giving weight to the amount of
securities which any individual insurance company would


lose through the retirement of the outstanding issue.

'(3) Defendant banking firms charge the insurance companies the full public offering price for all securities sold to them under the insurance agreement.

'(4) Defendant banking firms refrain from acting, and discourage other investment bankers from acting, as agent for institutional investors in agency purchases of securities.

'(5) The insurance companies, individually and collectively—

'a. Prepared and furnished to defendant banking firms a preferential list of 27 life insurance companies owning 87.8 percent of the total admitted assets of all life insurance companies in the United States, to which direct or group allotments under the insurance agreements are made by defendant banking firms.

'b. Refrain from bidding for the purchase of security issues offered for sale at competitive bidding.

'c. Discourage issuers from offering security issues for sale at competitive bidding, and support and cooperate with the defendant banking firms in opposing all extensions of the use of competitive bidding.

'd. Refrain from soliciting issuers to sell their security issues through private placement, and reduce substantially the volume of their security issue purchases through private placement.

'e. Refrain from making agency purchases of security issues.

'f. Reduce substantially their purchases of securities from investment bankers not parties to the insurance agreement.

'(6) A special committee composed of members named by the parties to the insurance agreement was organized and other persons were employed (a) to maintain liaison between defendant banking firms and the insurance companies, (b) to receive and investigate complaints against violators of the insurance agreement, and (c) to report the results of its investigations to the insurance agreement parties.’

That an agreement so ambiguous and unworkable should have been entered into by the officials of leading life insurance companies and investment bankers of wide practical experience, at the invitation of the Superintendent of Insurance of the State of New York, seems improbable on the face of the charge as made. We shall find, despite the 79 documents introduced in evidence on this issue, that no competent evidence whatever was offered to prove that such an agreement was made; circumstantial inferences from some of the documents indicate that no agreement of any kind was made; and the stipulated static data indicate that the subsequent course of events followed no such pattern.

The situation presented is simple; and it becomes complicated only because counsel for the government refused to call any of the 40 or 50 people present at either or both of the conferences referred to, in spite of repeated assurances that witnesses would be called. The record shows that many if not all of them were alive and available. Instead, following the plan of a ‘documentary case,’ the invitations to attend, the replies, and a host of miscellaneous papers were placed in evidence, no single one of which, or any number of them together, proved the making of an agreement, but indicated the contrary. Because of the absence of direct and competent proof, a finding that no such agreement was made would not be justified, and I shall do no more than record the failure of plaintiff to prove the making of the agreement as alleged.

On September 29, 1941, a $90,000,000 issue of American Telephone & Telegraph Debentures was bought in at public sealed bidding by three large life insurance companies, the Metropolitan, Mutual and New York Life, whose bid was higher than those submitted by a Morgan Stanley account, which came second, and by Halsey Stuart and Mellon Securities. Lehman Brothers, Glore Forgan and Eastman Dillon were in the Halsey Stuart account and several other defendant firms were in the Morgan Stanley account.

The first in the sequence of events which followed, according to the documents in evidence, was a telephone conversation on the morning of September 30, 1941, between New York State Superintendent of Insurance Louis H. Pink and Emmett F. Connelly, then president of the Investment Bankers Association. There having been some comment in the newspapers, Connelly apparently called Pink, and the conversation was followed by a letter from Connelly asking for an expression of opinion as to whether or not the insurance companies were permitted by law to make such purchases. Upon investigation it was found that the insurance companies were clearly within their rights, and an opinion to that effect was rendered by Pink’s counsel, and the correspondence was published in the press.

In his letter to Connelly, dated November 7, 1941, Pink
stated:

‘Some objection has also been raised in the insurance field because the large life companies are able to combine and purchase practically all of the securities to the disadvantage of the small companies.’

This is the first time that this question appears in any of the documents; and the record shows that, in the meantime, Pink had called a meeting of insurance company executives on October 15, 1941. No witness testified to what occurred at that meeting, nor do the documents contain any statement of who were present or what was said. Pink thereupon appointed a committee of insurance company officials, with James A. Fulton of the Home Life, one of the smaller companies, as chairman, to look into the matter; and it was conceded by government counsel, and it is the fact, that Superintendent Pink was vested with power by law to explore the problem thus presented. Pink called a meeting of this committee on November 25, 1941, and a meeting of the representatives of 31 or more insurance companies on November 26, 1941. Again the record gives no inkling of what occurred at either meeting.

The next move by Pink was a letter to various investment bankers and insurance company officials calling a meeting to he held at the offices of the New York State Insurance Department, in New York City, on December 5, 1941, ‘to talk over the problem of life insurance investments.’ Much time was consumed during the trial on the subject of who was present. As to all but a very few there was no doubt; but as to the others there is little to guide me, which is explainable, as the attack on Pearl Harbor came only two days later. If requested I shall make findings in accordance with comments on the record made by me as the various voluminous answers to interrogatories, and answers to demands for admissions were being offered in evidence and considered. Representatives of several non-defendant firms, including Halsey Stuart, and numerous executives of life insurance companies, including Beebe of the Mutual, Ecker of the Metropolitan, Stedman of the Prudential and Harrison of New *826 York Life, in addition to Fulton of the Home Life and Superintendent Pink, and others, were present. It is conceded that no representatives of Eastman Dillon, Glore Forgan, Harris Hall, Kidder Peabody, Lehman Brothers, Stone & Webster, White Weld or Union Securities attended any of the meetings or had anything whatever to do with the alleged ‘insurance agreement.’

I find as a fact that none of the meetings were induced by ‘the defendants,’ as alleged in the complaint, or by any of them.

Again, the record is silent as to what was said at the meeting of December 5, 1941. Such meager references to this meeting as are found in the documents in evidence would indicate that no agreement whatever was made by or between any of the participants. Government counsel repeatedly assured me that witnesses would be called, but none was called, despite the fact that on November 20, 1951, I signed a subpoena ad testificandum addressed to Donald C. Slichter of the Northwestern Mutual. Government counsel finally decided not to call him or anyone else.

In the beginning, Fulton had requested Sidney Mitchell of Bonbright, an alleged co-conspirator, to work with his committee of insurance officials, so that the members of that committee might have an investment banker with whom to consult. At some time prior to May, 1942, Coggeshall of First Boston was requested by Fulton to take Mitchell’s place, when Mitchell was called to Washington; and there are some letters passing thereafter between Coggeshall and Fulton.

Finally, Pink called another meeting for May 4, which was put over to May 5, 1942, and certain representatives of life insurance companies and defendant and non-defendant investment banking firms again conferred with Pink. We are not informed as to what took place.

After the meeting and on May 14, 1942, Fulton made an extensive report to Pink, copies of which were sent to those who attended the meetings; and there the matter ended. One of Pink’s later letters states, ‘While no definite action has been taken, greater effort is being used by everyone to distribute such investments as are offered more equitably and more widely.’ Fulton’s report contains this sentence:

‘It should be emphasized the neither at this meeting (the first one with the insurance company officials) nor at any of the subsequent conferences which were held, were any agreements or understandings arrived at that would in the slightest degree restrict the freedom of action of anyone.’

The fact that, after the meeting of May 5, 1942, Coggeshall sent out a list of life insurance companies, ranked by assets, which had been prepared by Mitchell of Bonbright, is of little significance, particularly as the stipulated static data indicate that life insurance companies continued to bid for security issues, and no pattern of uniform or consistent action on the part of investment bankers or life insurance companies followed in the wake of these meetings.

PART VIII
Conclusion

There are many features of this extraordinary and perhaps unparalleled case which have not been commented on; the issuer situations referred to run into the hundreds; and my effort to channel the proofs into an area composed of the security transactions of only 100 issuers, proved wholly futile. But it is believed that every significant feature of the case, and each of the principal contentions of government counsel, has been commented on sufficiently to disclose the state of the evidence and my findings of fact and legal conclusions relative thereto. And this has been done in so complete a manner that any errors on my part may readily be discovered.

*827 Administrative Features and Statistics of the Trial

My four pre-trial orders indicate my efforts to clarify the issues and simplify the trial, to the extent that preliminary clarification and simplification were possible. This reduced discussion on the admissibility of evidence to a minimum. The system of marking exhibits demonstrated its usefulness in a variety of ways and worked well. My notes, made during the progress of the proceedings in open court, with elaborate cross-references, afforded a fairly complete and accurate digest of the evidence, documentary and testimonial, and served as a ready means of locating exhibits and eliminating futile discussion of what had taken place. The filing and cross-reference system installed in my chambers made the various original exhibits, charts and statistical tables, memoranda, and miscellaneous affidavits, motion papers, notices and lists, at all times available without delay. The direction that counsel for the government present plaintiff’s evidence seriatim, according to an arrangement satisfactory to them, saved much confusion. The difficulties caused by thus dispersing the various excerpts from the deposition testimony, taken in the pre-trial discovery proceedings, were overcome by the presence of separate volumes containing the numerous depositions, which were thus at all times at hand, when I desired to read the deposition of any particular witness in sequence.

In many anti-trust cases thousands of documents, such as invoices or reports, may readily be tabulated and the net results observed without reading each exhibit. Here the mass of documents referred to innumerable conversations and transactions which could only be pieced together after a methodical reading of each, and the identification of the official positions and connections of those whose names appeared in the various letters, memoranda, diary entries, telegrams and reports. I could find no way to avoid this; and the numerous colloquies, which at first glance seem unduly to increase the size of the transcript, were the only means I could hit upon to make it possible for me intelligently to weigh and determine the probative value of the thousands of items of documentary evidence.

Nothing whatever was admitted ‘for what it was worth,’ and it is only fair to counsel for the government to say that nothing was offered on the basis of this vague formula. On the other hand, it must be frankly admitted, that in a complicated conspiracy case the presiding judge has little alternative to going along with counsel, when assured that the proffered evidence will be connected up later and will serve in the end to complete the ‘mosaic’ of joint action and conspiracy. In my judgment, the only hope of cutting these conspiracy cases down to size, lies in the exercise of a sound discretion by the Department of Justice. The trial judge, desirous of doing full justice to all parties, can hardly lop off particular segments of the case at a time when it is impossible to be sure that they will be will not, in the end, fit together.

The connecting statements at the end of the government’s case were indispensable. Without them I should have had no other alternative, as a practical matter, than to compel the defendant firms, perhaps with the exception of the peripheral ones, to go on with their defense; and this might well have, quite unnecessarily, prolonged the trial for another two years.

Plaintiff filed its 56-page complaint on October 30, 1947; answers of all defendants, denying the material allegations and totalling 213 pages, were filed on March 17, 1948. In the three years which elapsed prior to the opening of the trial itself a total of 28 days of pretrial hearings were held, the transcript of which occupied 1709 printed pages.

The great quantity and variety of matters presented to the Court at these extensive pre-trial hearings are generally described in the opinion filed with Pre-Trial Order No. 2 on May 25, 1950, 10 F.R.D. 240. In summary, counsel for the government took 21 separate depositions, at one of which the Court presided; these depositions were taken on 80 separate days from February 16, 1948 to May 22, 1950, and occupied 6,848 printed pages of transcript. In addition during this period approximately 10,640 documents, consisting of some 43,252 pages, were submitted by counsel for the government to the defendants for authentication and were printed by the parties. There were also served and filed by the various parties some 26 separate demands for admissions and groups of interrogatories which, together with the 192 objections and responses thereto, totalled 3864 pages.

The trial itself opened on November 28, 1950, and
continued for a total of 309 courtroom days, through May 19, 1953. The Court also held off-the-record ‘powwows’ with all counsel on 25 separate days. The stenographic trial transcript constituted 23,962 printed pages, or between 5,000,000 and 6,000,000 words.

Some 4469 separate documents, totalling 20,474 pages, were included in the exhibits introduced in evidence or marked for identification (other than stipulated data). There were also introduced in evidence as ‘plaintiff’s and defendants’ exhibits’ extraordinarily extensive and detailed stipulated statistical and other data constituting 10,168 sheets or pages. An additional 2967 pages of similar material were marked for identification. Thus all documents and stipulations introduced or marked at the trial came to a total of 33,609 pages, which, with the stenographic transcript, result in a trial record of some 57,571 pages in all.

After the filing of the complaint and prior to the submission of final briefs, the Court was required to consider some 597 separate motions, briefs and memoranda, as well as 376 separate charts and tables prepared from stipulated data by the various parties. This pre-trial and interim material came to a total of 3846 pages. In addition, final briefs and reply briefs of all parties amounted to a total of 3247 pages. A grand total of 597 separate motions, briefs, memoranda, charts and tables thus have been submitted to and considered by the Court, consisting of some 7093 pages.

Altogether there have been printed in connection with this litigation from start to finish approximately 100,000 pages of material, and the Court has been required to consider as well some 5000 additional pages of unprinted motions, affidavits, memoranda and similar matter.

Summary, Rulings on Motions and Dismissal

The seventeen defendant firms have all done business in much the same way, as occurs in any industry. But each has followed its own course, formulated its own policies, and competed for business in the manner deemed by it to be most effective, in view of its history and background, its standing in the industry, its capital, relatively large or small, its own particular business affiliations and contacts, the capacities of its own officers or partners and its own personnel as individual human beings, and its own facilities for the distribution of securities. Some specialize in debt issues, some in floatations of common stocks; some depend especially upon participations and some do not. Obviously, each of them cannot compete for the management of every security issue. No one of them has enough trained men or sufficient capital even to compete for any great number of issues at the same time. To attempt to do so would result in complete failure.

Except for those instances where practically the entire industry developed a *829 functional device to enable its members to compete for the financings of issuers, as with the syndicate system, which has for many years been recognized as the American way of bringing out new issues of securities, or, the defendant firms or individual members thereof, with some exceptions, genuinely and in good faith held the same views, as in the case of the controversy over compulsory public sealed bidding by regulatory fiat, these seventeen defendant banking firms went their own several and separate ways. If they had in fact acted in combination or as a unit to divide the business among themselves, and to form a monopoly vis-a-vis the other firms in the industry, as alleged, the pattern of such combination, no matter how cleverly disguised or concealed, must surely have emerged, after such prolonged and continuous scrutiny as has gone on in this case for almost three years. But it did not.

Government counsel at no time disputed or sought to minimize the burden resting upon plaintiff to establish joint action by the defendant banking firms, consciously pursuing the alleged plan or scheme in concert. At no time was I urged by government counsel to find conspiracy, unless convinced that an actual conspiracy had been formed and was in operation. Accordingly, I have weighed the evidence in light of the conceptions of conspiracy urged by government counsel, and in terms of the doctrines of conspiracy laid down by the Supreme Court.104

I have come to the settled conviction and accordingly find that no such combination, conspiracy and agreement as is alleged in the complaint, nor any part thereof, was ever made, entered into, conceived, constructed, continued or participated in by these defendants, or any of them.

Since there was no combination, the monopoly charges fall of their own weight.

Many findings of fact and conclusions of law are stated in this opinion. Within 60 days after the filing thereof, the parties may submit for my consideration further proposed findings of fact and conclusions of law, in accordance with this opinion and supplemental thereto.

The motions to connect, and further to amend the complaint, are denied; each of the several motions to dismiss the complaint is granted, and the complaint is dismissed as to each defendant on the merits and with prejudice.
APPENDIX

Summary Description of Statistical Compilations, Tables and Charts

Pre-Trial Order No. 1 made provision for the establishment of the accuracy of statistical compilations through consultation and agreement among counsel, in lieu of the tedious proof of statistical facts in the course of trial. When, in compliance with the Pre-Trial Order, government counsel submitted their proposed statistical charts and supporting source materials, counsel for the defendants counter-proposed the stipulation of a comprehensive body of basic data which might be drawn upon for the purposes of studies submitted by either side, and to this the government agreed. Accordingly, counsel for the defendants, assisted by a research staff under the direction of Dr. Bertrand Fox, Director of Research of the Graduate School of Business Administration of Harvard University, prepared a number of basic compilations of comprehensive information on security issue financing. These compilations, which were reconciled with the government’s figures through the cooperative contributions of work by government counsel, were either put in evidence as joint exhibits of plaintiff and defendants or stipulated to be competent proof from which either side might make appropriate submissions, as follows:

(i) ‘Issue Registers.’ In view of the small volume of financing in the first year and one-half following the enactment of the Securities Act of 1933, the parties agreed upon the period January 1, 1935 to December 31, 1949 as an appropriate and convenient fifteen-year span for purposes of statistical analysis. Eleven compilations, called ‘Issue Registers,’ were prepared and received in evidence, which listed, by years and by categories as to size and character deemed appropriate for relevant analysis, 9,879 security issues publicly offered or privately placed in the United States during those fifteen years. These comprised new and secondary issues, underwritten and non-underwritten, effected with or without the services of investment bankers, of domestic and foreign business corporations and foreign governments and revenue obligations of domestic governmental units. The security issues included were, generally, those of $100,000 and larger (although in some categories the issues listed were those of $1,000,000 and larger). For each of the 9,879 issues the ‘Issue Registers’ set forth the date of the offering or placement, the name of the issuer, a fully identifying description of the issue as to kind of security, rate of interest or dividend, maturity, and the like, amount of the issue, the type of transaction and method of offering, and the names of the investment banking firms who acted as managers or agents.

There was thus presented a substantially complete survey of all security issue financing (other than of direct and general governmental and municipal obligations) in the United States in the post-Securities Act period.

(ii) ‘Issue Data Sheets.’ For all underwritten issues of $1,000,000 or larger of business corporations and foreign governments listed in the ‘Issue Registers’ (except issues of domestic railroad equipment trust certificates), there were prepared and received in evidence ‘Issue Data Sheets’ which set forth further information in extensive detail, including data on spreads, management fees, underwriting expenses, selling concessions, dealer sales, group sales, and the names and amounts and percentages of the underwriting participations of all of the underwriters of each issue.

(iii) ‘Public Sealed Bidding Sheets.’ For all issues offered at public sealed bidding during the same fifteen-year period, in the categories covered by the ‘Issue Data Sheets,’ information identifying the heads of bidding accounts and bids submitted, and the participation of defendant firms in various bidding accounts, whether or not successful, was compiled and received in evidence in ‘Public Sealed Bidding Sheets.’

(iv) ‘Issuer Summaries.’ The defendants also prepared and submitted to the Court a two-volume compilation of security issues in the United States in the post-Securities Act period (July 26, 1933 to December 31, 1949). These volumes, filling in the gap between the passage of the Securities Act and the beginning date of the general statistical compilation and adding certain categories of issues not embraced within the ‘Issue Registers,’ organized basic information about all of the issues alphabetically by names of issuers, in order that the security issue financing history of any of some 4,000 issues could be conveniently traced. This compilation was subsequently stipulated by government counsel to be complete and correct and was received in evidence as a joint exhibit of plaintiff and defendants.

(v) ‘Pre-Securities Act Issuer Summary Sheets’ were prepared with respect to all of the known security issue financings, going back for many years prior to July 26, 1933, of (a) each issuer for which any defendant firm acted as manager or agent of an issue in the post-Securities Act period, and (b) each issuer concerning whose financings the government had indicated by its answers to interrogatories that it would offer proof. The information here collected was in substantially the same categories covered by the ‘Issue Registers,’ but due
to the absence of complete information in many cases the investment banking firms shown were those which could be ascertained to have acted as managers or agents or to have been in privity of contract with the issuer or to have been prominently identified with the offering of the issue in the offering circular. Since it could not be made statistically complete and comprehensive, this compilation was not offered in evidence as such, but was stipulated by the parties to be a competent pool of proof from which either side might make submissions. During the course of trial ‘Pre-Securities Act Issuer Summary Sheets’ on the financings of 616 different issuers were put in evidence by the various parties.

Numerous analytical studies dealing with the stipulated security issue data for the fifteen-year period 1935-1949 were prepared by the defendants, with the assistance of Dr. Bertrand Fox, and were submitted to the Court, including principally the following:

(i) ‘Analysis of the Volume of Security Issues 1935-1949,’ a quantitative analysis, by charts and tables, of the data on the types of securities issued and the types of transactions used by various classes of issuers over the fifteen years.

(ii) ‘Tables M 1 through M 16: Investment Bankers as Managers or Agents,’ analyzing the data as to the dollar amount and the number of issues for which each of 40 to 50 investment banking firms (including each defendant firm) acted as manager or agent during the fifteen years. In addition to revealing the relative activity and performance of each of those firms by triennial periods, as well as for the fifteen years as a whole, this study examined the data by class of issuer, by size of issue and by type of transaction.

(iii) ‘Tables P 1 and P 2: Investment Bankers as Underwriters,’ analyzing the data as to the dollar amount and the number of underwriting participations of each of 75 investment banking firms (including each defendant firm) in all underwritten new and registered secondary issues of $1,000,000 or larger, by triennials and for the fifteen years, separately for negotiated issues and for public sealed bidding issues.

(iv) ‘Tables and Charts P 10 and P 11: Analysis of Alleged Reciprocity in Underwriting Participations,’ examining, on a number of alternative comparative bases, the alleged reciprocity in underwriting participations between each defendant in this action and each of 37 other investment banking firms (including each other defendant) both in dollar amount and number of underwriting participations and in terms of dollar volume of contemplated gross spread proportionate to participations, for negotiated issues and for negotiated issues and public sealed bidding issues combined.

(v) ‘Tables PSB 1, 2 and 3: Summary Record of Public Sealed Bidding Issues,’ analyzing the relationships between type, size and rating of issues at public sealed bidding, size of accounts formed to bid, and the number of bidding accounts, and examining these relationships in terms of all bidding accounts and of bidding accounts headed by or participated in by defendants.

(vi) ‘Record of Individual Firms as Head or Member of an Account in Public Sealed Bidding Issues, 1941-1949 (for each of the 17 defendant firms, for Mellon Securities Corp. and for Halsey Stuart),’ analyzing the activity of the firms listed in accounts, both successful and unsuccessful, by types and grades of securities and by sizes of issues for each year.

In addition to these principal studies of security issue financing and investment banking activity, many other charts and tables submitted on behalf of all of the defendants or submitted separately by some of them were studied and considered. These included analyses of the trends over the years of spreads and spread components (underwriting compensation, selling concessions and management fees) in relation to size, type and investment quality of securities, examination of the composition of and changes in the business done by various of the defendants, and studies of other matters bearing on the competitive positions and activities of investment banking firms.

Charts and tables submitted by plaintiff at various times during the presentation of the government’s case dealt with, among other things, participations, ‘directorships,’ ‘historical position,’ management activities and management fees.

See infra, p. 646.


Public Hearings, September 6, 1905, through December 30, 1905, before the Joint Committee of the Senate and Assembly of the State of New York, Appointed to Investigate and Examine into the Business and Affairs of Life Insurance Companies, pursuant to the Concurrent Resolution adopted July 20, 1905.

Report of Governor Hughes’ Committee on Speculation in Securities and Commodities, June 7, 1909.

Hearings before a Subcommittee of the House Committee on Banking and Currency, pursuant to H.Res. 429 and 504, 62d Cong., 2d Sess. (1912); May 16, 1912 through February 26, 1913.


48 Stat. 162 (1933).


Hearings before Senate Committee on Finance, pursuant to S.Res. 19, 72d Cong., 1st Sess. (1931).

Hearings before Senate Committee on Banking and Currency, pursuant to S.Res. 84, as amended, 72d Cong., 1st Sess. (1932) and S.Res. 56 and S.Res. 97, as amended, 73rd Cong., 1st Sess. (1933).


See infra, p. 691 ff., for a full discussion of the SEC rulings, and the interpretations by the NASD of its Rules of Fair Practice.

See Appendix, following this opinion, for a more comprehensive description of the ‘Statistical Compilations, Tables and Charts.’

See supra, p. 635.

Formerly, New York Curb Exchange.

Formerly, Chicago Stock Exchange.

See supra, p. 636 ff.

See infra, p. 779 ff.

See supra, p. 635.

See supra, p. 662.

See infra, p. 779 ff.

See supra, p. 655.
He held this position until his death on January 21, 1937.

Halsey Stuart bid only as the head of an account and never as a member of an account headed by another firm. Likewise, it bid only for debt issues.

See infra, p. 698 ff.

See infra, p. 698 ff.


See infra, p. 698 ff.

246 U.S. 231, 238, 38 S.Ct. 242, 244, 62 L.Ed. 683.

See the various provisions of both Acts giving the SEC broad powers to prohibit or regulate any and all securities transactions which may have the effect of manipulating the prices of securities, i.e., Sec. 17(a) of the 1933 Act, and Secs. 9, 10 and 15(c) of the 1934 Act. In administering these Acts the SEC has uniformly dealt with these sections as part of an integral plan to protect investors in the securities markets generally, and has consistently held exchange transactions and over-the-counter transactions to be subject alike to these broad powers of prohibition and regulation. Sec. 17(a) of the 1933 Act, and Secs. 9 and 10(b) of the 1934 Act have remained in their original form. In 1936 and 1938, however, the Congress added to Sec. 15 of the 1934 Act certain additional specifications as to manipulative devices by incorporating subsection (c) therein.

Rule 1, Article III of the NASD Rules of Fair Practice reads: ‘A member, in the conduct of his business, shall observe high standards of commercial honor and just and equitable principles of trade.’ This is to be distinguished from purchases in the open market by the manager for the purpose of covering ‘over-allotments.’ Knowing that some may decline to participate and others may refuse to take all of what he proposes to allot to them, the manager will sometimes allot and offer more than he has, hoping to come out even. It then all accept, he has an ‘oversold’ position. Whether or not the SEC will regard this as stabilizing becomes a question of the original intention of the manager.

It is interesting to note that the Dickinson Report transmitted to the House Committee on Interstate and Foreign Commerce and the Senate Committee on Banking and Currency by President Franklin D. Roosevelt on January 25, 1934 dealt extensively with this subject, in which this interdepartmental committee, headed by John Dickinson, under appointment by the Secretary of Commerce, had evinced special interest during the course of its investigation. Mr. Dickinson was an Assistant Secretary of Commerce and his committee was one of considerable distinction, including among its members, A. A. Berle, Jr., James M. Landis, later to become chairman of the SEC, Henry J. Richardson and Arthur H. Dean, of counsel for several of the defendants in this case. See comments on the operation of the syndicate system and stabilizing transactions connected therewith (Report, pp. 13-15). The general recommendation is study and regulation. This report was submitted shortly before the hearings on the bills which, after a certain amount of redrafting, subsequently became the Securities Exchange Act of 1934. See also testimony of Thomas G. Corcoran, a coauthor of the bill, before the Senate Committee (Hearings before Senate Committee on Banking and Currency on S. 2693, 73d Cong., 2d Sess. 1934, p. 6512) and that of Thomas G. Corcoran and James M. Landis, then a Commissioner of the Federal Trade Commission engaged in administering the Securities Act of 1933, before the House Committee (Hearings before House Committee on Interstate and Foreign Commerce on H.R. 7852 and 8720, 73d Cong., 2d Sess. 1934, pp. 114 and 21).

See infra, p. 698 ff.
The second of the two Reece Bills is H.R. 1626, 79th Cong., 1st Sess., introduced January 18, 1945. 


See infra, p. 717.

See supra, p. 703.

See infra, p. 788 ff.

The Temporary National Economic Committee was created by a joint resolution of the Congress (Public Resolution No. 113, 75th Cong.), following a message from President Franklin D. Roosevelt on April 29, 1938, stating a need for a thorough study of economic power and its effects on the American economy. Hearings with respect to investment banking were held between December 12, 1939 and January 12, 1940, and were recorded in Parts 22 through 24 of the published hearings. The 729 page Report, while containing a number of conclusions and recommendations with respect to other phases of the investigation, makes no reference to investment banking nor do any of the 43 monographs published by the TNEC discuss investment banking.

See infra, p. 760 ff.

See supra, p. 717.

See supra, pp. 632, 633.

See supra, p. 717.

See supra, p. 655.


See supra, p. 655.

On March 15, 1935, a joint resolution of the Congress became effective, authorizing the FCC to investigate and report on the American Telephone & Telegraph Co., ‘in aid of legislation by the Congress and for the use of governmental agencies, including State regulatory commissions, for the information of the general public, as an aid in providing more effective rate regulation, and for other purposes in the public interest.’ The scope of the investigation included: corporate and financial history; capital structure; intercompany relationships; service contracts; accounting methods; apportionment of investment revenues, and expenses between State and interstate operations; policies and practices; methods of competition; the effect of monopolistic control upon the reasonableness of telephone rates and charges; and the reasons for the failure generally to reduce telephone rates and charges during the years of declining prices. An order adopted by the Telephone Division of the FCC on March 4, 1936, prescribed the procedure to govern the conduct of the investigation, which continued through June 14, 1939, when the Report was filed. H.R.Doc.No.380, 76th Cong., 1st Sess.


See supra, p. 744.

See supra, p. 760 ff.

See supra, p. 765 ff.

See supra, p. 752.

See supra, p. 768.

See supra, p. 719 ff.

See supra, pp. 704 ff., 716 ff.; and also discussion of Shell Union Oil, under the subtitle of Dillon Read, infra, p. 800.

See supra, pp. 637, 638.

The only exceptions had been the four B. F. Goodrich Company issues of March 15, 1920, April, 1920, July 5, 1922, and December, 1922, all of which had been headed by Goldman Sachs with others, but without Lehman Brothers.

See supra, p. 718.

See infra, p. 783 ff.

See supra, pp. 771, 740.

See supra, p. 782.
Numerous documents were placed in evidence in this case by government counsel, chiefly in the nature of compilations of statistical data, which had been prepared by some of the defendant firms at the request of and sent to Morgan Stanley. While it was claimed by government counsel that this indicated some monopoly power, it soon became evident that the information had been solicited in an endeavor to fulfill demands by the TNEC for this information, and that no inferences of conspiratorial combination or monopoly power were justified.

Certain comments in the ICC ruling in Ex parte 158, 257 ICC 129, 156, are of interest:
‘While there is a growing tendency on the part of railroad management to exercise its choice of method in the marketing of securities, most of the railroads continue to market the bulk of their securities through private negotiation with Kuhn, Loeb & Company and Morgan Stanley & Company. While these firms get by far the larger part of railroad financing, no facts indicating that this is due to domination of the railroads or to any sinister relationship have been brought to our attention. In our 52nd annual report to Congress (1938) we called attention to the fact that banker influence on railroad managements had at times been marked, but not always bad, and that there was little evidence that it was dominant at that time, the great railroad banker being the Reconstruction Finance Corporation. No evidence of banker domination of the railroads has been shown in this proceeding. The record indicates that railroads have given and continue to give the bulk of their business to the two firms because of the quality of service rendered and because the railroads have seen no reason to make a change. Nor have proponents called to our attention any facts showing or tending to show that the bankers maintain their position in railroad financing by distribution of patronage, coercion of other investment bankers, or favoritism of such bankers because of interlocking relationships.’
Pre-trial Order No. 1, June 10, 1948 (not published); Pre-trial Order No. 2 and Opinion, May 25, 1950, 10 F.R.D. 240; Pre-trial Order No. 3 and Opinion, April 9, 1951, 11 F.R.D. 445; Pre-trial Order No. 4, August 18, 1951 (not published); Order Amending Pre-trial Order No. 3 and Opinion, December 9, 1952, 13 F.R.D. 300.

The Effect of Common Ownership on Profits: Evidence From the U.S. Banking Industry

Jacob Gramlich and Serafin Grundl

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The Effect of Common Ownership on Profits: Evidence From the U.S. Banking Industry

Jacob Gramlich and Serafin Grundl †

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Abstract

Theory predicts that “common ownership” (ownership of rivals by a common shareholder) can be anticompetitive because it reduces the weight firms place on their own profits and shifts weight toward rival firms held by common shareholders. In this paper we use accounting data from the banking industry to examine empirically whether shifts in the profit weights are associated with shifts in profits. We present the distribution of a wide range of estimates that vary the specification, sample restrictions, and assumptions used to calculate the profit weights. The distribution of estimates is roughly centered around zero, but we find statistically significant estimates in either direction in some cases. Economically, most estimates are fairly small. Our interpretation of these findings is that there is little evidence for economically important effects of common ownership on profits in the banking industry.

*Preliminary. Please ask to cite. Comments Welcome.*

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† Board of Governors of the Federal Reserve System, jacob.gramlich@frb.gov, serafin.j.grundl@frb.gov.

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1 Introduction

Several recent empirical papers have estimated the competitive effects of common ownership – ownership of rivals by a common shareholder. Azar, Schmalz, and Tecu (2016) conclude that common ownership increased prices in the airline industry by relating prices to concentration measures that account for common ownership. Azar, Raina, and Schmalz (2016) report similar findings for the banking industry. Gramlich and Grundl (2017) use an alternative methodology to estimate the competitive effects, and in preliminary estimates find mixed signs and economically small effects for both prices and quantities in the banking industry. Kennedy, O’Brien, Song, and Waehrer (2017) present similar estimates for the airline industry and preliminary estimates from a structural model and conclude that there is no evidence of anticompetitive effects.1 Dennis, Gerardi, and Schenone (2017) use a similar methodology as Azar, Schmalz, and Tecu (2016), and also conclude that there is no effect of common ownership on prices in the airline industry.2,3

The model underlying these papers (O’Brien and Salop (2000)) predicts anticompetitive effects of common ownership as follows: If managers maximize the payoffs of their shareholders then they maximize a weighted sum of their own profits and of the profits of their rivals that are held by common shareholders. Hence, common ownership reduces the weight firms place in their objective function on their own profits and instead shifts weight to commonly-held rivals. This reduces competition among firms and therefore increases prices and reduces quantities. Thus, theory predicts anticompetitive effects of common ownership due to shifts in profit weights.

The empirical literature has so far mostly focused on the effects of common owner-

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1 See Azar, Schmalz, and Tecu (2017) for a reply to this paper.
2 This conclusion has been challenged by Martin Schmalz, arguing that Dennis, Gerardi, and Schenone (2017) actually report anticompetitive effects of common ownership for large routes.
3 The findings of anticompetitive effects of common ownership have received considerable attention from economists, legal scholars, competition authorities, policy makers and representatives of the asset management industry. The OECD held a discussion on the issue with economists, legal scholars, representatives of the asset management industry, and the US Department of Justice. Commentators have noted not only implications for antitrust and the regulation of the asset management industry, but have also pointed out links to the ongoing debates about rising profit shares and wealth inequality.

These findings have also led to policy proposals, some of which are fairly far reaching. Elhauge (2016) recommends antitrust enforcement actions to reduce common ownership in instances where it can be shown to have anticompetitive effects, though Rock and Rubinfeld (2017) challenges the legal analysis in Elhauge (2016). Posner, Scott Morton, and Weyl (2016) propose to limit common ownership by limiting holdings in an industry by an institutional investor to 1% of the industry, or alternatively to a single firm. Scott Morton and Hovenkamp (2017) discuss how current antitrust law applies to the common ownership issue.
ship on prices, and to a lesser extent on quantities. In this paper we estimate the effect of common ownership on profits. Specifically, we investigate whether the shifts in the profit weights predicted by the theory are associated with shifts in profits.

Our paper is most closely related to Azar (2011) and Panayides and Thomas (2017), which are cross-industry studies on the effect of common ownership on profits. Azar (2011) finds that common ownership is associated with higher markups. Panayides and Thomas (2017) find that common ownership is associated with increased profitability, but not with higher output prices and conclude that the effect is driven by reduced expenditures. Moreover they find that reduced expenditures are not driven by reduced input prices but by lowered investment, which suggests lowered non-price competition.

In this paper we take a different approach than Azar (2011) and Panayides and Thomas (2017) by studying the effect of common ownership on profits within an industry rather than across industries. We argue that such a within-industry approach is particularly useful in industries such as banking where a large number of competitors are not publicly traded and therefore have low levels of common ownership and experienced no increase in common ownership. These privately owned firms serve as a useful control group for the publicly traded firms that have high levels of common ownership and experienced large increases of common ownership in the previous decades.

In banking, the model-implied weight on own profits among publicly traded firms is typically far below 10% and was more than twice as high in the year 2001 than in the year 2016. The model-implied weight on profits among private banks however is typically 100% and has not declined since 2001. Loosely speaking, we ask whether the shift in profit weights among publicly listed banks decreased their share of industry profits at the expense of private banks. We also study whether within the group of listed banks profits shifted from banks with less weight on their own profits to banks with higher weight on their own profits.

Why Banking? We estimate the effect of common ownership on profits in the banking industry for several reasons. First, it is one of the two industries for which anticompetitive effects of common ownership have been reported (Azar, Raina, and Schmalz (2016)). Second, there are many publicly listed banks, which generate substantial variation in common ownership. There are more than 400 publicly listed banks in the U.S., which is much more than for example the number of publicly listed airlines. In addition there is an even larger number of banks that is not publicly traded, and therefore did not experience an increase of common ownership through large institutional investors,
which serves as a useful control group. Third, and perhaps most importantly, standard-
ized accounting data is available not only for publicly listed banks but also for private banks. Bank regulators restrict how banks report their income statements and balance sheets, which makes the data comparable across banks. In many other industries private companies either play no important role or accounting data is either not available or difficult to compare across firms.

There are also disadvantages of studying this question in the banking industry. Perhaps most importantly, the financial crisis and subsequent regulatory changes had large effects on bank profits that are unrelated to the competitive effects of common ownership. We try to address this problem in some of our estimates by restricting the sample period to either the pre-crisis or the post-crisis years.

**Data** We use accounting data from regulatory filings to measure bank profits. Economists are often reluctant to use data on accounting profits because they can differ from economic profits. We believe that studying data on accounting profits is still informative for our purposes as long as accounting profits co-move with economic profits so that changes in accounting profits are informative about changes in economic profits. We also believe that accounting profits are comparable across banks because banks are highly restricted by regulators in how they report income statements and balance sheets.\(^4\)

Our data set covers the more than 6,000 banks in the U.S. each quarter from 2001 to 2016, which results in approximately 400,000 bank-quarter observations.

**Specifications, Sample Restrictions and Variable Definitions** As is commonly the case in empirical research there are many plausible specifications, sample restrictions and variables definitions. In this paper we do not follow the common approach, which is to present findings for a “baseline case”, i.e. a particular specification, sample restriction and variable definition, and perhaps several robustness checks. Instead, we obtained several hundred estimates for different specifications, sample restrictions and different ways to calculate the profit weights and report the distribution of these estimates. We discuss how the distribution of estimates varies by specification, sample restriction or profit weight definition. This approach allows the reader to get a more complete picture of the range of plausible estimates. In the main text of this paper we present the distribution of estimates, but in the Online Appendix we show each estimate we

\(^4\)Notice also that the payouts of shareholders, especially the common owners, are restricted by regulators, partly based on accounting measures.
obtained. This allows the readers to look up particular estimates they are interested in.

We believe that this approach is useful for this paper because different researchers have arrived at different conclusions regarding the competitive effects of common ownership even if they have used similar methodologies and data sets. We also hope that similar approaches to presenting empirical results become more common in economics in general.

We estimate the effect of the weight a bank places on its own profits on three dependent variables: net income, return on equity (ROE) and return on assets (ROA). For each of these three variables we also consider a transformation of the variable into percentiles by quarter. For example the bank with the highest ROE in some quarter has ROE percentile 100 and the bank with the lowest ROE has percentile 0. This transformation makes magnitudes of estimates for the three outcome variables more easily comparable and reduces the effect of “outliers”, especially during the financial crisis. We consider six different specifications that vary the fixed effects and observable characteristics we control for, twelve different sample choices, that vary the time period and the set of banks that are included, and lastly four different ways to calculate the profit weights. This results in $6 \times 12 \times 4 = 288$ estimates for each of the six outcome variables.

**Preliminary Findings** We focus the discussion of findings on the estimates for the percentile transformations of the outcome variables. The distribution of point estimates for the effect of own-profit weight on profits (net income), ROE, and ROA are roughly centered around zero. The estimated effect of a 1 pp increase in the weight on own profits ranges from -0.47 pp to +0.27 pp, with a median of -0.03 pp for net income, from -0.44 pp to +0.49 pp, with a median of -0.002 pp for ROE, and from -0.41 pp to +0.41 pp with a median of -0.009 pp for ROA. Some of these estimates that are large in magnitude are imprecise, and the range of estimates shrinks considerably if we focus on estimates that are statistically significant at the one percent level.\(^5\) In this case the

---

\(^5\)As we obtain many estimates of the same effect this raises the issue of the multiple comparisons or the multiple testing problem when we the range and the distribution of estimates that are individually “statistically significant”. One way to interpret this distribution is as follows: Suppose different studies pick one of the 288 estimates at random. If the study finds a statistically significant effect the study is published. If not, the study is shelved or does not get through the publication process. A survey paper reporting the estimated effects in the literature would then report this distribution of statistically significant effects.
estimates range from -0.47 pp to +0.09 pp, with a median of -0.09 pp for net income, from -0.44 pp to +0.08 pp, with a median of -0.04 pp for ROE, and from -0.41 pp to +0.15 pp with a median of -0.03 pp for ROA. We also show how the distribution of estimates varies by specification, sample and profit weight calculation.

In our view, the magnitude of the positive and statistically significant estimates is relatively small. For example, between 2001 and 2016 the average weight placed on own profits by listed banks has fallen by roughly 5 pp due to an increase in common ownership. Even the largest statistically significant estimates we find imply that a 5 pp decrease in weight on own profits is associated with a shift in the net income distribution by 0.45 pp, a shift in the ROE distribution of 0.4 pp and a shift in the ROA distribution by 0.75 pp.

**Direct Shareholders and Active Investors** We also obtain some preliminary estimates that only rely on common ownership through either “Direct Shareholders” or through “Active Investors”.

“Direct Shareholders” - such as Berkshire Hathaway - are the ultimate owners of shares as opposed to asset managers - such as Vanguard or Fidelity - that manage shares owned by their clients.“Direct Shareholders” may benefit more from increasing share prices (as a consequence of decreased competition) than asset managers that typically earn a fixed small percentage of assets under management.

“Active Investors” are investors that try to pick winning stocks, as opposed to “passive investors” that simply replicate an index. The idea is that index funds compete mostly on fees. It is unclear how strong the incentives of an index fund manager are to reduce competition among portfolio firms, given that improved performance of the index would also improve the performance of all all competing index fund managers, which replicate the same index. Active asset managers however, who hold a unique portfolio, could outperform other active asset managers if their portfolio firms compete less and thereby attract new clients.

Perhaps surprisingly, the estimates for “Direct Shareholders” or “Active Investors” are similar to the estimates for all investors. These estimates are preliminary because we only take the largest “Direct Shareholders” and the largest “Active Investors” into account, and we hope to eventually incorporate more comprehensive classifications.

**Identification and Endogeneity** Which variation in the data identifies the coefficient on the weight firms place on their own profits? The answer to this question
depends on the sample restrictions and the specification. The most basic case relies on comparisons of unlisted and listed banks: Unlisted banks have typically no common owners with other banks and therefore place 100 percent weight on their own profits throughout the sample period. On the other hand, listed banks share common owners and the model-implied weight on their own profits is surprisingly low (typically below 10 percent). Moreover, for listed banks common ownership became more prevalent between 2001 and 2016, so the weight these banks placed on their own profits in 2001 is about four times higher than in 2016. This variation is used in some of our estimates. In the simplest specification without bank fixed effects we ask whether banks that place more weight on their own profits make higher profits.\(^6\) In specifications with bank fixed effects, we ask whether the decrease in weight on own profits among listed banks was associated with a reduction in their profits.

We do not try to instrument for the profit weights in this version of the paper. The conclusions of the existing literature that finds anticompetitive effects of common ownership do not rely heavily on whether profit weights were treated as exogenous or not. Moreover, we believe that a large portion of the variation in profit weights and the secular increase in common ownership are driven by factors that are plausibly exogenous. The studies by Azar, Schmalz, and Tecu (2016) and Azar, Schmalz, and Tecu (2016) find anticompetitive effects of common ownership in OLS and IV specifications. In Gramlich and Grundl (2017) the OLS and IV estimates for the same subsample do not differ substantially. Kennedy, O’Brien, Song, and Waehrer (2017) find positive and statistically significant effects of common ownership with OLS and negative and significant effects in their IV approach. This suggests that treating the profit weights as exogenous could bias our findings towards finding anticompetitive effects of common ownership. The secular trend towards increased common ownership is largely driven by the trend towards passively investing asset managers, which is plausibly exogenous.

**Roadmap** The remainder of this paper is structured as follows. In section 2 we discuss the model by O’Brien and Salop (2000) and show in a numerical example how shifts in profits weights shift lead to shifts in profits. In section 3 we discuss the data and show some descriptive statistics on profit weights and profits for listed and unlisted banks. Section 4 discusses the range of specifications, sample restrictions and variable

\(^6\)As we discuss in more detail below, these estimates typically find a fairly large negative association between the weight on own profits and profits, because listed banks make higher profits than unlisted banks.
definitions we consider and section 5 presents the findings. In section 6 we obtain estimates if only common ownership through “Direct Shareholders” or through “Active Investors” is taken into consideration. Section 7 concludes. Tables that are not included in the main text can be found in Appendix A.

2 Common Ownership Model

The model by O’Brien and Salop (2000) is the basis for much of the empirical research on the competitive effects of common ownership.\(^7\) In this model managers maximize a weighted sum of their shareholders’ payoffs:

\[
\sum_i \gamma_{ij} \sum_k \beta_{ik} \pi_k
\]  

Managers are indexed by \(j\) and \(k\), and shareholders by \(i\). \(\gamma_{ij}\) is owner \(i\)’s “control share” of firm \(j\), which is the weight that manager \(j\) assigns to owner \(i\)’s payoff. For each firm \(j\), the control shares add up to one \(\sum_i \gamma_{ij} = 1\). \(\beta_{ik}\) is owner \(i\)’s ownership share of firm \(k\), which is the percentage of firm \(k\)’s profits, \(\pi_k\), which accrue to owner \(i\). For each firm \(k\), the ownership shares add up to one \(\sum_i \beta_{ik} = 1\). It natural to assume that \(\gamma_{ij}\) is a non-decreasing function of \(\beta_{ij}\): as \(i\)’s ownership of firm \(j\) increases, manager \(j\) should place weakly more weight on \(i\) in its objective function. Generally, \(\gamma_{ij}\) likely depends not only on \(\beta_{ij}\), but the whole ownership structure of firm \(j\). For example, a ownership share of \(\beta_{ij} = 0.49\) might result in almost full control if all other shareholders are small, and in almost no control if the remaining 51% are held by a single shareholder. Much of the empirical literature assumes that \(\gamma_{ij} = \beta_{ij}\), which is called the proportional control assumption.

After dividing by \(\sum_i \gamma_{ij} \beta_{ij}\), manager \(j\)’s maximization problem in 1 can be rewritten as follows:

\[
\Pi_j = \pi_j + \sum_{k \neq j} \frac{\sum_i \gamma_{ij} \beta_{ik} \pi_k}{\sum_i \gamma_{ij} \beta_{ij}}
\]

\[
= \tilde{\gamma}_{jj} \pi_j + \sum_{k \neq j} \tilde{\gamma}_{jk} \pi_k
\]

The profit weights \(\tilde{\gamma}_{jk} = \sum_i \gamma_{ij} \beta_{ik} / \sum_i \gamma_{ij} \beta_{ij}\) measure the weight firm \(j\) places on the

\(^7\)Large parts of this model section are identical to parts of the model section in Gramlich and Grundl (2017).
profits of rival \( k \), relative to its own profits \( \tilde{w}_{jj} = 1 \).

An important property of the profit weights is that they are not symmetric in the sense that in general \( \tilde{w}_{jk} \neq \tilde{w}_{kj} \). This is generally the case even if all common owners of \( j \) and \( k \) have equal shares in both firms, because the weights also depend on the size of the ownership shares of the non-common owners. To see this consider an example with just two firms that have a single common owner who holds 10% of both firms. First suppose that the remaining 90% of both firms are held by by single investors, then \( \tilde{w}_{12} = \tilde{w}_{21} \approx 0 \). Now suppose that the 90% shareholder of firm 2 is split into many equal sized shareholders who each only hold a small share of firm 2, then \( \tilde{w}_{21} \) starts to increase whereas \( \tilde{w}_{12} \approx 0 \). This is because the 90% ownership in firm 1 by undiversified shareholders is concentrated in a single shareholder whereas is unconcentrated and spread across many shareholders for firm 2.

For our purposes it will be more convenient to work with weights that add up to one. Divide equation (1) by \( \sum_i \sum_k \gamma_{ij} \beta_{ik} \) to obtain

\[
\sum_k \sum_i \frac{\gamma_{ij} \beta_{ik}}{\sum_k \gamma_{ij} \beta_{ik}} \pi_k = \sum_k \frac{w_{jk} \pi_k}{\sum_k w_{jk}} \tag{3}
\]

where \( \sum_k w_{jk} = 1 \).

In this paper we estimate whether changes in \( w_{jj} \), the weight firm \( j \) places on its own profits, and \( \sum_{k \neq j} w_{kj} \), the total weight weight \( j \)'s rivals place on \( j \)'s profits are associated with changes in the reported profits.

### 2.1 A Numerical Example

Here we present a simple numerical example illustrating how prices, quantities and profits change depend on the profit weights in a model of differentiated product Bertrand competition.

In the example there are three banks \( j = 1, 2, 3 \). Banks 1 and 2 are listed on the stock market and therefore have common owners whereas bank 3 is private. Thus \( \tilde{w}_{31} = \tilde{w}_{32} = 0 \), \( \tilde{w}_{13} = \tilde{w}_{23} = 0 \), but \( \tilde{w}_{12} \) and \( \tilde{w}_{21} \) can be positive. The banks have

---

8The fact that \( \tilde{w}_{jk} \neq \tilde{w}_{kj} \) means that the common ownership model makes very specific testable predictions at the level of the ordered firm pair: For example one could test whether firm \( j \) starts to compete less aggressively with firm \( k \) as \( \tilde{w}_{jk} \) increases while controlling for \( \tilde{w}_{kj} \) and for firm pair fixed effects.
constant marginal costs $c_j$. Demand is a simple logit demand system where the prices are the only product characteristics.

In Figure 1 we begin by showing how prices, quantities and profits change as common ownership among banks 1 and 2 increases such that $\tilde{w}_{12}$ and $\tilde{w}_{21}$ increase jointly. This symmetric case can be viewed as a partial merger among the two banks. The demand system is symmetric and the banks have identical marginal costs.

Figure 1a shows that the prices of banks 1 and 2 increase as they are now competing less aggressively. The prices of bank 3 also increase as it faces two less aggressive competitors now, but less so than the prices of banks 1 and 2. Figure 1b shows that the quantities of banks 1 and 2 decrease whereas the quantity of bank 3 also increases. As the prices of all banks increase the quantity of the outside good increases.

Figure 1c shows that the profits of all three banks increase as competition in the industry becomes less aggressive. Importantly, the profits of banks 1 and 2 increase much less than the profits of bank 3. This is shown more clearly in Figure 1d, which shows the difference between the profits of a bank and average industry profits. As $\tilde{w}_{12}$ and $\tilde{w}_{21}$ the profits of banks 1 and 2 fall below average industry profits, whereas the profits of bank 3 rise above average industry profits.

Next, consider Figure 2. Here $\tilde{w}_{12}$ and $\tilde{w}_{21}$ do not increase jointly. Instead $\tilde{w}_{12}$ increases and $\tilde{w}_{21} = 0.5$ is fixed. Demand and costs are symmetric as in the previous example.

Figure 2a shows that now the price of bank 1 increases a lot, whereas the prices of banks 2 and 3 increase only slightly. Accordingly, the quantity of bank 1 decreases, whereas the quantities of banks 2 and 3 and the outside good increase (Figure 2b).

Figure 2c shows that the profits of banks 2 and 3 increase. Notice that the profit of bank 1 initially increases slightly as $\tilde{w}_{12}$ increases and then decreases. Why is this the case? Intuitively, increasing $\tilde{w}_{12}$ has two effects: First, it lowers competition among the banks. Second, for a given level of competition it lowers how much of the industry profits go to bank 1. The profit of bank 1 is not monotone in $\tilde{w}_{12}$ because initially the first effect dominates and later the second effect.

In Figure 2d the deviation from average industry profits is shown. Relative to the industry average, the profits of banks 2 and 3 are increasing whereas the profits of bank 1 is dereasing.

This latter shift in profits is the one we are trying to find in the data: Do the profit of a bank decrease relative to the average profits in the industry as it places more weight on the profits of its rivals and less weight on itself?
Figure 1: These figures show how prices, quantities, profits and the deviation from average industry profits change as $\bar{w}_{12}$ and $\bar{w}_{21}$ increase jointly.
Figure 2: These figures show how prices, quantities, profits and the deviation from average industry profits change as $\tilde{w}_{12}$ increases whereas $\tilde{w}_{21} = 0.5$ remains constant.

3 Data and Descriptive Statistics

3.1 Data

The data on bank profits, equity and assets comes from regulatory filings. Bank Holding Companies (BHCs) with more than $1$ billion in assets have to file a Y-9C form. The Y-9C form is consolidated across the different subsidiaries of the BHC.\textsuperscript{9} For smaller

BHCs or banks that are not BHCs we obtain data from the call report, that is filed by all regulated financial institutions.

Data on bank ownership comes from the filings of SEC form 13F that are mandatory for institutional investors with more than $100m in assets.\textsuperscript{10} Some investors file separate 13F forms for their different subsidiaries (e.g. Blackrock). In this case we aggregate the ownership shares across 13F filers.

We do not observe bank shareholders that are not 13F filers. If these shareholders are small individually relative to the observed shareholders they would only have a limited impact on the profit weights, even if they collectively account for a substantial fraction of the ownership for some banks, because in the common ownership model of O’Brien and Salop (2000) shareholders that are individually large have a disproportionate impact on the profit weights. (See Gramlich and Grundl (2017) for a more detailed explanation of this model property.) If the unobserved shareholders are individually large, however, they can have a large impact on the profit weights. This problem may be particularly important for smaller banks and early in our sample period, because the 13F filers only account for a small fraction of the ownership. We try to mitigate this data limitation by controlling for the total 13F ownership share in some of our specifications and by excluding bank-quarter observations for which the 13F ownership share is low in some of our subsamples.

\textsuperscript{10}Thomson Reuters. Institutional Holdings, Wharton Research Data Services, http://wrds.wharton.upenn.edu/.
3.2 Descriptive Statistics

Table 1: **Summary Statistics.** The Return on Assets and Return on Equity are annualized. The Capital Ratio, Return on Assets and Return on Equity are expressed in %. Net Income, Total Assets and Total Equity are measured in millions of dollars. Net Income is measured quarterly.

<table>
<thead>
<tr>
<th></th>
<th>mean</th>
<th>sd</th>
<th>p25</th>
<th>p50</th>
<th>p75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight on Own Profits</td>
<td>93.9</td>
<td>23.6</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total Weight Received from Rivals</td>
<td>6.0</td>
<td>28.5</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Net Income</td>
<td>6.9</td>
<td>178.7</td>
<td>0.1</td>
<td>0.4</td>
<td>1.1</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>1.2</td>
<td>1.6</td>
<td>0.6</td>
<td>1.2</td>
<td>1.9</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>12.9</td>
<td>15.9</td>
<td>6.0</td>
<td>11.9</td>
<td>20.3</td>
</tr>
<tr>
<td>Capital Ratio (Total Equity / Total Assets)</td>
<td>11.0</td>
<td>5.4</td>
<td>8.5</td>
<td>10.0</td>
<td>12.1</td>
</tr>
<tr>
<td>Total Assets</td>
<td>2270.9</td>
<td>44810.9</td>
<td>65.2</td>
<td>139.2</td>
<td>322.8</td>
</tr>
<tr>
<td>Total Equity</td>
<td>219.3</td>
<td>4242.3</td>
<td>7.0</td>
<td>14.3</td>
<td>32.1</td>
</tr>
<tr>
<td>Observations</td>
<td>401341</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 shows summary statistics for the whole sample. Figure 3 shows that the median weight on own profits \((w_{jj})\) among listed banks has declined substantially and has reached about 40% of its 2001 level in 2016, whereas the weight on own profits among private banks remained unchanged. Moreover (not shown on the graph) the level of \(w_{jj}\) for the vast majority of listed banks is very low and typically far below 10%.

Figure 4 shows how profits, ROE and ROA for listed and unlisted banks have evolved since 2001. Figure 4a shows the total net income of listed and unlisted banks. With the exception of the financial crisis the total net income of the approximately 500 listed banks exceeds the total net income of the more than 5,000 unlisted banks substantially. In the years before the financial crisis when \(w_{jj}\) for listed banks fell substantially, the gap between listed and unlisted banks widened. During the crisis the gap closed before it widened again in the years after the crisis. The relative changes can be seen more easily in Figure 4b where net income is normalized by the 2001 level.

Figure 4 also shows how ROE and ROA have evolved. These figures are more difficult to link to the common ownership model by O’Brien and Salop (2000), which does not model debt/equity choices and assumes that shareholders care about the profits of the firms they own.\(^{11}\) The graphs show no clear pattern for ROA, but for ROE we

\(^{11}\)If total assets are interpreted as the quantity of firm \(j\) then \(\text{ROA}_j = p_j - c_j\). This suggests that decreasing \(w_{jj}\) should be associated with increasing \(\text{ROA}_j\).
see that listed banks had higher ROE prior to the crisis but the gap closed after the crisis. This can likely be partially explained by regulatory changes after the crisis which increased capital requirement especially for larger banks and restricted some activities with particularly high ROEs.

Figure 3: Median $w_{jj}$ (as % of 2001)
Figure 4: Profits, ROE and ROA for listed and unlisted banks over time.
4 Subsamples, Profit Weights and Specifications

We estimate the effect of $w_{jj}$ on three outcome variables. First, the bank’s profit $\pi_j$, second the return on equity $ROE_j = \frac{\pi_j}{E_j}$, and third the return on assets $ROA_j = \frac{\pi_j}{A_j}$. One reason to estimate the effect on $ROE_j$ and $ROA_j$ in addition to $\pi_j$ is that these profitability ratios are more easily comparable across banks of different sizes.

We winsorize $ROE_j$ and $ROA_j$ by quarter at the 2.5th and 97.5th percentiles to reduce the impact of outliers, especially during the financial crisis. We do not winsorize net income, because most observations in the tails of the net income distribution stem from very large banks. Therefore winsorizing would disproportionately affect large banks. Consequently outliers, especially during the crisis, can have a large impact on the net income estimates.

For all three outcome variables we also consider a quarterly transformation into percentiles: For example, the bank with the highest net income in a quarter has the net income percentile 100 and the bank with the lowest net income has the net income percentile 0. The advantage of this transformation is twofold. First, it makes the effect sizes for the three different outcome variables comparable. Second, for net income, which is not winsorized, it reduces the impact of outliers during the financial crisis, when some banks posted negative net incomes that were much larger in magnitude than the magnitude of net income during “normal times”.

There are many plausible regression specifications to estimate the effect of $w_{jj}$ on these outcome variables. Moreover, there are several plausible ways of choosing the subsample of banks and the sample period. Lastly, there are several plausible ways to calculate the profit weights. We obtained estimates for several different specifications, subsamples and ways to calculate the profits weights and present the whole range of estimates we obtained.

**Subsamples**  Table 2 shows the twelve different subsamples we consider. The first subsample is the entire dataset, i.e. it contains all banks from 2001 to 2016 and the subsamples 2-12 restrict the sample in various ways, which we discuss in this section.
<table>
<thead>
<tr>
<th>Subsamples</th>
<th>Banks</th>
<th>Years</th>
<th>13F-Ownership Restriction</th>
<th>Bank-Quarter Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All Banks</td>
<td>2001-2016</td>
<td>No</td>
<td>401,341</td>
</tr>
<tr>
<td>2</td>
<td>Only Listed Banks</td>
<td>2001-2016</td>
<td>No</td>
<td>24,475</td>
</tr>
<tr>
<td>3</td>
<td>All Banks</td>
<td>2001-2007</td>
<td>No</td>
<td>190,023</td>
</tr>
<tr>
<td>4</td>
<td>All Banks</td>
<td>2008-2010</td>
<td>No</td>
<td>76,267</td>
</tr>
<tr>
<td>5</td>
<td>All Banks</td>
<td>2011-2016</td>
<td>No</td>
<td>135,051</td>
</tr>
<tr>
<td>6</td>
<td>All Banks</td>
<td>2001-2016</td>
<td>Yes</td>
<td>379,494</td>
</tr>
<tr>
<td>7</td>
<td>Only Listed Banks</td>
<td>2001-2016</td>
<td>Yes</td>
<td>9,751</td>
</tr>
<tr>
<td>8</td>
<td>All Banks</td>
<td>2001-2007</td>
<td>Yes</td>
<td>178,742</td>
</tr>
<tr>
<td>9</td>
<td>All Banks</td>
<td>2008-2010</td>
<td>Yes</td>
<td>72,199</td>
</tr>
<tr>
<td>10</td>
<td>All Banks</td>
<td>2011-2016</td>
<td>Yes</td>
<td>128,553</td>
</tr>
<tr>
<td>11</td>
<td>$500m&lt;Assets&lt;$3,000m</td>
<td>2001-2016</td>
<td>No</td>
<td>52,982</td>
</tr>
<tr>
<td>12</td>
<td>$500m&lt;Assets&lt;$3,000m</td>
<td>2001-2016</td>
<td>Yes</td>
<td>40,597</td>
</tr>
</tbody>
</table>

Subsamples 2 and 7 contain only listed banks. For unlisted banks, \( w_{jj} = 1 \), whereas for listed banks \( w_{jj} \) is substantially smaller. Therefore there is a lot more variation of \( w_{jj} \) across banks in the subsamples that contain both listed and unlisted banks. In specifications without bank fixed effects the coefficient on \( w_{jj} \) is estimated mainly by comparing listed and unlisted banks in the subsamples that contain unlisted banks, whereas for subsamples 2 and 7 we can only use variation within the listed banks.

Subsamples 11 and 12 are restricted to banks between $500m and $3,000m in assets. We consider this restriction because listed banks tend to be larger than unlisted banks. There are few listed banks below $500m and few unlisted banks above $3,000m in assets. Subsamples 11 and 12 restrict the sample to the asset size range where the size distributions of listed and unlisted banks overlap.

We also vary the sample period. Subsamples 3 and 8 restrict the sample to the pre-crisis period 2001-2007, subsamples 4 and 8 are restricted to the crisis period 2008-2010 and subsamples 5 and 10 are restricted to the post-crisis period 2011-2016. We consider these subsamples because the financial crisis and subsequent changes in regulation may have affected listed and unlisted banks in systematically different ways. For example it appears that listed banks were more leveraged than unlisted banks before the crisis but this gap closed after the crisis, possibly due to stricter capital requirements.

Lastly, we consider a restriction that excludes banks that went public during the sample period. If a bank goes public this can result in a large, sudden decline of \( w_{jj} \). The idea of this restriction is that we do not want to use variation in \( w_{jj} \) that is due to
decisions of the bank’s management. As this restriction eliminates some within-bank variation of $w_{ij}$, it leads to much larger standard errors. We implement the restriction in a very strict way: We require that if a bank is ever listed during the sample period, then we only keep it if the 13F filers account for at least 5 percent of the market capitalization at all times during the sample period. Therefore, this restriction eliminates not only banks that go public during the sample period, but also some listed banks that are taken over and some small listed banks.\footnote{For banks that are taken over we sometimes do no longer record any ownership by 13F filers in the last quarter for which we observe balance sheet and income statement information. For small banks that are not contained in the major stock market indices 13F owners sometimes account for less than 5 percent of the market capitalization, especially during the early parts of our sample period.} Subsamples 6 to 10 and subsample 12 impose this “13F Ownership Restriction”.

**Calculating Profit Weights**\footnote{The following description of Table 3 is largely identical to the analogous discussion in Gramlich and Grundl (2017).} The 13F data contains information on holdings by institutional investors with more than $100$ million in assets. 13F filers hold more than one half of the public banks. To calculate the profit weights, however, requires the entire ownership structure. We assume that the remaining shareholders are atomistic. Such shareholders have no impact on the objective function of the manager if there is at least one non-atomistic shareholder. We believe that this assumption is a reasonable approximation because most shareholders who are not required to file a 13F form are small compared to the 13F filers.

However, if large parts of a firm are held by small undiversified shareholders then even a small amount of common ownership can have a large impact on the profit weights. This is relevant if the 13F filers own only a relatively small share of some publicly traded banks. To address this issue we calculate the profit weights under the assumption that for every bank there is one (unobserved) undiversified shareholder who holds 1% in some specifications. This 1% undiversified shareholder could represent the management of the bank, for example.

Azar, Raina, and Schmalz (2016) argue that in the banking industry there is cross ownership in addition to common ownership, because many of the 13F filers are banks. These reported holdings predominantly represent the holdings of the asset management divisions of the banks. If the asset management divisions use their control rights in the interest of the bank they belong to then such holdings should be treated as cross ownership. It could however also be argued that it is the fiduciary duty of the asset

\[ w_{ij} \]
management division to act in the best interest of their customers and therefore they
must use their control rights in the interest of their customers.\textsuperscript{14} This argument suggests
that the holdings of the asset management divisions should be treated in the same
manner as the holding by independent asset managers. Therefore, they do not result
in cross ownership, but might result in common ownership. In some specifications we
assume that holdings by bank-owned asset managers result in cross ownership and in
others we assume it results in common ownership.

Table 3 summarizes four different ways in which we calculate profit weights.

Table 3: \textbf{Ways to Calculate Profit Weights}

<table>
<thead>
<tr>
<th>1 % Undiversified Shareholder</th>
<th>Cross Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>No</td>
</tr>
</tbody>
</table>

\textbf{Specifications} For each combination of the twelve subsamples (Table 2), six depen-
dent variables, and four ways of calculating profit weights (Table 3) we consider six
different specifications. For illustration these specifications are shown in Tables 4 (Net
Income), 14 (ROE), and 15 (ROA), and in each we use the first rows of Tables 2 and 3
(i.e. we use the entire sample, assume a 1\% undiversified shareholder, and assume no
cross-ownership). The standard errors are clustered at the quarter level for all of our
estimates.

We start with the very basic specification (1), shown in the first columns of Tables 4,
14 and 15, and succesively add more controls in specifications (2)-(6). In specification
(1), we simply regress the outcome variable on the weight placed on own profits ($w_{jj}$
or “Ownweight”) and a set of quarterly fixed effects. This specification, therefore uses
variation across banks. In Specification (2) we add bank fixed effects. In specifiction
(3) we also control for the profit weight the bank receives from rivals ($\sum_k w_{kj}$ or “Ri-
valweight”). In specification (4), we add the total ownership share of 13F filers as a
control. We add this control to rule out the possibility that our findings are driven by
the fraction of shareholders we observe, rather by the composition of shareholders we
observe. Letting $j$ denote a bank and $q$ a quarter, specification (4) is:

\textsuperscript{14}Notice that we treat asset managers as if they act in the best interest of their customers, despite
the fact that they don’t actually own the shares, and instead earn fees that are a percentage of assets
under management.
\[ y_{j\eta} = \beta_1 \text{Ownweight}_{j\eta} + \beta_2 \text{Rivalweight}_{j\eta} + \beta_3 13F \text{Ownership Share}_{j\eta} + \mu_\eta + \xi_j + \epsilon_j \]

In specifications (5) and (6), we control for the size of the bank as measured by the size of its balance sheet. Controlling for the size of the balance sheet is problematic, because it is itself an outcome and a choice by the bank. Banks that place higher weight on their own profits may have a greater incentive to grow their balance sheet. Nevertheless, we present results that control for balance sheet size because the estimates in Azar, Raina, and Schmalz (2016) that find anticompetitive effects of common ownership control for bank size. In specification (5) we control for the log of balance sheet size, and in specification (6) we instead include dummies for each decile of the bank size distribution in the quarter.

First, consider net income shown in Table 4. In specification (1), we find a negative association between Ownweight and net income, which on its face would reject the notion that common ownership is anticompetitive. This negative association simply reflects the fact that larger banks - which are publicly-listed and therefore have common ownership - have the highest net income. There is likely reverse causality concern in that banks with high net income (currently or in expectation) decide to raise capital by listing their stock. This concern is addressed with specifications (2)-(6) that include bank fixed effects and therefore use variation within bank over time.\(^{15}\) In these specifications we find a much smaller negative association between Ownweight and net income. However, we do not find a positive association between Ownweight and net income in any of the specifications.

Next, consider ROE shown in Table 14. We find a positive association between Ownweight and ROE in all six specifications. In specification (1) the effect is small and not statistically significant. In specifications (2)-(4) with bank fixed effects the effect size increases to 0.01-0.02 and is statistically significant. Controlling for bank size in specifications (5) and (6) increases the effect size further to 0.02-0.03. What’s the economic significance of these effect sizes? As both Ownweight and ROE are measured in percentage points, an effect size of 0.03 implies that increasing Ownweight by one percentage point increases the ROE by 0.03 percentage points. This is roughly equal to

\(^{15}\)The reverse causality concern is still present for banks that go public (or delist) during the sample period. In subsamples 6-10, we therefore exclude these banks.
0.25\% of the average ROE (12.9) and 0.19\% of the standard deviation of ROE (15.9).

Lastly, consider ROA shown in Table 14. Here we also find some evidence of a positive association, especially for specifications (5) and (6) that control for bank size. The largest effect size in specification (5) is close to 0.003, which corresponds to about 0.25\% of the average ROA (1.2) or about 0.19\% of the standard deviation (1.6).

Tables 16, 17 and 18 show the estimates if the variables are transformed into percentiles. For net income we find negative effects in specifications (1)-(4) and positive effects in specifications (5)-(6). For ROE and ROA we find mixed results for specifications (1)-(4) and positive effects for specifications (5)-(6). The largest effects sizes we find for each of the three outcome variables are in the range 0.02-0.03. This means that increasing Ownweight by one percentage point leads to a shift in the distribution of about 0.03 percentage points in the distributions of net income, ROE and ROA.

Table 4: Net Income.

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight on Own Profits</td>
<td>-0.939***</td>
<td>-0.0559*</td>
<td>-0.302*</td>
<td>-0.146</td>
<td>-0.127</td>
<td>-0.157</td>
</tr>
<tr>
<td></td>
<td>(0.0730)</td>
<td>(0.0216)</td>
<td>(0.142)</td>
<td>(0.0835)</td>
<td>(0.0805)</td>
<td>(0.0906)</td>
</tr>
<tr>
<td>Total Weight Received</td>
<td>-0.330</td>
<td>-0.764*</td>
<td>-0.762*</td>
<td>-0.591</td>
<td></td>
<td></td>
</tr>
<tr>
<td>from Rivals</td>
<td>(0.189)</td>
<td>(0.350)</td>
<td>(0.350)</td>
<td>(0.343)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13F Ownership Share</td>
<td>186.9*</td>
<td>182.5*</td>
<td>114.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(70.38)</td>
<td>(69.77)</td>
<td>(65.57)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>log(Total Assets)</td>
<td>6.623**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.284)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Quarter Fixed Effects     Yes     Yes     Yes     Yes     Yes     No
Bank Fixed Effects         No      Yes     Yes     Yes     Yes     Yes
Asset Decile x Quarter    No      No      No      No      No      Yes
Fixed Effects
N                         401341  401229  401229  401229  401229  401229

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001

5 Findings

Summary of Findings In this section we summarize the different estimates of the Ownweight coefficient, that vary the subsample (Table 2), the ways to calculate profits weights (Table 3), and the specification. As we consider 12 different subsamples, 4 ways to calculate profit weights and six different specifications, we obtain $12 \times 4 \times 6 = 288$ different estimates of the Ownweight coefficient for each of our six outcome variables (net income, ROE, ROA, and within-quarter percentile transformation of
Regression tables for all estimates can be found in the Online Appendix.

Figure 5 shows histograms of the 288 point estimates for each of the six outcome variables. These distributions are also summarized in Table 5. Importantly, Figure 5 and Table 5 show all point estimates regardless of whether they are statistically different from zero or not.
Figure 5: **Histograms of Point Estimates.** These histograms show the distribution of the 288 point estimates we obtain for the three outcome variables net income (row 1), return on equity (row 2) and return on assets (row 3). For the estimates on the right hand side these variables are transformed into percentiles for each quarter, which makes the estimates for net income, return on equity and return on assets more easily comparable.
The distribution of point estimates is roughly centered around zero for all six outcome variables. We will focus in our discussion on the percentile transformations, because they are easier to interpret and comparable across different outcome variables. For the net income percentile our estimates range from -0.47 to +0.27, with a median estimate of -0.03. For the ROE percentile our estimates range from -0.44 to +0.49, with a median estimate of -0.002. Lastly, for ROA our estimates range from -0.41 to +0.41, with a median of -0.009. While most of the point estimates are small in magnitude the largest estimates are economically substantial. For example an estimate of +0.5 implies than an increase in Ownweight of 1 percentage point would lead to a shift in the distribution of the outcome variable by 0.5 percentage points.

Figure 5 and Table 5 show all point estimates regardless of their precision. In Table 6 we only summarize estimates that are statistically significant at the one percent level. Depending on the outcome variable roughly one third to one half of the point estimates are statistically significant. The distributions are still roughly centered around zero for all outcome variables. Focusing on estimates that are statistically significant however shrinks the range of the effect sizes in some cases considerably. The range for the net income percentile is now -0.465 to 0.09 with a median of -0.09. The range for ROE is -0.44 to 0.08 with a median of -0.04. Lastly, the range for ROA is -0.41 to 0.15 with a median of -0.03. This shows that some of the large positive estimates in Table 5 are noisy.

Table 5: Distribution of Point Estimates

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Income</td>
<td>-0.837</td>
<td>-9.093</td>
<td>-8.144</td>
<td>-4.739</td>
<td>-1.422</td>
<td>-0.210</td>
<td>0.046</td>
<td>1.280</td>
<td>2.740</td>
<td>3.051</td>
<td>288</td>
</tr>
<tr>
<td>Net Income Percentile</td>
<td>-0.074</td>
<td>-0.465</td>
<td>-0.464</td>
<td>-0.394</td>
<td>-0.124</td>
<td>-0.033</td>
<td>0.011</td>
<td>0.148</td>
<td>0.237</td>
<td>0.272</td>
<td>288</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>-0.019</td>
<td>-0.217</td>
<td>-0.213</td>
<td>-0.173</td>
<td>-0.054</td>
<td>0.003</td>
<td>0.024</td>
<td>0.077</td>
<td>0.091</td>
<td>0.099</td>
<td>288</td>
</tr>
<tr>
<td>Return on Equity Percentile</td>
<td>-0.012</td>
<td>-0.439</td>
<td>-0.436</td>
<td>-0.338</td>
<td>-0.071</td>
<td>-0.002</td>
<td>0.028</td>
<td>0.411</td>
<td>0.494</td>
<td>0.536</td>
<td>288</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>0.000</td>
<td>-0.018</td>
<td>-0.018</td>
<td>-0.010</td>
<td>-0.002</td>
<td>0.001</td>
<td>0.002</td>
<td>0.013</td>
<td>0.025</td>
<td>0.028</td>
<td>288</td>
</tr>
<tr>
<td>Return on Assets Percentile</td>
<td>-0.016</td>
<td>-0.413</td>
<td>-0.406</td>
<td>-0.308</td>
<td>-0.058</td>
<td>-0.009</td>
<td>0.023</td>
<td>0.286</td>
<td>0.385</td>
<td>0.412</td>
<td>288</td>
</tr>
</tbody>
</table>

Table 6: Distribution of Statistically Significant Estimates (1 percent level)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Income Percentile</td>
<td>-0.152</td>
<td>-0.465</td>
<td>-0.465</td>
<td>-0.436</td>
<td>-0.310</td>
<td>-0.085</td>
<td>-0.030</td>
<td>0.043</td>
<td>0.084</td>
<td>0.086</td>
<td>148</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>-0.040</td>
<td>-0.217</td>
<td>-0.217</td>
<td>-0.209</td>
<td>-0.136</td>
<td>0.010</td>
<td>0.028</td>
<td>0.030</td>
<td>0.065</td>
<td>0.065</td>
<td>92</td>
</tr>
<tr>
<td>Return on Equity Percentile</td>
<td>-0.115</td>
<td>-0.439</td>
<td>-0.439</td>
<td>-0.413</td>
<td>-0.261</td>
<td>-0.041</td>
<td>0.023</td>
<td>0.037</td>
<td>0.084</td>
<td>0.084</td>
<td>91</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>-0.002</td>
<td>-0.018</td>
<td>-0.018</td>
<td>-0.018</td>
<td>-0.005</td>
<td>0.002</td>
<td>0.003</td>
<td>0.006</td>
<td>0.007</td>
<td>0.007</td>
<td>94</td>
</tr>
<tr>
<td>Return on Assets Percentile</td>
<td>-0.066</td>
<td>-0.413</td>
<td>-0.413</td>
<td>-0.401</td>
<td>-0.184</td>
<td>-0.026</td>
<td>0.030</td>
<td>0.127</td>
<td>0.150</td>
<td>0.152</td>
<td>112</td>
</tr>
</tbody>
</table>
So far we have only summarized the point estimates. In Table 7 we summarize the distribution of the upper bounds of the 99 percent confidence intervals around the point estimates in Table 6. Interestingly, these upper bounds are still roughly centered around zero. For the net income percentile they range from -0.46 to +0.14, with a median of -0.045. For the ROE percentile they range from -0.25 to +0.11, with a median of -0.03. For the ROA percentile they range from -0.21 to +0.26, with a median of -0.006.

Table 7: Distribution of Upper Bounds of 99 Percent CIs for Statistically Significant Estimates

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Income</td>
<td>-0.241</td>
<td>-5.207</td>
<td>-5.180</td>
<td>-2.578</td>
<td>-0.776</td>
<td>-0.162</td>
<td>-0.003</td>
<td>3.634</td>
<td>4.553</td>
<td>4.674</td>
<td>117</td>
</tr>
<tr>
<td>Net Income Percentile</td>
<td>-0.097</td>
<td>-0.460</td>
<td>-0.460</td>
<td>-0.418</td>
<td>-0.162</td>
<td>-0.045</td>
<td>-0.008</td>
<td>0.065</td>
<td>0.138</td>
<td>0.140</td>
<td>148</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>0.007</td>
<td>-0.070</td>
<td>-0.070</td>
<td>-0.060</td>
<td>-0.037</td>
<td>0.019</td>
<td>0.045</td>
<td>0.052</td>
<td>0.093</td>
<td>0.093</td>
<td>92</td>
</tr>
<tr>
<td>Return on Equity Percentile</td>
<td>-0.047</td>
<td>-0.250</td>
<td>-0.250</td>
<td>-0.225</td>
<td>-0.138</td>
<td>-0.029</td>
<td>0.044</td>
<td>0.071</td>
<td>0.110</td>
<td>0.110</td>
<td>91</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>0.002</td>
<td>-0.006</td>
<td>-0.006</td>
<td>-0.005</td>
<td>-0.002</td>
<td>0.004</td>
<td>0.004</td>
<td>0.010</td>
<td>0.011</td>
<td>0.011</td>
<td>94</td>
</tr>
<tr>
<td>Return on Assets Percentile</td>
<td>0.004</td>
<td>-0.208</td>
<td>-0.207</td>
<td>-0.198</td>
<td>-0.070</td>
<td>-0.006</td>
<td>0.050</td>
<td>0.232</td>
<td>0.258</td>
<td>0.262</td>
<td>112</td>
</tr>
</tbody>
</table>

**Estimates by Subsample** After discussing the distribution of estimates in general we now discuss how the distribution of estimates differs for different subsamples. Tables 8, 19 and 20 show the distributions of point estimates by subsample, for the net income, ROE and ROA percentiles. In all three cases, the estimates that are largest in magnitude are concentrated in subsamples 4 and subsamples 6-8 and especially subsamples 9 and 10. These are also the subsamples with the largest standard errors as shown in Tables 21, 22 and 23. In particular the standard errors for subsamples 9 and 10 are about one order of magnitude larger than for most other subsamples.

Consequently, many of the point estimates for these subsamples are not statistically significant. Tables 24, 25 and 26 show only the statistically significant estimates (at the one percent level). Subsamples without any statistically significant estimates are not shown in these tables. The tables show that only few of the estimates for subsamples 4 and 6-10 are statistically significant, though the largest positive and statistically significant estimates can still be found in these subsamples.
Table 8: Distribution of Net Income Percentile Estimates by Subsample

<table>
<thead>
<tr>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-0.071</td>
<td>-0.340</td>
<td>-0.340</td>
<td>-0.339</td>
<td>-0.058</td>
<td>-0.036</td>
<td>0.017</td>
<td>0.023</td>
<td>0.024</td>
<td>0.024</td>
</tr>
<tr>
<td>2</td>
<td>-0.124</td>
<td>-0.317</td>
<td>-0.317</td>
<td>-0.316</td>
<td>-0.128</td>
<td>-0.097</td>
<td>-0.070</td>
<td>-0.033</td>
<td>-0.030</td>
<td>-0.030</td>
</tr>
<tr>
<td>3</td>
<td>-0.106</td>
<td>-0.398</td>
<td>-0.398</td>
<td>-0.397</td>
<td>-0.084</td>
<td>-0.061</td>
<td>-0.020</td>
<td>-0.018</td>
<td>-0.017</td>
<td>-0.017</td>
</tr>
<tr>
<td>4</td>
<td>-0.025</td>
<td>-0.129</td>
<td>-0.129</td>
<td>-0.129</td>
<td>-0.037</td>
<td>-0.005</td>
<td>0.011</td>
<td>0.014</td>
<td>0.016</td>
<td>0.016</td>
</tr>
<tr>
<td>5</td>
<td>-0.079</td>
<td>-0.377</td>
<td>-0.377</td>
<td>-0.376</td>
<td>-0.087</td>
<td>-0.022</td>
<td>0.006</td>
<td>0.028</td>
<td>0.029</td>
<td>0.029</td>
</tr>
<tr>
<td>6</td>
<td>-0.077</td>
<td>-0.415</td>
<td>-0.415</td>
<td>-0.415</td>
<td>-0.138</td>
<td>-0.034</td>
<td>0.004</td>
<td>0.159</td>
<td>0.160</td>
<td>0.160</td>
</tr>
<tr>
<td>7</td>
<td>-0.285</td>
<td>-0.385</td>
<td>-0.385</td>
<td>-0.383</td>
<td>-0.336</td>
<td>-0.303</td>
<td>-0.222</td>
<td>-0.165</td>
<td>-0.165</td>
<td>-0.165</td>
</tr>
<tr>
<td>8</td>
<td>-0.063</td>
<td>-0.465</td>
<td>-0.465</td>
<td>-0.465</td>
<td>-0.013</td>
<td>0.003</td>
<td>0.018</td>
<td>0.084</td>
<td>0.086</td>
<td>0.086</td>
</tr>
<tr>
<td>9</td>
<td>0.020</td>
<td>-0.237</td>
<td>-0.237</td>
<td>-0.237</td>
<td>-0.107</td>
<td>0.030</td>
<td>0.170</td>
<td>0.270</td>
<td>0.272</td>
<td>0.272</td>
</tr>
<tr>
<td>10</td>
<td>-0.027</td>
<td>-0.437</td>
<td>-0.437</td>
<td>-0.437</td>
<td>-0.078</td>
<td>-0.008</td>
<td>0.151</td>
<td>0.236</td>
<td>0.237</td>
<td>0.237</td>
</tr>
<tr>
<td>11</td>
<td>0.021</td>
<td>-0.027</td>
<td>-0.027</td>
<td>-0.027</td>
<td>0.009</td>
<td>0.029</td>
<td>0.040</td>
<td>0.046</td>
<td>0.046</td>
<td>0.046</td>
</tr>
<tr>
<td>12</td>
<td>-0.076</td>
<td>-0.206</td>
<td>-0.206</td>
<td>-0.205</td>
<td>-0.105</td>
<td>-0.064</td>
<td>-0.021</td>
<td>-0.000</td>
<td>0.003</td>
<td>0.003</td>
</tr>
<tr>
<td>Total</td>
<td>-0.074</td>
<td>-0.465</td>
<td>-0.464</td>
<td>-0.394</td>
<td>-0.124</td>
<td>-0.033</td>
<td>0.011</td>
<td>0.148</td>
<td>0.237</td>
<td>0.272</td>
</tr>
</tbody>
</table>

Estimates by Weight Calculation  Tables 9, 27 and 28 show the distribution of estimates for the different ways to calculate the profit weights shown in Table 3. Overall, the distributions are very similar so the way the profit weights are calculated has only a minor influence on the estimates. The estimates in rows 1 and 4 are very similar and the estimates in rows 2 and 3 are very similar, though there is some gap between both of these pairs. Thus, the assumption about cross ownership appears to have a noticable yet small effect on the estimates whereas the assumption about the extra one percent undiversified shareholder has almost no impact on the estimates.

Table 9: Distribution of Net Income Percentile Estimates by Profit Weight Calculation. The rows of this table correspond to the rows of Table 3.

<table>
<thead>
<tr>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-0.067</td>
<td>-0.465</td>
<td>-0.465</td>
<td>-0.398</td>
<td>-0.098</td>
<td>-0.028</td>
<td>0.011</td>
<td>0.163</td>
<td>0.270</td>
<td>0.270</td>
</tr>
<tr>
<td>2</td>
<td>-0.081</td>
<td>-0.464</td>
<td>-0.464</td>
<td>-0.393</td>
<td>-0.126</td>
<td>-0.038</td>
<td>0.012</td>
<td>0.139</td>
<td>0.202</td>
<td>0.202</td>
</tr>
<tr>
<td>3</td>
<td>-0.077</td>
<td>-0.464</td>
<td>-0.464</td>
<td>-0.397</td>
<td>-0.117</td>
<td>-0.035</td>
<td>0.015</td>
<td>0.140</td>
<td>0.200</td>
<td>0.200</td>
</tr>
<tr>
<td>4</td>
<td>-0.072</td>
<td>-0.465</td>
<td>-0.465</td>
<td>-0.394</td>
<td>-0.123</td>
<td>-0.029</td>
<td>0.009</td>
<td>0.163</td>
<td>0.272</td>
<td>0.272</td>
</tr>
<tr>
<td>Total</td>
<td>-0.074</td>
<td>-0.465</td>
<td>-0.464</td>
<td>-0.394</td>
<td>-0.124</td>
<td>-0.033</td>
<td>0.011</td>
<td>0.148</td>
<td>0.237</td>
<td>0.272</td>
</tr>
</tbody>
</table>

Estimates by Specification  Tables 10, 29 and 30 show the estimates for the six different specifications discussed above, again using the percentile transformations of the variables.
For net income in Table 10, most estimates with specification (1) are negative. As discussed above this reflects the fact that large banks with high net income are listed. There is no clear pattern among the other specifications that include bank fixed effects. The estimates for specifications (2)-(5) are roughly centered around zero.

For ROE and ROA in Tables 29 and 30 the distributions for all specifications are centered around zero. However, in both cases the range of estimates for specification (1) is substantially smaller than for the other specifications.

**Table 10: Distribution of Net Income Percentile Estimates by Specification.**
The rows of this table correspond to the six columns of the regression specifications in Table 16.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-0.289</td>
<td>-0.465</td>
<td>-0.465</td>
<td>-0.464</td>
<td>-0.406</td>
<td>-0.338</td>
<td>-0.183</td>
<td>0.009</td>
<td>0.009</td>
<td>0.009</td>
<td>48</td>
</tr>
<tr>
<td>2</td>
<td>-0.058</td>
<td>-0.238</td>
<td>-0.238</td>
<td>-0.208</td>
<td>-0.087</td>
<td>-0.065</td>
<td>-0.027</td>
<td>0.202</td>
<td>0.272</td>
<td>0.272</td>
<td>48</td>
</tr>
<tr>
<td>3</td>
<td>-0.022</td>
<td>-0.184</td>
<td>-0.184</td>
<td>-0.165</td>
<td>-0.048</td>
<td>-0.035</td>
<td>0.003</td>
<td>0.148</td>
<td>0.193</td>
<td>0.193</td>
<td>48</td>
</tr>
<tr>
<td>4</td>
<td>-0.047</td>
<td>-0.345</td>
<td>-0.345</td>
<td>-0.310</td>
<td>-0.070</td>
<td>-0.013</td>
<td>0.013</td>
<td>0.037</td>
<td>0.039</td>
<td>0.039</td>
<td>48</td>
</tr>
<tr>
<td>5</td>
<td>0.007</td>
<td>-0.333</td>
<td>-0.333</td>
<td>-0.297</td>
<td>-0.023</td>
<td>0.025</td>
<td>0.078</td>
<td>0.160</td>
<td>0.163</td>
<td>0.163</td>
<td>48</td>
</tr>
<tr>
<td>6</td>
<td>-0.039</td>
<td>-0.340</td>
<td>-0.340</td>
<td>-0.298</td>
<td>-0.109</td>
<td>-0.018</td>
<td>0.017</td>
<td>0.192</td>
<td>0.237</td>
<td>0.237</td>
<td>48</td>
</tr>
<tr>
<td>Total</td>
<td>-0.074</td>
<td>-0.465</td>
<td>-0.464</td>
<td>-0.394</td>
<td>-0.124</td>
<td>-0.033</td>
<td>0.011</td>
<td>0.148</td>
<td>0.237</td>
<td>0.272</td>
<td>288</td>
</tr>
</tbody>
</table>

Tables 11, 31 and 32 show the estimates that are statistically significant (at the one percent level) by specification.

For net income, in Table 11, all statistically significant estimates for specifications (1)-(3) are negative, and more than 75 percent of the estimates for specification (4) are negative. The estimates for specifications (5) and (6) are roughly centered around zero. Hence, the estimates from specifications that control for bank size show somewhat more support for the hypothesis that higher “Ownweight” is associated with higher profits.

For ROE in Table 31, specification (1) produces mostly negative estimates whereas the estimates for the other specifications are centered around zero.

For ROA in Table 32, specification (2) produces mostly negative estimates whereas the estimates for the other specifications are centered around zero.
Table 11: Distribution of Statistically Significant (1 percent level) Net Income Percentile Estimates by Specification. The rows of this table correspond to the six columns of the regression specifications in Table 16.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-0.316</td>
<td>-0.465</td>
<td>-0.465</td>
<td>-0.414</td>
<td>-0.357</td>
<td>-0.237</td>
<td>-0.021</td>
<td>-0.021</td>
<td>-0.021</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>-0.097</td>
<td>-0.238</td>
<td>-0.238</td>
<td>-0.103</td>
<td>-0.084</td>
<td>-0.058</td>
<td>-0.027</td>
<td>-0.027</td>
<td>-0.027</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>-0.078</td>
<td>-0.184</td>
<td>-0.184</td>
<td>-0.083</td>
<td>-0.054</td>
<td>-0.046</td>
<td>-0.041</td>
<td>-0.041</td>
<td>-0.041</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>-0.098</td>
<td>-0.345</td>
<td>-0.345</td>
<td>-0.135</td>
<td>-0.061</td>
<td>-0.030</td>
<td>0.039</td>
<td>0.039</td>
<td>0.039</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>-0.046</td>
<td>-0.333</td>
<td>-0.333</td>
<td>-0.087</td>
<td>0.001</td>
<td>0.045</td>
<td>0.084</td>
<td>0.086</td>
<td>0.086</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>-0.108</td>
<td>-0.340</td>
<td>-0.340</td>
<td>-0.222</td>
<td>-0.068</td>
<td>0.011</td>
<td>0.041</td>
<td>0.041</td>
<td>0.041</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>-0.152</td>
<td>-0.465</td>
<td>-0.465</td>
<td>-0.310</td>
<td>-0.085</td>
<td>-0.030</td>
<td>0.043</td>
<td>0.084</td>
<td>0.086</td>
<td>148</td>
<td></td>
</tr>
</tbody>
</table>

6 Direct Shareholders and Active Investors

In this section we estimate the effect of common ownership on bank profits if only common ownership through certain shareholders is taken into consideration. Specifically, we recalculate the profit weights under two alternative assumptions. First, if only common ownership by “Direct Shareholders” is taken into consideration, and second if only common ownership through “Active Investors” is taken into consideration.

“Direct Shareholders” are the ultimate owners of the shares as opposed to asset managers that manage shares that are ultimately owned by their clients. The idea is that “Direct Shareholders” benefit more from increasing share prices (as a consequence of decreased competition) than asset managers. For example Berkshire Hathaway owns shares of several banks and is a “Direct Shareholder”. Vanguard, for example, is not a Direct Shareholder because they hold shares on behalf of clients and only gain a (small) percentage of assets under management through their fee ratio, \( p \). If the shares of a bank held by Berkshire and Vanguard gain $100 in value, then Berkshire’s profits increase by $100 whereas Vanguard’s profit increase only by \( p \times $100 \). As \( p \) is typically fairly small for many asset managers, direct shareholders may have a stronger incentive to prevent competition among their portfolio firms than asset managers.

“Active Investors” are those that do not simply replicate an index. The idea is that index funds compete mostly on fees. It is unclear how strong the incentives of an index fund manager are to reduce competition among portfolio firms, given that improved performance of the index would also improve the performance of all all competing index fund managers, which replicate the same index. Active asset managers however,
who hold a unique portfolio which tries to pick winners, could outperform other active asset managers if their portfolio firms compete less and thereby attract new clients.

When calculating profit weights with “Direct Shareholders” we only include ownership shares by Berkshire Hathaway and the Norwegian Sovereign Wealth fund. There are other direct shareholders that file the 13F besides these two. However among the largest 13F filers, that have the largest impact on the profit weights these are the only ones that can be viewed as “Direct Shareholders”. One could argue that the Norwegian Sovereign Wealth fund should be treated as an asset manager. By treating it as a “Direct Shareholder” we implicitly assume that its incentives are aligned with the incentives of Norwegians.

When calculating the profit weights with “Active Investors” we include the ownership shares of the active investors among the largest 10 institutional investors in the banking sector. Many asset managers have some funds that are actively managed and others that are passively managed. Therefore such a binary classification involves some judgment. Moreover, there are many smaller “Active Investors” that we do not take into account. However, the largest ones we do take into account have the largest impact on the profit weights.

Table 12 shows the distribution of point estimates if only ownership by “Direct Shareholders” is taken into account. The estimates are still roughly centered around zero and the distributions of estimates appears to be broadly similar to the distributions of estimates if all ownership shares are taken into account.

Table 13 shows the distribution of point estimates if only ownership by “Active Investors” is taken into account. Again, the distribution of point estimates is centered around zero, but the range of estimates appears to be somewhat smaller than if all ownership shares are taken into account.

Tables 33 and 34 show the distributions of statistically significant estimates for “Direct Shareholders” and “Active Investors”. The distributions are either centered around zero or have most of their mass on negative estimates. The largest positive estimates with “Direct Shareholders” for the Net Income Percentile and the ROE Percentile are however larger than if all ownership shares are taken into account.

Among the largest 10 institutional investors, we classified three as passive (Vanguard, Blackrock, and State Street) and the remaining seven as active (Fidelity, Berkshire, T Rowe Price, JPMC, Northern Trust, Dodge & Cox, and Bank of New York Mellon).
Table 12: Direct Shareholders: Distribution of Point Estimates

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Income</td>
<td>-0.654</td>
<td>-9.257</td>
<td>-9.257</td>
<td>-7.424</td>
<td>-1.313</td>
<td>-0.004</td>
<td>0.976</td>
<td>2.169</td>
<td>2.364</td>
<td>2.364</td>
<td>72</td>
</tr>
<tr>
<td>Net Income Percentile</td>
<td>-0.056</td>
<td>-0.645</td>
<td>-0.645</td>
<td>-0.495</td>
<td>-0.085</td>
<td>-0.006</td>
<td>0.038</td>
<td>0.100</td>
<td>0.112</td>
<td>0.112</td>
<td>72</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>-0.014</td>
<td>-0.088</td>
<td>-0.088</td>
<td>-0.066</td>
<td>-0.039</td>
<td>-0.016</td>
<td>0.014</td>
<td>0.043</td>
<td>0.047</td>
<td>0.047</td>
<td>72</td>
</tr>
<tr>
<td>Return on Equity Percentile</td>
<td>-0.012</td>
<td>-0.226</td>
<td>-0.226</td>
<td>-0.128</td>
<td>-0.065</td>
<td>-0.010</td>
<td>0.030</td>
<td>0.124</td>
<td>0.135</td>
<td>0.135</td>
<td>72</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>-0.002</td>
<td>-0.008</td>
<td>-0.008</td>
<td>-0.006</td>
<td>-0.004</td>
<td>-0.002</td>
<td>0.001</td>
<td>0.003</td>
<td>0.004</td>
<td>0.004</td>
<td>72</td>
</tr>
<tr>
<td>Return on Assets Percentile</td>
<td>-0.005</td>
<td>-0.153</td>
<td>-0.153</td>
<td>-0.136</td>
<td>-0.048</td>
<td>-0.000</td>
<td>0.041</td>
<td>0.100</td>
<td>0.125</td>
<td>0.125</td>
<td>72</td>
</tr>
</tbody>
</table>

Table 13: Active Investors: Distribution of Point Estimates

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Income</td>
<td>-0.459</td>
<td>-3.895</td>
<td>-3.895</td>
<td>-2.161</td>
<td>-0.526</td>
<td>-0.208</td>
<td>-0.054</td>
<td>0.014</td>
<td>0.120</td>
<td>0.120</td>
<td>72</td>
</tr>
<tr>
<td>Net Income Percentile</td>
<td>-0.045</td>
<td>-0.476</td>
<td>-0.476</td>
<td>-0.432</td>
<td>-0.018</td>
<td>-0.008</td>
<td>0.020</td>
<td>0.035</td>
<td>0.058</td>
<td>0.058</td>
<td>72</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>-0.003</td>
<td>-0.053</td>
<td>-0.053</td>
<td>-0.042</td>
<td>-0.012</td>
<td>-0.002</td>
<td>0.006</td>
<td>0.019</td>
<td>0.054</td>
<td>0.054</td>
<td>72</td>
</tr>
<tr>
<td>Return on Equity Percentile</td>
<td>-0.022</td>
<td>-0.170</td>
<td>-0.170</td>
<td>-0.113</td>
<td>-0.036</td>
<td>-0.013</td>
<td>0.004</td>
<td>0.014</td>
<td>0.061</td>
<td>0.061</td>
<td>72</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>0.001</td>
<td>-0.004</td>
<td>-0.004</td>
<td>-0.002</td>
<td>-0.001</td>
<td>0.000</td>
<td>0.001</td>
<td>0.004</td>
<td>0.006</td>
<td>0.006</td>
<td>72</td>
</tr>
<tr>
<td>Return on Assets Percentile</td>
<td>-0.016</td>
<td>-0.155</td>
<td>-0.155</td>
<td>-0.075</td>
<td>-0.036</td>
<td>-0.014</td>
<td>0.009</td>
<td>0.028</td>
<td>0.081</td>
<td>0.081</td>
<td>72</td>
</tr>
</tbody>
</table>

7 Conclusion

Theory predicts that common ownership can be anticompetitive, because it reduces the weight firms place in their objective function on their own profits and instead shifts weight to rival firms that are held by a common shareholder. We estimate the effect of the predicted profit weight shifts due to common ownership on accounting measures of profitability in the banking industry. We present a large range of estimates that are centered around zero and argue that economically most estimates are fairly small. Our interpretation of these findings is that there is little evidence for economically large effects of common ownership on profits in the banking industry.
References


## A Tables

### Table 14: ROE

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<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight on Own Profits</td>
<td>0.00119</td>
<td>0.0157***</td>
<td>0.0192**</td>
<td>0.0175*</td>
<td>0.0316***</td>
<td>0.0287***</td>
</tr>
<tr>
<td></td>
<td>(0.00514)</td>
<td>(0.00518)</td>
<td>(0.00649)</td>
<td>(0.00760)</td>
<td>(0.00703)</td>
<td>(0.00727)</td>
</tr>
<tr>
<td>Total Weight Received from Rivals</td>
<td>0.00464</td>
<td>0.00908</td>
<td>0.00919</td>
<td>0.00370</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>(0.00460)</td>
<td>(0.00620)</td>
<td>(0.00624)</td>
<td>(0.00474)</td>
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<td></td>
</tr>
<tr>
<td>13F Ownership Share</td>
<td>-1.990</td>
<td>-5.253*</td>
<td>5.117*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.297)</td>
<td>(2.568)</td>
<td>(2.142)</td>
<td></td>
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</tr>
<tr>
<td>log(Total Assets)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.011***</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.543)</td>
<td></td>
</tr>
</tbody>
</table>

Quarter Fixed Effects | Yes | Yes | Yes | Yes | Yes | No |
Bank Fixed Effects     | No   | Yes | Yes | Yes | Yes | Yes |
Asset Decile x Quarter Fixed Effects | No | No | No | No | No | Yes |
N                       | 401341 | 401229 | 401229 | 401229 | 401229 | 401229 |

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001

### Table 15: ROA

<table>
<thead>
<tr>
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<th>(2)</th>
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<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
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</thead>
<tbody>
<tr>
<td>Weight on Own Profits</td>
<td>0.00118*</td>
<td>-0.000113</td>
<td>0.00108</td>
<td>0.00141*</td>
<td>0.00274***</td>
<td>0.00225**</td>
</tr>
<tr>
<td></td>
<td>(0.000460)</td>
<td>(0.000456)</td>
<td>(0.000601)</td>
<td>(0.000706)</td>
<td>(0.000661)</td>
<td>(0.000685)</td>
</tr>
<tr>
<td>Total Weight Received from Rivals</td>
<td>0.00160**</td>
<td>0.000671</td>
<td>0.000770</td>
<td>0.000467</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.000558)</td>
<td>(0.000712)</td>
<td>(0.000721)</td>
<td>(0.000574)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13F Ownership Share</td>
<td>0.399</td>
<td>0.0858</td>
<td>0.857**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.230)</td>
<td>(0.255)</td>
<td>(0.251)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>log(Total Assets)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.473***</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.0487)</td>
</tr>
</tbody>
</table>

Quarter Fixed Effects | Yes | Yes | Yes | Yes | Yes | No |
Bank Fixed Effects     | No   | Yes | Yes | Yes | Yes | Yes |
Asset Decile x Quarter Fixed Effects | No | No | No | No | No | Yes |
N                       | 401341 | 401229 | 401229 | 401229 | 401229 | 401229 |

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001
Table 16: Net Income Percentile

<table>
<thead>
<tr>
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<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight on Own Profits</td>
<td>-0.340***</td>
<td>-0.0584***</td>
<td>-0.0414***</td>
<td>-0.0295**</td>
<td>0.0237**</td>
<td>0.0177*</td>
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<tr>
<td></td>
<td>(0.0145)</td>
<td>(0.0103)</td>
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<td>(0.0170)</td>
<td>(0.00932)</td>
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<tr>
<td>13F Ownership Share</td>
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<td>1.559</td>
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<td>(6.416)</td>
<td>(3.815)</td>
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Quarter Fixed Effects: Yes
Bank Fixed Effects: No
Asset Decile x Quarter Fixed Effects: No
N: 401341 401229 401229 401229 401229 401229

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001

Table 17: ROE Percentile

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<td></td>
<td>(0.00992)</td>
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<td>(4.512)</td>
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Quarter Fixed Effects: Yes
Bank Fixed Effects: No
Asset Decile x Quarter Fixed Effects: No
N: 401341 401229 401229 401229 401229 401229

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001

34
Table 18: ROA Percentile

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Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001

Table 19: Distribution of ROE Percentile Estimates by Subsample

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<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
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<td>-0.035</td>
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<td>0.029</td>
<td>0.029</td>
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<td>-0.098</td>
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<td>-0.009</td>
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<td>0.009</td>
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<td>0.084</td>
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<td>0.100</td>
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Table 20: **Distribution of ROA Percentile Estimates by Subsample**

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Table 21: **Distribution of Net Income Percentile Standard Errors by Subsample**

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Table 22: Distribution of ROE Percentile Standard Errors by Subsample

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Table 23: Distribution of ROA Percentile Standard Errors by Subsample

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### Table 24: Distribution of Statistically Significant (1 percent level) Net Income Percentile Estimates by Subsample. Missing subsamples have no statistically significant estimates.

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### Table 25: Distribution of Statistically Significant (1 percent level) ROE Percentile Estimates by Subsample. Missing subsamples have no statistically significant estimates.

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Table 26: Distribution of Statistically Significant (1 percent level) ROA Percentile Estimates by Subsample. Missing subsamples have no statistically significant estimates.

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<td>-0.413</td>
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</table>

Table 27: Distribution of ROE Percentile Estimates by Profit Weight Calculation. The rows of this table correspond to the rows of Table 3.

<table>
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<th>P99</th>
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<td>-0.000</td>
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Table 28: Distribution of ROA Percentile Estimates by Profit Weight Calculation. The rows of this table correspond to the rows of Table 3.

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<td>-0.323</td>
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<td>Total</td>
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Table 29: Distribution of ROE Percentile Estimates by Specification. The rows of this table correspond to the six columns of the regression specifications in Table 17.

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<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
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<td>-0.413</td>
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<td>0.071</td>
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<td>-0.392</td>
<td>-0.300</td>
<td>-0.060</td>
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<td>-0.356</td>
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<td>-0.439</td>
<td>-0.436</td>
<td>-0.338</td>
<td>-0.071</td>
<td>-0.002</td>
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<td>0.411</td>
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</table>

Table 30: Distribution of ROA Percentile Estimates by Specification. The rows of this table correspond to the six columns of the regression specifications in Table 18.

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<th>Median</th>
<th>P75</th>
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<th>P99</th>
<th>Max</th>
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<td>-0.406</td>
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<td>0.286</td>
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Table 31: Distribution of Statistically Significant (1 percent level) ROE Percentile Estimates by Specification. The rows of this table correspond to the six columns of the regression specifications in Table 17.

<table>
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<th>P99</th>
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Table 32: Distribution of Statistically Significant (1 percent level) ROA Percentile Estimates by Specification. The rows of this table correspond to the six columns of the regression specifications in Table 18.

<table>
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<th>P95</th>
<th>P99</th>
<th>Max</th>
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<td>0.106</td>
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</table>

Table 33: Direct Shareholders: Distribution of Statistically Significant (1 percent level) Point Estimates.

<table>
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<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
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<td>Net Income Percentile</td>
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<td>-0.645</td>
<td>-0.645</td>
<td>-0.614</td>
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<td>0.110</td>
<td>0.112</td>
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</tr>
<tr>
<td>Return on Equity</td>
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<td>0.047</td>
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Table 34: Active Investors: Distribution of Statistically Significant (1 percent level) Point Estimates.

<table>
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<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
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</thead>
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<tr>
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<td>-3.895</td>
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<td>0.017</td>
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</tr>
<tr>
<td>Net Income Percentile</td>
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<td>-0.476</td>
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<td>-0.317</td>
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Anticompetitive Effects Of Common Ownership

JOSÉ AZAR, MARTIN C. SCHMALZ, and ISABEL TECU*

*Azar is with IESE Business School (jazar@iese.edu). Schmalz is with the Ross School of Business, University of Michigan, CEPR, and ECGI (schmalz@umich.edu). Tecu is with Charles River Associates (itecu@crai.com). For helpful comments, we thank Cindy Alexander, Susan Athey, Jonathan Berk (discussant), Alon Brav, Severin Borenstein, John Coates, Peter Crantos, Daniel Crane, Vicente Cuñat (discussant), Martino DeStefano, Alex Edmans, Einer Elhaugel, Andrew Ellul, Daniel Ferreira (discussant), Todd Gormley, Daniel Greenfield (discussant), Umit Gurun, Charles Hadlock, Johan Hombert, Dirk Jenter, Louis Kaplow, Ryan Kellogg, Han Kim, Kai-Uwe Kühn, Juwon Kwak (discussant), Francine Lafontaine, Maggie Levenstein, Robert Levinson, Evgeny Lyandres (discussant), Gregor Matvos, Holger Müller, Vikram Nanda (discussant), David Reitman, Nancy Rose, Farzad Saidi (discussant), Steven Salop, Sarath Sanga (discussant), Fiona Scott Morton, Michael Roberts (the editor), Amit Seru, Carl Shapiro (discussant), Jesse Shapiro, Matthew Shapiro, Andrei Shleifer, Yossi Spiegel, Jeremy Stein, Scott Stern, Sheridan Titman (discussant), Glen Weyl, Toni Whited, Alminas Zaldokas, anonymous referees, several corporate governance and proxy voting executives, the general counsel, and a board member of various large asset management companies, a pricing manager of a major airline, our colleagues, seminar participants at ASU, Berkeley, Bonn, BC, Charles River Associates, Chicago Booth, Columbia GSB, DICE, FRB of New York, FRB of Governors, Goethe Universität, Harvard, Humboldt Universität, IESE, INSEAD, Köln, Mannheim, McGill, MIT, Stanford, Stockholm, Toulouse School of Economics, Tilburg, U.S. Department of Justice, UV Amsterdam, UBC, University of Michigan, UNC, Western University, Yale, conference audiences at the American Bar Association, EARIE, ESWC, EFA, FTC Microeconomics Conference, IFN (Stockholm), IIOC, LBS Symposium, LSE Adam Smith, LSE Economic Networks and Finance, NBER Corporate Finance, NBER SI Law & Economics, Searle Antitrust Conference, Princeton JRCPP, TAU Finance Conference, Texas Finance Festival, and the Utah Winter Finance Conference, and Oliver Richard for help with the DB1B data. Schmalz is grateful for generous financial support through an NTT Fellowship from the Mitsui Life Financial Center. Bret Herzig, Yichuan Wang, and Eric Wilson provided excellent research assistance. All of the authors have read the Journal of Finance’s disclosure policy and have no conflicts of interest to disclose. Charles River Associates had the right to review the article prior to its circulation. The views expressed herein are the views and opinions of the authors and do not reflect or represent the views of other consultants or experts who are affiliated with Charles River Associates, nor do they reflect the views and opinions of Charles River Associates or any of the organizations with which the authors are affiliated.

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ABSTRACT

Many natural competitors are jointly held by a small set of large institutional investors. In the U.S. airline industry, taking common ownership into account implies increases in market concentration that are 10 times larger than what is “presumed likely to enhance market power” by antitrust authorities. Within-route changes in common ownership concentration robustly correlate with route-level changes in ticket prices, even when we only use variation in ownership due to the combination of two large asset managers. We conclude that a hidden social cost – reduced product market competition – accompanies the private benefits of diversification and good governance.

JEL Classification: L41, L10, G34

Keywords: Competition, Ownership, Diversification, Pricing, Antitrust, Governance, Product Market

A long theoretical literature in industrial organization predicts that partial common ownership of natural competitors by overlapping sets of investors can reduce firms’ incentives to compete: the benefits to one firm of competing aggressively – for example, gains in market share – come at the expense of firms that are part of the same investors’ portfolio, reducing total portfolio value. Theory thus predicts that common ownership can push product markets toward monopolistic outcomes, and imply a deadweight loss for the economy and adverse consequences for consumers.

Contrasting this theoretical argument, the empirical literature thus far largely assumes that common ownership interests by financial institutions do not matter for firms’ objectives and product market outcomes. The question of whether this assumption is warranted has first-order implications for many areas of economics, such as finance, industrial organization,
macroeconomics, and antitrust policy. In this paper we aim to shed light on this question by studying the effect of common ownership on product market outcomes. Specifically, we ask, first, how large are current levels of common ownership, and what are the implications for market concentration measures, and second, do current levels of common ownership adversely affect product market competition?

With respect to the scope of the first question, highly diversified mutual fund families and other institutional investors now hold a high (70% to 80%, ICI (2015)) and increasing share of U.S. publicly traded firms’ equity. Because several asset management companies are also extremely large, the same fund family is often the single largest beneficial owner of several firms in an industry, with similarly diversified investors following suit. Table I provides examples.\(^1\) The potential scale of the resulting antitrust problem spans across all industries, geographies, and economies with tradable equity securities.

The second question presents a formidable identification challenge.\(^2\) Correlations between common ownership and price-cost margins across firms or industries do not necessarily have a causal interpretation, as reverse causality or potentially omitted control variables may play

\(^1\) In 2013, BlackRock was the single largest shareholder of one fifth of all American publicly traded firms (see Davis (2013) and December 7, 2013, The rise of BlackRock, The Economist, see also Craig, Susanne, May 18, 2013, The giant of shareholders, quietly stirring, The New York Times). Fichtner, Heemskerk, and Garcia-Bernardo (2016) calculate that the combined holdings of BlackRock, Vanguard, and State Street make them the largest investor of 88% of all firms in the S&P 500. See Roe (1990), and Elhauge (2015) for a discussion of the legal constraints of such ownership structures.

\(^2\) An obvious problem would exist if one beneficial owner controlled 50% or more of the voting securities of all firms in the industry. An open empirical question is whether \(N\) investors that each hold more than \(50/N\%\) of votes in all firms, or similar structures, can have similar effects.
a role. To take a step towards addressing these challenges, we focus on the U.S. domestic airline industry as a laboratory. This industry focus is motivated by the fact that high-quality route-level price and quantity data are publicly available, and each route can be considered a separate market. These features allow us to relate common ownership concentration to prices within the same firm, period, and industry, which reduces the amount of confounding variation. Further, using only variation in airline ownership caused by a consolidation event in the asset management industry that is unlikely to be caused by developments in the U.S. airline industry supports a causal interpretation of our results. To alleviate concerns about model misspecification and the endogeneity of market shares, for which we lack an exogenous source of variation, we conduct a variety of placebo tests.

We first calculate measures of market concentration that take into account not only market shares, but also the network of cash flow and control rights that constitute airline shareholders’ economic interests. We find that the anticompetitive incentives implied by common ownership concentration alone — which are incremental to those implied by the traditional Herfindahl–Hirschman Index (HHI) market concentration and are measured on the same scale — are more than 10 times larger than what the Federal Trade Commission (FTC)/Department of Justice (DOJ) 2010 horizontal merger guidelines presume “to be likely to enhance market power.” They are also 10 times larger than the HHI threshold beyond which the burden of proof shifts from the regulator to the private parties involved to show that the implied concentration is not likely to enhance market power. The magnitude of common ownership concentration furthermore dwarfs the time-series variation in HHI. These facts suggest that it is reasonable to expect an effect of common ownership on product prices.

Next, we test whether these anticompetitive incentives do indeed translate into measurable effects on product market competition. Specifically, we examine whether changes in
common ownership concentration in a given route over time are associated with changes in
ticket prices in the same route. For example, theory predicts that the entrance of an indepen-
dent player (a firm not owned by the same set of investors who own the incumbent airlines)
increases competition and reduces prices. By contrast, competition should soften in a route
when the owners of incumbent airlines acquire significant ownership and control rights in an
independent carrier serving the same route.

Using fixed-effect panel regressions, we find that ticket prices are approximately 3% to
7% higher in the average U.S. airline route than would be the case under separate ownership.
This effect of common ownership is similar in magnitude to, and incremental to, the effect
of the traditional HHI measure of market concentration, and controls for commonly used
covariates. Given the industry’s average net profit margin in 2015 was 4% (IATA (2015)),
the magnitude of the effect is economically significant. Fixed effects difference out alternative
interpretations at the firm, route, firm-route, and firm-time levels, such as confounding effects
of fuel or oil price changes. We also find that changes in passenger volume are negatively
related to changes in common ownership, which indicates that the price effects are not driven
by increased demand that institutional shareholders correctly anticipate (a reverse-causality
argument).

We conduct a large number of placebo and robustness tests to examine the empirical
validity of concerns regarding functional form, market definition, confounding mergers and
bankruptcies, reverse causality, the assumption that control is proportional to the fraction of
votes held, and the model of competition. Some of these tests may have direct policy implica-
tions. For example, we run a difference-in-differences test based on BlackRock’s acquisition
of Barclays Global Investors (BGI) in 2009. This identification strategy uses only the vari-
ation in common ownership across routes that is implied by the hypothetical combination
of the two parties’ portfolios as of the quarter before the announcement of the acquisition. Since airline stocks constituted only a small fraction of the merging parties’ portfolios, it is unlikely that this variation is driven by expected changes in U.S. airline ticket prices. While estimated using much less variation than the panel regressions, the estimates from this strategy are arguably less affected by endogeneity of ownership and market shares. The results indicate that product prices may be 10% to 12% higher due to common ownership. Multiplying these estimates by the average route-level increase in common ownership due to the consolidation event indicates that the acquisition itself increased average ticket prices by about one-half a percent.

Additional tests help shed light on the corporate governance mechanisms that may translate common owners’ incentives to firms’ product market strategies. These tests also further help alleviate endogeneity and misspecification concerns. For example, we find that the results are driven by the top-ranked shareholders of a firm as well as by long-term shareholders. The fact that no significant effects obtain when we assume control by shareholders that are unlikely to have control (such as very small and short-term shareholders) is inconsistent with endogeneity of market shares driving the main results. We also document significant effects from both firm- and market-level variation in common ownership over time, and find that the effects are stronger for larger and for more concentrated markets. These findings are consistent with a model of rational attention allocation by investors and airlines to markets where the bottom-line impact of increased prices is greater.

We complement the above analysis with a discussion of anecdotal and empirical evidence on shareholder engagement related to product market strategy using (i) voice, (ii) incentives, and (iii) voting. Not withstanding the evidence presented, however, it is important to recognize that common owners of competitors need not explicitly communicate their anticompeti-
itive incentives to management for the documented outcomes to materialize. For instance, not explicitly demanding or incentivizing tougher competition between portfolio firms may allow managers to enjoy the “quiet life” (Hicks (1935), Bertrand and Mullainathan (2003)), and thus lead to an equilibrium with reduced competition and sustained high margins. Indeed, we are not aware of systematic evidence supporting the view that large diversified asset managers actively encourage their portfolio firms to compete more aggressively against each other. (Such behavior would likely violate both the asset managers’ and their investors’ incentives.) By contrast, concentrated owners such as hedge fund activists have been shown to push their target firms to compete more aggressively against industry rivals. Competitive concerns thus arise when concentrated owners get crowded out by diversified institutions that also hold large stakes in industry rivals — even if the institutions driving the common ownership links are entirely “passive” in terms of corporate governance (other than voting).

The paper proceeds as follows. Section I discusses the related literature. Section II develops our hypotheses and Section III describes the data that we use in the empirical analyses presented in Section IV. Section V discusses the institutional setting and potential governance mechanisms that may underly the empirical facts presented. Finally, we conclude by discussing policy implications and directions for research in Section VI.

I. Related Literature

To our knowledge, this paper is the first to empirically identify an effect of common ownership concentration on product prices and to document an effect of consolidation in the asset management industry on portfolio firms’ product prices. We thus complement a long but mostly theoretical literature arguing that shareholders with diversified portfolios

This literature has a rich background. Under imperfect competition, when shareholders hold more than one firm, they may disagree about the firm’s objective (see, for example, Hart (1979)). A theory of shareholder preference aggregation is therefore necessary. To that end, Azar (2012, 2017) develop models of oligopoly firm behavior in which competition for shareholder votes among potential managers leads firms to aggregate and internalize shareholder interests, including holdings in competitors.³

Reynolds and Snapp (1986) extend classic oligopoly models to allow firms to hold shares in competitors.⁴ Bresnahan and Salop (1986) introduce a modified Herfindahl-Hirschman Index (MHHI) to quantify the competitive effects of horizontal joint ventures. We use O’Brien and Salop’s (2000) version of the MHHI to measure common ownership concentration.

On the empirical side, Bolle and Güth (1992) calculate the ultimate ownership of natural competitors in the German gas industry and argue that a firm’s price setting behavior reflects its shareholders’ interests in the firm’s competitors. Hansen and Lott (1996) document

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³ Early models of voting on production choices and the internalization of production externalities include Benninga and Muller (1979), DeMarzo (1993), and Crès and Tvede (2005). See also Dekel, Jackson, and Wolinsky (2008), Dekel and Wolinsky (2012), and Casella, Llorente-Saguer, and Palfrey (2012).

the extent of common ownership across a selection of competitors by institutional investors. More recently, Davis (2008) suggests that increasing concentration of mutual fund ownership of U.S. firms points to “a new finance capitalism,” but focuses on ownership by families of actively managed funds that constitute “relatively transient owners.” Networks of common ownership among diversified institutional investors are studied by, for example, Faccio and Lang (2002), Vitali, Glattfelder, and Battiston (2011), and Davis (2013) and have been related to shareholder voting and various firm-level outcomes by Matvos and Ostrovsky (2008), Matvos and Ostrovsky (2010), Harford, Jenter, and Li (2011) and Fichtner, Heemskerk, and Garcia-Bernardo (2016).

In terms of relating common ownership to competition, the paper closest to ours is Azar (2012), who computes measures of common ownership of U.S. stocks over time and finds a positive relation between common ownership and profit margins in cross-industry panel regressions. He concludes that the full ownership structure of a firm, including institutional shareholders with passive portfolio strategies, should be accounted for in the calculation of modified indices of market concentration. Following this work, He and Huang (2017) use trends across industries in a binary common ownership measure and correlate it with firm-level outcomes such as profitability and market share growth. No prior study has examined effects of common ownership concentration on product prices or quantities.

In terms of methodology and setting, our analysis is related to Borenstein (1990), Werden, Joskow, and Johnson (1991), Kim and Singal (1993), Evans and Kessides (1994), Borenstein and Rose (1994), Borenstein and Rose (1995), Peters (2006), Goolsbee and Syverson (2008), Brueckner, Lee, and Singer (2013), Luo (2014) and Kwoka, Hearle, and Alepin (2016), who study the effects of airline mergers and other route characteristics on prices. Our study differs, however, in that we investigate the effects of changes in market concentration due to
changes in the ownership structure of the industry, holding constant the known structural
determinants of prices.

We also contribute to the literature on institutional investors’ involvement in corporate
governance (see Section V). It is well known that “activist” investors induce changes in
executive compensation, turnover, and other corporate decisions that may affect product
markets (see especially Brav, Jiang, Partnoy, and Thomas (2008) and Brav, Jiang, and Kim
(2011)). We note that strategic changes can typically be implemented only with the support
of the firms’ largest shareholders, which increasingly are institutions traditionally referred to
as “passive” investors. Yet, practitioners point out that “having a passive investment strategy
has nothing to do with your behavior as an owner.”5 Our paper thus provides evidence for
the notion that “the boundary between long-only money managers and activists is starting
to blur.”6

Lastly, our results provide an empirical answer to the question “Do firm boundaries
matter?” (Mullainathan and Scharfstein (2001), Atalay, Hortaçsu, and Syverson (2014)).
Our results suggest that common ownership links can blur formal firm boundaries.

II. Hypotheses

The above literature in finance and industrial organization predicts that within-industry
diversification of influential shareholders can lead to less competition in portfolio firms’
product markets. To see why, imagine an industry with two equal-sized firms, A and B.

5 Scott, Mike, April 6, 2014, Passive investment, active ownership, Financial Times

6 Gelles, David, and Michael de la Merced, September 26, 2014, New alliances in battle for corporate
control, The New York Times
Suppose A undercuts B’s price to attract customers from B and thus gain market share. Depending on the parameters, firm A may benefit from such a move, by selling many more units of a product at an only slightly reduced price. Variations of this logic are the basis for many standard models of competition.

However, A’s gain in market share comes at the expense of firm B’s market share, and average prices in the market are lower. As a result, the owner of firm B loses more revenue than the owner of firm A gains and thus the sum of A’s and B’s producer rents falls. This means that an investor holding equal-sized stakes in both A and B would enjoy greater total (i.e., portfolio) profits if the two firms set prices or quantities as if they were two divisions of a monopoly instead of as two independent firms. We therefore expect less competition compared to the standard model, to the extent that shareholders are diversified across natural competitors and portfolio firms act in their diversified shareholders’ interest.

This simple intuition is understood to be potentially important not only in the academic literature but also in the popular press. For example, following Berkshire Hathaway’s acquisition of major stakes in each of the nation’s largest four airlines, CNBC’s Becky Quick asks “You know, Warren, it does occur to me, though, if you’re building up such a significant stake in all the major players, is that anything that’s, like, monopolistic behavior? Is there any concern to think that you would say something to the airlines to make them make sure that they’re not competing [...] quite the same? What would keep somebody from worrying about that?”

Quick, Becky, February 27, 2017, Buffett’s Berkshire takes stakes in four major airlines, CNBC http://www.cnbc.com/2017/02/27/billionaire-investor-warren-buffett-speaks-with-cnbc-becky-quick-on-squawk-box.html. We discuss evidence of various types of shareholders making demands to soften competition in Section V.
To empirically investigate whether common ownership of competitors leads to higher product prices, we need a measure that captures the extent to which firms’ most powerful owners are also owners of natural competitors. One such measure is the MHHI, originally developed by Bresnahan and Salop (1986) and updated by O’Brien and Salop (2000), which is used by regulators worldwide to assess the competitive risks of holdings of a firm’s stock by direct competitors. (Regulators usually ignore beneficial ownership by financial investors; by contrast, we calculate MHHIs taking into account all beneficial owners of a firm’s shares, which in most cases are industry outsiders.)

One attractive property of the MHHI is that it allows one to decompose total market concentration (MHHI) into two parts, industry concentration as measured by HHI, $\sum_j s_j^2$, where $s_j$ is the market share of firm $j$, and common ownership concentration, referred to as

That said, recalling Table I, it seems reasonable to assume that Wells Fargo’s top managers understand even without explicit communication with either shareholders or competitors’ managers that it is not in his largest shareholders’ best interest to compete aggressively for market share against Bank of America. After all, Berkshire Hathaway, Wells Fargo’s largest shareholder, famously acquired a multibillion dollar ownership stake in Bank of America during the financial crisis. We feel assured that not only Bank of America’s, but also JPMorgan’s, management is well informed of these interests, given regular interactions between JPMorgan’s top management and its largest shareholders on corporate governance topics (e.g. Foley, Stephen and Ben McLannahan, February 1, 2016, Top U.S. financial groups hold secret summits on long-termism, Financial Times) and given the fact that Berkshire Hathaway’s Co-CIO is a JPMorgan director (Buhayar, Noah, September 20, 2016, Buffett’s investing deputy Combs named to JPMorgan’s board, Bloomberg). We find it equally likely that top management of the largest airlines in the U.S. also learned about major shifts in the ownership structure of the industry even without being personally informed by Warren Buffett.
MHHI delta. HHI captures the number and relative size of competitors while MHHI delta captures the extent to which those competitors are connected by common ownership and control links. Formally,

\[
\sum_j s_j s_k \frac{\sum_i \gamma_{ij} \beta_{ik}}{\sum_i \gamma_{ij} \beta_{ij}} = \sum_j s_j^2 + \sum_j s_j s_k \frac{\sum_i \gamma_{ij} \beta_{ik}}{\sum_i \gamma_{ij} \beta_{ij}},
\]

(1)

where \(\beta_{ij}\) is the ownership share of firm \(j\) accruing to shareholder \(i\), \(\gamma_{ij}\) is the control share of firm \(j\) exercised by shareholder \(i\), and \(k\) indexes firm \(j\)'s competitors.

Another attractive feature of the MHHI is that it can be interpreted in the context of a Cournot model of competition. As we explain in Internet Appendix Section I this helps inform interpretation of our empirical results and clarify potential sources of endogeneity. However, we do not estimate the model. Rather, we use MHHI delta as a reduced-form measure of the decrease in incentives to compete due to common ownership.

The empirical question that we address is whether common ownership concentration as measured by MHHI delta has explanatory power for airline ticket prices after controlling for market concentration as traditionally measured (by HHI) and other known determinants of prices. If MHHI delta does not capture an important part of shareholder incentives, or if governance or informational frictions prevent the implementation of shareholders’ anticompetitive incentives, empirical tests should support the null hypothesis.

H0: Common ownership concentration, as measured by MHHI delta, has no effect on ticket prices.

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8 The Internet Appendix is available in the online version of this article on the Journal of Finance website.
If, on the other hand, economic incentives, as captured by MHHI delta, explain economic outcomes at least in part, the alternative hypothesis should find support.

**H1:** Common ownership by diversified investors, as measured by MHHI delta, has a positive effect on ticket prices.

We test these hypotheses using various methods to calculate MHHI delta, some of which relax the “proportional control” assumption, which holds that effective control is proportional to the fraction of control rights held. We also conduct tests in which the measure of common ownership concentration can be interpreted in the context of a Bertrand model of competition.

### III. Data

#### A. Data on Ticket Prices and Market Shares

We construct fares and passenger shares for each market using the publicly available Department of Transportation’s Airline Origin and Destination Survey *DB1B* database, which contains 10% of airline tickets each quarter over the period 2001Q1 to 2014Q4. Following the literature, the markets that we consider in our baseline specifications are origin-destination airport pairs in the U.S., regardless of direction. To construct prices and the number of passengers at the carrier level, we assign a ticket to the marketing carrier (rather than the operating carrier), and we exclude tickets with multiple ticketing carriers from the analysis.\(^9\) We limit our analysis to markets with an average of at least 20 passengers a day. We describe

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\(^9\) We thus abstract from frictions associated with imperfect vertical integration (Forbes and Lederman (2009, 2010)). Relatedly, alliances other than direct affiliations are typically between domestic and
other filters (to screen out tickets that cannot be readily assigned to a particular market, that contain unreliable information, etc.) in the Internet Appendix, along with the key variables. We retain over one million observations at the carrier-market-quarter level.

Table II reports summary statistics for our sample, both at the carrier-market and at the market level. The average 2008 CPI-adjusted fare per passenger across markets is $219. The average number of passengers per quarter is 3,930 per carrier market and 18,429 per market. Average HHI calculated based on passenger shares of ticketing carriers, is about 5,300 across markets and over time. On average, around two-thirds of passengers in a given market use connecting flights, and sample markets contain 0.73 nonstop carriers. Southwest competes nonstop in 9% of the markets, and other low-cost carriers (LCCs) compete nonstop in 8% of the markets. For each market in our sample, we follow prior airline literature (see, for example, Brueckner, Lee, and Singer (2013)) and use data from the Bureau of Economic Analysis to calculate the geometric mean of population and income per capita across the metro areas at the endpoints. The average “market population” is 2.3 million and the average “market income” is approximately $42,000.

B. Data on Airline Ownership

To construct the common ownership network of each market-year-quarter, we start with institutional holdings from the Thomson-Reuters Spectrum dataset that comes from 13F filings. These data include all U.S. holdings of publicly traded firms by institutional investors that manage more than $100 million as well as information on the number of shares foreign carriers, not between domestic carriers (Brueckner and Whalen (2000)).
that are voting shares. Holdings are not observed during bankruptcy periods. During the bankruptcies of American Airlines, Delta Airlines, Northwest Airlines, United Airlines, and US Airways, we repeat the last observed value for percentage of shares owned; we offer detailed robustness and placebo results by varying the treatment of bankruptcy events. We complement the institutional ownership data with hand-collected noninstitutional ownership from proxy statements, available from the SEC’s website, for owners that hold at least 5% of outstanding shares in any company in our sample.

To shed light on the extent of common ownership in the current U.S. airline industry, we list the top-10 shareholders and their ownership percentage as of the fourth quarter of 2016 for a sample of airlines in Table I. Note that American Airlines’ top-seven shareholders (who jointly control 49.55% of the stock) are also among the top-10 investors of Southwest Airlines and various other competitors. Similarly, each of Southwest’s top-six shareholders is among the top-10 shareholders of American and Delta, and five of them are among the top-10 holders of United as well. By contrast, an individual who owns 20.30% of Allegiant Air is the airline’s largest shareholder but does not appear among the largest holders of any of the other airlines. We use such cross-sectional variation in airline ownership and its changes over time as a source of variation in market-level competitor ownership networks.

10 The Thomson-Reuters dataset is known to be incomplete and feature various inaccuracies. To improve its accuracy, we combine holdings from separate filings by the same asset manager, and add missing filings that we obtain from the SEC’s website for BlackRock in 2010 and 2013 to 2015, Barclays in 2003Q4, Northern Trust in 2014Q1, BNY Mellon in 2013Q3, and JPMorgan in 2003Q4, 2008Q3, 2013Q3-Q4.
C. Quantifying Economic Incentives Using MHHI

Table I gives a sense of the degree to which industry competitors are commonly owned, but does not quantify common ownership concentration. To do so, we calculate the control share of shareholder $i$ in firm $j$, $\gamma_{ij}$, as the percentage of the sole and shared voting shares of firm $j$ held by shareholder $i$. Similarly, we calculate the ownership share of investor $i$ in firm $j$, $\beta_{ij}$, as the percentage of all shares (voting and nonvoting) of firm $j$ held by shareholder $i$. We disregard shareholdings with voting and nonvoting shares of less than 0.5%. This filter amounts to assuming that institutions with less than 0.5% ownership of the firm have no weight in the firm’s objective function; we consider variations of this assumption below. With respect to the definition of “shareholder,” we aggregate holdings at the fund family level to match the institutional feature of voting and governance at the family level, as well as fund families’ incentives, which – consistent with the incentives of their investors – are determined primarily by the value of their total assets under management.\textsuperscript{11} (The family’s incentives must not be confused with the incentives of an individual fund manager within the family, which are often tied to outperforming a benchmark or tracking an index).\textsuperscript{12}

We calculate MHHI delta (the density of the ownership network) for each route quarter

\textsuperscript{11} Although some evidence exists of coordination of governance activities across fund families, we do not empirically study the possibility of blockholders forming coalitions as suggested by Zwiebel (1995) because we have no hard data on such behavior. Interviews with proxy managers indicate that antitrust concerns prevent them from discussing proxy voting with other investors at a high frequency.

\textsuperscript{12} One may thus wonder why fund managers rescind their votes to an office that may vote the shares different from their fund’s interest. There are two reasons. First, it is well known that cross-fund subsidization is in the interest of their families (Gaspar, Massa, and Matos (2006)). Second, coordinating corporate governance activities at the family level can be consistent with fulfilling the fund manager’s
between 2001Q1 and 2014Q4. Figure 1 shows the average MHHI and average HHI across routes over that period; the difference (MHHI delta) is the part of market concentration that is due to common ownership. Despite various mergers, market-level HHI is quite stable over time. By contrast, the average MHHI delta was around 1,400 at the beginning of the period, declined to approximately 1,000 in 2006 to 2007, and then increased to about 2,500 in 2014. Weighting by average passengers in the market over time, the average MHHI delta in 2014 is 2,044. The stark increase in MHHI delta in 2009 coincides with BlackRock’s acquisition of Barclays Global Investors that we will use in one of our identification strategies.

To put these numbers in perspective, the DOJ/FTC 2010 Horizontal Merger Guidelines state that in highly concentrated markets (that is, markets with an HHI greater than 2,500), mergers involving changes in HHI of more than 200 points are “presumed likely to enhance market power.” Thus, the average MHHI delta in the airline industry due to common ownership in 2014Q4 implies increases in concentration that are more than 10 times higher than the threshold that raises antitrust concerns, if one applies the guidelines to MHHI. This threshold also marks the point beyond which, if two parties intended to merge, the burden of proof that the merger does not lead to enhanced market power shifts to the merging parties (as opposed to the regulator). Hence, if the regulator were to apply this logic in changes of market concentration that are due to common ownership, asset managers would have to prove that the common ownership links that their holdings or acquisitions create do not

fiduciary duty toward individual investors as the equilibrium outcome can benefit all investors compared to the alternative of disaggregated voting, even if each individual owner would choose a slightly different policy. This can be true for both cost degression and strategic reasons. The strategic interpretation is that the asset manager serves a coordinating role, similar to the role of some voting trusts a century ago. Individual investors appear content to give up voting rights to the fund manager for similar reasons.
affect market prices.

Figure 1 also provides histograms of the distribution of MHHI delta across routes in 2001Q1 and 2014Q4. Across the full sample, about 5% of routes have an MHHI delta of close to zero – that is, have no common ownership. That is the case when only one carrier serves the route, when the route is served by multiple carriers that do not share common owners. For example, JetBlue was not publicly traded in 2001, went public in 2002, and became owned by investors similar to those of the legacy carriers thereafter. Thus, some routes served by JetBlue may be part of the zero-MHHI delta group in 2001 but part of the positive-MHHI delta group after the IPO. In the 2014Q4 distribution, the 10th percentile is at 109 HHI points, the 25th at 1,421, the median at 2,684, the 75th at 3,642, and the 90th percentile is at 4,184 HHI points. On average common ownership increases concentration by about as much as going from four equal-sized carriers to two equal-sized carriers. The correlation between MHHI delta and HHI is -0.69. The correlation between MHHI and HHI is 0.87.

In sum, the incentives for anticompetitive behavior implied by current levels of common ownership, as measured by MHHI delta, are an order of magnitude larger than those for market power recognized by conventional measures that are measured on the same scale. We examine whether firms implement these incentives in the following section.

IV. Empirical Methodology and Results

A. Panel Regressions of Product Prices on Common Ownership

Figure 1A.1 plots the average airfare against the average MHHI delta for each market in our sample, where the average is taken across all quarters in our sample period. A linear
fit indicates a positive raw correlation between airfares and MHHI delta across markets. Of course, we do not infer a causal effect from this raw correlation. Many factors could impact differences in airfares across markets that may also be correlated with common ownership in a given market. In our baseline analysis we address various such omitted variable concerns with explicit controls and fixed effects.

A.1. Panel Regression Methodology

In our main specification, we regress the logarithm of the average price for carrier $j$ in route $r$ at time $t$ on MHHI delta, HHI, additional controls, time fixed effects, and market-carrier fixed effects:

$$\log(p_{rjt}) = \beta \cdot MHHI\ delta_{rt} + \gamma \cdot HHI_{rt} + \theta \cdot X_{rjt} + \alpha_t + \nu_{rj} + \varepsilon_{rjt},$$

(2)

where $p_{rjt}$ is the average price of carrier $j$ in route $r$ at time $t$, $MHHI\ delta_{rt}$ is the MHHI delta for route $r$ at time $t$ (it is the difference between MHHI and HHI – not the time variation in MHHI), $X_{rjt}$ is a vector of controls, $\alpha_t$ are time fixed effects (at the quarterly frequency), and $\nu_{rj}$ are market × carrier fixed effects. Following Goolsbee and Syverson (2008), we weight the market-carrier-level regressions by the average number of passengers of the market and carrier over time. We double-cluster standard errors by market-carrier and year-quarter. Additionally, we run regressions aggregated at the market level:

$$\log(p_{rt}) = \beta \cdot MHHI\ delta_{rt} + \gamma \cdot HHI_{rt} + \theta \cdot X_{rt} + \alpha_t + \nu_{r} + \varepsilon_{rt},$$

(3)

where $p_{rt}$ is the average price of route $i$ at time $t$. We consider alternative specifications below. In the market-level regressions we weight by the average number of passengers of the
market and double-cluster standard errors by market and year-quarter.

As controls, we include the log of distance interacted with year-quarter fixed effects to control for the price effect of changes in oil or fuel prices that may differentially affect routes of different length in ways that could be correlated with common ownership. We also include various market characteristics that HHI fails to capture: the number of nonstop carriers operating in a route, an indicator for whether Southwest operates nonstop in a route, an indicator for whether another LCC operates in a route, the log of the geometric average of the population in the two endpoints of a route, the log of the geometric average of per capita income in the two endpoints of a route, the share of passengers in the market that travel using connecting flights, and the share of passengers for the market carrier that travel using connecting flights (in the market-carrier-level regressions).

When interpreting the coefficient on MHHI delta (β), one should keep mind that market shares (which enter both MHHI delta and HHI) are potentially endogenous in ways that are likely to negatively bias this coefficient. An investor with holdings only in one airline should increase her stake if she correctly (and before the rest of the market) anticipates an increase in firm profitability. Such purchases decrease MHHI delta, which leads to a negative relation between MHHI delta and future price-cost margins. If this theory is correct, an instrumented version of the above regression should produce higher estimates of β. The bias could also go in the other direction. This would be the case if passive investors’ portfolios anticipated demand shifts in particular airlines’ routes more so than active investors did, and as a result bought shares in multiple airlines flying these routes, which would lead to an endogenously positive relation between MHHI delta and ticket prices. This seems implausible. However, such variation could be implemented by active investors picking industries rather than stocks. To shed light on the direction of the bias, we compare estimates across panel
and instrumented regressions and find support for negative bias in the baseline regressions. We also find in several placebo tests that variation in MHHI delta driven by changes in ownership by shareholders with little effective control does not correlate with price changes. This finding is inconsistent with the hypothesis that endogeneity of market shares drives our main results.

A.2. Panel Regression Results

Results from our basic regression in equation (2) are reported in Table III. In each specification we find a large and significant positive effect of MHHI delta on average fares. The coefficient of 0.194 in the first specification with only time and market-carrier fixed effects implies that an increase in MHHI delta from zero to 2,000 (approximately the weighted average level of MHHI delta in 2014Q4) is associated with an increase in average fare of 4%. Similarly, going from the 25th to 75th percentile increases prices by 4.3%, and going from the 10th to 90th percentile indicates an increase in fares of 8.2%.

In specification (2), we account for the differential effect that changes in jet-fuel prices may have on operating costs in routes of different lengths by controlling for the log of distance interacted with year-quarter fixed effects. Doing so leads to slightly higher coefficients on both HHI and MHHI delta. In specification (3), we add controls for market characteristics. The coefficients on HHI and MHHI delta remain positive and both statistically and economically significant, albeit slightly attenuated relative to the first specification. The coefficients on the control variables have the expected signs: a larger number of nonstop competitors, Southwest’s nonstop presence and other LCCs’ nonstop presence are all associated with lower fares.

Specifications (4) to (6) are analogous to specifications (1) to (3) but aggregated at the
market level instead of the market-carrier level. We find qualitatively similar results, but the coefficients on MHHI delta and HHI are higher. One possible reason is that specifications (4) to (6) do not control for market-carrier-specific factors, which may affect prices in the entire market. For example, whether a route is between two hubs of a given carrier would not be controlled for. Another possibility is that, in the market-carrier-level regressions, the large number of fixed effects exacerbates measurement error and therefore leads to more severe attenuation bias.

A.3. Robustness of the Baseline Analysis

Given that the airline industry experienced significant changes over time, in a first robustness test we examine whether the effect of MHHI delta has a similar magnitude over time by interacting both MHHI delta and HHI with year dummies. Figure IA.2 plots the coefficients for the market-level specification with controls. The effect of MHHI delta on fares is positive and statistically significant in most years, and similar in magnitude across all years, but the effect of MHHI delta is slightly more volatile. The coefficient on MHHI delta is insignificant in 2006 and 2007, possibly because both Delta Air Lines and Northwest were in bankruptcy during this time. Bankruptcies may confound the results because shareholders have no de jure control rights during such times, and this feature is not captured in our computation of MHHI delta.

To more directly investigate the impact of bankruptcies on our estimates, in Table IV, specification (1), we exclude from the sample quarters in which one of the major airlines was in bankruptcy, which leaves us with the periods 2001Q1–2002Q2, 2007Q2–2011Q3, and 2014Q1–2014Q4. The estimates are similar to those in the main specification. Specification (1) in Table IA.1 further shows that if we sample only market-carriers in bankruptcy, there
is no effect of MHHI delta (but also no effect of HHI, maybe because of the reduced sample size). The subsequent specifications in the table show that the effect of MHHI delta is similar to that in the baseline in markets not affected by bankruptcies, and is significant in both bankruptcy markets and nonbankruptcy markets (though the effects of MHHI delta and HHI are higher in the latter). The bottom line is that the results are generally weaker in markets and at times affected by bankruptcies, consistent with shareholders not being in control during such times. We conclude that the baseline results are not driven by an unusual sample subperiod in general or by bankruptcies in particular.

We also check robustness to adding institutional ownership and institutional ownership concentration controls. Following Hartzell and Starks (2003), we calculate the share of institutional ownership, institutional ownership concentration (measured as the HHI of the institutional ownership shares), and the fraction of total institutional ownership that is held by the top five institutional owners in the firm. For the market-level regressions, we calculate the passenger-weighted average of the institutional ownership variables. The results are similar, as shown in Table IV, specification (2). The table also checks robustness to various other concerns. For example, city pairs may constitute a better basis for defining a market than airport pairs. Table IV, specification (3), shows that the results are similar, and indeed somewhat stronger. Also, the functional form assumed by equation (2) is unlikely to drive the results: controlling for a tenth-order polynomial in HHI does not significantly change the coefficient on MHHI delta (specification (4)).

A.4. Limitations of the Baseline Analysis

An attractive feature of the analysis so far is that a large number of potentially omitted variables is differenced out via fixed effects. For example, because we employ carrier-route
fixed effects, market power on specific routes due to frequent-flyer programs (Lederman (2007)) is differenced out. Nevertheless, several other significant limitations remain, including potential endogeneity of market share and ownership as well as various forms of model misspecification. We first address reverse causality, that is the possibility that ownership changes could be driven by price changes rather than the other way around. Next, we consider alternative approaches to computing MHHI delta. Most importantly, we relax the proportional control assumption. In doing so, we not only ensure robustness, but also obtain insights into which shareholders drive the results as well as the corporate governance mechanisms that appear to be at play. These variations also yield important placebo tests: when MHHI delta is computed using ownership stakes of shareholders that are not expected to exert control on firm strategy, MHHI delta should have no effect on prices unless endogeneity of market shares or other misspecifications drive the results. We also consider alternative specifications that can be more easily interpreted in the context of a Bertrand model of competition. We show that controlling for multi-market contact does not significantly impact the effect of common ownership concentration.

B. Reverse Causality Concerns

We employ three sets of tests to examine – and reject – the hypothesis that the baseline results are due to changes in ticket pricing causing changes in common ownership, market share, or both, rather than the other way around. We begin by using distributed-lag regressions. We then use difference-in-differences (DiD) and an IV strategy that relies on a large consolidation event in the asset management industry as a quasi-exogenous shock to common ownership concentration. We close with panel regressions that use passenger volume as the outcome variable instead of ticket prices.
B.1. Panel Regressions with Leads and Lags of MHHI delta and HHI

If increased common ownership concentration causes higher prices, but higher prices do not cause increased common ownership concentration, one would expect increases in common ownership concentration to precede price increases – one would not expect higher common ownership concentration to follow price increases. To test these hypotheses against each other, we implement dynamic panel regressions that include leads and lags of MHHI delta. Table V shows that the coefficients on lags of MHHI delta are correlated with prices, whereas the coefficients on leads of MHHI delta are not significantly different from zero. The former result reduces the likelihood of reverse causality, and is consistent with the institutional feature that most airlines pre-commit capacity to routes months in advance. The latter (non-)result constitutes a first successful placebo test. Note also that the coefficient on lagged MHHI delta is very similar in magnitude to the baseline estimate.

However, theoretically there remains a possibility that some investors are well informed about route-level demand changes several months before the fact but cannot determine which airline serving the route will benefit more, and therefore buy shares of all airlines with high market shares in those routes, thus driving the association between lagged MHHI delta and current prices. To test this hypothesis, we would ideally re-assign common ownership densities across routes in a way that has no obvious link to future changes in demand or in airlines’ pricing strategies. An event that took place in the asset management industry in 2009 affords us a setting that comes close to such an ideal experiment. We analyze this event next.

B.2. Variation due to the BlackRock-BGI Acquisition

Background on BlackRock’s Acquisition of Barclays Global Investors

26
Following the financial crisis that began in 2007, Barclays tried to strengthen its balance sheet. On March 16, 2009, Barclays received a $4 billion bid from CVC Capital Partners for its iShares family of exchange-traded funds, along with an option to solicit competing offers. BlackRock announced a bid to acquire iShares’ parent division, Barclays Global Investors (BGI), for $13.5 billion on June 11, 2009 (i.e., in 2009Q2). The bid was successful and the acquisition was formally completed in December 2009.

The history of Barclays’ attempt to sell iShares to investors other than BlackRock suggests the divestment decision was not driven primarily by considerations regarding how the iShares portfolio would combine with BlackRock’s portfolio in terms of potential product market effects. Moreover, U.S. airline stocks comprised only a small share of BGI’s portfolio and thus it is unlikely that airlines were pivotal to BlackRock’s decision to acquire BGI, much less route-level variation in expected ticket price changes, which alleviates reverse causality concerns. More formally, the exclusion restriction is that the cross-sectional distribution across U.S. airlines routes in the implied increase in common ownership from a hypothetical, pre-merger combination of BlackRock and BGI’s equity portfolios is uncorrelated with errors in the ticket price regression, conditional on controls. This assumption could fail, for example, if we systematically mismeasured economic conditions at departure and destination points in ways that begin to correlate after the acquisition with the increase in common ownership concentration implied by a hypothetical combination of pre-announcement airline stakes of BlackRock and BGI. While we are not aware of a particular reason to expect such a correlation, such a possibility remains a limitation of our analysis.

Notwithstanding the fact that airlines constituted only a small part of the merging parties’ portfolios, both Barclays and BlackRock were among the largest owners of some airlines but not others. For example, Barclays was the fifth-largest and BlackRock was the 17th-largest
shareholder of Airtran Airways in 2009Q1, but a hypothetically combined BlackRock-BGI entity would have been the second-largest shareholder of the firm in 2009Q1, and hence much more powerful. By contrast, BGI also held a large stake in American Airlines before the merger but BlackRock did not. As a result, merging BlackRock and BGIs’ equity portfolios had no effect on American’s ownership structure. The variation across portfolio firms in the degree to which the BlackRock-BGI changed their ownership structure translates into variation across airline routes, because different combinations of airlines compete in different routes.

**Difference-in-Differences Design**

We exploit the variation in common ownership concentration across markets generated by BlackRock’s acquisition of Barclays BGI as follows. We start by calculating MHHI delta in the quarter before the acquisition was announced, 2009Q1, for each airline market. We then calculate a counterfactual MHHI delta for the same period and market with the only difference being that we treat the holdings of BlackRock and Barclays as if they were already held by a single entity. We call the difference between the latter and former MHHI deltas the “implied change in MHHI delta.” The null hypothesis is that the acquisition had no effect on portfolio firms’ product market behavior. The alternative hypothesis is that markets more affected by the acquisition – those with a higher implied change in MHHI delta – experienced price increases relative to less affected markets.

Figure IA.3 shows the distribution of the implied change in MHHI delta across routes. Markets in the top tercile are the treatment group, and markets in the bottom tercile are the control group. The mean and median of the implied change across routes is 91 HHI points, the implied change is larger than 100 HHI points in more than 2,000 routes, and the largest
implied increase is 281 HHI points. These are nontrivial changes in market concentration, and thus changes for which we can reasonably expect to find increases in market prices. The DOJ/FTC Horizontal Merger Guidelines state that “Mergers resulting in highly concentrated markets [HHI over 2,500] that involve an increase in the HHI of between 100 points and 200 points potentially raise significant competitive concerns and often warrant scrutiny.”

We next estimate the following DiD specification, interacting the treatment dummy and controls with year-quarter fixed effects, for all periods between 2006Q2 (12 quarters before the announcement) and 2014Q4:

$$\log (p_{rjt}) = \sum_{k=-n_{post}}^{n_{post}} \delta_{DiD}^k \cdot TREAT^k_r + \sum_{k=-n_{pre}}^{n_{post}} \gamma_{DiD}^k \cdot X^k_{rj} + \alpha_t + \nu_{rj} + \varepsilon_{rjt},$$

where $TREAT^k_r$ is the interaction between the treatment dummy and year-quarter fixed effects, that is, a dummy equal to one for treated firms in period $k$ and zero otherwise. Similarly, $X^k_{rj}$ is the interaction between pre-period control variables and year-quarter fixed effects. We drop the interactions with 2008Q4, which serves as the base period, and thus the estimated $\delta_{DiD}^k$ coefficients represent the change in the difference between treatment and control markets between 2008Q4 and the given period.

Various potentially confounding events occurred around this period, including several mergers, a bankruptcy, and the Great Recession. First, the Delta-Northwest merger was announced in April 2008 and became effective in September 2008. Similarly, the United-Continental merger was announced in May 2010 and became effective in October 2010, the Southwest-Airtran merger was announced in September 2010 and became effective in March 2012, and the American-US Airways merger was announced in February 2013 and became effective in November 2013. These mergers may have directly affected markets that had
a sizable share of both merging partners. If these effects were for some reason correlated with the way common ownership concentration increases as a result of the BlackRock-BGI acquisition, the DiD coefficients could be biased. To determine whether this concern is likely to be empirically important, we capture the extent to which a route was affected by each merger by computing the implied increase in HHI in each route in the quarter before the merger for the Delta-Northwest merger and in 2009Q1 for the others (since these happened after the BGI acquisition, we need to use 2009Q1 instead of the pre-merger quarter to avoid using the post-period in the calculation of the control variables). We add these implied HHI deltas interacted with year-quarter fixed effects as controls. In addition, American Airlines filed for bankruptcy in November 2011. We control for American’s share in a market in 2009Q1 interacted with year-quarter fixed effects to account for any direct effect of this event. Lastly, the U.S. economy was emerging from recession around the time of the BGI acquisition. We capture the exposure of a route to the recession as the change in log per capita income between the start of the Great Recession in 2007Q3 and 2009Q1, and add this measure interacted with year-quarter fixed effects as a control as well.

The results are reported in Figure 2. While the difference between the treatment and control fluctuates around zero somewhat during the pre-period, the overall trend before the announcement is flat. The trend changes after the announcement of the acquisition, and the coefficients are significantly positive for most periods after the completion of the acquisition. Thus, the sign of the effect, based on variation in common ownership generated by the BGI acquisition, is consistent with our previous results from the panel regressions.

IV Design

In this subsection we complement the DiD analysis above with an IV strategy to obtain a
quantitative estimate of the effect of the MHHI delta on prices from the variation generated by the event study. As the pre-period, we use the first quarter before the announcement, 2009Q1. We use 2010Q1, 2011Q1, 2012Q1, 2013Q1, and 2014Q1 as the post-periods (we follow the literature and use the same quarter as the pre-period to rule out seasonality effects), as well as the average of these five quarters. We run specifications with the change in log average fares between the period of interest and 2009Q1 as the dependent variable, and the change in MHHI delta between 2009Q1 and the post-period as the main explanatory variable, controlling for market and carrier characteristics evaluated in 2009Q1. We include all of the control variables used in the baseline specification:

$$\Delta_{2009Q1-Post} \log(p_{rj}) = \delta_{IV} \cdot \Delta_{2009Q1-Post} \text{MHHI delta}_r + X_{rj,2009Q1} + \varepsilon_{rj}. \quad (5)$$

In a continuous-treatment version, we instrument using the raw implied change in MHHI delta, which serves as a continuous treatment variable. In a discrete-treatment version, we instrument the actual change in MHHI delta between the pre- and post-period with the treatment dummy constructed using the top and bottom terciles of the implied change in MHHI delta, as in the DiD analysis above. The relative benefits of the discrete-treatment specification are that it may mitigate concerns related to measurement error and it is easier to understand and depict graphically; the benefit of the continuous-treatment version is that it makes use of more variation. We use heteroskedasticity-robust standard errors. (After taking differences, the above are just cross-sectional regressions).

Table IA.II presents the first-stage regressions of MHHI delta on the discrete treatment instrument and several control variables. MHHI delta, either the discrete or continuous version, is a strong instrument for the actual change in MHHI delta. Specifically, the F-statistics
from weak identification tests range from 57 to 324. (As one would expect, the largest values obtain for 2010Q1, right after the acquisition.) Table VI reports the second-stage results using the continuous treatment. We find a positive and economically sizable but statistically insignificant effect of the change in MHHI delta on the change in log average airfares in 2010Q1, 2011Q1, and 2013Q1, and positive and statistically significant coefficients for 2012Q1 and 2014Q1. The effect for the average of the four periods is positive and highly statistically significant, with a coefficient of 0.466, which is markedly higher than the effects estimated in panel regressions. Table IA.III shows similar results using the discrete treatment variable as an instrument. The estimated effect using the post-period from 2010 to 2014Q1 is 0.462. Multiplying the estimates by the average MHHI delta across routes would imply that ticket prices are about 10% to 12% higher because of common ownership alone, compared to a counterfactual world in which firms are separately owned or in which firms ignore the anticompetitive incentives of their shareholders. As an alternative gauge of economic significance, note that the average implied MHHI delta is about 91 HHI points. Our estimates thus indicate that ticket prices on the average U.S. airline route increased by about 0.5% as a direct result of the BlackRock-BGI acquisition.

### B.3. Effect of Common Ownership Concentration on Passenger Volume

We now provide our fourth – and perhaps simplest – response to the concern that the baseline results could be driven by reverse causality, that is, that some investors correctly anticipate demand changes in specific airline routes and buy stakes in various carriers with high exposure to precisely those routes. Under this “anticipated demand” hypothesis, there should be a positive correlation not only between MHHI delta and prices, but also between MHHI delta and passenger volume. By contrast, if the previously documented price effects
are caused by reduced supply due to higher common ownership concentration, MHHI delta should correlate negatively with passenger volume.

Table IA.V, specification (1), reports results for regressions of passenger volume on common ownership, HHI, year-quarter fixed effects, and market fixed effects. Specification (2) adds additional market structure controls, and specification (3) includes all of the controls used in the saturated price regressions. In all specifications, both HHI and MHHI delta have a negative and significant effect on market passengers, although the magnitude of the coefficients is less stable across specifications than in the price regressions. The coefficient on HHI ranges from -0.496 to -0.583, whereas the coefficient on MHHI delta ranges from -0.665 to -0.213 in the most saturated specification. Using the weighted-average MHHI delta of 2,044 in 2014Q4 to gauge economic significance, the coefficient of around -0.2 from the most saturated specification indicates that the average route has approximately 4% fewer market passengers than there would be under separate ownership.

These results enable us to conduct an additional consistency check. Dividing the coefficient from the quantity regressions’ specification (1), -0.665, by the coefficient from the price regressions’ specification (4), 0.325, implies an elasticity of demand in the average route of -2.05. Using specifications (2) and (5) from the quantity and price regressions, respectively, the implied elasticity is -1.95. Specifications (3) and (6) imply an elasticity of -1.05. This range of estimates is similar to that reported in the existing literature (-1.37 to -2.01 in Berry and Jia (2010), and -1.4 in IATA (2008)).

These results indicate that increasing demand and reverse causality are unlikely to be driving the price effects. Instead, the results are consistent with increased market power. In addition, the findings suggest why the anticompetitive effects of common ownership have welfare implications: the deadweight loss to the economy comes from the reduced output.
that accompanies higher consumer prices.

C. Relaxing the Proportional Control Assumption

C.1. Effect of Common Ownership by Shareholder Rank

We now turn to robustness checks that are also informative about the potential corporate governance mechanisms that implement the anticompetitive shareholder incentives. In the baseline specifications reported previously, we calculate MHHI delta using all shareholders larger than 0.5%, assuming that smaller shareholders have no significant say in corporate strategy. Consistent with this idea, including all shareholders present in the Thomson database has a minimal effect on the estimated coefficients. To further explore this idea, we now estimate specifications that assume control, for a given carrier and quarter, by only the largest 10, largest five, largest three, and single largest shareholder in the calculation of MHHI delta. These specifications assign zero control to all shareholders outside the top N, but accords ownership rights to all shareholders. Table IA.VI presents the results. Generally speaking, disregarding control rights by shareholders below the top five only slightly attenuates the point estimate, but does not affect statistical significance: the top-five regression yields a coefficient on MHHI delta of 0.136 in the market-carrier specification and 0.173 in the market-level specification. Accounting for the control rights of only the largest shareholder attenuates the point estimate even more with the coefficient equal to 0.0717 in the market-carrier specification and 0.0889 in the market-level specification; both coefficients are significant at the 1% level.

As a complement to the top-shareholder analysis, we run a placebo test in which we do the opposite and calculate MHHI delta as if only shareholders ranked below the top 10
controlled the firm. That is, for each carrier and period, we assign zero control to the top 10 shareholders and then recalculate the MHHI deltas accordingly. If the previous results were driven by a mechanical relationship between MHHI delta and prices, by the increase in institutional ownership in general, by nonlinearities in the way MHHI delta is calculated, or by the endogeneity of market shares, then one should still find a positive and significant effect when using lower-ranked shareholders of each firm instead of the top shareholders. Instead, as shown in Table IA.VII, we find that MHHI deltas calculated in this way have no significant effect on ticket prices.

To get a sense of how quickly the estimated effect declines as we consider lower-ranked shareholders, we run specifications using MHHI deltas calculated as if complete control of the firm were given to shareholders of a particular rank in each firm-year-quarter. That is, we assign control equal to zero if a shareholder is not ranked first, calculate the MHHI deltas accordingly, and then run a version of the baseline specification. We then repeat the procedure but assign control equal to zero if a shareholder is not ranked second, and so on. Figure IA.4 plots the estimated coefficients from this exercise for shareholders ranked 1 to 10, together with 95% confidence bands. Only common ownership by shareholders ranked first and second has a positive and highly statistically significant effect on ticket prices. Common ownership and control by shareholders ranked 3 to 10 has a small and insignificant effect on ticket prices. These results are consistent with standard notions of corporate governance, but inconsistent with the hypothesis that various forms of misspecification mechanically drive a spurious correlation between MHHI delta and ticket prices.
C.2. Banzhaf Voting Power Indices as Control Shares

In our calculation of MHHI deltas, thus far we have assumed that shareholder control is proportional to the number of shares they own. As an alternative, we now calculate MHHI delta using Banzhaf indices of voting power, defined as the probability that a shareholder is pivotal in an election with two options (perhaps directors) when the other shareholders randomize their voting with equal probability for each option. Table IV, specification (5), reports regression results with this modification relative to the benchmark. The results are similar in magnitude to the baseline, which suggests that the proportional control assumption is not driving the baseline results.

C.3. Effect of Common Ownership by Shareholder Horizon

The previous tests indicate that the incentives of only the most powerful shareholders are reflected in airlines’ pricing decisions. One might further suspect that in addition to holding large stakes, influence requires holding shares for a sufficiently long period of time (Chen, Harford, and Li (2007)). Indeed, an effect driven by shareholdings held for only a short amount of time might raise concerns about a misspecified empirical model. We measure a shareholder’s horizon at a given point in time as the churn ratio, calculated as in Gaspar, Massa, and Matos (2005) (using shareholders’ ownership in all industries, not just airlines). We then divide shareholders into terciles based on their churn ratios for each year-quarter and call shareholders in the top (bottom) tercile “high-churn” (“low-churn”). We assign zero control to short-horizon investors and run the baseline specification using these modified MHHI deltas. We then repeat the exercise but additionally assign zero control to shareholders not ranked 1 or 2. The results are reported in Table VII. We find that only common ownership by long-horizon shareholders has a significant positive effect on prices,
while common ownership by short-horizon shareholders yields coefficients of varying sign and weak (if any) significance. The same is true for the ranked-1-or-2 specifications. In sum, only economically meaningful ways of calculating common ownership concentration are linked to significant product market outcomes.

D. Robustness to the Mode of Competition

The reduced-form measure of common ownership concentration that we use above reflects the ownership networks’ density. However, it can also be derived from and interpreted within a Cournot model. This feature does not imply that our empirical tests rely on the assumption that airlines necessarily compete à la Cournot, as we now show.\textsuperscript{13}

We propose a measure of common ownership at the carrier-route level, which we refer to as carrier-route common ownership (CRCO), that is equal to the market-share-weighted average of the weight that the carrier places on the profits of other carriers in the route relative to its own profits. Specifically, CRCO for carrier $j$ in route $r$ in year-quarter $t$ is given by

$$
\text{CRCO}_{jrt} = \sum_{k \neq j} \sum_i \gamma_{ij,t} \beta_{ik,t} \frac{s_{k,rt}}{\gamma_{ij,t} \beta_{ij,t} (1 - s_{j,rt})}.
$$

This measure is proportional to the Gross-Upward Pricing Pressure Index, or GUPPI, which was introduced by Hausman, Moresi, and Rainey (2011) in the context of differentiated-product Bertrand competition, if diversion is proportional to market shares (as in a simple multinomial logit model), prices do not vary across carriers within a market, and markups

\textsuperscript{13} That said, the strategic, longer-term pricing patterns that we study are implied by capacity pre-commitments, which typically occur about one year before the flight. This feature, as well as previous literature (Brander and Zhang (1990)), suggest a Cournot model.
are constant. While it is helpful to have an economic interpretation in the context of a differentiated-goods Bertrand model of competition (although under admittedly stringent assumptions), we use this measure, as we did for MHHI delta, as a reduced-form measure of common ownership concentration. Interestingly, the measure can also be interpreted as a share-weighted average of the objective function weights that the various firms place on competitors’ profit. Note further that CRCO uses less information about competition in the route than MHHI delta, since the latter includes information about the level of common ownership between other carriers in the same route, in addition to information about common ownership between the carrier in the observation and its competitors. To the extent that common ownership between competitors in the same route is relevant, one should expect the measure to have less predictive power than MHHI delta.

Table IV, specification (6), shows that the effect of the carrier-route-level common ownership measure is positive and statistically significant at the 1% level, but the $t$-statistics are lower than those in the baseline specification for MHHI delta, as expected. (Because the common ownership measure employed here is different from MHHI delta, the point estimate is not quantitatively comparable to the baseline.) The loss of power is also consistent with the data favoring a Cournot model over Bertrand as the relevant model of competition in the airline industry, as previously argued by Brander and Zhang (1990) and the literature that followed.

To further assure robustness to the mode of competition, we investigate whether the estimated effect of common ownership is driven by multimarket contact. Table IV, specification (7), shows that there is a positive and highly statistically significant effect of multimarket contact on ticket prices, measured as average route contact as in Evans and Kessides (1994); see Ciliberto and Williams (2014) for a structural version. However, the effect of MHHI delta
remains significant and the estimated coefficients are little changed.

E. What Else Can We Learn About the Mechanism?

We now investigate whether there are route-level differences in the effect of common ownership on ticket prices, and in particular whether there is an interaction between the degree of concentration measured by HHI and the effect of MHHI delta. Such an interaction effect could arise if it is more difficult to enforce soft competition among a large number of relatively small competitors, that is, in low-HHI routes, compared to a route in which only two players are present and have similar market shares (HHI in an intermediate range). At the other end of the spectrum, there might be great scope in increasing monopolistic profits by creating common ownership in markets in which a small number of players compete with a large player (i.e., markets with an HHI close to 10,000). On the other hand, there might be few such opportunities, making the effect more difficult to estimate. We investigate these hypotheses by running a price regression on MHHI delta interacted with a tenth-order polynomial of HHI, as well as all previously considered controls. Figure IA.5 shows the results. Consistent with the above hypotheses, we find a significant effect for routes within a range of HHI between around 2,500 and 6,500.

If investors spend time communicating their incentives to portfolio firms, and portfolio firms exert costly effort to implement these incentives, these efforts should be concentrated in markets that matter more for the bottom line, that is, in larger markets. We present specifications interacting MHHI delta with a polynomial in market size percentiles in Figure IA.6. The effect of MHHI delta is statistically significant for all market size percentiles except the very smallest and the very largest markets, for which the error bands become

14 We thank Severin Borenstein for this suggestion.
wide. Indeed, the effect of MHHI delta on prices increases with market size. This finding not
only corroborates the basic narrative above, but also confirms that the main results are not
driven by a small markets effect.

Another interesting question is to what extent does time-variation in ownership at the
firm level, rather than time-variation at the firm-market level, drive the results. For exam-
ple, carriers may compete more or less aggressively due to changes in common ownership
by diversified institutional investors’ governance styles (Edmans, Levit, and Reilly (2016)),
regardless of the routes they compete in. Unfortunately, this effect is difficult to distinguish
from a change in MHHI delta, much of which is driven by firm-level variation. We can nev-
nevertheless provide suggestive evidence by including carrier-year-quarter fixed effects. Table
IV, specification (8), reports the results. We find that the estimated coefficient MHHI delta
is lower than in the baseline but still highly statistically significant, suggesting that some
but not all of the baseline effects come from route-level variation. It is difficult to determine
whether the attenuation is due to measurement noise and the removal of identifying infor-
mation, or to changes in firm-level governance (or other changes at the firm-time level such
as financial distress) that coincide with more common ownership.

As an alternative way to determine the level at which incentives are implemented, we
estimate specifications including the average of MHHI delta across all of the routes in which
the carrier operates (we call this the carrier-level MHHI delta), as well as the MHHI delta or
the route of the observation. Table IA.VIII shows that the coefficient on the route-level MHHI
delta is highly statistically significant but the point estimate is lower than in the baseline
estimates. Similarly, the coefficient on the carrier-level MHHI delta is statistically significant
and large, ranging from 0.91 to 1. As these results illustrate, we conduct our analyses at the
route level because doing so allows us to control for route-level characteristics, not necessarily
because we believe that the majority of the effects are implemented at the route level. The majority of the effect of common ownership on competitive strategy may be implemented at the firm-pair level, or even at the firm level.

To further investigate this question, Table IA.VIII also includes specifications controlling for the average carrier-level MHHI delta across all competitors in a route (excluding the carrier of the observation). We refer to this measure as the average carrier-level MHHI delta of competitors. We find that the coefficient on the route-level MHHI delta continues to be statistically significant, but again lower than in the baseline. The coefficient on the average carrier-level MHHI delta of other carriers is positive but not statistically significant. Section V provides anecdotal evidence that some shareholder initiatives do indeed appear to be focused at the route level, though most publicly available evidence on shareholder engagement is broader, and at the firm level.

F. External Validity

The limited availability of large-scale datasets on product prices covering a comprehensive set of producers and a broad cross-section of markets makes it difficult to find other econometrically clean settings in which to test the common ownership theory. However, since first making our study available online, similar results have been found in other industries and using other econometric methods, which increases confidence in the external validity of our results. In particular, Azar, Raina, and Schmalz (2016) find that the combination of common ownership and cross-ownership of U.S. banks leads to higher prices on retail deposit products and lower deposit interest rates, using within-bank variation across branches over time and variation in county-level common ownership resulting from index fund growth as
an instrument.\footnote[15]{Azar, Raina, and Schmalz (2016) also show that omitting common ownership from regressions of price on industry concentration (HHI) leads to a negative omitted variable bias on the HHI coefficient. Analyses of industry structure should therefore not be dismissed based on a lack of evidence that HHI alone are associated with higher prices. Instead, researchers should recognize that ownership structure is part of industry structure.} Lundin (2016) shows that joint profit maximization of commonly owned Swedish power plants best matches the data on maintenance decisions, and hence output, compared to unilateral profit maximization. Freeman (2016) finds an effect of common ownership on the longevity of customer-supplier relationships, which supports the assumption of the various theoretical models motivating our empirical analysis that firms internalize externalities imposed on commonly owned firms. Gutiérrez and Philippon (2017) find that in a broad cross-section of U.S. firms, common ownership is negatively related to firms’ propensity to invest amid high profitability and Q. It thus appears that evidence for the external validity of the anticompetitive effects hypothesis is already significant, and continuing to grow.

V. Institutional Background and Potential Mechanisms

Above we document a robust statistical link between common ownership concentration and higher prices. In this section we discuss potential mechanisms, both direct and indirect, that could implement these results.
A. The Indirect Channel: Doing Nothing

Table I makes clear that a large degree of common ownership is driven by large institutional investors, specifically, by large mutual fund families. It strikes some as surprising that mutual funds, often thought to be “lazy investors,”\(^{16}\) would actively engage with portfolio firms with the aim of decreasing the extent of product market competition. However, the claim that common ownership leads to higher prices is very different from the claim that an individual shareholder actively and consciously pursues an anticompetitive agenda, influences managers of portfolio firms to compete less aggressively against each other, or even incites collusion. Indeed, any such notion is not implied by our empirical results thus far, nor do the results depend on it or the motivating theory suggest it.

To see why doing nothing is sufficient for common ownership to lead to higher prices, assume that increasing market share requires managerial effort, which is privately costly. For instance, entering new markets and attracting new customers may require successful R&D, extensive market research, unpleasant price wars with incumbents, and effort at a personal cost. If “lazy investors” do not insist on the implementation of expansion strategies, managers can enjoy the “quiet life” that comes with choosing suboptimal quantities (Hicks (1935)).\(^{17}\) If a match between lazy principals and lazy agents becomes pervasive in an industry, then in a Cournot model context, industry output declines and margins increase (see Antón, Ederer, Giné, and Schmalz (2017)). Diversified shareholders have little incentive to intervene and

\(^{16}\) Economist, February 2015, Capitalism’s unlikely heroes – shareholder activists.

\(^{17}\) Several initiatives by large asset managers to isolate management from activists in the name of preventing short-termism (see e.g. Sorkin, Andrew Ross, February 2, 2016, Some Heresy on Wall Street: Look Past the Quarter, New York Times) may have this outcome as a side effect.
change such an equilibrium. One should therefore not expect large diversified mutual fund families to actively push for more aggressive product market behavior between portfolio firms, given that doing so would not only be costly, but also go against incentives to maximize the value of the family’s total portfolio. Also, we are not aware of any evidence to that effect.

By contrast, it is well documented that campaigns by activist investors, which typically concentrate their capital in one target firm per industry, lead to increases in target market share at the expense of its rivals (e.g., Aslan and Kumar (2016)). When industry competitors are owned by concentrated activists that push their targets to compete aggressively, a more competitive outcome obtains.

The past three decades have witnessed a shift from the low-common-ownership equilibrium to the high-common-ownership equilibrium, with diversified institutions increasingly crowding out concentrated owners as firms’ most powerful shareholders. One should thus expect a decrease in the extent of competition, even when diversified owners do nothing to actively reduce the competitiveness of their portfolio firms’ product markets. This may be one reason why antitrust law explicitly recognizes that a “passive” change of incentives is sufficient to implement anticompetitive outcomes (Elhauge (2015)).

In sum, large diversified mutual fund families doing nothing, that is, not pushing portfolio firms to compete aggressively against each other, can implement the outcomes we document. Active engagement in corporate governance on behalf of common owners merely exacerbates the problem.

B. Effects of Investor Influence on Corporate Financial Decisions

It is well recognized in the literature that ownership by a particular set of investors can affect corporate financial decisions, whereas corporate financial choices can affect firms’
product market strategy (Brander and Lewis (1986), Chevalier (1995), Kovenock and Phillips (1995), Phillips (1995), Dasgupta and Titman (1998)). Hence, any influence of ownership by a particular set of investors on a portfolio firm’s capital structure or payout decisions can affect the product market equilibrium. For example, increased payouts imply reduced investment (at least in the long run), and reduced investment in production capacity implies less competitive product markets. The effects of shareholder influence on product market outcomes can therefore be subtle and indirect. Nonetheless, what follows, we provide suggestive evidence that some interactions between investors and portfolio firms are directly concerned with product market considerations.

C. The Direct Channel: Voice, Incentives, and the Vote

To start, we wish to clarify a common confusion by quoting Vanguard’s CEO and Chairman William McNabb: “Some have mistakenly assumed that our predominantly passive management style suggests a passive attitude with respect to corporate governance ... Nothing could be further from the truth”.¹⁸ Vanguard further explains, “Because our funds own a significant portion of many companies (and in the case of index funds are practically permanent holders of companies), we have a vested interest in ensuring that these companies’ governance ... practices support the creation of long-term value for investors.” Recent research confirms that mutual fund families engage much like other investors do, albeit more often “behind the scenes” (McCahery, Starks, and Sautner (2016), Dimson, Karakaş, and Li (2015), Appel, Gormley, and Keim (2016), Mullins (2014), Boone and White (2015),

Schmidt and Fahlenbrach (2017)), and sometimes coordinate their activities in “secret sum-
mits” (Financial Times, referenced above). The largely “passive” asset management firms
such as BlackRock, Vanguard, and State Street thus play an important role in most corpo-
rate governance decisions of publicly traded firms in America, with their power having been
compared to that of J.P. Morgan and John D. Rockefeller.19

In this section we present evidence suggesting that, indeed, some common owners (i) use
*voice* to communicate their preferred product market strategies, (ii) use management *incentive* (i.e., pay) structures that implicitly reward executives for less aggressive competition,
and (iii) use the power of their *vote* to thwart efforts of undiversified shareholders that push
for more competition.

*C.1. Voice*

According to large asset managers, making their voice heard in private engagement meet-
ings is the most important mechanism through which they influence corporate governance.
According to their websites and letters to CEOs, some of the large “passive” asset man-
agers request that firms provide them with long-term strategic plans regarding growth and
profitability, so that they can evaluate based on their implementation of those strategic
plans. Asset managers also frequently managers engage in direct discussions with portfolio
firms. BlackRock, for instance, claims more than a thousand private meetings in previous
governance reports. In addition, activists occasionally demand board seats to ensure imple-
mentation of the desired product market strategy; Reuters reports on such an event in the

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19 Krouse, Sarah, David Benoit, and Tom McGinty, October 24, 2016, Meet the new corporate power
airline industry. Bloomberg further reports that amid rising political pressure to reduce drug prices, mutual fund companies Fidelity, T. Rowe Price, and Wellington invited several pharma managers to a Boston hotel and encouraged them to “defend their pricing.” Matt Levine similarly cites a portfolio manager at Hodges Capital Management Inc. as indicating that “I’d like to see [Southwest Airlines] boost their fares but also cut capacity,” and notes that Hodges owns shares in airlines including United Continental, Delta, American, Alaska and Virgin America, as well as Southwest. In the business press, concerns have been raised about the potential for “monopolistic behavior” by Warren Buffett despite the classification of Berkshire Hathaway’s airline holdings as “passive” investments, as referenced in the introduction. Reuters further reports that the alleged Hart-Scott-Rodino Antitrust Act violation by an activist with common ownership interests in natural competitors “could call into question routine practices across ... the mutual fund industry,” noting that “some

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communications the government cites as evidence are similar to discussions that ... traditional, buy-and-hold funds” commonly have with their portfolio firms.24 A leading German newspaper reports that a top manager of a large mutual fund family – Deutsche Bank’s largest shareholder around that time – stated which of the bank’s competitors would (not) be suitable merger targets amid a perceived level of excess competition.25 Reuters also reports that “activists court passive shareholders before launching such a campaign, and passive investors recruit activists to agitate, [...] blurring boundaries between activist and traditional fund managers.”26 The Federal Trade Commission has since clarified that “‘Investment-only’ means just that.”27 However, notwithstanding abundant anecdotal evidence of large asset managers (e.g., BlackRock (2011)) using private communications to discuss “nuanced and sensitive” topics, knowledge about the level of detail at which product market strategy is discussed remains limited.

Given the scarcity of information on the content of private engagement meetings, we turn to earnings calls of U.S. airlines to assess the level of detail at which investors and manage-


ment publicly discuss product market strategy. We find that route-level capacity decisions are a frequent topic of conversation. For example, a representative of a financial institution ranking among the top five owners of various airlines criticizes management for “growth initiatives out of LA, Seattle,” asks whether capacity increases to “Miami, Frankfurt could have an effect of reducing some of the existing service here,” cautions management that “adding capacity into other airlines’ hubs diminishes your shareholders’ confidence and jeopardizes [your stock price],” and notes elsewhere that his questions are “not uniquely directed” and similar to conversations he has with “others this season.” The evidence thus suggests that investors and portfolio firms do indeed discuss product market strategy, sometimes even at the market level. We next explore whether managers have incentives to act in line with common owners’ economic interests.

C.2. Incentives

Actively managed funds can threaten management with selling the stock if management does not follow their desired product market strategy, which may explicitly feature not entering competitors’ markets. The resulting decline in stock price would have obvious direct consequences for managerial incentives. However, many firms’ largest shareholders are “passive” institutions that do not have the option of selling. Nonetheless, they have sufficient power to shape managerial incentives. “Passive” investors claim to address the structure of management pay in 45% of engagement meetings; perhaps not surprisingly, after such engagement, they almost always vote for the proposed plans, with the result that incentives are often much less sensitive to (relative) performance than other investors would prefer.28 Less

performance-sensitive compensation packages can reduce managers’ incentive to compete.

Indeed, a long literature in economics rationalizes the scarcity of relative performance incentives as a result of managerial contracts designed to implement shareholder’s desired product market strategy and soften competition e.g., Fershtman and Judd (1987), Sklivas (1987), and Aggarwal and Samwick (1999). Antón, Ederer, Giné, and Schmalz (2017) further show that common owners have reduced incentives to implement compensation schemes that make a manager’s wealth sensitive to performance. Empirically, top managers’ wealth-performance sensitivity is negatively related to various measures of common ownership concentration.29 A caveat is that explicit incentives are in place only as long as the manager is not fired. However, CEO turnover does not feature strong elements of relative performance evaluation; rather, it is sensitive to industry performance (Jenter and Kanaan (2015)). Hence, career

29 Whether the prediction of a negative relation between common ownership and relative performance evaluation is borne out in the data is subject of recent interest. Antón, Ederer, Giné, and Schmalz (2017) provide evidence that management pay becomes less sensitive to performance relative to industry rivals when the industry becomes more commonly owned. Liang (2016) independently shows that pay-performance sensitivities decline with common ownership, using firm-level variation, alternative functional forms, and a different identification strategy. Kwon (2016) challenges existing theory and empirical findings using alternative samples, industry definitions, and empirical specifications, claiming qualitatively opposite results on pay-performance sensitivities, and documents a link between common ownership and the explicit use of relative performance evaluation in compensation contracts.
concerns give managers incentives to maintain a “healthy” level of industry profitability. We conclude that compensation contracts can be used to align managers’ strategic incentives with those of common shareholders.

C.3. Vote

Voting against management is the ultimate step toward aligning incentives between shareholders and their agents. BlackRock’s proxy voting guidelines indicate “that we typically only vote against management when direct engagement has failed.” In effect, engagement is the carrot, voting is the stick. In line with this view, the head of corporate governance at State Street Global Advisors explains that “The option of exercising our substantial voting rights in opposition to management provides us with sufficient leverage and ensures our views and client interests are given due consideration.” We do not mean to suggest here that shareholders vote directly on competitive strategies. However, they do vote on director candidates. Consistent with the large “passive” institutions having a less-than-perfectly passive approach to governance, “boards now routinely vet director candidates with major shareholders before their names are placed on the proxy.” Director candidates may be able to credibly signal which type of competitive strategy they stand for. For example, Berkshire Hathaway’s Co-CIO would reduce Berkshire’s portfolio value if he used his role as a JPMorgan board member to propose a particularly aggressive competitive strategy against American Express,

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30 Scott, Mike, April 6, 2014, Passive investment, active ownership, *Financial Times*

31 Charan, Ram, Michael Useem, and Dennis Carey, February 9, 2015, Your board should think like an activist, *HBR.org*, [https://hbr.org/2015/02/your-board-should-be-full-of-activists](https://hbr.org/2015/02/your-board-should-be-full-of-activists)
Bank of America, or Wells Fargo, in all of which Berkshire Hathaway is the largest investor. Azar (2012, 2017) shows theoretically that shareholder voting on directors and managers can lead firms to act as if they maximized an objective function similar to the one assumed in the derivation of the common ownership concentration index we use in our empirical work. Fos and Tsoutsoura (2014) and Aggarwal, Dahiya, and Prabhala (2015) show empirically that director elections matter because of career concerns.

D. Summary

In sum, we find that voice, incentives, and vote – as well as doing nothing, that is, simply not pushing for more aggressive competition – can plausibly implement the anticompetitive incentives of investors that hold large stakes in natural competitors. Schmalz provides a case study that contains all four of these elements. An activist investor with concentrated holdings in a target voiced demand for greater effort in increasing market share vis-à-vis the target’s competitors, as well as greater use of relative performance evaluation to give management appropriate incentives to maximize the target’s value, among other things. Institutional Shareholder Services recommended supporting the activist’s campaign, but BlackRock, Vanguard, and StateStreet cast decisive votes against. “The most plausible hypothesis is that the large asset managers are concerned about the impact of hedge fund activism on their

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broader portfolio.” Moreover, it is also possible to interpret the vote against as the “passive” investors choosing not to actively implement pro-competitive measures themselves or to support a campaign that would have likely led to more aggressive competition. The case study thus illustrates the shift of power from concentrated to diversified investors.

Because there are many plausible channels through which shareholder incentives can translate into firm behavior, we find it unlikely that a single mechanism is solely responsible. This insight is important, as it suggests that the common ownership problem is not likely to be solved by shutting down a particular channel. For example, managers are unlikely to be isolated from common owners’ anticompetitive incentives if regulators prohibit communication about competition, but permit conversations about pay structure or voting on board members. Moreover, given that “doing nothing” is a possible mechanism, finding conclusive evidence for a mechanism could prove elusive even if a robust causal relation exists.

VI. Conclusion

This paper presents evidence of large anticompetitive incentives due to common ownership links at the market level, and of a causal link between common ownership concentration and higher product prices. In particular, using the U.S. airline industry as our test setting, we find that a modified index of market concentration that accounts for the extent to which competitors are owned by the same investors points to levels of market concentration that far exceed those indicated by the conventional measure of market concentration. Common ownership concentration for the average route is more than 10 times larger than the threshold level “likely to enhance market power” in the case of a traditional merger, according to the U.S. Antitrust Agencies’ Horizontal Merger Guidelines. In theory, the additional concentration that results from cumulating many small common ownership interests should be reflected in higher prices.

We find that when firms have reduced incentives to compete due to common ownership, prices are higher and output is lower. Specifically, using 14 years of market-firm-level quarterly panel data, we find that airline ticket prices are 3% to 7% higher due to common ownership, compared to a counterfactual world in which firms are separately owned or in which firms ignore the anticompetitive incentives their owners due to common ownership. When we exploit variation in common ownership concentration generated by the merger of two large asset managers that arguably occurred for reasons unrelated to expected route-level differences in U.S. airline ticket prices, we find that product prices are 10% to 12% higher due to common ownership. These results suggest both a large deadweight loss (i.e., decreased efficiency of the economy) and a large wealth transfer from consumers to producers due to common ownership.

If robust, our findings raise several questions for academic research in industrial organi-
zation, finance, and legal studies. Specifically, a ubiquitous assumption in finance research is that firms’ objective is to maximize their own value, and that firm policies and investors’ optimization problems are separable. Our results can be viewed as challenging this assumption, and thus make an empirical case for taking seriously the theoretical insight (perhaps most clearly stated in Hart (1979)) that shareholders may not agree on profit maximization as an objective when firms are not price takers. An open question in that case is what is the objective of the firm, and how might it be determined through interactions of shareholders with varying interests. The objective assumed in the derivation of the MHHI is but one candidate.

As for the fast-growing literature on the implications of our findings for antitrust and corporate law, we refer the reader to Elhauge (2015), Baker (2016), and various responses to those papers.

Tackling the competitive risks due to common ownership also presents challenges for policy makers, not only from a political but also from a conceptual perspective. Specifically, this paper emphasizes the empirical importance of deciding on the optimal mix between three desirable but not jointly attainable goals of a capitalist system. When firms implement shareholders’ incentives, and all shareholders (including those with significant control) are fully diversified, product market competition will tend towards monopolistic outcomes, with an associated deadweight loss for the economy. Therefore, the three goals of (i) perfect shareholder diversification, (ii) firm maximization of shareholder interests (“good governance”), and (iii) preservation of competitive product markets cannot be simultaneously achieved (Azar (2012)). The first two goals benefit shareholders. By contrast, the decline in product market competition implied by an improved implementation of the first two goals is a social cost that thus far has been largely ignored. However, the implications of decreased
competition such as increased inequality, slow macroeconomic growth, and low real interest rates despite sustained and high profit margins are of much interest to policy makers and the population at large (Elhauge (2015)).

What is the optimal tradeoff between the three goals above is thus a hotly debated question in the public domain.

While we do not propose a solution for the tradeoff illustrated above, two direct policy implications of the present paper arise at a more practical level. First, empirical measures of market concentration should take ownership into account. Second, regulators should keep in mind that consolidation in the asset management industry can adversely affect competition in the product markets of their portfolio companies. Therefore, when antitrust authorities evaluate such propositions, the potential benefits to shareholders need to be weighed against the potential loss of consumer surplus – not just for consumers of asset management products, but also for consumers of the products offered by portfolio firms.

This paper and the above discussion emphasize anticompetitive effects of common ownership. In theory, of course, common ownership can also have efficiency-enhancing effects. Which effect prevails is an open empirical question.


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59


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Table I
Illustrative Cases of Within-Industry Common Ownership Links.

This table shows the largest (institutional and non-institutional) beneficial owners and corresponding stakes for an illustrative sample of U.S. publicly traded natural competitors as of 2016Q2. The data source is S&P Capital IQ. Panel C corresponds to Azar, Raina, and Schmalz (2016). Berkshire's holdings in Bank of America (*) are warrants without voting rights. Panel D reflects holdings as of 2016Q4.

Panel A: Technology Firms

<table>
<thead>
<tr>
<th>Apple</th>
<th>[%]</th>
<th>Microsoft</th>
<th>[%]</th>
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</thead>
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<td>Vanguard</td>
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<td>BlackRock</td>
<td>5.72</td>
<td>BlackRock</td>
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<td>State Street</td>
<td>3.82</td>
<td>Capital Research</td>
<td>4.76</td>
</tr>
<tr>
<td>Fidelity</td>
<td>2.34</td>
<td>- Steve Ballmer -</td>
<td>4.24</td>
</tr>
<tr>
<td>Northern Trust Corporation</td>
<td>1.26</td>
<td>State Street</td>
<td>3.80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Bill Gates -</td>
<td>2.54</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T. Rowe Price</td>
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Panel B: Pharmacies

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<th>[%]</th>
<th>Walgreens Boots Alliance</th>
<th>[%]</th>
<th>Rite Aid</th>
<th>[%]</th>
</tr>
</thead>
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<td>- Stefano Pessina-</td>
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<td>Vanguard</td>
<td>7.24</td>
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<td></td>
<td></td>
<td>T. Rowe Price</td>
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Panel C: Banks

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<th>Bank of America</th>
<th>[%]</th>
<th>Citigroup</th>
<th>[%]</th>
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</thead>
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<td>Berkshire Hathaway*</td>
<td>6.90</td>
<td>BlackRock</td>
<td>6.43</td>
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<td>Vanguard</td>
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## Table II
### Summary Statistics

This table shows summary statistics of our sample, both at the market-carrier level and at the market level. Data on airfares and market characteristics come from the Department of Transportation; data on ownership come from 13f filings and proxy statements. We exclude routes with less than 20 passengers per day on average. MHHI delta is the increase in concentration due solely to common ownership. Other variable definitions are provided in the Internet Appendix.

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<th>Max.</th>
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Correlation Between HHI and MHHI: 0.87
Correlation Between HHI and MHHI delta: -0.69
Table III
Effect of Common Ownership on Airline Ticket Prices: Panel Regressions

This table shows regressions of the logarithm of average ticket prices on common ownership concentration, HHI, as well as various controls and fixed effects. MHHI delta measures the part of market concentration that is due to common ownership. Data are for the period 2001Q1 to 2014Q4. We exclude routes with less than 20 passengers per day on average. For the market-carrier-level regressions, we weight by average passengers for the market carrier over time and double-cluster standard errors at the market-carrier and year-quarter levels. For the market-level regressions, we weight by average passengers in the market over time and double-cluster standard errors at the market and year-quarter levels. Other variable definitions are provided in the Internet Appendix. While in the paper HHI and MHHI are expressed on a scale from 0 to 10,000, we use a scale of 0 to 1 in the regressions. *** p<0.01, ** p<0.05, * p<0.1.

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Table IV

Effect of Common Ownership on Airline Ticket Prices: Robustness

This table shows various robustness tests of the panel regression of ticket prices on common ownership concentration and various controls presented in Table III. MHHI delta measures the part of market concentration that is due to common ownership. Data are for the period 2001Q1 to 2014Q4. We exclude routes with less than 20 passengers per day on average. For the market-carrier-level regressions, we weight by average passengers for the market carrier over time and double-cluster standard errors at the market-carrier and year-quarter levels. For the market-level regressions, we weight by average passengers in the market over time and double-cluster standard errors at the market and year-quarter levels. Other variable definitions are provided in the Internet Appendix. While in the paper HHI and MHHI are expressed on a scale of 0 to 10,000, we use a scale of 0 to 1 in the regressions. The Banzhaf control shares are calculated by Monte Carlo simulation using 10,000 random draws for each firm-year-quarter. *** p<0.01, ** p<0.05, * p<0.1.

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<tbody>
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<td>This table shows various robustness tests of the panel regression of ticket prices on common ownership concentration and various controls presented in Table III. MHHI delta measures the part of market concentration that is due to common ownership. Data are for the period 2001Q1 to 2014Q4. We exclude routes with less than 20 passengers per day on average. For the market-carrier-level regressions, we weight by average passengers for the market carrier over time and double-cluster standard errors at the market-carrier and year-quarter levels. For the market-level regressions, we weight by average passengers in the market over time and double-cluster standard errors at the market and year-quarter levels. Other variable definitions are provided in the Internet Appendix. While in the paper HHI and MHHI are expressed on a scale of 0 to 10,000, we use a scale of 0 to 1 in the regressions. The Banzhaf control shares are calculated by Monte Carlo simulation using 10,000 random draws for each firm-year-quarter. *** p&lt;0.01, ** p&lt;0.05, * p&lt;0.1.</td>
<td></td>
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<tr>
<td>Dependent Variable: Log(Average Fare)</td>
<td>Excl. Bankruptcy Periods (1)</td>
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<tr>
<td>---------------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>MHHI delta</td>
<td>0.265***</td>
</tr>
<tr>
<td></td>
<td>(0.0535)</td>
</tr>
<tr>
<td>Carrier-Route Common Ownership</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0533)</td>
</tr>
<tr>
<td>Log(Multi-Market Contact)</td>
<td>0.296***</td>
</tr>
<tr>
<td></td>
<td>(0.0232)</td>
</tr>
<tr>
<td>HHI</td>
<td>-0.0149***</td>
</tr>
<tr>
<td></td>
<td>(0.00523)</td>
</tr>
<tr>
<td>Number of Nonstop Carriers</td>
<td>-0.141***</td>
</tr>
<tr>
<td></td>
<td>(0.0160)</td>
</tr>
<tr>
<td>Southwest Indicator</td>
<td>-0.0967***</td>
</tr>
<tr>
<td></td>
<td>(0.0117)</td>
</tr>
<tr>
<td>Other LCC Indicator</td>
<td>0.133***</td>
</tr>
<tr>
<td>Share of Passengers Traveling Connect</td>
<td>(0.0227)</td>
</tr>
<tr>
<td>Share of Passengers Traveling Connect</td>
<td></td>
</tr>
<tr>
<td>Log(Population)</td>
<td>0.540***</td>
</tr>
<tr>
<td></td>
<td>(0.133)</td>
</tr>
<tr>
<td>Log(Income Per Capita)</td>
<td>0.422***</td>
</tr>
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<td></td>
<td>(0.145)</td>
</tr>
<tr>
<td>Percent Institutional Ownership</td>
<td>-0.076***</td>
</tr>
<tr>
<td>Institutional Ownership Concentration</td>
<td>-0.110*</td>
</tr>
<tr>
<td>Top 5 Holdings as Pct. of Total Institutional Holdings</td>
<td>0.154***</td>
</tr>
<tr>
<td></td>
<td>(0.0420)</td>
</tr>
<tr>
<td>Log(Distance) × Year-Quarter FE</td>
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</tr>
<tr>
<td>10-th Order Polynomial in HHI</td>
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</tr>
<tr>
<td>Year-Quarter FE</td>
<td>✓</td>
</tr>
<tr>
<td>Market-Carrier FE</td>
<td>✓</td>
</tr>
<tr>
<td>Market FE</td>
<td>✓</td>
</tr>
<tr>
<td>Carrier-Year-Quarter FE</td>
<td>✓</td>
</tr>
</tbody>
</table>

Observations: 127,128 254,999 201,983 254,999 254,999 1,209,517 244,257 1,209,496
R²: 0.886 0.287 0.890 0.877 0.876 0.836 0.874 0.855
Number of markets: 6,470 6,906 5,305 6,906 6,906 6,553
Number of market-carrier pairs: 45,248 45,243
Table V
Effect of Common Ownership on Airline Ticket Prices: Distributed-Lag Regressions

This table shows dynamic panel regressions of ticket prices on leads and lags of common ownership concentration as well as HHI and various controls. Common ownership is measured as MHHI delta. Data are for the period 2001Q1 to 2014Q4. We exclude routes with less than 20 passengers per day on average. For the market-carrier-level regressions, we weight by average passengers for the market carrier over time and double-cluster standard errors at the market-carrier and year-quarter levels. For the market-level regressions, we weight by average passengers in the market over time and double-cluster standard errors at the market and year-quarter levels. MHHI delta is the increase in concentration due solely to common ownership. Other variable definitions are provided in the Internet Appendix. While in the paper HHI and MHHI are expressed on a scale of 0 to 10,000, we use a scale of 0 to 1 in the regressions.

*** p < 0.01, ** p < 0.05, * p < 0.1.

<table>
<thead>
<tr>
<th></th>
<th>Market-carrier level</th>
<th>Market level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>MHHI delta - Lead</td>
<td>-0.0722</td>
<td>-0.0397</td>
</tr>
<tr>
<td></td>
<td>(0.0618)</td>
<td>(0.0531)</td>
</tr>
<tr>
<td>MHHI delta</td>
<td>0.110</td>
<td>0.104</td>
</tr>
<tr>
<td></td>
<td>(0.0918)</td>
<td>(0.0710)</td>
</tr>
<tr>
<td>MHHI delta - Lag</td>
<td>0.159**</td>
<td>0.170***</td>
</tr>
<tr>
<td></td>
<td>(0.0693)</td>
<td>(0.0538)</td>
</tr>
<tr>
<td>HHI - Lead</td>
<td>0.0252</td>
<td>0.0412*</td>
</tr>
<tr>
<td></td>
<td>(0.0254)</td>
<td>(0.0226)</td>
</tr>
<tr>
<td>HHI</td>
<td>0.00598</td>
<td>0.00260</td>
</tr>
<tr>
<td></td>
<td>(0.0353)</td>
<td>(0.0282)</td>
</tr>
<tr>
<td>HHI - Lag</td>
<td>0.218***</td>
<td>0.220***</td>
</tr>
<tr>
<td></td>
<td>(0.0290)</td>
<td>(0.0254)</td>
</tr>
<tr>
<td>Number of Nonstop Carriers</td>
<td>-0.00966***</td>
<td>-0.00703*</td>
</tr>
<tr>
<td></td>
<td>(0.00267)</td>
<td>(0.00369)</td>
</tr>
<tr>
<td>Southwest Indicator</td>
<td>-0.119***</td>
<td>-0.149***</td>
</tr>
<tr>
<td></td>
<td>(0.00950)</td>
<td>(0.0135)</td>
</tr>
<tr>
<td>Other LCC Indicator</td>
<td>-0.0616***</td>
<td>-0.0983***</td>
</tr>
<tr>
<td></td>
<td>(0.00713)</td>
<td>(0.00984)</td>
</tr>
<tr>
<td>Share of Passengers Traveling Connect, Market Level</td>
<td>0.137***</td>
<td>0.158***</td>
</tr>
<tr>
<td></td>
<td>(0.0162)</td>
<td>(0.0195)</td>
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<tr>
<td>Share of Passengers Traveling Connect</td>
<td>0.0699***</td>
<td></td>
</tr>
<tr>
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<td>(0.0142)</td>
<td></td>
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<tr>
<td>Log(Population)</td>
<td>0.280**</td>
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<td></td>
<td>(0.105)</td>
<td></td>
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<tr>
<td>Log(Income Per Capita)</td>
<td>0.345***</td>
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<td>(0.0975)</td>
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<td>Log(Distance) × Year-Quarter FE</td>
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</tr>
<tr>
<td>Year-Quarter FE</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Market-Carrier FE</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Market FE</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Observations</td>
<td>1,002,802</td>
<td>1,002,802</td>
</tr>
<tr>
<td>R²</td>
<td>0.836</td>
<td>0.841</td>
</tr>
<tr>
<td>Number of market-carrier pairs</td>
<td>35,840</td>
<td>35,840</td>
</tr>
<tr>
<td>Number of markets</td>
<td>5,872</td>
<td>5,872</td>
</tr>
</tbody>
</table>
Table VI
Effect of Common Ownership on Airline Ticket Prices: IV Regressions Using Continuous Treatment – Second Stage

This table shows the second stage of instrumental-variables regressions of ticket prices on the increase in common ownership implied by a hypothetical combination of BlackRock and BGI’s pre-merger portfolios. MHHI delta measures the part of market concentration that is due to common ownership. The pre-period is 2009Q1 (the quarter before the BlackRock acquisition of Barclays BGI was announced). We divide markets into treatment and control groups as follows: (i) we calculate the actual MHHI delta in 2009Q1, (ii) we calculate a counterfactual MHHI delta in 2009Q1 combining the holdings of Barclays and BlackRock, and (iii) we calculate the difference between the counterfactual and the actual for each market. We use the resulting implied change in MHHI delta as a continuous treatment variable. We exclude markets with less than 20 passengers per day on average. We exclude market carriers with any missing observations during the period 2006Q2 to 2014Q4. We weight by passengers the market carrier in 2009Q1. Standard errors are robust to heteroskedasticity. Variable definitions are provided in the Internet Appendix. While in the paper HHI and MHHI are expressed on a scale of 0 to 10,000, we use a scale of 0 to 1 in the regressions.

*** p < 0.01, ** p < 0.05, * p < 0.1.

<table>
<thead>
<tr>
<th>Post-period:</th>
<th>2010Q1</th>
<th>2011Q1</th>
<th>2012Q1</th>
<th>2013Q1</th>
<th>2014Q1</th>
<th>2010-2014 Q1</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
<td></td>
</tr>
<tr>
<td>Change in MHHI delta 2009Q1-Post</td>
<td>0.117(0.126)</td>
<td>0.0743(0.281)</td>
<td>0.812***(0.177)</td>
<td>0.315(0.222)</td>
<td>0.858***(0.187)</td>
<td>0.466***(0.157)</td>
</tr>
<tr>
<td>HHI2009Q1</td>
<td>0.022(0.0279)</td>
<td>0.0272(0.0394)</td>
<td>0.0289(0.0366)</td>
<td>0.0522(0.0397)</td>
<td>0.0821(0.0469)</td>
<td>0.0444(0.0319)</td>
</tr>
<tr>
<td>Number of Nonstop Carriers2009Q1</td>
<td>0.00946**(0.00371)</td>
<td>0.0128**(0.00520)</td>
<td>0.00722(0.00545)</td>
<td>0.0183***(0.00097)</td>
<td>0.0154***(0.00059)</td>
<td>0.0123***(0.00451)</td>
</tr>
<tr>
<td>Southwest Indicator2009Q1</td>
<td>0.0143(0.00989)</td>
<td>0.0404***(0.0109)</td>
<td>0.0496***(0.0125)</td>
<td>0.0697***(0.0125)</td>
<td>0.0775***(0.0148)</td>
<td>0.0483***(0.0102)</td>
</tr>
<tr>
<td>Other LCC Indicator2009Q1</td>
<td>-0.0111(0.0110)</td>
<td>-0.0288**(0.0133)</td>
<td>0.0277(0.0135)</td>
<td>0.00276(0.0142)</td>
<td>0.00105(0.0158)</td>
<td>-0.00494(0.0114)</td>
</tr>
<tr>
<td>Share of Passengers Traveling Connect2009Q1</td>
<td>0.0303*** (0.00864)</td>
<td>0.0538*** (0.00995)</td>
<td>0.0240** (0.0111)</td>
<td>0.0252** (0.0116)</td>
<td>0.0350*** (0.0126)</td>
<td>0.0336*** (0.00894)</td>
</tr>
<tr>
<td>Share of Passengers Traveling Connect, Market Level2009Q1</td>
<td>-0.0296 (0.0220)</td>
<td>0.0144 (0.0261)</td>
<td>0.0052 (0.0275)</td>
<td>0.145*** (0.0268)</td>
<td>0.0707*** (0.0313)</td>
<td>0.0370*** (0.0222)</td>
</tr>
<tr>
<td>Log (Population)2009Q1</td>
<td>-0.0106 (0.00688)</td>
<td>0.00441 (0.00773)</td>
<td>-0.0207** (0.00903)</td>
<td>0.000642 (0.00830)</td>
<td>0.006085 (0.00895)</td>
<td>0.00383 (0.00718)</td>
</tr>
<tr>
<td>Log (Income Per Capita)2009Q1</td>
<td>-0.0518* (0.0311)</td>
<td>0.0296 (0.0344)</td>
<td>0.0172 (0.0424)</td>
<td>0.0739* (0.0420)</td>
<td>-0.0473 (0.0452)</td>
<td>0.00353 (0.0318)</td>
</tr>
<tr>
<td>Log (Distance)2009Q1</td>
<td>-0.00381 (0.00688)</td>
<td>-0.0225*** (0.00692)</td>
<td>-0.0244*** (0.00752)</td>
<td>-0.0361*** (0.00727)</td>
<td>-0.0543*** (0.00816)</td>
<td>-0.0275*** (0.00599)</td>
</tr>
<tr>
<td>Share DL × Share NW in 2008Q4</td>
<td>0.0639 (0.223)</td>
<td>0.100 (0.254)</td>
<td>0.319 (0.272)</td>
<td>0.477* (0.283)</td>
<td>0.0396 (0.356)</td>
<td>0.251 (0.246)</td>
</tr>
<tr>
<td>Share UA × Share CO in 2009Q1</td>
<td>0.230 (0.174)</td>
<td>0.399*** (0.315)</td>
<td>1.129*** (0.321)</td>
<td>1.574*** (0.351)</td>
<td>1.579*** (0.317)</td>
<td>1.061*** (0.214)</td>
</tr>
<tr>
<td>Share AA × Share US in 2009Q1</td>
<td>0.206 (0.143)</td>
<td>0.0113 (0.284)</td>
<td>0.536** (0.258)</td>
<td>0.383 (0.235)</td>
<td>0.849*** (0.310)</td>
<td>0.366* (0.202)</td>
</tr>
<tr>
<td>Share FL × Share WN in 2009Q1</td>
<td>0.0119 (0.102)</td>
<td>0.0460 (0.130)</td>
<td>0.474*** (0.173)</td>
<td>0.348 (0.219)</td>
<td>0.718*** (0.182)</td>
<td>0.295** (0.128)</td>
</tr>
<tr>
<td>Percent Change in Income during Great Recession</td>
<td>-0.0301 (0.116)</td>
<td>0.200 (0.134)</td>
<td>0.162 (0.162)</td>
<td>-0.324* (0.166)</td>
<td>-0.230 (0.171)</td>
<td>-0.441 (0.126)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.245** (0.121)</td>
<td>0.110 (0.128)</td>
<td>0.186 (0.157)</td>
<td>-0.0843 (0.157)</td>
<td>0.510*** (0.176)</td>
<td>0.201* (0.121)</td>
</tr>
</tbody>
</table>

Observations | 7,890 | 7,890 | 7,890 | 7,890 | 7,890 | 7,890 |
R² | 0.030 | 0.060 | 0.049 | 0.072 | -0.008 | 0.068 |
Table VII
Effect of Common Ownership by High-Churn and Low-Churn Investors on Airline Ticket Prices

This table shows panel regressions similar to those presented in Table III, whereas common ownership concentration is computed assuming control is exercised only by High-(Low-)Churn investors, and investors with Rank 1 or 2 in the ownership structure. Data are for the period 2001Q1 to 2014Q4. We exclude routes with less than 20 passengers per day on average. For the market-carrier-level regressions, we weight by average passengers for the market carrier over time and double-cluster standard errors at the market-carrier and year-quarter levels. For the market-level regressions, we weight by average passengers in the market over time and double-cluster standard errors at the market and year-quarter levels. We calculate MHHI delta setting control rights to zero for shareholders outside the bottom tercile of the churn ratio, and then for shareholders outside the top tercile of the churn ratio for each market-carrier and date. The churn ratio is calculated as in Gaspar, Massa, and Matos (2005). We then repeat the calculation but also shut down shareholders not ranked 1 or 2 in a given carrier-year-quarter. Variable definitions are provided in the Internet Appendix. While in the paper HHI and MHHI are expressed on a scale of 0 to 10,000, we use a scale of 0 to 1 in the regressions. *** p < 0.01, ** p < 0.05, * p < 0.1.

<table>
<thead>
<tr>
<th>Dependent Variable: Log(Average Fare)</th>
<th>Shareholders of Any Rank</th>
<th>Shareholders Ranked 1 or 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Market-carrier level</td>
<td>Market level</td>
</tr>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>MHHI delta (High-Churn Shareholders)</td>
<td>0.0229</td>
<td>0.0397</td>
</tr>
<tr>
<td></td>
<td>(0.0262)</td>
<td>(0.0287)</td>
</tr>
<tr>
<td>MHHI delta (Low-Churn Shareholders)</td>
<td>0.0562***</td>
<td>0.0738***</td>
</tr>
<tr>
<td></td>
<td>(0.0141)</td>
<td>(0.0161)</td>
</tr>
<tr>
<td>MHHI delta (High-Churn Shareholders Ranked 1 or 2)</td>
<td>0.129***</td>
<td>0.157***</td>
</tr>
<tr>
<td></td>
<td>(0.0179)</td>
<td>(0.0182)</td>
</tr>
<tr>
<td>MHHI delta (Low-Churn Shareholders Ranked 1 or 2)</td>
<td>-0.0102***</td>
<td>-0.0102***</td>
</tr>
<tr>
<td></td>
<td>(0.00269)</td>
<td>(0.00269)</td>
</tr>
<tr>
<td>HHI</td>
<td>0.289***</td>
<td>0.329***</td>
</tr>
<tr>
<td></td>
<td>(0.0109)</td>
<td>(0.127)</td>
</tr>
<tr>
<td>Number of Nonstop Carriers</td>
<td>-0.118***</td>
<td>-0.117***</td>
</tr>
<tr>
<td></td>
<td>(0.00938)</td>
<td>(0.0138)</td>
</tr>
<tr>
<td>Other LCC Indicator</td>
<td>-0.066***</td>
<td>-0.061***</td>
</tr>
<tr>
<td></td>
<td>(0.00792)</td>
<td>(0.00741)</td>
</tr>
<tr>
<td>Share of Passengers Traveling Connect, Market Level</td>
<td>0.132***</td>
<td>0.129***</td>
</tr>
<tr>
<td></td>
<td>(0.0160)</td>
<td>(0.0164)</td>
</tr>
<tr>
<td>Log(Population)</td>
<td>0.298***</td>
<td>0.296***</td>
</tr>
<tr>
<td></td>
<td>(0.0103)</td>
<td>(0.113)</td>
</tr>
<tr>
<td>Log(Income Per Capita)</td>
<td>0.373***</td>
<td>0.369***</td>
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<td>(0.105)</td>
<td>(0.103)</td>
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<td>Log(Distance) × Year-Quarter FE</td>
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<td>✓</td>
</tr>
<tr>
<td>Year-Quarter FE</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Market-Carrier FE</td>
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<td>✓</td>
</tr>
<tr>
<td>R²</td>
<td>0.835</td>
<td>0.836</td>
</tr>
<tr>
<td>Number of market-carrier pairs</td>
<td>45,248</td>
<td>45,248</td>
</tr>
</tbody>
</table>

77
Figure 1. **Time-series and cross-sectional variation of common ownership concentration.** Figure I. The upper figure plots the weighted average of HHI and MHHI across routes from 2001Q1 to 2014Q4. The lower figure plots the distribution of MHHI delta across markets for 2001Q1 and 2014Q4. HHI is the Herfindahl-Hirschman Index, calculated as the sum of the squared market shares for a given route and year-quarter. We exclude international carriers and charter carriers. MHHI is a modified HHI that takes common ownership into account, and is defined in the Internet Appendix. We calculate the index using \( MHHI = HHI + \sum_{k \neq j} s_j s_k \sum_i \gamma_{ij} \beta_{ij}, \) where \( s_j \) is the market share of carrier \( j \), \( \gamma_{ij} \) is proportional to the voting share of shareholder \( i \) in carrier \( j \), and \( \beta_{ij} \) is the share of carrier \( j \) owned by shareholder \( i \). MHHI delta, which is a measure of common ownership among airlines in a route, is the difference between MHHI and HHI. Averages are calculated across routes at a given point in time. We exclude routes with less than 20 passengers per day on average. Variable definitions are provided in the Internet Appendix.
Figure 2. Estimated coefficients of BlackRock-BGI acquisition treatment indicator interacted with year-quarter fixed effects.

Figure II. The graph plots the estimated coefficient on interactions of the treatment indicator variable with year-quarter fixed effects. We drop the interaction for 2008Q4, and thus the effect is normalized to zero for that quarter. We control for HHI, the number of nonstop carriers operating in the route, a Southwest indicator, another LCC indicator, log average population in the route endpoints, log average per-capita income in the route endpoints, the share of passengers in the market using connecting flights, and the log distance of the route, each evaluated in 2009Q1 and interacted with year-quarter fixed effects. We also control for potential confounding events using the implied HHI delta in the route from the DL-NW, UA-CO, AA-US, and FL-WN mergers, the share in the route of AA in 2009Q1, and the change in log per-capita income in the route from the start of the Great Recession until 2009Q1, each interacted with year-quarter fixed effects. We weight by average passengers for the market-carrier over time and double-cluster standard errors at the market-carrier and year-quarter levels.
January 15, 2019

William F. Adkinson, Jr.
Attorney Advisor, Office of Policy Planning
Federal Trade Commission
600 Pennsylvania Avenue, NW
Washington, D.C. 20580

Submitted via regulations.gov

Re: Federal Trade Commission Hearing #8: Competition and Consumer Protection in the 21st Century

Dear Mr. Adkinson:

State Street Global Advisors appreciates the opportunity to comment on the Federal Trade Commission’s hearings initiative on Competition and Consumer Protection in the 21st Century, specifically the eighth session which focused on common ownership (“Common Ownership Hearing”).

Recognized as an industry pioneer, State Street Corporation created the first United States listed exchange-traded fund (“ETF”) in 1993 (SPDR S&P 500®-Ticker: SPY) and has remained on the forefront of responsible innovation as evidenced by the introduction of many ground-breaking products, including first-to-market launches with gold, international real estate, international fixed income, and sector ETFs. With over $2.8 trillion in assets under management as of September 30, 2018, State Street Global Advisors is the third-largest asset manager and the issuer of the SPDRs family of ETFs.

We believe that the arguments purporting that minority ownership by institutional investors has led to decreased competition among firms in concentrated industries misconstrue the role that asset managers play in the marketplace with respect to corporate governance. Furthermore, these arguments overstate the influence of asset managers in the corporate decision making process and fail to provide any evidence that institutional investors (as index fund managers) take any actions to promote anti-competitive behavior. Set forth below are a number of important ways that the academic theories misconstrue the activities of institutional investors and the role of index fund managers:

1. Institutional investors have no motive to encourage industry competitors to not compete

The underlying thesis in the recent academic papers discussing common ownership is that institutional investors benefit if the firms in which they invest do not compete aggressively for market share. The most well-known paper on this
topic is by Jose Azar, Martin Schmalz and Isabel Tecu ("Azar et al.") on the alleged anti-competitive effects of common ownership in the airline industry. Azar et al. claim that institutional investors benefit from anti-competitive behavior because increased competition among firms in a concentrated industry would lead to price cuts, decreasing profits for both firms. They argue that institutional investors actively pushing for more aggressive competition is not only costly but also "against the incentive to maximize the value of the family's total portfolio".¹

However, more recent academic studies by noted economists have called into question the economic effects on the airline industry described by Azar et al. For example, in their examination of the anti-competitive effects of common ownership, Daniel O'Brien and Keith Waehrer find the predictions found by Azar et al. rely on "misspecified models" and therefore lead to corresponding correlations which are "not unexpected given the model misspecification".² We generally agree with these commentators who note that there are numerous flaws in the underlying models used to support these theories. At best it appears that these theories identify potential correlations while utterly failing to prove any sort of causal effects. This viewpoint is echoed by O'Brien and Waehrer and other academics who note that the regression models used by Azar et al. are "likely to show a relationship even if common ownership has no actual causal effect on price".³ ⁴

Moreover this argument fails to recognize that as index fund managers, institutional investors do not just hold airline stocks in their portfolio; they hold the entire market. Thus, these managers are focusing their engagement on areas that will improve the long-term profitability of all of the companies within an index fund’s portfolio. It would make little sense for managers to pursue a policy that might help raise profits in one area (e.g. airlines), but have deleterious effects on other firms or industries also included in the index, such as hotels, restaurants, retail firms etc. It is perfectly reasonable to expect that increased airline prices could lead consumers to spend less money at these types of firms, thus hurting their profits and the broader index fund which holds them. This is why institutional investors engage with companies on issues like effective and independent board leadership which impact the company’s ability to generate long-term value. Because institutional investors cannot simply sell shares in their portfolio (e.g. "vote with their feet"), they need to pursue stewardship programs that reflect the fact that they are in effect permanent capital. Any engagement on short-term issues, such as short-term corporate strategy, would contradict the fund’s focus on maximizing the probability of attractive long-term returns for their investors.

2. Institutional investors (as minority shareholders) lack both the desire, and control needed, to influence strategic decision making at the companies in which they invest

Some academic research has claimed that, in order to spur this anti-competitive behavior, index fund managers structure their engagement to ensure that firms

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³ O'Brien and Waehrer, pg. 1
don’t compete. Azar et al. claim that this is done either passively (e.g. by doing nothing) or actively through institutional investors’ engagement with companies as part of their asset stewardship programs. Both of these arguments represent a lack of understanding as to how institutional investors engage with companies, and the goals associated with those engagements. As noted earlier, institutional investors engage on issues that impact the long-term performance of the companies in the index in order to fulfill their fiduciary duty of maximizing returns for investors. Decisions about when and what issues to engage on are made within this context, and not on the basis of whether the engagement might increase or decrease competition.

The assertion by Azar et al. that there is a “scarcity of information” about these types of engagements is also false. State Street Global Advisors, for example, publishes an Annual Stewardship Report that outlines our stewardship philosophy and objectives, how our stewardship program works, and the impact of engagement with firms. As noted in this report, our stewardship program is focused on using “our voice and vote to influence companies on long-term governance and sustainability”.  

The guidelines for our engagement policy, approach and processes are published on our website and designed with the purpose of communicating the objectives of our engagement activities. Our annual report and these guidelines make it clear that because we are in effect permanent capital, we cannot simply “vote with our feet”, and thus have a duty to engage with portfolio companies in the long-term interests of clients /investors.

There is also a lack of empirical evidence in all of these theories that institutional investors have the necessary “control” in order to influence the strategic decision making of firms. This was clearly pointed out by Daniel O’Brien in his testimony to the Organization for Economic Co-operation and Development (OECD), where he notes that “the economic literature has not produced a definitive, tested prediction as to how minority shareholdings translate into control when owners have divergent interests”.  

It is unclear how institutional investors, who often make up less than 10% of a firms’ holdings, would have the ability to exert the necessary level of control to push management to pursue strategies that are directly in conflict with the interests of the vast majority of shareholders.

3. Institutional investors do not create incentives for management to discourage competition

In the absence of control, Einer Elhauge in his paper on Horizontal Shareholding argues that managers “know the identity of their shareholders and the fact that their shareholders also own shares in their rivals” which means that managers know that “taking away sales from rivals imposes a cost on their shareholders”.  

This statement is not only inaccurate but implausible on its face; there is no supporting evidence or reasoning as to why management would choose to make decisions based on what they believe the other holdings of institutional investors are. Such a decision would be a breach of management’s fiduciary responsibility to

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the company, and the board of directors’ fiduciary responsibility to all of its shareholders. Azar et al. make a similar argument, stating that institutional investors seek to structure management compensation packages which discourage them from pursuing competitive strategies. However, this claim again inaccurately portrays how compensation decisions are developed and ultimately approved by the firm’s board of directors. It further completely ignores the role and influence of executive compensation consultants that help company boards determine executive compensation packages. Institutional investors do not have the opportunity to structure executive compensation packages in this manner --- such packages are developed by firm management and approved or disapproved by shareholders. Given that “say on pay” proposals are approved by shareholders an overwhelming majority of the time, it is unclear at all how institutional investors would have the leverage and power to fine-tune compensation packages, making Azar et al.’s arguments naïve at best.

Conclusion

While we appreciate the FTC’s ongoing efforts to examine and investigate potential anti-competitive activities in the marketplace, we believe that the current theories surrounding common ownership are far too underdeveloped and misguided to warrant further examination. The basic structure of index funds contradicts the theory that institutional investors would be using their role in the marketplace to encourage anti-competitive behaviors; because these funds are required to hold the entire marketplace, it would be difficult to understand why institutional investors, who have exposures to companies throughout the market, would take actions that might benefit some but hurt others. Furthermore, it is important to note that the public policy changes being suggested to “remedy” this situation, such as limiting an index fund to holding stock in only one competitor in a market segment, would eliminate index funds as we know them, increasing the cost of investing and depriving millions of Americans of what has become a key component of their retirement and other savings.

Once again State Street Global Advisors appreciates the opportunity to comment on the FTC’s Common Ownership Hearing. Should you have any questions or need any additional information, please don’t hesitate to contact me.

Phillip S. Gillespie, General Counsel and Executive Vice President
State Street Global Advisors, a division of State Street Bank and Trust Company
The Effect of Common Ownership on Profits: Evidence From the U.S. Banking Industry

Jacob Gramlich and Serafin Grundl

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The Effect of Common Ownership on Profits:
Evidence From the U.S. Banking Industry

Jacob Gramlich and Serafin Grundl †
September 7, 2018

Abstract

Theory predicts that “common ownership” (ownership of rivals by a common shareholder) can be anticompetitive because it reduces the weight firms place on their own profits and shifts weight toward rival firms held by common shareholders. In this paper we use accounting data from the banking industry to examine empirically whether shifts in the profit weights are associated with shifts in profits. We present the distribution of a wide range of estimates that vary the specification, sample restrictions, and assumptions used to calculate the profit weights. The distribution of estimates is roughly centered around zero, but we find statistically significant estimates in either direction in some cases. Economically, most estimates are fairly small. Our interpretation of these findings is that there is little evidence for economically important effects of common ownership on profits in the banking industry.

*Preliminary. Please ask to cite. Comments Welcome.*

JEL Codes: L40, L20, L10, G34, G21
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† Board of Governors of the Federal Reserve System, jacob.gramlich@frb.gov, serafin.j.grundl@frb.gov. The analysis and conclusions set forth are those of the authors and do not indicate concurrence by other members of the staff, by the Board of Governors, or by the Federal Reserve Banks. Rebecca Jorgensen, Nadia Wallace, Meher Islam, and Helen Willis provided outstanding research assistance.
1 Introduction

Several recent empirical papers have estimated the competitive effects of common ownership – ownership of rivals by a common shareholder. Azar, Schmalz, and Tecu (2016) conclude that common ownership increased prices in the airline industry by relating prices to concentration measures that account for common ownership. Azar, Raina, and Schmalz (2016) report similar findings for the banking industry. Gramlich and Grundl (2017) use an alternative methodology to estimate the competitive effects, and in preliminary estimates find mixed signs and economically small effects for both prices and quantities in the banking industry. Kennedy, O’Brien, Song, and Waehrer (2017) present similar estimates for the airline industry and preliminary estimates from a structural model and conclude that there is no evidence of anticompetitive effects.1 Dennis, Gerardi, and Schenone (2017) use a similar methodology as Azar, Schmalz, and Tecu (2016), and also conclude that there is no effect of common ownership on prices in the airline industry.2,3

The model underlying these papers (O’Brien and Salop (2000)) predicts anticompetitive effects of common ownership as follows: If managers maximize the payoffs of their shareholders then they maximize a weighted sum of their own profits and of the profits of their rivals that are held by common shareholders. Hence, common ownership reduces the weight firms place in their objective function on their own profits and instead shifts weight to commonly-held rivals. This reduces competition among firms and therefore increases prices and reduces quantities. Thus, theory predicts anticompetitive effects of common ownership due to shifts in profit weights.

The empirical literature has so far mostly focused on the effects of common owner-
ship on prices, and to a lesser extent on quantities. In this paper we estimate the effect of common ownership on profits. Specifically, we investigate whether the shifts in the profit weights predicted by the theory are associated with shifts in profits.

Our paper is most closely related to Azar (2011) and Panayides and Thomas (2017), which are cross-industry studies on the effect of common ownership on profits. Azar (2011) finds that common ownership is associated with higher markups. Panayides and Thomas (2017) find that common ownership is associated with increased profitability, but not with higher output prices and conclude that the effect is driven by reduced expenditures. Moreover they find that reduced expenditures are not driven by reduced input prices but by lowered investment, which suggests lowered non-price competition.

In this paper we take a different approach than Azar (2011) and Panayides and Thomas (2017) by studying the effect of common ownership on profits within an industry rather than across industries. We argue that such a within-industry approach is particularly useful in industries such as banking where a large number of competitors are not publicly traded and therefore have low levels of common ownership and experienced no increase in common ownership. These privately owned firms serve as a useful control group for the publicly traded firms that have high levels of common ownership and experienced large increases of common ownership in the previous decades.

In banking, the model-implied weight on own profits among publicly traded firms is typically far below 10% and was more than twice as high in the year 2001 than in the year 2016. The model-implied weight on profits among private banks however is typically 100% and has not declined since 2001. Loosely speaking, we ask whether the shift in profit weights among publicly listed banks decreased their share of industry profits at the expense of private banks. We also study whether within the group of listed banks profits shifted from banks with less weight on their own profits to banks with higher weight on their own profits.

Why Banking? We estimate the effect of common ownership on profits in the banking industry for several reasons. First, it is one of the two industries for which anticompetitive effects of common ownership have been reported (Azar, Raina, and Schmalz (2016)). Second, there are many publicly listed banks, which generate substantial variation in common ownership. There are more than 400 publicly listed banks in the U.S., which is much more than for example the number of publicly listed airlines. In addition there is an even larger number of banks that is not publicly traded, and therefore did not experience an increase of common ownership through large institutional investors,
which serves as a useful control group. Third, and perhaps most importantly, standardized accounting data is available not only for publicly listed banks but also for private banks. Bank regulators restrict how banks report their income statements and balance sheets, which makes the data comparable across banks. In many other industries private companies either play no important role or accounting data is either not available or difficult to compare across firms.

There are also disadvantages of studying this question in the banking industry. Perhaps most importantly, the financial crisis and subsequent regulatory changes had large effects on bank profits that are unrelated to the competitive effects of common ownership. We try to address this problem in some of our estimates by restricting the sample period to either the pre-crisis or the post-crisis years.

**Data** We use accounting data from regulatory filings to measure bank profits. Economists are often reluctant to use data on accounting profits because they can differ from economic profits. We believe that studying data on accounting profits is still informative for our purposes as long as accounting profits co-move with economic profits so that changes in accounting profits are informative about changes in economic profits. We also believe that accounting profits are comparable across banks because banks are highly restricted by regulators in how they report income statements and balance sheets.\(^4\)

Our data set covers the more than 6,000 banks in the U.S. each quarter from 2001 to 2016, which results in approximately 400,000 bank-quarter observations.

**Specifications, Sample Restrictions and Variable Definitions** As is commonly the case in empirical research there are many plausible specifications, sample restrictions and variables definitions. In this paper we do not follow the common approach, which is to present findings for a “baseline case”, i.e. a particular specification, sample restriction and variable definition, and perhaps several robustness checks. Instead, we obtained several hundred estimates for different specifications, sample restrictions and different ways to calculate the profit weights and report the distribution of these estimates. We discuss how the distribution of estimates varies by specification, sample restriction or profit weight definition. This approach allows the reader to get a more complete picture of the range of plausible estimates. In the main text of this paper we present the distribution of estimates, but in the Online Appendix we show each estimate we

\(^4\)Notice also that the payouts of shareholders, especially the common owners, are restricted by regulators, partly based on accounting measures.
obtained. This allows the readers to look up particular estimates they are interested
in.

We believe that this approach is useful for this paper because different researchers
have arrived at different conclusions regarding the competitive effects of common own-
ership even if they have used similar methodologies and data sets. We also hope that
similar approaches to presenting empirical results become more common in economics
in general.

We estimate the effect of the weight a bank places on its own profits on three
dependent variables: net income, return on equity (ROE) and return on assets (ROA).
For each of these three variables we also consider a transformation of the variable into
percentiles by quarter. For example the bank with the highest ROE in some quarter
has ROE percentile 100 and the bank with the lowest ROE has percentile 0. This
transformation makes magnitudes of estimates for the three outcome variables more
easily comparable and reduces the effect of “outliers”, especially during the financial
crisis. We consider six different specifications that vary the fixed effects and observable
characteristics we control for, twelve different sample choices, that vary the time period
and the set of banks that are included, and lastly four different ways to calculate the
profit weights. This results in $6 \times 12 \times 4 = 288$ estimates for each of the six outcome
variables.

**Preliminary Findings** We focus the discussion of findings on the estimates for the
percentile transformations of the outcome variables. The distribution of point estimates
for the effect of own-profit weight on profits (net income), ROE, and ROA are roughly
centered around zero. The estimated effect of a 1 pp increase in the weight on own
profits ranges from -0.47 pp to +0.27 pp, with a median of -0.03 pp for net income,
from -0.44 pp to +0.49 pp, with a median of -0.002 pp for ROE, and from -0.41 pp to
+0.41 pp with a median of -0.009 pp for ROA. Some of these estimates that are large
in magnitude are imprecise, and the range of estimates shrinks considerably if we focus
on estimates that are statistically significant at the one percent level.

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5 As we obtain many estimates of the same effect this raises the issue of the multiple comparisons or
the multiple testing problem when we the range and the distribution of estimates that are individually
“statistically significant”. One way to interpret this distribution is as follows: Suppose different studies
pick one of the 288 estimates at random. If the study finds a statistically significant effect the study is
published. If not, the study is shelved or does not get through the publication process. A survey paper
reporting the estimated effects in the literature would then report this distribution of statistically
significant effects.
estimates range from -0.47 pp to +0.09 pp, with a median of -0.09 pp for net income, from -0.44 pp to +0.08 pp, with a median of -0.04 pp for ROE, and from -0.41 pp to +0.15 pp with a median of -0.03 pp for ROA. We also show how the distribution of estimates varies by specification, sample and profit weight calculation.

In our view, the magnitude of the positive and statistically significant estimates is relatively small. For example, between 2001 and 2016 the average weight placed on own profits by listed banks has fallen by roughly 5 pp due to an increase in common ownership. Even the largest statistically significant estimates we find imply that a 5 pp decrease in weight on own profits is associated with a shift in the net income distribution by 0.45 pp, a shift in the ROE distribution of 0.4 pp and a shift in the ROA distribution by 0.75 pp.

**Direct Shareholders and Active Investors** We also obtain some preliminary estimates that only rely on common ownership through either “Direct Shareholders” or through “Active Investors”.

“Direct Shareholders” - such as Berkshire Hathaway - are the ultimate owners of shares as opposed to asset managers - such as Vanguard or Fidelity - that manage shares owned by their clients. “Direct Shareholders” may benefit more from increasing share prices (as a consequence of decreased competition) than asset managers that typically earn a fixed small percentage of assets under management.

“Active Investors” are investors that try to pick winning stocks, as opposed to “passive investors” that simply replicate an index. The idea is that index funds compete mostly on fees. It is unclear how strong the incentives of an index fund manager are to reduce competition among portfolio firms, given that improved performance of the index would also improve the performance of all all competing index fund managers, which replicate the same index. Active asset managers however, who hold a unique portfolio, could outperform other active asset managers if their portfolio firms compete less and thereby attract new clients.

Perhaps surprisingly, the estimates for “Direct Shareholders” or “Active Investors” are similar to the estimates for all investors. These estimates are preliminary because we only take the largest “Direct Shareholders” and the largest “Active Investors” into account, and we hope to eventually incorporate more comprehensive classifications.

**Identification and Endogeneity** Which variation in the data identifies the coefficient on the weight firms place on their own profits? The answer to this question
depends on the sample restrictions and the specification. The most basic case relies on comparisons of unlisted and listed banks: Unlisted banks have typically no common owners with other banks and therefore place 100 percent weight on their own profits throughout the sample period. On the other hand, listed banks share common owners and the model-implied weight on their own profits is surprisingly low (typically below 10 percent). Moreover, for listed banks common ownership became more prevalent between 2001 and 2016, so the weight these banks placed on their own profits in 2001 is about four times higher than in 2016. This variation is used in some of our estimates. In the simplest specification without bank fixed effects we ask whether banks that place more weight on their own profits make higher profits. In specifications with bank fixed effects, we ask whether the decrease in weight on own profits among listed banks was associated with a reduction in their profits.

We do not try to instrument for the profit weights in this version of the paper. The conclusions of the existing literature that finds anticompetitive effects of common ownership do not rely heavily on whether profit weights were treated as exogenous or not. Moreover, we believe that a large portion of the variation in profit weights and the secular increase in common ownership are driven by factors that are plausibly exogenous. The studies by Azar, Schmalz, and Tecu (2016) and Azar, Schmalz, and Tecu (2016) find anticompetitive effects of common ownership in OLS and IV specifications. In Gramlich and Grundl (2017) the OLS and IV estimates for the same subsample do not differ substantially. Kennedy, O’Brien, Song, and Waehrer (2017) find positive and statistically significant effects of common ownership with OLS and negative and significant effects in their IV approach. This suggests that treating the profit weights as exogenous could bias our findings towards finding anticompetitive effects of common ownership. The secular trend towards increased common ownership is largely driven by the trend towards passively investing asset managers, which is plausibly exogenous.

**Roadmap** The remainder of this paper is structured as follows. In section 2 we discuss the model by O’Brien and Salop (2000) and show in a numerical example how shifts in profits weights shift lead to shifts in profits. In section 3 we discuss the data and show some descriptive statistics on profit weights and profits for listed and unlisted banks. Section 4 discusses the range of specifications, sample restrictions and variable

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6As we discuss in more detail below, these estimates typically find a fairly large negative association between the weight on own profits and profits, because listed banks make higher profits than unlisted banks.
definitions we consider and section 5 presents the findings. In section 6 we obtain estimates if only common ownership through “Direct Shareholders” or through “Active Investors” is taken into consideration. Section 7 concludes. Tables that are not included in the main text can be found in Appendix A.

2 Common Ownership Model

The model by O’Brien and Salop (2000) is the basis for much of the empirical research on the competitive effects of common ownership.\(^7\) In this model managers maximize a weighted sum of their shareholders’ payoffs:

\[
\sum_i \gamma_{ij} \sum_k \beta_{ik} \pi_k \quad (1)
\]

Managers are indexed by \(j\) and \(k\), and shareholders by \(i\). \(\gamma_{ij}\) is owner \(i\)’s “control share” of firm \(j\), which is the weight that manager \(j\) assigns to owner \(i\)’s payoff. For each firm \(j\), the control shares add up to one \(\sum_i \gamma_{ij} = 1\). \(\beta_{ik}\) is owner \(i\)’s ownership share of firm \(k\), which is the percentage of firm \(k\)’s profits, \(\pi_k\), which accrue to owner \(i\). For each firm \(k\), the ownership shares add up to one \(\sum_i \beta_{ik} = 1\). It natural to assume that \(\gamma_{ij}\) is a non-decreasing function of \(\beta_{ij}\): as \(i\)’s ownership of firm \(j\) increases, manager \(j\) should place weakly more weight on \(i\) in its objective function. Generally, \(\gamma_{ij}\) likely depends not only on \(\beta_{ij}\), but the whole ownership structure of firm \(j\). For example, a ownership share of \(\beta_{ij} = 0.49\) might result in almost full control if all other shareholders are small, and in almost no control if the remaining 51% are held by a single shareholder. Much of the empirical literature assumes that \(\gamma_{ij} = \beta_{ij}\), which is called the proportional control assumption.

After dividing by \(\sum_i \gamma_{ij} \beta_{ij}\), manager \(j\)’s maximization problem in 1 can be rewritten as follows:

\[
\Pi_j = \pi_j + \sum_{k \neq j} \frac{\sum_i \gamma_{ij} \beta_{ik} \pi_k}{\sum_i \gamma_{ij} \beta_{ij}} \\
= \bar{w}_{jj} \pi_j + \sum_{k \neq j} \bar{w}_{jk} \pi_k 
\quad (2)
\]

The profit weights \(\bar{w}_{jk} = \sum_i \gamma_{ij} \beta_{ik} / \sum_i \gamma_{ij} \beta_{ij}\) measure the weight firm \(j\) places on the

\(^7\)Large parts of this model section are identical to parts of the model section in Gramlich and Grundl (2017).
profits of rival $k$, relative to its own profits $\tilde{w}_{jj} = 1$.

An important property of the profit weights is that they are not symmetric in the sense that in general $\tilde{w}_{jk} \neq \tilde{w}_{kj}$.\footnote{The fact that $\tilde{w}_{jk} \neq \tilde{w}_{kj}$ means that the common ownership model makes very specific testable predictions at the level of the ordered firm pair: For example one could test whether firm $j$ starts to compete less aggressively with firm $k$ as $\tilde{w}_{jk}$ increases while controlling for $\tilde{w}_{kj}$ and for firm pair fixed effects.} This is generally the case even if all common owners of $j$ and $k$ have equal shares in both firms, because the weights also depend on the size of the ownership shares of the non-common owners. To see this consider an example with just two firms that have a single common owner who holds 10% of both firms. First suppose that the remaining 90% of both firms are held by single investors, then $\tilde{w}_{12} = \tilde{w}_{21} \approx 0$. Now suppose that the 90% shareholder of firm 2 is split into many equal sized shareholders who each only hold a small share of firm 2, then $\tilde{w}_{21}$ starts to increase whereas $\tilde{w}_{12} \approx 0$. This is because the 90% ownership in firm 1 by undiversified shareholders is concentrated in a single shareholder whereas is unconcentrated and spread across many shareholders for firm 2.

For our purposes it will be more convenient to work with weights that add up to one. Divide equation (1) by $\sum_i \sum_k \gamma_{ij} \beta_{ik}$ to obtain

$$
\sum_k \frac{\sum_i \sum_k \gamma_{ij} \beta_{ik} \pi_k}{\sum_i \sum_k \gamma_{ij} \beta_{ik}} = \frac{\sum_k \tilde{w}_{jk} \pi_k}{\sum_k \tilde{w}_{jk}}
$$

where $\sum_k w_{jk} = 1$.

In this paper we estimate whether changes in $w_{jj}$, the weight firm $j$ places on its own profits, and $\sum_{k \neq j} w_{kj}$, the total weight weight $j$’s rivals place on $j$’s profits are associated with changes in the reported profits.

### 2.1 A Numerical Example

Here we present a simple numerical example illustrating how prices, quantities and profits change depend on the profit weights in a model of differentiated product Bertrand competition.

In the example there are three banks $j = 1, 2, 3$. Banks 1 and 2 are listed on the stock market and therefore have common owners whereas bank 3 is private. Thus $\tilde{w}_{31} = \tilde{w}_{32} = 0$, $\tilde{w}_{13} = \tilde{w}_{23} = 0$, but $\tilde{w}_{12}$ and $\tilde{w}_{21}$ can be positive. The banks have
constant marginal costs $c_j$. Demand is a simple logit demand system where the prices are the only product characteristics.

In Figure 1 we begin by showing how prices, quantities and profits change as common ownership among banks 1 and 2 increases such that $\tilde{w}_{12}$ and $\tilde{w}_{21}$ increase jointly. This symmetric case can be viewed as a partial merger among the two banks. The demand system is symmetric and the banks have identical marginal costs.

Figure 1a shows that the prices of banks 1 and 2 increase as they are now competing less aggressively. The prices of bank 3 also increase as it faces two less aggressive competitors now, but less so than the prices of banks 1 and 2. Figure 1b shows that the quantities of banks 1 and 2 decrease whereas the quantity of bank 3 also increases. As the prices of all banks increase the quantity of the outside good increases.

Figure 1c shows that the profits of all three banks increase as competition in the industry becomes less aggressive. Importantly, the profits of banks 1 and 2 increase much less than the profits of bank 3. This is shown more clearly in Figure 1d, which shows the difference between the profits of a bank and average industry profits. As $\tilde{w}_{12}$ and $\tilde{w}_{21}$ the profits of banks 1 and 2 fall below average industry profits, whereas the profits of bank 3 rise above average industry profits.

Next, consider Figure 2. Here $\tilde{w}_{12}$ and $\tilde{w}_{21}$ do not increase jointly. Instead $\tilde{w}_{12}$ increases and $\tilde{w}_{21} = 0.5$ is fixed. Demand and costs are symmetric as in the previous example.

Figure 2a shows that now the price of bank 1 increases a lot, whereas the prices of banks 2 and 3 increase only slightly. Accordingly, the quantity of bank 1 decreases, whereas the quantities of banks 2 and 3 and the outside good increase (Figure 2b).

Figure 2c, shows that the profits of banks 2 and 3 increase. Notice that the profit of bank 1 initially increases slightly as $\tilde{w}_{12}$ increases and then decreases. Why is this the case? Intuitively, increasing $\tilde{w}_{12}$ has two effects: First, it lowers competition among the banks. Second, for a given level of competition it lowers how much of the industry profits go to bank 1. The profit of bank 1 is not monotone in $\tilde{w}_{12}$ because initially the first effect dominates and later the second effect.

In Figure 2d the deviation from average industry profits is shown. Relative to the industry average, the profits of banks 2 and 3 are increasing whereas the profits of bank 1 is decreasing.

This latter shift in profits is the one we are trying to find in the data: Do the profit of a bank decrease relative to the average profits in the industry as it places more weight on the profits of its rivals and less weight on itself?
Figure 1: These figures show how prices, quantities, profits and the deviation from average industry profits change as $\bar{w}_{12}$ and $\bar{w}_{21}$ increase jointly.
Figure 2: These figures show how prices, quantities, profits and the deviation from average industry profits change as $\tilde{w}_{12}$ increases whereas $\tilde{w}_{21} = 0.5$ remains constant.

3 Data and Descriptive Statistics

3.1 Data

The data on bank profits, equity and assets comes from regulatory filings. Bank Holding Companies (BHCs) with more than $1$ billion in assets have to file a Y-9C form. The Y-9C form is consolidated across the different subsidiaries of the BHC. For smaller
BHCs or banks that are not BHCs we obtain data from the call report, that is filed by all regulated financial institutions.

Data on bank ownership comes from the filings of SEC form 13F that are mandatory for institutional investors with more than $100m in assets.\(^{10}\) Some investors file separate 13F forms for their different subsidiaries (e.g. Blackrock). In this case we aggregate the ownership shares across 13F filers.

We do not observe bank shareholders that are not 13F filers. If these shareholders are small individually relative to the observed shareholders they would only have a limited impact on the profit weights, even if they collectively account for a substantial fraction of the ownership for some banks, because in the common ownership model of O’Brien and Salop (2000) shareholders that are individually large have a disproportionate impact on the profit weights. (See Gramlich and Grundl (2017) for a more detailed explanation of this model property.) If the unobserved shareholders are individually large, however, they can have a large impact on the profit weights. This problem may be particularly important for smaller banks and early in our sample period, because the 13F filers only account for a small fraction of the ownership. We try to mitigate this data limitation by controlling for the total 13F ownership share in some of our specifications and by excluding bank-quarter observations for which the 13F ownership share is low in some of our subsamples.

\(^{10}\)Thomson Reuters. Institutional Holdings, Wharton Research Data Services, http://wrds.wharton.upenn.edu/.
3.2 Descriptive Statistics

Table 1: **Summary Statistics.** The Return on Assets and Return on Equity are annualized. The Capital Ratio, Return on Assets and Return on Equity are expressed in %. Net Income, Total Assets and Total Equity are measured in millions of dollars. Net Income is measured quarterly.

<table>
<thead>
<tr>
<th>Metric</th>
<th>mean</th>
<th>sd</th>
<th>p25</th>
<th>p50</th>
<th>p75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight on Own Profits</td>
<td>93.9</td>
<td>23.6</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total Weight Received from Rivals</td>
<td>6.0</td>
<td>28.5</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Net Income</td>
<td>6.9</td>
<td>178.7</td>
<td>0.1</td>
<td>0.4</td>
<td>1.1</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>1.2</td>
<td>1.6</td>
<td>0.6</td>
<td>1.2</td>
<td>1.9</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>12.9</td>
<td>15.9</td>
<td>6.0</td>
<td>11.9</td>
<td>20.3</td>
</tr>
<tr>
<td>Capital Ratio (Total Equity / Total Assets)</td>
<td>11.0</td>
<td>5.4</td>
<td>8.5</td>
<td>10.0</td>
<td>12.1</td>
</tr>
<tr>
<td>Total Assets</td>
<td>2270.9</td>
<td>44810.9</td>
<td>65.2</td>
<td>139.2</td>
<td>322.8</td>
</tr>
<tr>
<td>Total Equity</td>
<td>219.3</td>
<td>4242.3</td>
<td>7.0</td>
<td>14.3</td>
<td>32.1</td>
</tr>
<tr>
<td>Observations</td>
<td>401341</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 shows summary statistics for the whole sample. Figure 3 shows that the median weight on own profits ($w_{jj}$) among listed banks has declined substantially and has reached about 40% of its 2001 level in 2016, whereas the weight on own profits among private banks remained unchanged. Moreover (not shown on the graph) the level of $w_{jj}$ for the vast majority of listed banks is very low and typically far below 10%.

Figure 4 shows how profits, ROE and ROA for listed and unlisted banks have evolved since 2001. Figure 4a shows the total net income of listed and unlisted banks. With the exception of the financial crisis the total net income of the approximately 500 listed banks exceeds the total net income of the more than 5,000 unlisted banks substantially. In the years before the financial crisis when $w_{jj}$ for listed banks fell substantially, the gap between listed and unlisted banks widened. During the crisis the gap closed before it widened again in the years after the crisis. The relative changes can be seen more easily in Figure 4b where net income is normalized by the 2001 level.

Figure 4 also shows how ROE and ROA have evolved. These figures are more difficult to link to the common ownership model by O’Brien and Salop (2000), which does not model debt/equity choices and assumes that shareholders care about the profits of the firms they own.\textsuperscript{11} The graphs show no clear pattern for ROA, but for ROE we...

\textsuperscript{11}If total assets are interpreted as the quantity of firm $j$ then $ROA_j = p_j - c_j$. This suggests that decreasing $w_{jj}$ should be associated with increasing $ROA_j$. 

14
see that listed banks had higher ROE prior to the crisis but the gap closed after the crisis. This can likely be partially explained by regulatory changes after the crisis which increased capital requirement especially for larger banks and restricted some activities with particularly high ROEs.

Figure 3: Median $w_{jj}$ (as % of 2001)
Figure 4: Profits, ROE and ROA for listed and unlisted banks over time.
4 Subsamples, Profit Weights and Specifications

We estimate the effect of \( w_{jj} \) on three outcome variables. First, the bank’s profit \( \pi_j \), second the return on equity \( ROE_j = \frac{\pi_j}{E_j} \), and third the return on assets \( ROA_j = \frac{\pi_j}{A_j} \). One reason to estimate the effect on \( ROE_j \) and \( ROA_j \) in addition to \( \pi_j \) is that these profitability ratios are more easily comparable across banks of different sizes.

We winsorize \( ROE_j \) and \( ROA_j \) by quarter at the 2.5th and 97.5th percentiles to reduce the impact of outliers, especially during the financial crisis. We do not winsorize net income, because most observations in the tails of the net income distribution stem from very large banks. Therefore winsorizing would disproportionally affect large banks. Consequently outliers, especially during the crisis, can have a large impact on the net income estimates.

For all three outcome variables we also consider a quarterly transformation into percentiles: For example, the bank with the highest net income in a quarter has the net income percentile 100 and the bank with the lowest net income has the net income percentile 0. The advantage of this transformation is twofold. First, it makes the effect sizes for the three different outcome variables comparable. Second, for net income, which is not winsorized, it reduces the impact of outliers during the financial crisis, when some banks posted negative net incomes that were much larger in magnitude than the magnitude of net income during “normal times”.

There are many plausible regression specifications to estimate the effect of \( w_{jj} \) on these outcome variables. Moreover, there are several plausible ways of choosing the subsample of banks and the sample period. Lastly, there are several plausible ways to calculate the profit weights. We obtained estimates for several different specifications, subsamples and ways to calculate the profits weights and present the whole range of estimates we obtained.

Subsamples Table 2 shows the twelve different subsamples we consider. The first subsample is the entire dataset, i.e. it contains all banks from 2001 to 2016 and the subsamples 2-12 restrict the sample in various ways, which we discuss in this section.
Table 2: Subsamples

<table>
<thead>
<tr>
<th>Subsamples</th>
<th>Banks</th>
<th>Years</th>
<th>13F-Ownership Restriction</th>
<th>Bank-Quarter Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All Banks</td>
<td>2001-2016</td>
<td>No</td>
<td>401,341</td>
</tr>
<tr>
<td>2</td>
<td>Only Listed Banks</td>
<td>2001-2016</td>
<td>No</td>
<td>24,475</td>
</tr>
<tr>
<td>3</td>
<td>All Banks</td>
<td>2001-2007</td>
<td>No</td>
<td>190,023</td>
</tr>
<tr>
<td>4</td>
<td>All Banks</td>
<td>2008-2010</td>
<td>No</td>
<td>76,267</td>
</tr>
<tr>
<td>5</td>
<td>All Banks</td>
<td>2011-2016</td>
<td>No</td>
<td>135,051</td>
</tr>
<tr>
<td>6</td>
<td>All Banks</td>
<td>2001-2016</td>
<td>Yes</td>
<td>379,494</td>
</tr>
<tr>
<td>7</td>
<td>Only Listed Banks</td>
<td>2001-2016</td>
<td>Yes</td>
<td>9,751</td>
</tr>
<tr>
<td>8</td>
<td>All Banks</td>
<td>2001-2007</td>
<td>Yes</td>
<td>178,742</td>
</tr>
<tr>
<td>9</td>
<td>All Banks</td>
<td>2008-2010</td>
<td>Yes</td>
<td>72,199</td>
</tr>
<tr>
<td>10</td>
<td>All Banks</td>
<td>2011-2016</td>
<td>Yes</td>
<td>128,553</td>
</tr>
<tr>
<td>11</td>
<td>$500m&lt;Assets&lt;$3,000m</td>
<td>2001-2016</td>
<td>No</td>
<td>52,982</td>
</tr>
<tr>
<td>12</td>
<td>$500m&lt;Assets&lt;$3,000m</td>
<td>2001-2016</td>
<td>Yes</td>
<td>40,597</td>
</tr>
</tbody>
</table>

Subsamples 2 and 7 contain only listed banks. For unlisted banks, $w_{jj} = 1$, whereas for listed banks $w_{jj}$ is substantially smaller. Therefore there is a lot more variation of $w_{jj}$ across banks in the subsamples that contain both listed and unlisted banks. In specifications without bank fixed effects the coefficient on $w_{jj}$ is estimated mainly by comparing listed and unlisted banks in the subsamples that contain unlisted banks, whereas for subsamples 2 and 7 we can only use variation within the listed banks.

Subsamples 11 and 12 are restricted to banks between $500m and $3,000m in assets. We consider this restriction because listed banks tend to be larger than unlisted banks. There are few listed banks below $500m and few unlisted banks above $3,000m in assets. Subsamples 11 and 12 restrict the sample to the asset size range where the size distributions of listed and unlisted banks overlap.

We also vary the sample period. Subsamples 3 and 8 restrict the sample to the pre-crisis period 2001-2007, subsamples 4 and 8 are restricted to the crisis period 2008-2010 and subsamples 5 and 10 are restricted to the post-crisis period 2011-2016. We consider these subsamples because the financial crisis and subsequent changes in regulation may have affected listed and unlisted banks in systematically different ways. For example it appears that listed banks were more leveraged than unlisted banks before the crisis but this gap closed after the crisis, possibly due to stricter capital requirements.

Lastly, we consider a restriction that excludes banks that went public during the sample period. If a bank goes public this can result in a large, sudden decline of $w_{jj}$. The idea of this restriction is that we do not want to use variation in $w_{jj}$ that is due to
decisions of the bank’s management. As this restriction eliminates some within-bank variation of $w_{jj}$ it leads to much larger standard errors. We implement the restriction in a very strict way: We require that if a bank is ever listed during the sample period, then we only keep it if the 13F filers account for at least 5 percent of the market capitalization at all times during the sample period. Therefore, this restriction eliminates not only banks that go public during the sample period, but also some listed banks that are taken over and some small listed banks.\footnote{For banks that are taken over we sometimes do no longer record any ownership by 13F filers in the last quarter for which we observe balance sheet and income statement information. For small banks that are not contained in the major stock market indices 13F owners sometimes account for less than 5 percent of the market capitalization, especially during the early parts of our sample period.} Subsamples 6 to 10 and subsample 12 impose this “13F Ownership Restriction”.

**Calculating Profit Weights**\footnote{The following description of Table 3 is largely identical to the analogous discussion in Gramlich and Grundl (2017).} The 13F data contains information on holdings by institutional investors with more than $100$ million in assets. 13F filers hold more than one half of the public banks. To calculate the profit weights, however, requires the entire ownership structure. We assume that the remaining shareholders are atomistic. Such shareholders have no impact on the objective function of the manager if there is at least one non-atomistic shareholder. We believe that this assumption is a reasonable approximation because most shareholders who are not required to file a 13F form are small compared to the 13F filers.

However, if large parts of a firm are held by small undiversified shareholders then even a small amount of common ownership can have a large impact on the profit weights. This is relevant if the 13F filers own only a relatively small share of some publicly traded banks. To address this issue we calculate the profit weights under the assumption that for every bank there is one (unobserved) undiversified shareholder who holds 1% in some specifications. This 1% undiversified shareholder could represent the management of the bank, for example.

Azar, Raina, and Schmalz\footnote{Azar, Raina, and Schmalz (2016)} argue that in the banking industry there is cross ownership in addition to common ownership, because many of the 13F filers are banks. These reported holdings predominantly represent the holdings of the asset management divisions of the banks. If the asset management divisions use their control rights in the interest of the bank they belong to then such holdings should be treated as cross ownership. It could however also be argued that it is the fiduciary duty of the asset
management division to act in the best interest of their customers and therefore they must use their control rights in the interest of their customers. This argument suggests that the holdings of the asset management divisions should be treated in the same manner as the holding by independent asset managers. Therefore, they do not result in cross ownership, but might result in common ownership. In some specifications we assume that holdings by bank-owned asset managers result in cross ownership and in others we assume it results in common ownership.

Table 3 summarizes four different ways in which we calculate profit weights.

<table>
<thead>
<tr>
<th>1 % Undiversified Shareholder</th>
<th>Cross Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Yes</td>
<td>No</td>
</tr>
<tr>
<td>2 No</td>
<td>Yes</td>
</tr>
<tr>
<td>3 Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>4 No</td>
<td>No</td>
</tr>
</tbody>
</table>

Specifications For each combination of the twelve subsamples (Table 2), six dependent variables, and four ways of calculating profit weights (Table 3) we consider six different specifications. For illustration these specifications are shown in Tables 4 (Net Income), 14 (ROE), and 15 (ROA), and in each we use the first rows of Tables 2 and 3 (i.e. we use the entire sample, assume a 1% undiversified shareholder, and assume no cross-ownership). The standard errors are clustered at the quarter level for all of our estimates.

We start with the very basic specification (1), shown in the first columns of Tables 4, 14 and 15, and successively add more controls in specifications (2)-(6). In specification (1), we simply regress the outcome variable on the weight placed on own profits ($w_{jj}$ or “Ownweight”) and a set of quarterly fixed effects. This specification, therefore uses variation across banks. In Specification (2) we add bank fixed effects. In specification (3) we also control for the profit weight the bank receives from rivals ($\sum_k w_{kj}$ or “Rivalweight”). In specification (4), we add the total ownership share of 13F filers as a control. We add this control to rule out the possibility that our findings are driven by the fraction of shareholders we observe, rather by the composition of shareholders we observe. Letting $j$ denote a bank and $q$ a quarter, specification (4) is:

14Notice that we treat asset managers as if they act in the best interest of their customers, despite the fact that they don’t actually own the shares, and instead earn fees that are a percentage of assets under management.
\[ y_{jq} = \beta_1 \text{Ownweight}_{jq} + \beta_2 \text{Rivalweight}_{jq} + \beta_3 \text{13F Ownership Share}_{jq} + \mu_q + \xi_j + \epsilon_{jq} \]

In specifications (5) and (6), we control for the size of the bank as measured by the size of its balance sheet. Controlling for the size of the balance sheet is problematic, because it is itself an outcome and a choice by the bank. Banks that place higher weight on their own profits may have a greater incentive to grow their balance sheet. Nevertheless, we present results that control for balance sheet size because the estimates in Azar, Raina, and Schmalz (2016) that find anticompetitive effects of common ownership control for bank size. In specification (5) we control for the log of balance sheet size, and in specification (6) we instead include dummies for each decile of the bank size distribution in the quarter.

First, consider net income shown in Table 4. In specification (1), we find a negative association between Ownweight and net income, which on its face would reject the notion that common ownership is anticompetitive. This negative association simply reflects the fact that larger banks - which are publicly-listed and therefore have common ownership - have the highest net income. There is likely reverse causality concern in that banks with high net income (currently or in expectation) decide to raise capital by listing their stock. This concern is addressed with specifications (2)-(6) that include bank fixed effects and therefore use variation within bank over time. In these specifications we find a much smaller negative association between Ownweight and net income. However, we do not find a positive association between Ownweight and net income in any of the specifications.

Next, consider ROE shown in Table 14. We find a positive association between Ownweight and ROE in all six specifications. In specification (1) the effect is small and not statistically significant. In specifications (2)-(4) with bank fixed effects the effect size increases to 0.01-0.02 and is statistically significant. Controlling for bank size in specifications (5) and (6) increases the effect size further to 0.02-0.03. What’s the economic significance of these effect sizes? As both Ownweight and ROE are measured in percentage points, an effect size of 0.03 implies that increasing Ownweight by one percentage point increases the ROE by 0.03 percentage points. This is roughly equal to

\(^{15}\)The reverse causality concern is still present for banks that go public (or delist) during the sample period. In subsamples 6-10, we therefore exclude these banks.
0.25% of the average ROE (12.9) and 0.19% of the standard deviation of ROE (15.9).

Lastly, consider ROA shown in Table 14. Here we also find some evidence of a positive association, especially for specifications (5) and (6) that control for bank size. The largest effect size in specification (5) is close to 0.003, which corresponds to about 0.25% of the average ROA (1.2) or about 0.19% of the standard deviation (1.6).

Tables 16, 17 and 18 show the estimates if the variables are transformed into percentiles. For net income we find negative effects in specifications (1)-(4) and positive effects in specifications (5)-(6). For ROE and ROA we find mixed results for specifications (1)-(4) and positive effects for specifications (5)-(6). The largest effects sizes we find for each of the three outcome variables are in the range 0.02-0.03. This means that increasing Ownweight by one percentage point leads to a shift in the distribution of about 0.03 percentage points in the distributions of net income, ROE and ROA.

Table 4: Net Income.

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight on Own Profits</td>
<td>-0.939***</td>
<td>-0.0559*</td>
<td>-0.302*</td>
<td>-0.146</td>
<td>-0.127</td>
<td>-0.157</td>
</tr>
<tr>
<td></td>
<td>(0.0730)</td>
<td>(0.0216)</td>
<td>(0.142)</td>
<td>(0.0835)</td>
<td>(0.0805)</td>
<td>(0.0906)</td>
</tr>
<tr>
<td>Total Weight Received</td>
<td>-0.330</td>
<td>-0.764*</td>
<td>-0.762*</td>
<td>-0.591</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.189)</td>
<td>(0.350)</td>
<td>(0.350)</td>
<td>(0.343)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13F Ownership Share</td>
<td>186.9*</td>
<td>182.5*</td>
<td>114.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(70.38)</td>
<td>(69.77)</td>
<td>(65.57)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>log(Total Assets)</td>
<td>6.623**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.284)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Quarter Fixed Effects  Yes Yes Yes Yes Yes No
Bank Fixed Effects      No Yes Yes Yes Yes Yes
Asset Decile x Quarter Fixed Effects No No No No No Yes
N                       401341 401229 401229 401229 401229 401229

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001

5 Findings

Summary of Findings In this section we summarize the different estimates of the Ownweight coefficient, that vary the subsample (Table 2), the ways to calculate profits weights (Table 3), and the specification. As we consider 12 different subsamples, 4 ways to calculate profit weights and six different specifications, we obtain 12 * 4 * 6 = 288 different estimates of the Ownweight coefficient for each of our six outcome variables (net income, ROE, ROA, and within-quarter percentile transformation of
each). Regression tables for all estimates can be found in the Online Appendix.

Figure 5 shows histograms of the 288 point estimates for each of the six outcome variables. These distributions are also summarized in Table 5. Importantly, Figure 5 and Table 5 show all point estimates regardless of whether they are statistically different from zero or not.
Figure 5: **Histograms of Point Estimates.** These histograms show the distribution of the 288 point estimates we obtain for the three outcome variables net income (row 1), return on equity (row 2) and return on assets (row 3). For the estimates on the right hand side these variables are transformed into percentiles for each quarter, which makes the estimates for net income, return on equity and return on assets more easily comparable.
Table 5: Distribution of Point Estimates

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Income</td>
<td>-0.837</td>
<td>-9.093</td>
<td>-8.144</td>
<td>-4.739</td>
<td>-1.422</td>
<td>-0.210</td>
<td>0.046</td>
<td>1.280</td>
<td>2.740</td>
<td>3.051</td>
<td>288</td>
</tr>
<tr>
<td>Net Income Percentile</td>
<td>-0.074</td>
<td>-0.465</td>
<td>-0.464</td>
<td>-0.394</td>
<td>-0.124</td>
<td>-0.033</td>
<td>0.011</td>
<td>0.148</td>
<td>0.237</td>
<td>0.272</td>
<td>288</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>-0.019</td>
<td>-0.217</td>
<td>-0.213</td>
<td>-0.173</td>
<td>-0.054</td>
<td>0.003</td>
<td>0.024</td>
<td>0.077</td>
<td>0.091</td>
<td>0.099</td>
<td>288</td>
</tr>
<tr>
<td>Return on Equity Percentile</td>
<td>-0.012</td>
<td>-0.439</td>
<td>-0.436</td>
<td>-0.338</td>
<td>-0.071</td>
<td>-0.002</td>
<td>0.028</td>
<td>0.411</td>
<td>0.494</td>
<td>0.536</td>
<td>288</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>0.000</td>
<td>-0.018</td>
<td>-0.018</td>
<td>-0.010</td>
<td>-0.002</td>
<td>0.001</td>
<td>0.002</td>
<td>0.013</td>
<td>0.025</td>
<td>0.028</td>
<td>288</td>
</tr>
<tr>
<td>Return on Assets Percentile</td>
<td>-0.016</td>
<td>-0.413</td>
<td>-0.406</td>
<td>-0.308</td>
<td>-0.058</td>
<td>-0.009</td>
<td>0.023</td>
<td>0.286</td>
<td>0.385</td>
<td>0.412</td>
<td>288</td>
</tr>
</tbody>
</table>

The distribution of point estimates is roughly centered around zero for all six outcome variables. We will focus in our discussion on the percentile transformations, because they are easier to interpret and comparable across different outcome variables. For the net income percentile our estimates range from -0.47 to +0.27, with a median estimate of -0.03. For the ROE percentile our estimates range from -0.44 to +0.49, with a median estimate of -0.002. Lastly, for ROA our estimates range from -0.41 to +0.41, with a median of -0.009. While most of the point estimates are small in magnitude the largest estimates are economically substantial. For example an estimate of +0.5 implies than an increase in Ownweight of 1 percentage point would lead to a shift in the distribution of the outcome variable by 0.5 percentage points.

Figure 5 and Table 5 show all point estimates regardless of their precision. In Table 6 we only summarize estimates that are statistically significant at the one percent level. Depending on the outcome variable roughly one third to one half of the point estimates are statistically significant. The distributions are still roughly centered around zero for all outcome variables. Focusing on estimates that are statistically significant however shrinks the range of the effect sizes in some cases considerably. The range for the net income percentile is now -0.465 to 0.09 with a median of -0.09. The range for ROE is -0.44 to 0.08 with a median of -0.04. Lastly, the range for ROA is -0.41 to 0.15 with a median of -0.03. This shows that some of the large positive estimates in Table 5 are noisy.

Table 6: Distribution of Statistically Significant Estimates (1 percent level)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Income Percentile</td>
<td>-0.152</td>
<td>-0.465</td>
<td>-0.465</td>
<td>-0.436</td>
<td>-0.310</td>
<td>-0.085</td>
<td>-0.030</td>
<td>0.043</td>
<td>0.084</td>
<td>0.086</td>
<td>148</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>-0.040</td>
<td>-0.217</td>
<td>-0.217</td>
<td>-0.209</td>
<td>-0.136</td>
<td>0.010</td>
<td>0.028</td>
<td>0.030</td>
<td>0.065</td>
<td>0.065</td>
<td>92</td>
</tr>
<tr>
<td>Return on Equity Percentile</td>
<td>-0.115</td>
<td>-0.439</td>
<td>-0.439</td>
<td>-0.413</td>
<td>-0.261</td>
<td>-0.041</td>
<td>0.023</td>
<td>0.037</td>
<td>0.084</td>
<td>0.084</td>
<td>91</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>-0.002</td>
<td>-0.018</td>
<td>-0.018</td>
<td>-0.018</td>
<td>-0.005</td>
<td>0.002</td>
<td>0.003</td>
<td>0.006</td>
<td>0.007</td>
<td>0.007</td>
<td>94</td>
</tr>
<tr>
<td>Return on Assets Percentile</td>
<td>-0.066</td>
<td>-0.413</td>
<td>-0.413</td>
<td>-0.401</td>
<td>-0.184</td>
<td>-0.026</td>
<td>0.030</td>
<td>0.127</td>
<td>0.150</td>
<td>0.152</td>
<td>112</td>
</tr>
</tbody>
</table>

25
So far we have only summarized the point estimates. In Table 7 we summarize the distribution of the upper bounds of the 99 percent confidence intervals around the point estimates in Table 6. Interestingly, these upper bounds are still roughly centered around zero. For the net income percentile they range from -0.46 to +0.14, with a median of -0.045. For the ROE percentile they range from -0.25 to +0.11, with a median of -0.03. For the ROA percentile they range from -0.21 to +0.26, with a median of -0.006.

Table 7: Distribution of Upper Bounds of 99 Percent CIs for Statistically Significant Estimates

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Income</td>
<td>-0.241</td>
<td>-5.207</td>
<td>-5.180</td>
<td>-2.578</td>
<td>-0.776</td>
<td>-0.162</td>
<td>-0.003</td>
<td>3.634</td>
<td>4.553</td>
<td>4.674</td>
<td>117</td>
</tr>
<tr>
<td>Net Income Percentile</td>
<td>-0.097</td>
<td>-0.460</td>
<td>-0.460</td>
<td>-0.418</td>
<td>-0.162</td>
<td>-0.045</td>
<td>-0.008</td>
<td>0.065</td>
<td>0.138</td>
<td>0.140</td>
<td>148</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>0.007</td>
<td>-0.070</td>
<td>-0.070</td>
<td>-0.060</td>
<td>-0.037</td>
<td>0.019</td>
<td>0.045</td>
<td>0.052</td>
<td>0.093</td>
<td>0.093</td>
<td>92</td>
</tr>
<tr>
<td>Return on Equity Percentile</td>
<td>-0.047</td>
<td>-0.250</td>
<td>-0.250</td>
<td>-0.225</td>
<td>-0.138</td>
<td>-0.029</td>
<td>0.044</td>
<td>0.071</td>
<td>0.110</td>
<td>0.110</td>
<td>91</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>0.002</td>
<td>-0.006</td>
<td>-0.006</td>
<td>-0.005</td>
<td>-0.002</td>
<td>0.004</td>
<td>0.004</td>
<td>0.010</td>
<td>0.011</td>
<td>0.011</td>
<td>94</td>
</tr>
<tr>
<td>Return on Assets Percentile</td>
<td>0.004</td>
<td>-0.208</td>
<td>-0.207</td>
<td>-0.198</td>
<td>-0.070</td>
<td>-0.006</td>
<td>0.050</td>
<td>0.232</td>
<td>0.258</td>
<td>0.262</td>
<td>112</td>
</tr>
</tbody>
</table>

Estimates by Subsample  After discussing the distribution of estimates in general we now discuss how the distribution of estimates differs for different subsamples. Tables 8, 19 and 20 show the distributions of point estimates by subsample, for the net income, ROE and ROA percentiles. In all three cases, the estimates that are largest in magnitude are concentrated in subsamples 4 and subsamples 6-8 and especially subsamples 9 and 10. These are also the subsamples with the largest standard errors as shown in Tables 21, 22 and 23. In particular the standard errors for subsamples 9 and 10 are about one order of magnitude larger than for most other subsamples.

Consequently, many of the point estimates for these subsamples are not statistically significant. Tables 24, 25 and 26 show only the statistically significant estimates (at the one percent level). Subsamples without any statistically significant estimates are not shown in these tables. The tables show that only few of the estimates for subsamples 4 and 6-10 are statistically significant, though the largest positive and statistically significant estimates can still be found in these subsamples.
Table 8: Distribution of Net Income Percentile Estimates by Subsample

<table>
<thead>
<tr>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-0.071</td>
<td>-0.340</td>
<td>-0.340</td>
<td>-0.339</td>
<td>-0.058</td>
<td>-0.036</td>
<td>0.017</td>
<td>0.023</td>
<td>0.024</td>
<td>0.024</td>
</tr>
<tr>
<td>2</td>
<td>-0.124</td>
<td>-0.317</td>
<td>-0.317</td>
<td>-0.316</td>
<td>-0.128</td>
<td>-0.097</td>
<td>-0.070</td>
<td>-0.033</td>
<td>-0.030</td>
<td>-0.030</td>
</tr>
<tr>
<td>3</td>
<td>-0.106</td>
<td>-0.398</td>
<td>-0.398</td>
<td>-0.397</td>
<td>-0.084</td>
<td>-0.061</td>
<td>-0.020</td>
<td>-0.018</td>
<td>-0.017</td>
<td>-0.017</td>
</tr>
<tr>
<td>4</td>
<td>-0.025</td>
<td>-0.129</td>
<td>-0.129</td>
<td>-0.129</td>
<td>-0.037</td>
<td>-0.005</td>
<td>0.011</td>
<td>0.014</td>
<td>0.016</td>
<td>0.016</td>
</tr>
<tr>
<td>5</td>
<td>-0.079</td>
<td>-0.377</td>
<td>-0.377</td>
<td>-0.376</td>
<td>-0.087</td>
<td>-0.022</td>
<td>0.006</td>
<td>0.028</td>
<td>0.029</td>
<td>0.029</td>
</tr>
<tr>
<td>6</td>
<td>-0.077</td>
<td>-0.415</td>
<td>-0.415</td>
<td>-0.415</td>
<td>-0.138</td>
<td>-0.034</td>
<td>0.004</td>
<td>0.159</td>
<td>0.160</td>
<td>0.160</td>
</tr>
<tr>
<td>7</td>
<td>-0.285</td>
<td>-0.385</td>
<td>-0.385</td>
<td>-0.383</td>
<td>-0.336</td>
<td>-0.303</td>
<td>-0.222</td>
<td>-0.165</td>
<td>-0.165</td>
<td>-0.165</td>
</tr>
<tr>
<td>8</td>
<td>-0.063</td>
<td>-0.465</td>
<td>-0.465</td>
<td>-0.465</td>
<td>-0.013</td>
<td>0.003</td>
<td>0.018</td>
<td>0.084</td>
<td>0.086</td>
<td>0.086</td>
</tr>
<tr>
<td>9</td>
<td>0.020</td>
<td>-0.237</td>
<td>-0.237</td>
<td>-0.237</td>
<td>-0.107</td>
<td>0.030</td>
<td>0.170</td>
<td>0.270</td>
<td>0.272</td>
<td>0.272</td>
</tr>
<tr>
<td>10</td>
<td>-0.027</td>
<td>-0.437</td>
<td>-0.437</td>
<td>-0.437</td>
<td>-0.078</td>
<td>-0.008</td>
<td>0.151</td>
<td>0.236</td>
<td>0.237</td>
<td>0.237</td>
</tr>
<tr>
<td>11</td>
<td>0.021</td>
<td>-0.027</td>
<td>-0.027</td>
<td>-0.027</td>
<td>0.009</td>
<td>0.029</td>
<td>0.040</td>
<td>0.046</td>
<td>0.046</td>
<td>0.046</td>
</tr>
<tr>
<td>12</td>
<td>-0.076</td>
<td>-0.206</td>
<td>-0.206</td>
<td>-0.205</td>
<td>-0.105</td>
<td>-0.064</td>
<td>-0.021</td>
<td>-0.000</td>
<td>0.003</td>
<td>0.003</td>
</tr>
<tr>
<td>Total</td>
<td>-0.074</td>
<td>-0.465</td>
<td>-0.464</td>
<td>-0.394</td>
<td>-0.124</td>
<td>-0.033</td>
<td>0.011</td>
<td>0.148</td>
<td>0.237</td>
<td>0.272</td>
</tr>
</tbody>
</table>

Estimates by Weight Calculation  Tables 9, 27 and 28 show the distribution of estimates for the different ways to calculate the profit weights shown in Table 3. Overall, the distributions are very similar so the way the profit weights are calculated has only a minor influence on the estimates. The estimates in rows 1 and 4 are very similar and the estimates in rows 2 and 3 are very similar, though there is some gap between both of these pairs. Thus, the assumption about cross ownership appears to have a noticeable yet small effect on the estimates whereas the assumption about the extra one percent undiversified shareholder has almost no impact on the estimates.

Table 9: Distribution of Net Income Percentile Estimates by Profit Weight Calculation. The rows of this table correspond to the rows of Table 3.

<table>
<thead>
<tr>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-0.067</td>
<td>-0.465</td>
<td>-0.465</td>
<td>-0.398</td>
<td>-0.098</td>
<td>-0.028</td>
<td>0.011</td>
<td>0.163</td>
<td>0.270</td>
<td>0.270</td>
</tr>
<tr>
<td>2</td>
<td>-0.081</td>
<td>-0.464</td>
<td>-0.464</td>
<td>-0.393</td>
<td>-0.126</td>
<td>-0.038</td>
<td>0.012</td>
<td>0.139</td>
<td>0.202</td>
<td>0.202</td>
</tr>
<tr>
<td>3</td>
<td>-0.077</td>
<td>-0.464</td>
<td>-0.464</td>
<td>-0.397</td>
<td>-0.117</td>
<td>-0.035</td>
<td>0.015</td>
<td>0.140</td>
<td>0.200</td>
<td>0.200</td>
</tr>
<tr>
<td>4</td>
<td>-0.072</td>
<td>-0.465</td>
<td>-0.465</td>
<td>-0.394</td>
<td>-0.123</td>
<td>-0.029</td>
<td>0.009</td>
<td>0.163</td>
<td>0.272</td>
<td>0.272</td>
</tr>
<tr>
<td>Total</td>
<td>-0.074</td>
<td>-0.465</td>
<td>-0.464</td>
<td>-0.394</td>
<td>-0.124</td>
<td>-0.033</td>
<td>0.011</td>
<td>0.148</td>
<td>0.237</td>
<td>0.272</td>
</tr>
</tbody>
</table>

Estimates by Specification  Tables 10, 29 and 30 show the estimates for the six different specifications discussed above, again using the percentile transformations of the variables.
For net income in Table 10, most estimates with specification (1) are negative. As discussed above this reflects the fact that large banks with high net income are listed. There is no clear pattern among the other specifications that include bank fixed effects. The estimates for specifications (2)-(5) are roughly centered around zero.

For ROE and ROA in Tables 29 and 30 the distributions for all specifications are centered around zero. However, in both cases the range of estimates for specification (1) is substantially smaller than for the other specifications.

Table 10: **Distribution of Net Income Percentile Estimates by Specification.**
The rows of this table correspond to the six columns of the regression specifications in Table 16.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-0.289</td>
<td>-0.465</td>
<td>-0.465</td>
<td>-0.464</td>
<td>-0.406</td>
<td>-0.338</td>
<td>-0.183</td>
<td>0.009</td>
<td>0.009</td>
<td>0.009</td>
<td>48</td>
</tr>
<tr>
<td>2</td>
<td>-0.058</td>
<td>-0.238</td>
<td>-0.238</td>
<td>-0.208</td>
<td>-0.087</td>
<td>-0.065</td>
<td>-0.027</td>
<td>0.202</td>
<td>0.272</td>
<td>0.272</td>
<td>48</td>
</tr>
<tr>
<td>3</td>
<td>-0.022</td>
<td>-0.184</td>
<td>-0.184</td>
<td>-0.165</td>
<td>-0.048</td>
<td>-0.035</td>
<td>0.003</td>
<td>0.148</td>
<td>0.193</td>
<td>0.193</td>
<td>48</td>
</tr>
<tr>
<td>4</td>
<td>-0.047</td>
<td>-0.345</td>
<td>-0.345</td>
<td>-0.310</td>
<td>-0.070</td>
<td>-0.013</td>
<td>0.013</td>
<td>0.037</td>
<td>0.039</td>
<td>0.039</td>
<td>48</td>
</tr>
<tr>
<td>5</td>
<td>0.007</td>
<td>-0.333</td>
<td>-0.333</td>
<td>-0.297</td>
<td>-0.023</td>
<td>0.025</td>
<td>0.078</td>
<td>0.160</td>
<td>0.163</td>
<td>0.163</td>
<td>48</td>
</tr>
<tr>
<td>6</td>
<td>-0.039</td>
<td>-0.340</td>
<td>-0.340</td>
<td>-0.298</td>
<td>-0.109</td>
<td>-0.018</td>
<td>0.017</td>
<td>0.192</td>
<td>0.237</td>
<td>0.237</td>
<td>48</td>
</tr>
<tr>
<td>Total</td>
<td>-0.074</td>
<td>-0.465</td>
<td>-0.464</td>
<td>-0.394</td>
<td>-0.124</td>
<td>-0.033</td>
<td>0.011</td>
<td>0.148</td>
<td>0.237</td>
<td>0.272</td>
<td>288</td>
</tr>
</tbody>
</table>

Tables 11, 31 and 32 show the estimates that are statistically significant (at the one percent level) by specification.

For net income, in Table 11, all statistically significant estimates for specifications (1)-(3) are negative, and more than 75 percent of the estimates for specification (4) are negative. The estimates for specifications (5) and (6) are roughly centered around zero. Hence, the estimates from specifications that control for bank size show somewhat more support for the hypothesis that higher “Ownweight” is associated with higher profits.

For ROE in Table 31, specification (1) produces mostly negative estimates whereas the estimates for the other specifications are centered around zero.

For ROA in Table 32, specification (2) produces mostly negative estimates whereas the estimates for the other specifications are centered around zero.
Table 11: Distribution of Statistically Significant (1 percent level) Net Income Percentile Estimates by Specification. The rows of this table correspond to the six columns of the regression specifications in Table 16.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-0.316</td>
<td>-0.465</td>
<td>-0.465</td>
<td>-0.414</td>
<td>-0.357</td>
<td>-0.237</td>
<td>-0.021</td>
<td>-0.021</td>
<td>-0.021</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>-0.097</td>
<td>-0.238</td>
<td>-0.238</td>
<td>-0.103</td>
<td>-0.084</td>
<td>-0.058</td>
<td>-0.027</td>
<td>-0.027</td>
<td>-0.027</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>-0.078</td>
<td>-0.184</td>
<td>-0.184</td>
<td>-0.083</td>
<td>-0.054</td>
<td>-0.046</td>
<td>-0.041</td>
<td>-0.041</td>
<td>-0.041</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>-0.098</td>
<td>-0.345</td>
<td>-0.345</td>
<td>-0.135</td>
<td>-0.061</td>
<td>-0.030</td>
<td>0.039</td>
<td>0.039</td>
<td>0.039</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>-0.046</td>
<td>-0.333</td>
<td>-0.333</td>
<td>-0.087</td>
<td>0.001</td>
<td>0.045</td>
<td>0.084</td>
<td>0.086</td>
<td>0.086</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>-0.108</td>
<td>-0.340</td>
<td>-0.340</td>
<td>-0.222</td>
<td>-0.068</td>
<td>0.011</td>
<td>0.041</td>
<td>0.041</td>
<td>0.041</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>-0.152</td>
<td>-0.465</td>
<td>-0.465</td>
<td>-0.310</td>
<td>-0.085</td>
<td>-0.030</td>
<td>0.043</td>
<td>0.084</td>
<td>0.086</td>
<td>148</td>
<td></td>
</tr>
</tbody>
</table>

6 Direct Shareholders and Active Investors

In this section we estimate the effect of common ownership on bank profits if only common ownership through certain shareholders is taken into consideration. Specifically, we recalculate the profit weights under two alternative assumptions. First, if only common ownership by “Direct Shareholders” is taken into consideration, and second if only common ownership through “Active Investors” is taken into consideration.

“Direct Shareholders” are the ultimate owners of the shares as opposed to asset managers that manage shares that are ultimately owned by their clients. The idea is that “Direct Shareholders” benefit more from increasing share prices (as a consequence of decreased competition) than asset managers. For example Berkshire Hathaway owns shares of several banks and is a “Direct Shareholder”. Vanguard, for example, is not a Direct Shareholder because they hold shares on behalf of clients and only gain a (small) percentage of assets under management through their fee ratio, \( p \). If the shares of a bank held by Berkshire and Vanguard gain $100 in value, then Berkshire’s profits increase by $100 whereas Vanguard’s profit increase only by \( p \times 100 \). As \( p \) is typically fairly small for many asset managers, direct shareholders may have a stronger incentive to prevent competition among their portfolio firms than asset managers.

“Active Investors” are those that do not simply replicate an index. The idea is that index funds compete mostly on fees. It is unclear how strong the incentives of an index fund manager are to reduce competition among portfolio firms, given that improved performance of the index would also improve the performance of all all competing index fund managers, which replicate the same index. Active asset managers however,
who hold a unique portfolio which tries to pick winners, could outperform other active asset managers if their portfolio firms compete less and thereby attract new clients.

When calculating profit weights with “Direct Shareholders” we only include ownership shares by Berkshire Hathaway and the Norwegian Sovereign Wealth fund. There are other direct shareholders that file the 13F besides these two. However among the largest 13F filers, that have the largest impact on the profit weights these are the only ones that can be viewed as “Direct Shareholders”. One could argue that the Norwegian Sovereign Wealth fund should be treated as an asset manager. By treating it as a “Direct Shareholder” we implicitly assume that its incentives are aligned with the incentives of Norwegians.

When calculating the profit weights with “Active Investors” we include the ownership shares of the active investors among the largest 10 institutional investors in the banking sector. Many asset managers have some funds that are actively managed and others that are passively managed. Therefore such a binary classification involves some judgment. Moreover, there are many smaller “Active Investors” that we do not take into account. However, the largest ones we do take into account have the largest impact on the profit weights.

Table 12 shows the distribution of point estimates if only ownership by “Direct Shareholders” is taken into account. The estimates are still roughly centered around zero and the distributions of estimates appears to be broadly similar to the distributions of estimates if all ownership shares are taken into account.

Table 13 shows the distribution of point estimates if only ownership by “Active Investors” is taken into account. Again, the distribution of point estimates is centered around zero, but the range of estimates appears to be somewhat smaller than if all ownership shares are taken into account.

Tables 33 and 34 show the distributions of statistically significant estimates for “Direct Shareholders” and “Active Investors”. The distributions are either centered around zero or have most of their mass on negative estimates. The largest positive estimates with “Direct Shareholders” for the Net Income Percentile and the ROE Percentile are however larger than if all ownership shares are taken into account.

\[16\] Among the largest 10 institutional investors, we classified three as passive (Vanguard, Blackrock, and State Street) and the remaining seven as active (Fidelity, Berkshire, T Rowe Price, JPMC, Northern Trust, Dodge & Cox, and Bank of New York Mellon).
Table 12: Direct Shareholders: Distribution of Point Estimates

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Income</td>
<td>-0.654</td>
<td>-9.257</td>
<td>-9.257</td>
<td>-7.424</td>
<td>-1.313</td>
<td>-0.004</td>
<td>0.976</td>
<td>2.169</td>
<td>2.364</td>
<td>2.364</td>
<td>72</td>
</tr>
<tr>
<td>Net Income Percentile</td>
<td>-0.056</td>
<td>-0.645</td>
<td>-0.645</td>
<td>-0.495</td>
<td>-0.085</td>
<td>-0.006</td>
<td>0.038</td>
<td>0.100</td>
<td>0.112</td>
<td>0.112</td>
<td>72</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>-0.014</td>
<td>-0.088</td>
<td>-0.088</td>
<td>-0.066</td>
<td>-0.039</td>
<td>-0.016</td>
<td>0.014</td>
<td>0.043</td>
<td>0.047</td>
<td>0.047</td>
<td>72</td>
</tr>
<tr>
<td>Return on Equity Percentile</td>
<td>-0.012</td>
<td>-0.226</td>
<td>-0.226</td>
<td>-0.128</td>
<td>-0.065</td>
<td>-0.010</td>
<td>0.030</td>
<td>0.124</td>
<td>0.135</td>
<td>0.135</td>
<td>72</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>-0.002</td>
<td>-0.008</td>
<td>-0.008</td>
<td>-0.006</td>
<td>-0.004</td>
<td>-0.002</td>
<td>0.001</td>
<td>0.003</td>
<td>0.004</td>
<td>0.004</td>
<td>72</td>
</tr>
<tr>
<td>Return on Assets Percentile</td>
<td>-0.005</td>
<td>-0.153</td>
<td>-0.153</td>
<td>-0.136</td>
<td>-0.048</td>
<td>-0.000</td>
<td>0.041</td>
<td>0.100</td>
<td>0.125</td>
<td>0.125</td>
<td>72</td>
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</table>

Table 13: Active Investors: Distribution of Point Estimates

<table>
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<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Income</td>
<td>-0.459</td>
<td>-3.895</td>
<td>-3.895</td>
<td>-2.161</td>
<td>-0.526</td>
<td>-0.208</td>
<td>-0.054</td>
<td>0.014</td>
<td>0.120</td>
<td>0.120</td>
<td>72</td>
</tr>
<tr>
<td>Net Income Percentile</td>
<td>-0.045</td>
<td>-0.476</td>
<td>-0.476</td>
<td>-0.432</td>
<td>-0.018</td>
<td>-0.008</td>
<td>0.020</td>
<td>0.035</td>
<td>0.058</td>
<td>0.058</td>
<td>72</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>-0.003</td>
<td>-0.053</td>
<td>-0.053</td>
<td>-0.042</td>
<td>-0.012</td>
<td>-0.002</td>
<td>0.006</td>
<td>0.019</td>
<td>0.054</td>
<td>0.054</td>
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<tr>
<td>Return on Equity Percentile</td>
<td>-0.022</td>
<td>-0.170</td>
<td>-0.170</td>
<td>-0.113</td>
<td>-0.036</td>
<td>-0.013</td>
<td>0.004</td>
<td>0.014</td>
<td>0.061</td>
<td>0.061</td>
<td>72</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>0.001</td>
<td>-0.004</td>
<td>-0.004</td>
<td>-0.002</td>
<td>-0.001</td>
<td>0.000</td>
<td>0.001</td>
<td>0.004</td>
<td>0.006</td>
<td>0.006</td>
<td>72</td>
</tr>
<tr>
<td>Return on Assets Percentile</td>
<td>-0.016</td>
<td>-0.155</td>
<td>-0.155</td>
<td>-0.075</td>
<td>-0.036</td>
<td>-0.014</td>
<td>0.009</td>
<td>0.028</td>
<td>0.081</td>
<td>0.081</td>
<td>72</td>
</tr>
</tbody>
</table>

7 Conclusion

Theory predicts that common ownership can be anticompetitive, because it reduces the weight firms place in their objective function on their own profits and instead shifts weight to rival firms that are held by a common shareholder. We estimate the effect of the predicted profit weight shifts due to common ownership on accounting measures of profitability in the banking industry. We present a large range of estimates that are centered around zero and argue that economically most estimates are fairly small. Our interpretation of these findings is that there is little evidence for economically large effects of common ownership on profits in the banking industry.
References


PANAYIDES, M. A., AND S. THOMAS (2017): “Commonality in institutional ownership and competition in product markets,”.


## Tables

### Table 14: ROE

<table>
<thead>
<tr>
<th></th>
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<th>(3)</th>
<th>(4)</th>
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<th>(6)</th>
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<tr>
<td>Weight on Own Profits</td>
<td>0.00119</td>
<td>0.0157**</td>
<td>0.0192**</td>
<td>0.0175*</td>
<td>0.0316***</td>
<td>0.0287***</td>
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<tr>
<td></td>
<td>(0.00514)</td>
<td>(0.00518)</td>
<td>(0.00649)</td>
<td>(0.00760)</td>
<td>(0.00703)</td>
<td>(0.00727)</td>
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<tr>
<td>Total Weight Received from Rivals</td>
<td>0.00464</td>
<td>0.00908</td>
<td>0.00919</td>
<td>0.00370</td>
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<td></td>
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<tr>
<td></td>
<td>(0.00460)</td>
<td>(0.00620)</td>
<td>(0.00624)</td>
<td>(0.00760)</td>
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<td></td>
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<tr>
<td>13F Ownership Share</td>
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<td></td>
<td>-1.990</td>
<td>5.117*</td>
</tr>
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<td>(2.568)</td>
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<td></td>
<td></td>
<td></td>
<td>5.011***</td>
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</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>(0.543)</td>
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</tr>
</tbody>
</table>

| Quarter Fixed Effects    | Yes       | Yes       | Yes       | Yes       | Yes       | No        |
| Bank Fixed Effects       | No        | Yes       | Yes       | Yes       | Yes       | Yes       |
| Asset Decile x Quarter Fixed Effects | No       | No        | No        | No        | No        | Yes       |
| N                        | 401341    | 401229    | 401229    | 401229    | 401229    | 401229    |

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

### Table 15: ROA

<table>
<thead>
<tr>
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<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight on Own Profits</td>
<td>0.00118*</td>
<td>-0.000113</td>
<td>0.00108</td>
<td>0.00141*</td>
<td>0.00274***</td>
<td>0.00225**</td>
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<tr>
<td></td>
<td>(0.000460)</td>
<td>(0.000456)</td>
<td>(0.000601)</td>
<td>(0.000706)</td>
<td>(0.000661)</td>
<td>(0.000685)</td>
</tr>
<tr>
<td>Total Weight Received from Rivals</td>
<td>0.00160**</td>
<td>0.000671</td>
<td>0.000770</td>
<td>0.000467</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.000558)</td>
<td>(0.000712)</td>
<td>(0.000721)</td>
<td>(0.000574)</td>
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<td>13F Ownership Share</td>
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<td></td>
<td></td>
<td></td>
<td>0.399</td>
<td>0.857**</td>
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<td>(0.230)</td>
<td>(0.255)</td>
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<tr>
<td>log(Total Assets)</td>
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<td>0.473***</td>
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<td>(0.0487)</td>
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| Quarter Fixed Effects    | Yes       | Yes       | Yes       | Yes       | Yes       | No        |
| Bank Fixed Effects       | No        | Yes       | Yes       | Yes       | Yes       | Yes       |
| Asset Decile x Quarter Fixed Effects | No       | No        | No        | No        | No        | Yes       |
| N                        | 401341    | 401229    | 401229    | 401229    | 401229    | 401229    |

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
### Table 16: Net Income Percentile

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<th>(6)</th>
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<tr>
<td>Weight on Own Profits</td>
<td>-0.340***</td>
<td>-0.0584***</td>
<td>-0.0414***</td>
<td>-0.0295**</td>
<td>0.0237**</td>
<td>0.0177*</td>
</tr>
<tr>
<td>Total Weight Received from Rivals</td>
<td>0.0228***</td>
<td>-0.0102</td>
<td>-0.00620</td>
<td>0.00289</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13F Ownership Share</td>
<td>14.18†</td>
<td>1.559</td>
<td>19.60***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>log(Total Assets)</td>
<td>19.05***</td>
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<td></td>
</tr>
</tbody>
</table>

| Quarter Fixed Effects          | Yes       | Yes       | Yes       | Yes       | Yes       | No        |
| Bank Fixed Effects             | No        | Yes       | Yes       | Yes       | Yes       | Yes       |
| Asset Decile x Quarter Fixed Effects | No     | No        | No        | No        | No        | Yes       |
| N                              | 401341    | 401229    | 401229    | 401229    | 401229    | 401229    |

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001

### Table 17: ROE Percentile

<table>
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<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight on Own Profits</td>
<td>-0.0349***</td>
<td>0.0213**</td>
<td>0.00469</td>
<td>-0.00861</td>
<td>0.0281***</td>
<td>0.0202**</td>
</tr>
<tr>
<td>Total Weight Received from Rivals</td>
<td>-0.0222***</td>
<td>0.0147</td>
<td>0.0175</td>
<td>0.00283</td>
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<tr>
<td>13F Ownership Share</td>
<td>-15.91***</td>
<td>-24.62***</td>
<td>-1.669</td>
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<td>log(Total Assets)</td>
<td>13.14***</td>
<td></td>
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</table>

| Quarter Fixed Effects          | Yes       | Yes       | Yes       | Yes       | Yes       | No        |
| Bank Fixed Effects             | No        | Yes       | Yes       | Yes       | Yes       | Yes       |
| Asset Decile x Quarter Fixed Effects | No     | No        | No        | No        | No        | Yes       |
| N                              | 401341    | 401229    | 401229    | 401229    | 401229    | 401229    |

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001
Table 18: ROA Percentile

<table>
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<th>(6)</th>
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<tr>
<td>Weight on Own Profits</td>
<td>0.0081</td>
<td>-0.0189**</td>
<td>-0.0109</td>
<td>-0.00845</td>
<td>0.0204***</td>
<td>0.0121*</td>
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<tr>
<td></td>
<td>(0.00730)</td>
<td>(0.00634)</td>
<td>(0.00575)</td>
<td>(0.00601)</td>
<td>(0.00587)</td>
<td>(0.00549)</td>
</tr>
<tr>
<td>Total Weight Received</td>
<td>0.0107**</td>
<td>0.00394</td>
<td>0.00609</td>
<td>0.00307</td>
<td></td>
<td></td>
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<tr>
<td>from Rivals</td>
<td>(0.00477)</td>
<td>(0.0102)</td>
<td>(0.0104)</td>
<td>(0.00715)</td>
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</tr>
<tr>
<td>13F Ownership Share</td>
<td>2.904</td>
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<td>log(Total Assets)</td>
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<td></td>
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<td>10.31***</td>
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<td></td>
<td>(0.605)</td>
</tr>
<tr>
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<td>Yes</td>
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<td>No</td>
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<tr>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>Asset Decile x Quarter</td>
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<td>No</td>
<td>No</td>
<td>No</td>
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<td>Yes</td>
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<td>Fixed Effects</td>
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<td>401229</td>
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<td>401229</td>
</tr>
</tbody>
</table>

Standard errors in parentheses

* p < 0.05, ** p < 0.01, *** p < 0.001

Table 19: Distribution of ROE Percentile Estimates by Subsample

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<th>Mean</th>
<th>Min</th>
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<th>P5</th>
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<th>Median</th>
<th>P75</th>
<th>P95</th>
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<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.005</td>
<td>-0.035</td>
<td>-0.035</td>
<td>-0.008</td>
<td>0.014</td>
<td>0.021</td>
<td>0.028</td>
<td>0.029</td>
<td>0.029</td>
<td>24</td>
</tr>
<tr>
<td>2</td>
<td>-0.037</td>
<td>-0.168</td>
<td>-0.168</td>
<td>-0.151</td>
<td>-0.041</td>
<td>-0.020</td>
<td>-0.008</td>
<td>0.042</td>
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<td>-0.020</td>
<td>-0.098</td>
<td>-0.098</td>
<td>-0.098</td>
<td>-0.018</td>
<td>-0.009</td>
<td>0.006</td>
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<td>0.009</td>
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<td>0.027</td>
<td>0.027</td>
<td>0.028</td>
<td>0.032</td>
<td>0.036</td>
<td>0.071</td>
<td>0.083</td>
<td>0.084</td>
<td>0.084</td>
</tr>
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<td>0.012</td>
<td>-0.011</td>
<td>-0.011</td>
<td>-0.011</td>
<td>-0.009</td>
<td>0.014</td>
<td>0.026</td>
<td>0.037</td>
<td>0.038</td>
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<td>-0.235</td>
<td>-0.235</td>
<td>-0.234</td>
<td>-0.098</td>
<td>-0.052</td>
<td>0.023</td>
<td>0.097</td>
<td>0.100</td>
<td>0.100</td>
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<tr>
<td>7</td>
<td>-0.358</td>
<td>-0.439</td>
<td>-0.439</td>
<td>-0.438</td>
<td>-0.407</td>
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<td>-0.311</td>
<td>-0.261</td>
<td>-0.260</td>
<td>-0.260</td>
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<td>8</td>
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<td>-0.155</td>
<td>-0.155</td>
<td>-0.155</td>
<td>-0.055</td>
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<td>0.040</td>
<td>0.081</td>
<td>0.083</td>
<td>0.083</td>
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<tr>
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<td>-0.155</td>
<td>-0.155</td>
<td>-0.155</td>
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<td>-0.102</td>
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<td>0.079</td>
<td>0.079</td>
<td>0.079</td>
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<td>10</td>
<td>0.368</td>
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<td>-0.041</td>
<td>-0.041</td>
<td>0.400</td>
<td>0.436</td>
<td>0.469</td>
<td>0.534</td>
<td>0.536</td>
<td>0.536</td>
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<td>11</td>
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<td>0.018</td>
<td>0.018</td>
<td>0.021</td>
<td>0.024</td>
<td>0.025</td>
<td>0.035</td>
<td>0.035</td>
<td>0.035</td>
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<tr>
<td>12</td>
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<td>-0.186</td>
<td>-0.186</td>
<td>-0.106</td>
<td>-0.051</td>
<td>-0.018</td>
<td>0.002</td>
<td>0.002</td>
<td>0.002</td>
</tr>
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Table 20: **Distribution of ROA Percentile Estimates by Subsample**

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Table 21: **Distribution of Net Income Percentile Standard Errors by Subsample**

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Table 22: Distribution of ROE Percentile Standard Errors by Subsample

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Table 23: Distribution of ROA Percentile Standard Errors by Subsample

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37
Table 24: Distribution of Statistically Significant (1 percent level) Net Income Percentile Estimates by Subsample. Missing subsamples have no statistically significant estimates.

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Table 25: Distribution of Statistically Significant (1 percent level) ROE Percentile Estimates by Subsample. Missing subsamples have no statistically significant estimates.

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<th>P99</th>
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Table 26: Distribution of Statistically Significant (1 percent level) ROA Percentile Estimates by Subsample. Missing subsamples have no statistically significant estimates.

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<td>-0.024</td>
<td>-0.023</td>
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Table 27: Distribution of ROE Percentile Estimates by Profit Weight Calculation. The rows of this table correspond to the rows of Table 3.

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<td>-0.344</td>
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<td>0.534</td>
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<td>-0.007</td>
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<td>-0.071</td>
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<td>0.536</td>
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Table 28: Distribution of ROA Percentile Estimates by Profit Weight Calculation. The rows of this table correspond to the rows of Table 3.

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Table 29: **Distribution of ROE Percentile Estimates by Specification.** The rows of this table correspond to the six columns of the regression specifications in Table 17.

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Table 30: **Distribution of ROA Percentile Estimates by Specification.** The rows of this table correspond to the six columns of the regression specifications in Table 18.

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<td>-0.058</td>
<td>-0.009</td>
<td>0.023</td>
<td>0.286</td>
<td>0.385</td>
<td>0.412</td>
<td>288</td>
</tr>
</tbody>
</table>

Table 31: **Distribution of Statistically Significant (1 percent level) ROE Percentile Estimates by Specification.** The rows of this table correspond to the six columns of the regression specifications in Table 17.

<table>
<thead>
<tr>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-0.093</td>
<td>-0.436</td>
<td>-0.345</td>
<td>-0.153</td>
<td>-0.085</td>
<td>-0.034</td>
<td>0.083</td>
<td>0.084</td>
<td>0.084</td>
<td>36</td>
</tr>
<tr>
<td>2</td>
<td>-0.108</td>
<td>-0.413</td>
<td>-0.313</td>
<td>-0.085</td>
<td>0.018</td>
<td>0.020</td>
<td>0.021</td>
<td>0.021</td>
<td>0.021</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>-0.183</td>
<td>-0.439</td>
<td>-0.388</td>
<td>-0.158</td>
<td>0.022</td>
<td>0.024</td>
<td>0.024</td>
<td>0.024</td>
<td>0.024</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>-0.223</td>
<td>-0.392</td>
<td>-0.390</td>
<td>-0.299</td>
<td>0.021</td>
<td>0.023</td>
<td>0.023</td>
<td>0.023</td>
<td>0.023</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>-0.090</td>
<td>-0.402</td>
<td>-0.307</td>
<td>0.025</td>
<td>0.028</td>
<td>0.037</td>
<td>0.037</td>
<td>0.037</td>
<td>0.037</td>
<td>13</td>
</tr>
<tr>
<td>6</td>
<td>-0.114</td>
<td>-0.356</td>
<td>-0.247</td>
<td>-0.065</td>
<td>0.022</td>
<td>0.026</td>
<td>0.026</td>
<td>0.026</td>
<td>0.026</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>-0.115</td>
<td>-0.439</td>
<td>-0.261</td>
<td>-0.041</td>
<td>0.023</td>
<td>0.037</td>
<td>0.084</td>
<td>0.084</td>
<td>0.084</td>
<td>91</td>
</tr>
</tbody>
</table>
Table 32: Distribution of Statistically Significant (1 percent level) ROA Percentile Estimates by Specification. The rows of this table correspond to the six columns of the regression specifications in Table 18.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-0.074</td>
<td>-0.394</td>
<td>-0.394</td>
<td>-0.394</td>
<td>-0.126</td>
<td>-0.053</td>
<td>0.010</td>
<td>0.106</td>
<td>0.106</td>
<td>0.106</td>
<td>32</td>
</tr>
<tr>
<td>2</td>
<td>-0.052</td>
<td>-0.315</td>
<td>-0.315</td>
<td>-0.315</td>
<td>-0.061</td>
<td>-0.032</td>
<td>-0.019</td>
<td>0.123</td>
<td>0.123</td>
<td>0.123</td>
<td>19</td>
</tr>
<tr>
<td>3</td>
<td>-0.037</td>
<td>-0.308</td>
<td>-0.308</td>
<td>-0.308</td>
<td>-0.124</td>
<td>-0.000</td>
<td>0.070</td>
<td>0.122</td>
<td>0.122</td>
<td>0.122</td>
<td>16</td>
</tr>
<tr>
<td>4</td>
<td>-0.059</td>
<td>-0.406</td>
<td>-0.406</td>
<td>-0.406</td>
<td>-0.072</td>
<td>-0.025</td>
<td>0.030</td>
<td>0.130</td>
<td>0.130</td>
<td>0.130</td>
<td>17</td>
</tr>
<tr>
<td>5</td>
<td>-0.043</td>
<td>-0.413</td>
<td>-0.413</td>
<td>-0.413</td>
<td>-0.068</td>
<td>0.021</td>
<td>0.031</td>
<td>0.152</td>
<td>0.152</td>
<td>0.152</td>
<td>17</td>
</tr>
<tr>
<td>6</td>
<td>-0.159</td>
<td>-0.401</td>
<td>-0.401</td>
<td>-0.401</td>
<td>-0.301</td>
<td>-0.200</td>
<td>0.029</td>
<td>0.030</td>
<td>0.030</td>
<td>0.030</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>-0.066</td>
<td>-0.413</td>
<td>-0.413</td>
<td>-0.413</td>
<td>-0.184</td>
<td>-0.026</td>
<td>0.030</td>
<td>0.127</td>
<td>0.150</td>
<td>0.152</td>
<td>112</td>
</tr>
</tbody>
</table>

Table 33: Direct Shareholders: Distribution of Statistically Significant (1 percent level) Point Estimates.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Income Percentile</td>
<td>-0.100</td>
<td>-0.645</td>
<td>-0.645</td>
<td>-0.614</td>
<td>-0.211</td>
<td>0.033</td>
<td>0.081</td>
<td>0.110</td>
<td>0.112</td>
<td>0.112</td>
<td>34</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>-0.033</td>
<td>-0.088</td>
<td>-0.088</td>
<td>-0.088</td>
<td>-0.065</td>
<td>-0.044</td>
<td>-0.036</td>
<td>0.047</td>
<td>0.047</td>
<td>0.047</td>
<td>18</td>
</tr>
<tr>
<td>Return on Equity Percentile</td>
<td>-0.015</td>
<td>-0.226</td>
<td>-0.226</td>
<td>-0.191</td>
<td>-0.092</td>
<td>-0.036</td>
<td>0.080</td>
<td>0.134</td>
<td>0.135</td>
<td>0.135</td>
<td>35</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>-0.004</td>
<td>-0.008</td>
<td>-0.008</td>
<td>-0.008</td>
<td>-0.006</td>
<td>-0.004</td>
<td>-0.003</td>
<td>0.004</td>
<td>0.004</td>
<td>0.004</td>
<td>19</td>
</tr>
<tr>
<td>Return on Assets Percentile</td>
<td>-0.000</td>
<td>-0.153</td>
<td>-0.153</td>
<td>-0.151</td>
<td>-0.071</td>
<td>0.056</td>
<td>0.078</td>
<td>0.124</td>
<td>0.125</td>
<td>0.125</td>
<td>29</td>
</tr>
</tbody>
</table>

Table 34: Active Investors: Distribution of Statistically Significant (1 percent level) Point Estimates.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>P1</th>
<th>P5</th>
<th>P25</th>
<th>Median</th>
<th>P75</th>
<th>P95</th>
<th>P99</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Income</td>
<td>-0.862</td>
<td>-3.895</td>
<td>-3.895</td>
<td>-2.946</td>
<td>-1.396</td>
<td>-0.396</td>
<td>-0.061</td>
<td>0.015</td>
<td>0.017</td>
<td>0.017</td>
<td>24</td>
</tr>
<tr>
<td>Net Income Percentile</td>
<td>-0.139</td>
<td>-0.476</td>
<td>-0.476</td>
<td>-0.468</td>
<td>-0.317</td>
<td>-0.038</td>
<td>0.027</td>
<td>0.043</td>
<td>0.058</td>
<td>0.058</td>
<td>24</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>-0.015</td>
<td>-0.053</td>
<td>-0.053</td>
<td>-0.053</td>
<td>-0.028</td>
<td>-0.015</td>
<td>-0.010</td>
<td>0.054</td>
<td>0.054</td>
<td>0.054</td>
<td>19</td>
</tr>
<tr>
<td>Return on Equity Percentile</td>
<td>-0.053</td>
<td>-0.170</td>
<td>-0.170</td>
<td>-0.142</td>
<td>-0.056</td>
<td>-0.038</td>
<td>-0.029</td>
<td>0.061</td>
<td>0.061</td>
<td>0.061</td>
<td>25</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>-0.000</td>
<td>-0.004</td>
<td>-0.004</td>
<td>-0.004</td>
<td>-0.002</td>
<td>-0.001</td>
<td>0.002</td>
<td>0.004</td>
<td>0.006</td>
<td>0.006</td>
<td>20</td>
</tr>
<tr>
<td>Return on Assets Percentile</td>
<td>-0.042</td>
<td>-0.155</td>
<td>-0.155</td>
<td>-0.130</td>
<td>-0.048</td>
<td>-0.036</td>
<td>-0.024</td>
<td>0.019</td>
<td>0.081</td>
<td>0.081</td>
<td>28</td>
</tr>
</tbody>
</table>
The Strategies of Anticompetitive Common Ownership

C. Scott Hemphill
New York University

Marcel Kahan
New York University and ECGI

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THE STRATEGIES OF ANTICOMPETITIVE COMMON OWNERSHIP

C. Scott Hemphill* and Marcel Kahan**

Forthcoming, Yale Law Journal

Scholars and antitrust enforcers have raised concern about the anticompetitive effects that may arise when institutional investors hold substantial stakes in competing firms. Empirical evidence reporting that common concentrated owners are associated with higher prices and lower output poses a sharp challenge to antitrust orthodoxy and corporate governance scholarship.

In this article, we undertake a systematic examination of the causal mechanisms that might link common ownership to anticompetitive effects. We consider whether each mechanism is tested by the existing empirical evidence, and whether it is plausible as employed by an institutional investor.

Our main conclusion is that most proposed mechanisms either lack significant empirical support or else are implausible. In particular, some widely discussed mechanisms are, in fact, not empirically tested. These non-tested mechanisms include strategies where common owners facilitate the formation of a cartel or where common owners, by being passive, fail to encourage firms to compete more aggressively. Moreover, institutional investors have only weak incentives to increase portfolio value, and therefore would not benefit from pursuing mechanisms that carry significant reputational or legal liability risks.

We also identify a new mechanism, which we call “selective omission,” that is both consistent with the evidence and plausibly employed by institutional investors. Looking ahead, our analysis supports a searching examination of the actions actually taken by common owners and firms—the who, where, when, and how predicted by the most plausible mechanisms.

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* Professor of Law, New York University School of Law.
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THE STRATEGIES OF ANTICOMPETITIVE COMMON OWNERSHIP

C. Scott Hemphill and Marcel Kahan

INTRODUCTION

Institutional investors often own shares of firms that compete. For example, the T. Rowe Price family of funds has a substantial ownership position in American, Delta, and United Airlines. Recent scholarship considers whether such common concentrated owners (“CCOs”) might have an anticompetitive effect. Antitrust theorists have long suggested that CCOs have interests that differ from those of owners of a single competing firm and might be able to induce firms in which they hold a stake to further these interests.1 Recently, empirical evidence reporting that CCOs are associated with higher prices and lower output seems to confirm this theory.2

This new evidence, and the dramatic growth in institutional investors over the last several decades, have stimulated a major rethinking of antitrust enforcement. The Department of Justice has investigated common ownership of competing airlines and acknowledged concerns more generally about the anticompetitive effects of common ownership.3 In 2018, the Federal Trade Commission took these concerns a step further, conducting an all-day hearing examining the potential anticompetitive effects of common ownership.4 In Europe, antitrust enforcers have taken a more aggressive approach. Aside from announcing a potentially wide-ranging inquiry into the effects of common ownership,5 the European

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2 The leading empirical study is Jose Azar, Martin Schmalz & Isabel Tecu, Anticompetitive Effects of Common Ownership, 78 J. FIN. 1513 (2018) [hereinafter AST]. There has been a great deal of additional empirical work, which is discussed in detail infra Sections I.C and II.A.

3 See Steven Davidoff Solomon, Rise of Institutional Investors Raises Questions of Collusion, N.Y. TIMES, Apr. 13, 2016, at B3 (reporting Senate testimony by head of the Antitrust Division, stating that Division was investigating effects of common ownership in the airline industry).


Commission actually relied on theory and evidence about common ownership in its 2017 decision analyzing the predicted anticompetitive effects of a $130 billion merger between Dow and DuPont.⁶

Academic commentators have advocated measures that go far beyond the agencies’ exploratory inquiries and examinations of individual transactions and industries. They urge that funds must cease their ownership of competing firms, shrink to a fraction of their current size, or lose the right to vote their shares in their portfolio companies.⁷ This scholarship makes the startling suggestion that large index funds and many large actively managed mutual funds are incompatible with antitrust law. These proposals, if adopted, would transform the landscape of institutional investing.

Anticompetitive effects of CCOs pose a sharp challenge not only to antitrust orthodoxy, but to corporate governance scholarship as well. Corporate governance scholars have long viewed most institutional investors—and mutual funds in particular—as largely benign forces that fail to exercise their substantial powers.⁸ Institutions—due to their large shareholdings, access to sophisticated advice, and economies of scope—have the potential to help overcome the collective action problems that plague corporate America. Alas, for the taste of corporate governance

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⁷ See Einer Elhauge, Horizontal Shareholding, 129 HARV. L. REV. 1267 (2016) (urging antitrust enforcers to undo stock acquisitions that increase common ownership); Eric A. Posner, Fiona Scott Morton & E. Glen Weyl, A Proposal to Limit the Anti-Competitive Power of Institutional Investors, 81 ANTITRUST L.J. 669 (2018) [hereinafter PSW] (proposing that an investor should be limited to a maximum 1% total holding in an oligopolistic industry or else confine itself to shares in a single firm); Eric Posner, Fiona Scott Morton & Glen Weyl, A Monopoly Donald Trump Can Pop, N.Y. TIMES, Dec. 7, 2016, at A29 (arguing that the holdings of CCOs are “already illegal” but, “because the antitrust implications of institutional investment were not recognized until recently, legal action has not yet been taken”); Eric Posner & Glen Weyl, The Real Villain Behind Our New Gilded Age, N.Y. TIMES, May 1, 2018, http://www.nytimes.com/2018/05/01/opinion/monopoly-power-new-gilded-age.html (“Institutional investors need to be blocked from further expansion and forced to restructure. They should be allowed to own shares of no more than one company per industry, or to own no more than a small portion of every company—say, 1 percent—if they want to remain fully diversified.”); see also Fiona Scott Morton & Herbert Hovenkamp, Horizontal Shareholding and Antitrust Policy, 127 YALE L.J. 2026 (2018).

scholars, institutional investors have not been active enough.\textsuperscript{9} In particular, mutual funds are mostly reactive: while they vote on proposals by management and other shareholders, they rarely sponsor precatory resolutions, do not run proxy contests, and generally do not openly push for the removal of ineffective management.\textsuperscript{10} Thus, an important goal of corporate governance reformers has been to increase the activity level of institutional investors.\textsuperscript{11}

From the traditional corporate governance perspective, evidence that CCOs have an anticompetitive effect is therefore disconcerting. Many corporate governance scholars harbor doubts that this conclusion, so different from their long-held notions, can be correct. Moreover, even talk of potential antitrust liability or additional regulation of institutional investor voting could scare these already reluctant shareholders from becoming more assertive. Such threats could play into the hands of supporters of managerial primacy who, for their own reasons, have been skeptical about the influence of institutional shareholders.

The trigger for this outpouring of new scholarship, and the most important article in this literature, is an empirical study of the airline industry by Jose Azar, Martin Schmalz and Isabel Tecu (AST).\textsuperscript{12} AST conclude that common ownership of competing airlines, evaluated at the route level, is associated with higher prices on that route.\textsuperscript{13} The study’s empirical results have been highly touted and heavily relied upon. While critics have subjected AST’s methodology to sustained scrutiny and disputed its results—a debate that continues to rage\textsuperscript{14}—commentators have advocated sweeping reform based on this and related studies.\textsuperscript{15}

\textsuperscript{12} See AST, supra note 2.
\textsuperscript{13} A related paper, which uses a similar methodology to study consumer banking, reaches similar conclusions. Jose Azar, Sahil Raina & Martin Schmalz, Ultimate Ownership and Bank Competition (July 24, 2016), http://ssrn.com/abstract=2710252 (unpublished manuscript) [hereinafter ARS]. For discussion of this and other empirical studies of common ownership, see infra Section I.A.
\textsuperscript{14} Compare Daniel P. O’Brien & Keith Waehrer, \textit{The Competitive Effects of Common Ownership: We Know Less than We Think}, 81 ANTITRUST L.J. 729 (2018) (arguing that AST findings are the result of reverse causation or joint determination); Pauline Kennedy, Daniel P. O’Brien, Minjae Song & Keith Waehrer, \textit{The Competitive Effects of Common Ownership: Economic Foundations and Empirical Evidence} (July 26, 2017), http://ssrn.com/abstract=3008331 (unpublished manuscript); Patrick J. Dennis, Kristopher Gerardi & Carola
Missing from the debate thus far is a systematic explication and assessment of the causal mechanisms that might link common ownership to higher prices. Yet such an inquiry is important for several reasons. The absence of a plausible mechanism that generates the observed results would raise doubts about proponents’ preferred interpretation of the statistical relationship between market outcomes and common ownership. Moreover, a finding that only certain types of investors can plausibly avail themselves of the mechanism would suggest narrower, more targeted reform proposals and enforcement actions, as well as targeted investigations to uncover direct evidence of CCOs influencing corporate policy.

This article is an effort to fill that gap. We identify a wide range of potential mechanisms linking common ownership to anticompetitive effects. We evaluate each mechanism using two criteria. First, is the mechanism tested by the empirical literature—that is, would its use generate the observed empirical results? Second, is the mechanism plausible, in the sense that it is the mechanism feasible, effective, and in a CCO’s interest?

As we explain, potential mechanisms differ along several dimensions. Some mechanisms produce conflict, rather than consensus, between the CCO and other firm shareholders, by inducing actions that raise CCO portfolio value at the expense of that firm’s value. Some mechanisms target specific firm actions, as opposed to affecting the firm’s actions across-the-board. And finally, some mechanisms are active (rather than passive): the CCO speaks with management, votes on a proposal, or otherwise takes some positive step in furtherance of the strategy.

Our evaluation of mechanisms yields three main results. First, some widely discussed mechanisms are, in fact, not tested through the methodology employed in the empirical literature. Specifically, the AST airline study and many others are limited to targeted mechanisms entailing a


15 See supra note 7 and accompanying text.
conflict and apply neither to consensus mechanisms\textsuperscript{16} nor to across-the-board mechanisms.\textsuperscript{17}

Second, some mechanisms face major challenges as to feasibility and effectiveness. To be feasible, a CCO must have the power and ability to employ the mechanism. Yet institutional investors generally lack the capacity to generate, transmit, induce, and monitor targeted active strategies.\textsuperscript{18} To be effective, use of the mechanism must generate benefits to the CCO, by raising the value of companies held by the CCO net of any collateral value reductions caused by the mechanism. Yet most across-the-board strategies, such as the avoidance or suppression of pay-for-performance compensation structures, result in a wholesale dilution of incentives to maximize firm value that may exceed the benefits associated with such a strategy.\textsuperscript{19}

Third, some mechanisms are implausible because they are not in an institutional investor’s interest. To be in a CCO’s interest, the profits that the CCO obtains from any net increase in portfolio value must exceed the costs to the CCO from employing a mechanism. Yet institutional CCOs generally have only weak incentives—much weaker that the institutional ownership literature presumes—to maximize the aggregate value of their portfolio securities.\textsuperscript{20} Many mechanisms, meanwhile, entail significant legal and reputational risk to CCOs, making it unlikely that institutional CCOs would employ them.\textsuperscript{21}

Our main conclusion is that, for most mechanisms, there is either no strong theoretical basis for believing that institutional CCOs could and would want to employ them or no significant evidence suggesting that they do employ them, or both.\textsuperscript{22} However, our judgment is not uniformly negative. In particular, a mechanism that we call “selective omission” is consistent with both theory and the empirical evidence.\textsuperscript{23} A CCO engaged in selective omission presses for firm actions that increase both firm value and portfolio value, while remaining silent as to actions where the two

\textsuperscript{16} See infra Part I.
\textsuperscript{17} See infra Section II.A.
\textsuperscript{18} See infra Part III.A.
\textsuperscript{19} See infra Part II.B. A second effectiveness problem discussed infra, particularly for actively managed funds, stems from the long time frame needed to implement the strategy.
\textsuperscript{20} Among other problems, institutional investors receive, as fees, only a small fraction of increased portfolio value, and increasing portfolio value may even reduce their fees. See infra Section IV.A.
\textsuperscript{21} As we demonstrate, these risks—which arise as to targeted actions that reduce firm value and hence create conflict with other investors, as well as most consensus actions—including violations of investment advisors’ fiduciary duty to its funds and clients. See infra Section IV.B.
\textsuperscript{22} See infra Section V.A and table 3, which summarizes our assessment of each mechanism.
\textsuperscript{23} See infra Section III.B.
conflict. In addition, some across-the-board mechanisms may be plausibly employed, but substantial empirical evidence for their use is so far lacking.

Our analysis has several important implications. First, the empirical literature has paid too little attention to systematic differences in the incentives of different investor types. For example, advisors that mostly manage index funds must be distinguished from other CCOs in any serious analysis of anticompetitive effects. Index funds are, at first blush, the most plausible culprits because they tend to own similar stakes across multiple competitors and maintain stable holdings over time, which, as we show, facilitates the use of certain mechanisms. Index funds, however, have the lowest incentives and the least capabilities to employ targeted mechanisms. Our analysis therefore suggests that index funds either play no significant role in generating anticompetitive effects or else, at a minimum, systematically employ different mechanisms than other types of institutional investors.

Second, even to the extent that common concentrated ownership is associated with anticompetitive effects, the welfare effects of CCOs are ambiguous. If CCOs do induce the anticompetitive outcomes for which they have been blamed, they also can be expected to push actions that increase profits by making the firm more efficient, such as the elimination of redundant expenditures.

Third, our analysis indicates top priorities for further research. The empirical literature, as it has developed so far, raises concerns that deserve significant attention, but are neither sufficient to establish that CCOs engage in selective omission nor well designed to test certain other plausible casual mechanisms. We suggest studies to fill the gap and emphasize the importance of seeking direct evidence of the steps taken by CCOs, and the responsive steps taken by firms, that produce anticompetitive results.

Finally, our analysis shows that, depending upon the specific mechanism at work, wide-ranging reform proposals are likely to be ineffective and counterproductive. The most likely effects of these proposals, if adopted, are greater passivity by shareholders and fragmentation of institutional shareholdings in portfolio companies in all industries, not just in concentrated ones. The proposals would thus be ineffective if passive mechanisms are responsible for anticompetitive results; and they would be counterproductive because they reduce shareholder power and incentives to

24 See infra Section V.B.
25 See infra Section V.C.
26 See infra Section V.D.
27 See infra Section V.E.
induce portfolio companies to increase their value in the range of circumstances where doing so is not anticompetitive.

This article proceeds in five parts. Part I sets out the fundamental distinction between conflict and consensus-based mechanisms and demonstrates that the bulk of the empirical evidence relates only to conflictual mechanisms. Part II assesses the plausibility of and empirical evidence pertinent to across-the-board mechanisms. Part III analyzes targeted mechanisms. Part IV examines the economic interests of investment advisors, showing the small benefit and comparatively large costs of some mechanisms. Part V discusses the implications.

I. CONFLICT AND CONSENSUS

As a matter of economic theory, the potential anticompetitive effects of common ownership have long been a concern. As we explain in Section I.A, theories of anticompetitive ownership can be divided into two categories: whether the anticompetitive effects entail conflict, or instead consensus, among the firm’s investors. Sections I.B and I.C spell out the implications of this distinction for assessing the empirical evidence—that the bulk of the economic evidence pertains to mechanisms of conflict, not consensus.

A. Two Theories of Anticompetitive Effect

To fix ideas, suppose that a CCO—call it “Whiterock”—owns 10% of the shares of American and Delta Airlines. Whiterock encourages each airline to compete less aggressively by reducing capacity and increasing prices. Whiterock’s encouragement might take a variety of forms. The CCO might act as a “cartel ringmaster” by expressly spelling out and coordinating specific actions that each airline should take to maximize profits. Alternatively, Whiterock might make a public announcement about the desirability of capacity reduction, and thereby encourage collusion through consciously parallel decisions taken by the airlines. (To simplify matters for now, let us suppose that the CCO’s conduct is lawful or else not detectable by antitrust enforcers.)

Such encouragement by a CCO would appear quite natural. This is particularly true where Whiterock’s action, directed at the airline, has the

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effect of increasing that airline’s profits. Indeed, we might expect the airline to welcome such assistance. And the welcoming attitude would be shared by other shareholders. In particular, a noncommon concentrated owner (NCO) with a stake in American alone would benefit if Whiterock were successful in inducing collusion. The NCO would neither disagree with nor oppose such an action by the CCO.29

However, not all actions by a CCO, taken to increase portfolio profits, are so friendly to the interests of an NCO. Some CCO actions directed at a firm instead decrease firm value in order to increase total portfolio profits. For example, a CCO that owns both a branded drug maker and its generic competitor might pressure the generic firm to settle or delay generic entry for the benefit of the branded firm, at the expense of the generic firm.30 An action that reduces the firm’s profits, in order to benefit the CCO’s portfolio, is against the interest of other shareholders, and in particular against the interests of an NCO. Thus, the NCO can be expected to disagree with and resist the CCO’s preferred action. This disagreement makes the firm the site of a conflict of interest between the NCO, who seeks to maximize firm profits, and the CCO, who seeks to alter the firm’s objective function and maximize portfolio profits at the expense of the firm.31

29 To take a further example, suppose Whiterock induces each airline to reduce capacity and lower its profits, for the benefit of its competitors. Each airline is harmed in the first instance by its own action but benefitted by the actions of its competitors. If Whiterock’s success in reducing capacity at Delta depends on Whiterock’s success at American, then the CCO’s net positive effect on American is contingent on American’s own actions. An NCO that owns shares of American can be expected to support American’s participation in the scheme.


31 A more subtle form of conflict arises when the CCO’s presence has a net positive effect on firm value, but that positive effect is attributable to the CCO’s independent effect on the actions of other firms. For example, return to the Whiterock example in note 29 supra, but now suppose that Whiterock induces Delta to take the action (beneficial to American) regardless of Whiterock’s success at American. Whiterock’s effect on American is now independent, and an NCO that owns shares of American can be expected to resist this action.

In the Appendix, we offer a numerical illustration of this point in which an American/Delta duopoly faces linear demand and competes in Cournot quantities. As shown there, where NCOs hold similar shares in American and Delta, the addition of a CCO increases the profits of both firms. When NCO shares differ, CCO presence still increases industry profits, but the airline with greater NCO presence benefits disproportionately, because it is in a stronger position to resist the CCO. It benefits from the CCO’s influence on competitors, but does not itself engage
This divide—between CCO-induced firm actions (or firm failures to act) that generate a conflict between CCOs and NCOs and those that generate a consensus—is fundamental.\textsuperscript{32} In the next section, we spell out an influential method used to estimate the degree to which CCOs will be successful, in their conflict of interest with NCOs, to alter the objective function of the firm.

\textbf{B. Measuring Ownership Conflicts}

The insight that a CCO might influence and thereby alter the objective function of the firm is not new. Bresnahan, O’Brien, and Salop offered an influential model of the proposition that a CCO, due to its common ownership interests, has a different objective function than an NCO.\textsuperscript{33} They modeled how common ownership would affect firm behavior, under different assumptions about the degree of influence that CCOs and NCOs have over competing firms. The key to their analysis is the Modified Herfindahl-Hirschman Index, or MHHI.\textsuperscript{34}

As the name suggests, MHHI is a modification of the Herfindahl-Hirschman Index (HHI), a commonly used measure of market concentration. In any market, the HHI is the sum of the squared market shares of each competitor. In a monopoly—one competitor with a 100\% market share—the HHI is 10,000. In a duopoly of American and Delta equally sharing the market, the HHI is 5000 ($50^2 + 50^2$). In a market with a very large number of small competitors, the HHI approximates 0.

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\textsuperscript{32} In general, the outcome of the conflict at one firm does not depend on the existence or outcome of a conflict in a competing firm. \textit{But see} Einer Elhauge, How Horizontal Shareholding Harms Our Economy—And Why Antitrust Law Can Fix It 44 (Dec. 4, 2018), http://ssrn.com/abstract=3293822 (unpublished draft) (“One cannot separate horizontal shareholding’s effect [i.e., the effect of a CCO] on their firm from its effect on the rival firms because horizontal shareholders by definition are invested in both and profit from reducing competition at both, not from hampering one firm to benefit the rival firms.”). Elhauge’s contrary view misses the quite different effects that a CCO can have on competing firms in a setting where a CCO and NCO have conflicting interests. A stark example is the pharmaceutical setting discussed in note 30 \textit{supra} and accompanying text, in which one firm is harmed to benefit its competitor. More generally, in mechanisms where a conflict exists between CCOs and NCOs, the effect at each firm depends upon (and varies with) the number and importance of NCOs. \textit{See supra} note 31. Indeed, the MHHI-based literature discussed \textit{infra} Section I.B postulates that a CCO tries to hamper independently each firm in its portfolio for the benefit of rival firms in the CCO’s portfolio. \textit{See infra} note 37.

\textsuperscript{33} Bresnahan & Salop, \textit{supra} note 1; O’Brien & Salop, \textit{supra} note 1.

\textsuperscript{34} Technically, MHHI\textsubscript{Δ} rather than MHHI, as we explain shortly.
MHHI adjusts the HHI to account for ownership overlap among competing firms. In the absence of any ownership overlap, the HHI is equal to the MHHI. But if competitors have common owners, the MHHI exceeds the HHI. The difference between the MHHI and the HHI, in turn, is referred to as MHHIΔ. To continue with the American/Delta example, if CCOs had total control of both firms, the MHHI is 10,000, which is equal to the HHI (and MHHI) for monopoly. In this situation, MHHIΔ is 5000.

In between, CCOs have partial control. Let us now assume that American and Delta have ten 10% owners apiece. Each owner might be either a CCO or else an NCO that owns a stake in just American or just Delta. If one out of ten owners is Whiterock, a CCO, the MHHIΔ is one-tenth as large as total control—500, compared to 5000. The other nine owners, the NCOs, limit and counteract the influence of the CCO. As the number and importance of CCOs rise, MHHI increases.

The intuition for these results is that a common 10% owner has both the incentive and some ability, as to a firm in which it holds a stake, to induce that firm not to maximize firm value, but instead to maximize the value of the CCO’s joint stake in multiple competitors. In the extreme case of ten common 10% owners of all firms, that influence is complete and generates incentives equivalent to those of a monopolist.

MHHIΔ has an important but often overlooked feature: MHHIΔ not only increases with the number and importance of common concentrated owners (the CCOs), but also decreases with the number and importance of noncommon concentrated owners (the NCOs). Importantly, NCOs do not merely reduce MHHIΔ mechanically by making fewer shares available to be held by CCOs, as in the ten-owner example above. It is sometimes

35 Bresnahan & Salop, supra note 1; O’Brien & Salop, supra note 1. MHHI has been used as a tool of economic theory to describe both cross-ownership, where one firm holds a stake in a rival, and common ownership, where an investor (the CCO) holds stakes in competing firms. An early example of the latter use is O’Brien & Salop, supra note 1, at 583 (discussing “proportional control” structures wherein “the Board and managers of the acquiring [sic—acquired] firm take into account their shareholders’ interests in other firms . . . [by taking] shareholders’ interests into account in proportion to their financial interests in the acquired firm”); see also id. at 579 (discussing “partial control” structures in which “decision makers of the acquired firm take into account the fact that certain of its shareholders hold financial interests in competing firms . . . [and] the influence of each shareholder is constrained by the other shareholders of the acquired firm”).

36 MHHIΔ = MHHI – HHI = 10,000 – 5000 = 5000.

37 This calculation is set out in the Appendix.

38 In this example, if there are n CCOs and 10 – n NCOs, then the numerator of each term is n% instead of 1%, and hence MHHIΔ = 500n. In the Appendix, we explain the basis for this calculation.
assumed that this is the only effect. But in fact, there is a second pathway by which noncommon concentrated ownership reduces MHHIΔ, namely by holding the shares not held by CCOs—the noncommon shareholdings—in a more concentrated fashion.

As an illustration, suppose once again that Whiterock owns 10% of both American and Delta; in addition, in each airline, an NCO holds a 10% stake, and the remaining shares are held by small, dispersed owners. Now MHHIΔ equals 2500, halfway to total control. If a second NCO at American acquires from dispersed owners a 10% stake, and likewise a second NCO at Delta acquires a 10% stake, now there are two 10% NCOs at each airline. MHHIΔ falls to 1667, one-third of the way to total control.

NCOs reduce MHHIΔ on the view that NCOs use their influence to induce a firm to maximize firm value, without regard to the effect on competitors. Put differently, MHHIΔ measures the degree to which a firm’s profit maximization decision is distorted by concentrated owners with conflicts of interest. As CCOs become more important in firm decision-making, the distortion increases; as NCOs become more influential, the distortion decreases. Conflicts of interest between NCOs and CCOs thus lie at the heart of the theoretical foundation for MHHIΔ and are reflected in the mathematical result that MHHIΔ increases as CCO ownership rises but decreases as NCO ownership rises.

C. Detecting Consensus Mechanisms

The disparate effect of CCOs and NCOs on the level of MHHIΔ limits the set of causal mechanisms tested by any analysis that relies on MHHIΔ. The causal mechanism must be one in which the conduct in question is preferred by CCOs but is opposed by NCOs because it reduces firm value. Otherwise, MHHIΔ is not a good measure of the role of common concentrated ownership.

39 For an illustrative view, see Elhauge, supra note 32, at 22 (“Increased non-horizontal shareholding means lower levels of horizontal shareholding that would otherwise reduce competition at both the firm and its rivals, and thus diminishes MHHI and predicted anticompetitive effects.”).

40 In the Appendix, we offer a more detailed explication of the contrasting effects on MHHI of CCOs and NCOs.

41 This distortion can be seen directly in AST’s formal model, which features a firm objective function in which the firm “maximizes its own profits, plus a linear combination of the profits of other firms in which the shareholders with control hold ownership stakes.” Jose Azar, Martin Schmalz & Isabel Tecu, Internet Appendix for “Anticompetitive Effects of Common Ownership” 2 (2018), http://www.readcube.com/articles/supplement?doi=10.1111%2Fjofi.12698 [hereinafter AST Appendix]. Formally, a firm maximizes its own profits plus an expression that mirrors the calculation of MHHI. For technical details, see infra note 152 of the Appendix.
Consider, for example, the AST airline paper. AST run regressions with the price of an airline ticket as the dependent variable and MHHIΔ on a particular route as the key independent variable. MHHIΔ is central to AST’s analysis, their critics and defenders, and policy recommendations premised on their results. Indeed, almost the entire empirical literature on common ownership, including the only other study that directly links common ownership to higher prices, is based either on MHHIΔ or on related measures that, like MHHIΔ, decrease with the importance of NCOs. Empirical evidence that CCOs employ consensus mechanisms is thus lacking.

Other secondary metrics used by AST, such as the overlap among the largest 10 owners, share the feature that they properly test only conflict mechanisms. See AST, supra note 2, at 1544.

See, e.g., the papers debating the AST results discussed supra note 14.

See, e.g., Elhauge, supra note 7; PSW, supra note 7 (basing policy proposals on MHHI levels).

See ARS, supra note 13.


In addition, studies of common ownership have examined investment levels, see German Gutierrez Gallardo & Thomas Philippin, Ownership, Governance and Investment (Mar. 2017) (unpublished manuscript) (regressing investment on HHI, MHHIΔ and an interaction term and finding that HHI and MHHIΔ are both negatively related to industry level investment, but the interaction term is positively related to investment); German Gutierrez Gallardo & Thomas Philippin, Investment-less Growth: An Empirical Investigation (Nat’l Bureau of Econ. Research, Working Paper No. 22897, 2016), http://ssrn.com/abstract=2880335 (finding positive association between common ownership and investment but cautioning that results do not establish causality).

A third set of papers examines outcomes within the pharmaceutical industry. See Xie & Gerakos, supra note 30 (using as metric \( w_{jk}(1 + w_{jk}) \) where \( w_{jk} \) is the sum of the products of the generic drug producer’s shareholders’ respective voting percentage in the generic times the generic shareholders’ respective equity stake in the brand name drug producer divided by the sum of the products of the generic drug producer’s respective voting percentage in the generic times the generic shareholders’ respective equity stake in the generic; \( w_{jk} \) is the term multiplied by market shares and then summed over all firm pairs to calculate MHHIΔ is study of relationship between common ownership between generic and brand name drug producers and settlements)); Newham et al., supra note 30 (examining relationship between entry and common ownership and framework where interests conflict).

This entire literature is thus limited to testing conflict mechanisms, where CCOs and NCOs try to push managers into opposite directions. Indeed, although this literature is usually characterized as testing the hypothesis that CCOs have an anticompetitive effect, the research design is equally consistent with testing the hypothesis that NCOs have a procompetitive effect.\textsuperscript{47} Thus, an MHHI-based design not only fails to test the use of consensus mechanisms favored by CCOs and NCOs alike; its empirical results, that increased NCO ownership is associated with lower prices, are inconsistent with their use.

To be sure, even though not tested by these papers, a CCO might well encourage firms to compete less aggressively in a way that an NCO would applaud. For example, as suggested in Section I.A, the CCO might serve as a cartel ringmaster or otherwise enhance collusive conduct by the rival firms. But the theoretical case for such assistance could not be grounded on the firm having a different objective function on account of the investment by CCOs. After all, both NCOs and, for that matter, dispersed owners would share this objective—to increase the firm’s profits. Rather, the theoretical case would need to be grounded in a superior ability of common owners to accomplish this result, a topic that the MHHI line of inquiry—from Bresnahan, O’Brien and Salop to the modern empirical literature—does not address.

Common owners have some superior ability, the case must go, to induce firm-value increasing actions that require some form of coordination or parallelism between competitors. A coherent argument along these lines would need to specify what, specifically, common owners do to facilitate coordination that cannot be done equally well by firm managers, noncommon owners, or a host of other consultants and advisors. As applied

\textsuperscript{47} This point has been acknowledged by one of AST’s authors. See Martin C. Schmalz, Common Ownership and Competition: Facts, Misconceptions, and What to Do About It (Dec. 6, 2017), http://ssrn.com/abstract=3176696 (background paper for Organization for Economic Cooperation and Development roundtable on Common Ownership by Institutional Investors and Its Impact on Competition, DAF/COMP/W(2017)93) (“Perhaps more important than the presence of common ownership is the absence of powerful undiversified shareholders who would benefit from increased competition.”).
to institutional investors, that account would need to establish that investment advisors possess the requisite information, power, and incentives to take such actions.\textsuperscript{48} The theoretical basis for such an argument and the manner in which it would be tested empirically, however, would be entirely distinct from theoretical and empirical work that is premised on MHHI.

II. ACROSS-THE-BOARD MECHANISMS

Beyond the question of conflict versus consensus, mechanisms that link common ownership to anticompetitive effects differ along a second dimension. Some mechanisms target specific decisions of the firm, while others operate across the board, affecting the entirety or a broad swath of the firm’s operations. In this Part, we assess across-the-board mechanisms, deferring the analysis of targeted mechanisms to Part III.

The most commonly mentioned across-the-board mechanism is the structure of executive compensation—in particular, whether managers are paid for performance and thereby encouraged to compete aggressively in order to maximize firm value. In terms of the airline example, Whiterock benefits if American managers’ low-powered incentives induce managers to live “the quiet life,” thereby raising the value of Whiterock’s holdings in Delta. Commentators have suggested that CCOs may actively work against pay for performance.\textsuperscript{49} More influential has been the proposition that CCOs are passive, and simply neglect or otherwise passively fail to encourage more incentive compensation, leaving managers free to live the quiet life.\textsuperscript{50}

To a striking degree, however, across-the-board mechanisms are neither well-tested nor generally plausible.\textsuperscript{51} As Section II.A explains, the leading

\textsuperscript{48} Some scholars have begun to develop such a theory. See Menesh S. Patel, Common Ownership, Institutional Investors, and Antitrust, 82 ANTITRUST L.J. 279 (2018) (suggesting that a CCO may, by virtue of its ownership stake, have information about firm strategies that enables it to detect deviations from a collusive agreement); Edward B. Rock & Daniel Rubinfeld, Common Ownership and Coordinated Effects (2018) (unpublished draft) (suggesting that CCOs may have superior knowledge, influence, incentives, credibility, and power to support collusion, compared to NCOs).

\textsuperscript{49} See, e.g., AEGS, supra note 46; see also AST, supra note 2, at 1556 (citing AEGS).

\textsuperscript{50} AST, supra note 2; Jose Azar, Martin C. Schmalz & Isabel Tecu, Why Common Ownership Creates Antitrust Risks, CPI ANTITRUST CHRONICLE, June 2017, at 10, 15 [hereinafter AST CPI] (arguing that it is “an absence of incentives to compete (rather than an increased incentive to collude) that leads to reduced competition under common ownership”) (emphasis in original); see also Einer Elhauge, The Growing Problem of Horizontal Shareholding, CPI CHRON., June 2017, at 2 (“Nor does the anticompetitive effect require any communication between shareholders and managers, because managers know whether their leading shareholders are horizontal and know that lessening competition benefits those shareholders.”); Elhauge, supra note 7, at 1270 (similar).

\textsuperscript{51} These points generally apply to conflictual and consensus-based mechanisms alike.
empirical studies do not provide a proper test of the passive account. Moreover, the design of single-industry studies makes them ill-suited for picking up across-the-board effects. In principle, cross-industry studies might help fill the gap, but these have limitations of their own. In addition, some across-the-board mechanisms are ineffective or infeasible and hence implausible, for reasons set out in Section II.B.

A. Empirical Evidence

1. Detecting Passive Mechanisms. — As explained in Part I, studies of common ownership, including AST’s airline study, rely upon MHHI or other measures of common concentrated ownership. However, these measures are poorly designed to test the role of passivity.

The problem is that some ownership changes alter the level of common concentrated ownership, yet have no effect on the level of passivity. Consider, for example, a shift from dispersed ownership to ownership by a CCO. As we showed in Part I, CCOs increase MHHI, while NCOs lower MHHI. Dispersed owners, due to their low stakes and low influence, literally drop out of the equation. A change in ownership from dispersed owners to CCOs increases MHHI, yet should have no effect if CCO passivity is the source of anticompetitive effects. The same is true of a merger of two CCOs. The problem is not limited to MHHI or similar measures, but is endemic to any use of common concentrated ownership as the independent variable of interest. Common concentrated ownership measures are thus flawed metrics to test such passive mechanisms.

Rather, a proper metric of passive mechanisms would only consider the extent to which NCOs are present in the shareholder base. CCO ownership would figure into such a comparison only indirectly, to the extent it replaces NCO ownership but not, as it does in the AST study, to the extent it replaces dispersed owners or reflects increased concentration among CCOs. An empirical study of passive mechanisms would thus be very different from the design of AST and other studies.

52 See supra Section I.C.
54 The AST authors, in response to the criticism that they have not identified an observable mechanism linking CCOs to higher prices, have replied that such a critique “seems to reflect a misunderstanding of the economic mechanism that we argue can lead to anti-competitive outcomes. . . . It is hard to see why not implementing aggressive competition needs a mechanism or could produce measurable traces.” AST CPI, supra note 50, at 15. This reply misses the mark insofar as our criticism is concerned. While a mere, passive failure by CCOs to implement aggressive competition may leave few traces, such a failure would not explain AST’s empirical results; hence the results provide no support for the use of this mechanism.
55 Other studies with the same limitation include ARS, supra note 13, and Xie and Gerakos, supra note 30.
2. Single-Industry Studies. — Single-industry studies have a further drawback in detecting the use of across-the-board mechanisms, stemming from the specific structure of the tests performed in these studies. For example, AST exploit the fact that different airlines compete on different routes. They relate route-level airline prices to a route-level measure of common ownership.\footnote{The measure used, route-level MHHIA, is calculated by combining route-level market share data with information about the ownership structure on that route.} In regressions with route-level price as the dependent variable and route-level common ownership and various control variables as independent variables, route-level common ownership is positively related to route-level prices.

This structure makes the study well suited to pick up targeted effects at the route level. AST are able to distinguish the effects of common concentrated ownership from general changes in competitive strategy over time. If a fund acquires a stake in some but not all competitors, the route-level model predicts a differential impact on price for different routes, depending on which airlines compete in each route. This differences-in-differences design employed by AST is structured to pick up only such differential route effects, not effects that arise equivalently for the entire route network.

But the setup of the study is poorly designed to test for firm-wide, across-the-board effects. Route-level common ownership is not a proper metric to evaluate a mechanism that is firm-wide rather than route-specific.\footnote{In an online appendix, AST report a set of regressions that includes a variable for an airline’s average MHHIA across all its routes. See AST Appendix, supra note 41. Average MHHIA across all routes is positively associated with route-level prices. See Elhauge, supra note 32 (emphasizing this result as evidence of firm-wide effects). However, average MHHIA across all routes lacks theoretical foundation as an explanation for route-level pricing. Its level for (say) American flying on route #1 depends on whether, on a different route #2 that American flies with Delta and United, Delta and United have common owners. That attribute of route #2 has no evident impact on the price American would charge on route #1.} Moreover, because the airline study includes approximately 7000 different routes but only 56 different time periods, the principal source of variation, as to both common ownership and prices, is likely variation across routes rather than variation over time. But, from the perspective of an across-the-board mechanism, it is only price variation over time that is relevant. An across-the-board mechanism, such as making pay less sensitive to performance, should not generate route-level price variations in response to differences in route-level common ownership. Thus, an empirical study of across-the-board mechanisms would be quite different from the design of AST and other single industry studies.\footnote{Other studies with the same limitation include ARS, supra note 13; Xie and Gerakos, supra note 32; and Newham et al., supra note 32.}
3. Cross-Industry Studies. — In principle, cross-industry studies are better suited than single-industry studies to detect the presence of across-the-board mechanisms.\textsuperscript{59} A second strand of the empirical literature takes just such an approach by examining the relationship between common concentrated ownership and executive pay for performance across different industries.

Considered as a set, however, the results of these papers yield no firm conclusion. For example, Anton, Ederer, Gine, and Schmalz (AEGS) find a negative association between MHHI and their measure of pay for performance.\textsuperscript{60} DeSimone largely finds no statistically significant relation between MHHI and her measure.\textsuperscript{61} Kwon finds a positive association between MHHI and relative performance incentives.\textsuperscript{62} Liang finds that CEO compensation is positively related to the performance of industry peers that share at least one common blockholder.\textsuperscript{63}

Moreover, the papers share several limitations that recommend caution in interpreting their results. First, all of them rely on ownership data that ignores the holdings of important blockholders. The ownership data in these studies is based upon quarterly reports filed by large institutional investors—so-called Form 13F filings. But other owners who do not file Forms 13F, such as firm founders, managers, and (non-institutional) corporate holders, are often major blockholders. A survey conducted by Alex Edmans and Clifford Holderness found that, for the firms in their sample, 52% had an individual and another 11% had a corporation as its largest owner.\textsuperscript{64} For firms where the largest owner was an individual, the individual’s block size was 32%, and the individual had a board representative in 91% of the firms. For firms in which the largest owner was a corporation, the analogous figures were 39% and 83%.

Individual and corporate blockholders are presumptively much less likely to be CCOs than the institutional investors that appear in the Form 13F data. The omission of such owners is thus likely to yield incorrect calculations of MHHI. Moreover, to the extent that individual blockholders


\textsuperscript{60} See AEGS, supra note 46.

\textsuperscript{61} DeSimone, supra note 46.

\textsuperscript{62} Kwon, supra note 46.

\textsuperscript{63} Liang, supra note 46.

\textsuperscript{64} Alex Edmans & Clifford G. Holderness, \textit{Blockholders: A Survey of Theory and Evidence} 95 tbl. 2 (European Corporate Governance Institute Finance Working Paper No. 475/2016, 2017), http://ssrn.com/abstract=2820976 (examining ownership in a sample of 375 firms as of 1995). All such blockholders had an ownership share of at least 5%. These results exclude 15 firms (out of 375) in which no individual or entity owned at least 5%.
are executives, they have substantial performance incentives derived from their stockholdings that are largely ignored in the compensation studies.\(^{65}\)

A further problem is the unclear theoretical relationship between M\(\text{HHI}_\Delta\) and compensation at a particular firm. M\(\text{HHI}_\Delta\) is measured at the industry (or product market) level, not the firm level, and can change even if nothing of consequences changes for a firm in the industry. To illustrate, if a holder of stock in Delta were to acquire stock in United, industry M\(\text{HHI}_\Delta\) would rise; but it is not evident why this should have any effect on executive compensation at American, which experienced no change in common ownership.\(^{66}\) On the whole, therefore, these papers shed little light on whether many CCOs employ compensation-related mechanisms.

### B. Plausibility

The limitations in the extant empirical evidence about across-the-board mechanisms does not mean that such mechanisms are not used. From a theoretical and anecdotal perspective, compensation-related mechanisms are feasible, in the sense that CCOs have some power and ability to employ the mechanism. Institutional shareholders regularly vote on compensation structures in say-on-pay and other votes, frequently discuss compensation in engagement meetings,\(^{67}\) and at least implicitly claim expertise in evaluating compensation. By contrast, other across-the-board pathways suggested by commentators are unlikely to be feasible. In particular, it has been suggested that CCOs might try to manipulate a firm’s capital structure or payout policies to make them compete less aggressively or elect directors who favor a strategy involving less competition.\(^{68}\) But shareholders have no direct influence over capital structure and payoff policies.\(^{69}\) And while shareholders elect directors, most elections are uncontested, and there is no evidence that outside director candidates in uncontested elections stand for

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\(^{65}\) The same criticism applies to other papers that rely exclusively on 13F data, such as Gallardo & Philippon, \textit{supra} note 46.

\(^{66}\) This objection does not apply to Liang, which (unlike the other compensation papers) uses a firm-level metric of common ownership. But his results raise other questions. In particular, Liang finds that the positive relationship between CEO compensation and competitor performance at firms with common ownership is limited to markets with low levels of HHI (i.e., the most competitive markets) and to firm pairs with low levels of combined market shares. Yet, incentives of CCOs to induce executives to compete less aggressively should be weakest in the most competitive industries and with respect to firms with the lowest market shares.

\(^{67}\) \textit{AST}, \textit{supra} note 2, at 1556.

\(^{68}\) \textit{AST}, \textit{supra} note 2, at 1553.

\(^{69}\) Moreover, the link between capital structure or payout policies and price variation in particular product markets is highly unclear. \textit{Cf.} \textit{AST}, \textit{supra} note 2, at 1553 (acknowledging that any such link is “subtle”).
any particular competitive strategy or that institutional shareholders are given a choice of candidate to fill board openings. 70

Beyond questions of feasibility, compensation-based mechanisms face two significant problems that undermine their effectiveness: the dilution of managerial incentives overall, and the relatively long time frame needed to accomplish the change.

1. Diluted Managerial Incentives.—Most compensation-related mechanisms do not give the CCO an effective method to increase portfolio value because they weaken managers’ overall incentive to compete. 71 A compensation scheme is usually a blunt instrument, affecting managerial incentives generally. Use of such a mechanism is likely to have substantial adverse side effects on other aspects of the firm’s operations. A CCO prefers managers to have weak incentives to maximize firm value only to the extent that this benefits another portfolio firm, but prefers strong incentives to maximize firm value in all other respects.

Dulling managerial incentives often carries heavy costs. AST borrow the phrase “quiet life” from a well-known article by Marianne Bertrand and Sendhil Mullainathan. 72 But that article actually illustrates these costs. Bertrand and Mullainathan use the term for managers who pay inefficiently high wages, fail to close old plants or to open new ones, and run less productive plants. Whether CCOs accrue sufficient benefits from the less aggressive competition that may also result from reduced incentives, alongside these inefficiencies, is far from clear.

A wholesale dilution of incentives makes sense, if at all, only for firms where the bulk of managerial effort otherwise would be devoted to competition at the expense of other CCO portfolio firms. Where competition is directed against nonportfolio firms, or managerial actions increase the firm’s profits without significantly harming rivals’ profits, the

70 See Rock & Rubinfeld, supra note 14, at 17. To be sure, activist hedge funds sometimes obtain board representation without an election contest and, to that extent, have some ability to choose the person to add to the board. Activist hedge funds, however, are generally not CCOs. The possibility that a CCO will use the threat of casting “withhold” votes in uncontested elections on directors to pressure incumbent directors to pursue a targeted anticompetitive strategy (as opposed to the possibility that CCOs use votes to elect certain directors who favor a business strategy involving less competition) is discussed infra Part III.
71 Two exceptions are noted below.
72 Marianne Bertrand & Sendhil Mullainathan, Enjoying the Quiet Life? Corporate Governance and Managerial Preferences, 111 J. POL. ECON. 1043 (2003). Those authors, in turn, draw upon J.R. Hicks, Annual Survey of Economic Theory: The Theory of Monopoly, 3 ECONOMETRICA 1, 8 (1935) (“The best of all monopoly profits is a quiet life.”).
costs of diluting incentives are likely exceed the benefits, and a CCO considering such a strategy is likely to steer clear.\textsuperscript{73}

An exception to this critique arises when a CCO favors absolute over relative performance incentives.\textsuperscript{74} Relative performance incentives, where compensation is based on how a firm’s performance compares to the performance of other firms in the industry,\textsuperscript{75} have both advantages and disadvantages over the more common absolute performance incentives.\textsuperscript{76} Compared to absolute performance incentives, relative performance incentives tend to penalize firm managers if their competitors do well and reward them if competitors do poorly. Since CCOs, unlike NCOs, are harmed when managers reduce competitor value and benefit when managers increase competitor value—exactly the opposite of what relative performance incentives reward—CCOs may actively favor, or passively fail to oppose, the use of absolute over relative performance incentives to a greater extent than NCOs.\textsuperscript{77}

2. Long Time Horizon. — Across-the-board strategies based on voting or passivity, as opposed to direct communications with firms, have a second problem that limits their effectiveness. It may take several years of voting or passivity—whether about compensation or something else—before the

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\textsuperscript{73} This discussion presumes that the CCO is capable of conscious strategizing. If the CCO passively accepts the managerial quiet life because it lacks any strategy at all—think of an index fund running on autopilot—then the fund’s status as a common owner has no significance; it is a merely coincidental effect. For further discussion, see infra Part V.

\textsuperscript{74} Other critiques may still apply, such as the need (discussed next) for a longer-term perspective that is often lacking in a CCO.

\textsuperscript{75} We do not focus on a further type of relative performance incentive, which is to compare firm performance to the performance of the economy rather than a single industry.

\textsuperscript{76} Relative performance incentives have the desirable property of imposing lower risk-bearing cost on managers than absolute incentives, which reward managers in part based on industry-wide and economy-wide developments that bear on firm performance but may be outside managerial control. At the same time, managers have some control over the extent to which a firm is exposed to industry-wide and economy-wide developments as well as over the industries their firms operate in, thus reducing risk-bearing costs (while potentially introducing other distortions). As for relative performance incentives, such incentives are hard to implement for firms that operate in multiple or hard-to-define industry segments. Moreover, in concentrated industries, relative performance incentives provide excessive incentives for managers to take actions that reduce competitor value and insufficient incentives for actions that increase both firm value and competitor value. Actions that increase both firm value and competitor value can be either anticompetitive or procompetitive (for example, a cost saving device that is easily copied by competitors).

\textsuperscript{77} Liang, supra note 46, presents empirical evidence that institutional cross-ownership (defined as a common 5% holder for a firm pair) is associated with a positive relationship between CEO compensation and competitor performance. While this finding may be due to CCOs disfavoring relative performance measures, it is limited to markets with low levels of HHI (i.e., the most competitive markets) and to firm pairs with low levels of combined market shares.
votes or failure to act affects competitive strategy. A multi-year lead time is likely to be unworkable, at least as to CCOs that mostly manage active funds.78

The asset-weighted average portfolio turnover rate of actively managed U.S. equity mutual funds and ETFs was 51% in 2011.79 Even over a single year, industry holdings of active funds change significantly. Moreover, market structure would often also change. At the time a CCO casts its first vote or first decides to be passive, it would thus be difficult to predict what competitive strategy will maximize its portfolio by the time it comes to fruition.80 Thus, strategies based on voting and passivity are not likely to be effective for active funds.

An exception to this critique arises in contested elections and in companies targeted by activists more generally, given the shorter time frame for action. Here, shareholders are faced with an activist who proposes a different business strategy than incumbent management, a component of which may include a different competitive strategy. By lending support to management or the activist, CCO may affect competitive strategy more quickly.81

III. TARGETED MECHANISMS

Targeted mechanisms relate to specific anticompetitive actions of the firm. As an illustration of the difference between targeted and across-the-board mechanisms, suppose that American, Delta, and United compete on two distinct routes. On Route 1, American and Delta share the market equally. On Route 2, by contrast, American and United share the market equally. As before, Whiterock owns 10% of American and Delta—but not United.

Compare three hypothetical actions that American might take, each of which requires the same amount of managerial effort and increases American’s value by the same amount:

78 We return to this aspect of index funds infra Section IV.B.
79 See Vanguard Group, Inc., Mutual Funds—Like ETFs—Have Trading Volume 5 (Nov. 2012), http://personal.vanguard.com/pdf/s344.pdf. By comparison, the turnover rates for index mutual funds and ETFs were 9% and 15%.
80 Although, as discussed, AST do not properly test for across-the-board mechanisms, they find that only common ownership by shareholders with a long-term horizon has a significant positive effect on prices. AST, supra note 2, at 1546.
81 As activists are generally NCOs, the most likely reason why strategies may differ on this dimension is that a management team, used to enjoying the easy life, faces an activist hedge fund advocating increased competition to raise firm value. This hypothesis could be tested by checking whether, in such situations, common ownership is associated with support for incumbents in concentrated industries.
[1] reduce the price charged on Route 1, thereby reducing the profits and value of Delta;
[2] reduce the price charged on Route 2, thereby reducing the profits and value of United; or
[3] move its headquarters to a cheaper location, which saves money and has no effect on its competitors' profits.

An across-the-board strategy, along the lines discussed in Part II, would be for Whiterock to reduce managerial efforts at American by altering its management compensation system, which would affect all three actions.82 A targeted strategy, by contrast, would have Whiterock induce American to reduce the price on Route 2 and move its headquarters but not to reduce price on Route 1 (an action that, if taken, would increase the value of American but harm Whiterock’s investment in Delta).83

Targeted mechanisms of this sort—i.e., that give rise to conflict between a CCO and other investors—are well tested by the empirical literature discussed in Part I. However, as we explain in Section II.A, real-world CCOs would face substantial barriers in implementing targeted active strategies. In Section II.B, we offer the alternative mechanism of selective omission, which is equally consistent with the empirical evidence but is more plausibly employed as it entails lower barriers to implementation.

A. Active Mechanisms

Targeted mechanisms avoid the blunt effects of across-the-board mechanisms: many profit increasing actions are left undisturbed. Narrowness, however, comes at a price. First, this targeted strategy may require the CCO to identify which specific actions harm its portfolio. Here, Whiterock would have to know enough about route-level operations (capacity, prices, costs, and competitors) to form a view that competition on Route 1 is bad for its portfolio.84 Second, at least indirectly, Whiterock would need to communicate its preferences to management: do not reduce price on Route 1, but do reduce price on Route 2 and move your headquarters. Third, Whiterock would have to induce management to take the action that the CCO prefers. Fourth, Whiterock would have to determine whether management took the action Whiterock sought. Put differently, effective implementation of a targeted active strategy requires generation, transmission, inducement, and monitoring.

82 See supra Section II.B.
83 If Whiterock also owned shares in United, it might also oppose the price reduction on Route 2.
84 It would generally not be sufficient for just firm management to have such knowledge since a CCO would need to monitor whether management faithfully executes the selective non-competition strategy.
Commentators have made several suggestions that bear on how a CCO might generate, transmit, induce, and monitor observance of a targeted strategy. As to transmission, for example, they point to institutional investors’ frequent meetings with management during which competitive strategy could be discussed. As to inducement, they suggest that a CCO obtains leverage over managers through its voting power and its ability to sell shares and depress the market price of the firm’s stock.

While we agree that a CCO may be able to generate, transmit, induce, and monitor observance of a targeted strategy, doing so is complex. The complexities are enhanced by the nature of the CCOs that have been the focus of recent studies and debates. In particular, an effective targeted strategy probably requires the support and involvement of some top-level managers as well as several other lower-level employees of the CCO, together with participation of senior executives and lower-level employees at the firm. Moreover, a targeted strategy is likely to generate some dissent both within the CCO and between the CCO and the firm and other firm owners. A targeted strategy is thus much more likely than an across-the-board mechanism to leave strong traces and dissatisfied players willing to point to them.

To see this and other difficulties with executing targeted active strategies, it is necessary to examine more closely the entities that are treated as CCOs. With a few exceptions, the most prominent CCOs identified in the literature about anticompetitive common ownership are entities with names such as “Blackrock,” “Vanguard,” or “Fidelity.” That literature treats each as a single entity—as though there is only a single Fidelity, Vanguard, and Blackrock. Consider, for example, “Fidelity,” as analyzed in AST’s airline study. “Fidelity” is FMR LLC (“FMR”), the legal entity that files the 13F forms that supply the ownership data in the study. FMR is an investment advisor and has investment power over the stock listed in the 13F. But FMR is not the “owner” of these shares in any economic sense. Rather, the shares are owned by various mutual funds sponsored by Fidelity and by other Fidelity clients. The mutual funds, in turn, are owned by mutual fund shareholders, not by FMR or any FMR affiliate.

Treating “Fidelity” as a single owner of the assets of the various Fidelity mutual funds and its other clients is deeply problematic in two respects.

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85 AST, supra note 2, at 1554–56. AST also note that “market-level capacity decisions are a frequent topic of conversation” in public earnings calls. Id. at 1555. However, the conversations cited appear to be sell-side analysts, rather than representatives of CCOs.

First, that treatment implies that FMR acts like a single owner—and hence that it seeks to maximize its total portfolio. But in fact, as we explain in Part IV, an investment advisor that has investment power over certain shares has incentives that are quite different from those of an individual with an ownership stake in those shares. Second, it implies that FMR acts like a single owner. As we now explain, such treatment obscures the multi-layered structure and divergent interests within the investment advisor.

Investment advisors are complex organizations. To run their investment and voting operations, larger investment advisors generally employ fund portfolio managers, analysts, and a centralized voting unit. These groups have different economic interests, different powers, and different competencies. Fund portfolio managers make the ultimate investment decisions for specific funds managed by the investment advisor. Fund portfolio managers differ from fund to fund within the same investment advisor complex. For example, Fidelity’s Contrafund has been run by William Danoff since 1990 and its Growth Company Fund by Steven Wymer since 1997.

Fund portfolio managers are generally viewed as having incentives to maximize the value of the fund they manage. Thus, Danoff cares much less about the performance of other Fidelity funds than about the performance of his Contrafund. The portfolio of a specific fund (such as the Contrafund) is likely to differ from the portfolio of another fund (such as the Growth Company Fund) and from the aggregate portfolio holdings of the investment advisor (such as FMR) in the relative proportion of shares of competing firms held. As a consequence, fund portfolio managers within the same investment advisor complex have interests that conflict with one another and with the interests of the advisor as a whole. And since individual funds will tend to own many fewer shares in a competing firm than the reported aggregate stake of the investment advisor, no individual fund portfolio manager would have the influence over a firm attributed to the advisor based on the advisor’s Form 13F stake.

This conflict among individual funds is neglected in analyses that view investment advisors such as Fidelity as a consolidated whole. For example, as characterized by AST, Fidelity at the end of 2016 “owned” 5.5% of the stock of Southwest, 7.3% of the stock of JetBlue, 10.7% of the stock of Spirit Airlines, and sizable but smaller stakes in several other airlines, making it one of the most significant CCOs. But the Fidelity Contrafund owned 1.9% in Southwest—which would make the fund Southwest’s

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87 See Fidelity Contrafund, Statement of Additional Information (“The primary components of each portfolio manager’s bonus are based on the pre-tax investment performance of the portfolio manager’s fund(s) and account(s) measured against a benchmark index and within a defined peer group assigned to each fund or account.”).
seventh largest holder—and no other airline stock. Danoff would thus have incentives to oppose any strategy that reduced the value of Southwest even if it increased overall Fidelity portfolio value. To be sure, the Fidelity Growth Company Fund held 0.5% of Southwest, 3.0% of JetBlue and 3.8% of Spirit Airlines. Its portfolio value, like Fidelity’s overall, could increase if Southwest sacrificed some of its profits for the benefit of its competitors. But its 0.5% stake would give Wymer little sway over management of Southwest, and it is unclear why Southwest would think that Wymer represented the entire 5.5% holdings of Fidelity.

Most investment advisors also employ analysts who specialize on certain firms and industries, supply research to fund portfolio managers, and are evaluated by them. Although some investment advisors have different analyst teams work with different fund portfolio managers, often a single analyst, or a single group, covers a certain portfolio company for all funds on a centralized basis. Since analysts focus on a smaller subset of firms than fund portfolio managers do, they probably have the largest amount of firm-specific information. However, their principal focus is to predict short and medium-term stock price changes to inform buy and sell decisions, not to generate suggestions to enhance portfolio value. For example, suppose an analyst predicted that the value of American will increase. If American and Delta both rise, the analyst would benefit from her recommendation of American, but it is doubtful she would obtain equivalent benefits from the price rise at Delta.

The centralized voting unit, as a practical and sometimes as a legal matter, generally controls the voting of the shares of advised funds and of other client assets where the client has delegated voting authority to the advisor. The voting unit may communicate with fund portfolio managers and analysts before it makes voting decisions and, depending on the advisor, fund portfolio managers or other fund officials have greater or lesser authority to deviate from the voting recommendations made by the voting unit. But the voting unit lacks the know-how and, ordinarily, the incentives to develop a targeted strategy and to monitor whether it is faithfully executed.

Of the three groups, analysts who cover an entire industry on a centralized basis are most likely to possess the industry knowledge and financial expertise to generate a targeted active strategy and to monitor its execution. Moreover, their job, at least to some extent, relates to all industry holdings by the investment advisor. Analysts who assist only certain fund portfolio managers or who cover only certain firms would be unlikely to

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take into account, respectively, holdings of other funds or in other firms. Fund portfolio managers would usually lack the requisite industry knowledge and also have potentially conflicting incentives to maximize fund portfolio value, rather than the aggregate portfolio value of the investment advisor. Officials working at the investment advisor level and dealing with voting are unlikely to possess the requisite industry knowledge and financial expertise.

Once generated, the strategy would have to be transmitted and its observance induced. But analysts, on their own, are likely not able to do that. They would have to convey the favored strategy to senior executives of the portfolio company—lower level firm managers would be unlikely, on their own, to agree to a strategy that lowers firm profits. But analysts lack control over investments and voting and generally stand lower in the hierarchy of mutual fund officials than large fund portfolio managers.99

Even if senior firm executives are willing to meet with analysts, they may not be willing to heed their demands to pursue a firm value-decreasing strategy.90

To put pressure on firm executives, analysts might try to brief voting officials on the strategy. Investment advisor officials dealing with voting hold regular meetings with management and the board and, perhaps, could use these meetings, and their control over voting decisions, to induce executives to adopt the strategy favored by the analysts. Doing so would be unusual, though, and almost certainly raise eyebrows.91 Voting officials normally discuss matters like compensation structure and corporate governance—issues on which they regularly have to vote—or broad issues which require little firm-specific knowledge, like whether the board has an

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89 Equity portfolio managers with more than 10 years of experience had average salaries of $500,000 to $600,000. Wall Street Oasis, How Much Do Equity Portfolio Managers Make (2012), http://www.wallstreetoasis.com/forums/how-much-do-equity-portfolio-managers-make.

90 To be sure, analysts could threaten managers with making a negative recommendation that would induce fund portfolio managers to sell the firm’s stock. (Note that accounts that rely on such threats likely accept, at least implicitly, that the strategy is firm value-reducing; otherwise a threat seems unnecessary.) But it is doubtful that such threats could induce a firm to adopt a value-reducing strategy. If a stock sale depresses the stock price and the negative report is not warranted by fundamental factors, the fund would lose value and the analyst would look foolish. And since the anticompetitive strategy the CCO wants to induce is value-reducing, a firm’s refusal to execute it should raise rather than lower its stock price. Moreover, analysts rely on good relations with management to obtain clarifications and get their questions answered. Antagonizing management is generally not conducive to their career prospects.

91 See Dorothy S. Lund, The Case Against Passive Shareholder Voting, 43 J. CORP. L. 493, 519 (2018) (“[A]ctive fund analysts, not members of corporate governance teams, are the primary drivers of informal meetings and interactions with management.”).
executive succession plan or risk-management controls, and not targeted strategies like route-level pricing.92

Alternatively, top-level managers of the advisor could get involved in the transmission and inducement process. In principle, top managers of the advisor would have the strongest incentives to maximize the overall profitability of the advisor (rather than fund-level returns). Top advisor managers could arrange private meetings with senior firm executives, with or without analysts present, where they would convey their thoughts on how the firm should be managed.93 Top managers of an advisor would more likely be viewed as peers by senior firm executives and may have supervisory authority over voting officials and fund portfolio managers. As a result, they have more clout than analysts.

But even if top advisor managers are involved, they would also need analysts to monitor whether firm executives implement the targeted strategy they advanced and voting officials (or fund portfolio managers) to take actions if the firm does not follow the strategy. Indeed, failure by firm executives to heed a proposed strategy should be common. After all, the strategy favored by one CCO not only involves lower profits for the firm—which firm executives may resent—but also differs from the strategies favored by other CCOs that hold different stakes in competing firms and from those favored by NCOs. Effective implementation of a targeted strategy would thus involve several different branches within the investment advisor—top advisor managers, analysts, voting officials and perhaps fund portfolio managers—and several management layers in firms, from senior management down to those, in the airline industry, making route-level pricing and capacity decisions.


93 A recent survey of institutional investors reports that 63% of respondents had discussions with top management in the prior five years. Joseph A. McEachery, Zacharias Sautner & Laura T. Starks, Behind the Scenes: The Corporate Governance Preferences of Institutional Investors, 71 J. FIN. 2905, 2912 (2016). However, only 21% of the respondents were from mutual funds. Id. at 2910. Even setting aside the issue of whether top advisor managers would need to be present, public earnings calls are for multiple reasons an unlikely vehicle for a fund to induce a firm to pursue an anticompetitive strategy: as to conflictual strategies, other analysts who work for NCOs may voice opposition; public earnings calls are recorded and transcribed, leaving a record of past statements by any participant available to any other shareholder, reporter, or investigator whose suspicions are aroused; participants in calls can only talk if called on by management to ask a question, a format designed to have the company provide explanations to investors, not to have investors provide input on company strategy; and mutual fund analysts’ active participation in these calls is so uncommon such that a high level of involvement would be likely to raise suspicion. Michael Jung, M.H. Franco Wong & X. Frank Zhang, Buy-Side Analysts and Earnings Calls, 40 J. ACCOUNTING RES. 1, 37–38 (2017).
In addition, implementation would make some officials at both the investment advisor and at the firm unhappy. Within the investment advisor, a fund portfolio manager may dislike and resist a strategy that lowers the value of the fund’s portfolio, and voting officials may be similarly displeased about the intrusion by top advisor managers. Within the firm, executives may dislike and resist being pressured to pursue a strategy that lowers firm value. Finally, among the firm’s other owners, NCOs and even other CCOs may be unhappy about the firm not pursuing their desired strategies.

B. Passive Mechanisms: Selective Omission

In the example of a targeted active strategy discussed in the preceding Section, Whiterock (the investor in American and Delta) advocated the suppression of competition on Route 1, promotion of competition on Route 2, and cost reduction. The first action reduced the value of American; the latter two actions increased the value of American; all three increased the value of Whiterock’s portfolio.

An alternative targeted strategy is for Whiterock to press only for actions that increase the value of both American and its portfolio holdings, while “letting sleeping dogs lie” as to actions where the two conflict. For example, Whiterock could actively promote competition on Route 2 and cost reduction, while remaining silent about Route 1. Such selective omission is, in effect, a targeted passive mechanism. The two actions of Whiterock—promoting competition on Route 2 and cost reduction—match those that an NCO would take. CCOs engaged in selective omission generate an anticompetitive effect because they selectively fail to push—remain passive as to—certain firm value-increasing actions that would be procompetitive, rather than (as in an targeted active mechanism) because they actively push the firm to implement value-decreasing measures that are anticompetitive. It is only their failure to push for value-increasing procompetitive actions that is a source of conflict between a CCO and an NCO.

In terms of feasibility, the selective omission strategy has significant benefits compared to a targeted active strategy. While generating the strategy requires similar effort, there is no affirmative promotion of a strategy that reduces firm value. As a consequence, the additional steps needed to execute a targeted active strategy—transmission, inducement, and monitoring—are comparatively simple. A CCO could rely on the persuasive force of its arguments, rather than on explicit or implicit threats of consequences, as to strategies—all firm value increasing—it actively favors and, as to these strategies, would find common cause with most other shareholders. The CCO could advocate such strategies openly, convey them
to lower-level executives, and execute them without involving top advisor managers or risking managerial resentment and retaliation.94

Unlike the purely passive across-the-board mechanisms discussed in Part II, selective omission could account for the results found by AST. Assume that firms, but for shareholder pressure, would sometimes compete overly aggressively and sometimes compete insufficiently. Compare the differences between NCOs, CCOs and dispersed owners across these two scenarios. Compared to NCOs, CCOs would push less for aggressive competition where more aggressive competition would increase firm value (because of its effect on the value of competitors in which the CCO has a stake); compared to dispersed owners, CCOs would push, along with NCOs, for less competition where aggressive competition would reduce firm value. These results are summarized in Table 1.

### Table 1: Comparison of NCOs, CCOs and Dispersed Owners Under Selective Omission

<table>
<thead>
<tr>
<th>Advocate?</th>
<th>NCO</th>
<th>CCO</th>
<th>Dispersed owners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less aggressive competition/higher price</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>More aggressive competition/lower price</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The average effects of NCO, CCO and dispersed ownership on different firms (or different product decisions, such as pricing on a particular route) would roughly align with the effects of NCO, CCO and dispersed ownership on MHHIΔ: a move from dispersed ownership to CCO ownership increases MHHIΔ and, on average, increases prices (by increasing pressure to raise prices on routes where less aggressive competition increases firm value); a move from NCO to CCO ownership also increases MHHIΔ and, on average, also increases prices (by reducing

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94 For similar reasons, transmission and inducement of a consensus strategy would be simpler. However, a consensus strategy that entails coordination among competitors would require monitoring and, as discussed supra Part I, is not tested by MHHIΔ. Moreover, as discussed infra Part IV, a consensus strategy may entail high legal and reputational costs and thus not be in the interest of institutional CCOs.
pressure to lower prices on routes where more aggressive competition increases firm value).95

IV. THE ECONOMIC INTERESTS OF INVESTMENT ADVISORS

So far, we have accepted the assumption that the CCO’s objective is to raise portfolio value. This assumption is widespread in the literature about the anticompetitive effects of common ownership. But as we indicated in Part III, the archetypal CCO, the investment advisor, has incentives quite unlike those of an individual who holds the ownership stakes. In this Part, we elaborate on this argument. As we show, it is contrary to the financial interest of investment advisors to pursue many of the proposed mechanisms.

A. Benefits

Although investment advisors have been treated as common concentrated owners in the literature, it bears repeating that they are not, in fact, the owners of the shares attributed to them. They lack an ownership interest both legally and economically.

The reason why investment advisors are treated as owners is that they have investment authority over the shares, which requires them to list these shares when filing a Form 13F.96 The ownership of the shares, however, rests with the various mutual funds and other clients advised by the investment advisor. And the economic interest in these shares is held by the ultimate economic beneficiaries—in the case of mutual funds, by the mutual fund shareholders.

If an individual shareholder manages to raise the value of her portfolio securities by $1 billion, whether by inducing firms to adopt an anticompetitive strategy or through some other means, she would be $1 billion richer. But if an investment advisor manages to raise the value of the securities listed in its 13F filings by $1 billion, the value of the investment advisor does not increase by $1 billion. Not even close.97

95 A move from NCO to dispersed ownership increases MHHIA and has an indeterminate predicted effect on prices. Still, if CCOs effectively pursue selective omission, an increase in route-level MHHIA should be correlated with an increase in route-level prices. However, a more direct test of selective omission would include separate variables for CCO and NCO ownership.

96 See 17 C.F.R. § 240.13f-1.

97 Corporate governance scholars have long noted the limited incentives of mutual fund managers. See, e.g., Marcel Kahan & Edward Rock, Hedge Funds in Corporate Governance and Corporate Control, 155 U. PA. L. REV. 1021, 1050–54 (2007); others have noted that these reduced incentives apply to the common ownership context. See Rock & Rubinfeld, supra note 14; Bebchuk, Cohen & Hirst, supra note 9.
To be sure, an investment advisor has some incentives to raise the value of the securities for which it acts as an advisor. Most directly, in the case of advised mutual funds, the advisor’s annual fee is a percentage of the value of the assets under management. Hence, as the value of the assets under management grows, so does the advisor’s fee.

But the applicable percentage is low. For equity index funds, the asset-weighted average fee in 2016 was 9 basis points.\(^{98}\) For actively managed equity funds, it was 82 basis points.\(^{99}\) Even assuming that the advisor expects to earn these fees for multiple years,\(^{100}\) the advisor has a much smaller interest in increasing the value of the assets than an individual owner would have.

These lower incentives are further diluted because investment advisors are likely to bear some of the cost of anticompetitive conduct through their ownership of suppliers and customers.\(^{101}\) Even if reducing capacity and raising prices raises industry profits, it is likely to have some adverse effects on suppliers and customers. Large investment advisors—and index fund advisors in particular—are almost certain to own shares in some suppliers and customers and thus bear a portion of these costs. To some extent, they therefore also bear the costs of anticompetitive conduct.

In fact, increasing overall portfolio value may even reduce the advisor’s fees. Different funds pay different percentage fees to the advisor.\(^{102}\) Increasing the value of stock held in low-fee paying funds at the expense of the value of stock held in high-fee paying funds can reduce overall fees even if it increases overall portfolio value. This problem is particularly acute for investment advisors—such as Blackrock—with large assets under management in both low-fee index funds and much higher-fee active funds.\(^{103}\) Active and index funds run by the same advisor are likely to differ

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99 Id. at 96.
100 The number of years an advisor would earn fees would depend on the remaining period of time mutual fund shareholders and other clients keep their assets with an advisor before they withdraw them.
102 Lambert & Sykuta, supra note 101, at 21 (noting that different funds charge different fees). The same is true of different clients of the advisor.
not only in fees, but also in the stocks held by these funds. While an index
fund holds similar percentages in all companies in an industry that are in the
index, holdings by active funds are likely to be concentrated in a subset of
such companies.

To illustrate these points, consider Primecap, one of the principal CCOs
of airline stock. At the end of 2016, Primecap held, among other airline
stock, 5.2% of the stock of Alaska Air and 6.3% of the stock of United
Continental, with a combined value of $2 billion. Primecap acts as an
advisor to the lower-fee Vanguard Primecap fund\(^\text{104}\) and the higher-fee
Primecap Odyssey funds as well as for other clients,\(^\text{105}\) with its mutual
funds accounting for 67% of the holdings in these two airlines.\(^\text{106}\) Because
of its joint holdings in Alaska Air and United Continental, Primecap could
increase its portfolio value by $5 million if it induced United to pursue a
strategy that reduced the value of United by $500 million and increased
Alaska Air’s value by $700 million.\(^\text{107}\) But because the lower-fee Vanguard
Primecap fund holds most of the Alaska Air stock but only about half of the
United stock,\(^\text{108}\) Primecap’s annual fees adjusted for the fund holdings
would actually decline by $10,000.\(^\text{109}\) Indeed, if Primecap had the opposite
opportunity—reduce Alaska Air’s value by $700 million to increase
United’s value by $500 million—it would reduce portfolio value yet
increase its fees. And even if Primecap charged the same fee on all its funds,

\(^\text{104}\) The Vanguard Primecap fund charges annual fees of 0.33% to 0.39% . The calculations
assume that Primecap earns fees of 0.36% on assets in this fund.
\(^\text{105}\) The Odyssey funds charge fees of 0.64% to 0.69%. The calculations assume that Primecap
earns fees of 0.65% on assets in this fund.
\(^\text{106}\) Primecap’s 13F also includes shares that are in neither of these funds and we assume its
advisory fees on these shares are equal to the fees it earns on the Odyssey funds.
\(^\text{107}\) The increase in Alaska Air’s value would increase Primecap’s portfolio value by $36.4
million (5.2% of $700 million); the decrease in United’s value would decrease Primecap’s
portfolio value by $31.5 million (6.3% of $500 million).
\(^\text{108}\) The Vanguard Primecap Fund accounted 86.2% of Primecap’s 13F holdings in Alaska Air
but only 53.7% of the holdings in United.
\(^\text{109}\) The change in Vanguard Primecap’s value is (86.2%)(-$36.4 million) + (53.7%)(-$31.5
million) = -$14.46 million. The change in the value of the Odyssey funds and other assets is
(13.8%)(-$36.4 million) + (46.3%)(-$31.5 million) = -$9.56 million. The increase in fees from
Vanguard Primecap is 0.36% of -$14.46 million, or approximately $52,000. The decrease in fees
from Odyssey funds and all other assets is 0.65% of -$9.56 million, or approximately $62,000.
The net effect on fees is therefore approximately -$10,000.
its annual fees (based on its average fund fee) would increase by only $25,000.110

Mutual funds also have incentives to improve performance in order to generate net inflows. But empirical evidence has shown that net inflows respond to relative performance, not absolute performance.111 As such, attracting net inflows would not generate significant incentives for index funds, which are designed to neither underperform nor outperform the index benchmark. And for nonindex funds, the impetus to improve relative performance is associated with incentives quite distinct from maximizing portfolio values, and quite unrelated to MHHIΔ as conventionally measured.

Relative fund performance is improved if the share price of a company in which a fund is overweight relative to the benchmark rises and the share price of a company in which a fund is underweight drops.112 To illustrate, recall the airline example from Part III. Suppose that there is a route in which American, Delta, and United compete, and share the market equally. Whiterock (as before) owns 10% of American and Delta. Three NCOs each own 10% in one airline. A CCO of all three airlines, Redrock, owns 10% of each. The MHHIΔ for this route, calculated in the conventional fashion, is 3333.113

To see the impact of relative performance, we need a benchmark. Suppose that the benchmark would have investors hold, given their size, 5% of each airline. Thus, each NCO is overweight in its airline and underweight in the two others, while Whiterock is overweight in American and Delta, and Redrock is overweight in all three airlines. Table 2 reports the degree to which each investor is over- or underweight in each airline.

110 This calculation assumes that Primecap earns fees of 0.52% on all its assets. 0.52% of $4.9 million is approximately $25,000.
111 See, e.g., Brad M. Barber, Xing Huang & Terrance Odean, Which Factors Matter to Investors: Evidence from Mutual Fund Flows, 29 REV. FIN. STUD. 2600 (2016); Jonathan Lewellen & Katharina Lewellen, Institutional Investors and Corporate Governance: The Incentive to Be Engaged (2018) (unpublished draft) (finding that, for large institutions, flow incentives are significantly less important than direct incentives generated by an increase in portfolio value).
112 See, e.g., Kahan & Rock, supra note 97.
113 This calculation is set out in the Appendix.
Table 2: Investor Holdings Relative to Benchmark

<table>
<thead>
<tr>
<th>Holdings and over/underweight</th>
<th>American</th>
<th>Delta</th>
<th>United</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benchmark</strong></td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>NCO for American</td>
<td>10%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>+5%</td>
<td>−5%</td>
<td>−5%</td>
</tr>
<tr>
<td>NCO for Delta</td>
<td>0%</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>−5%</td>
<td>+5%</td>
<td>−5%</td>
</tr>
<tr>
<td>NCO for United</td>
<td>0%</td>
<td>0%</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>−5%</td>
<td>−5%</td>
<td>+5%</td>
</tr>
<tr>
<td>Whiterock</td>
<td>10%</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>+5%</td>
<td>+5%</td>
<td>−5%</td>
</tr>
<tr>
<td>Redrock</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>+5%</td>
<td>+5%</td>
<td>+5%</td>
</tr>
</tbody>
</table>

To capture the interaction of relative performance with common ownership, we can calculate an alternative “relative performance” version of MHHIΔ, in which the economic stake of each investor is based solely on the relative performance incentives—where being overweight is equivalent to a long position to the extent a fund is overweight and being underweight is equivalent to holding a short position. For example, as to America’s NCO, the MHHIΔ is calculated assuming that the NCO has a control share of 10% in American and 0% in Delta and United, corresponding to its actual ownership stake, and an economic stake of 5% in American and 5% short positions in Delta and United, corresponding to its relative performance incentives. In this example, the relative performance MHHIΔ equals 0, the same as if the three airlines were held entirely by dispersed owners. But if, for example, Redrock were a large index fund such that its benchmark (given its size) would entail holding 10% of each airline, this ownership structure would produce an MHHIΔ of −4444. As this example illustrates, any relative performance incentives are not well proxied by MHHIΔ.

114 This calculation is set out in the Appendix.
115 See also Lewellen & Lewellen, supra note 111, at 44 tbl.7 (finding that, in industries with less than 25 firms, a majority of institutional shares are held by entities for which rival flow incentives are negative; that is, the institution benefits in relative performance terms if its rivals do poorly).
B. Costs

The costs to advisors of employing the mechanisms we have discussed above go beyond the costs of generating and implementing a strategy that leads to anticompetitive results. They include, depending on the specific mechanism involved, significant reputational and legal risks if use of the mechanism is detected.

The institutional investors likely to have the largest common ownership stakes in any industry will be—and the institutional investors that AST find as having the largest common ownership stakes in the airline industry are—some of the largest and best-known investment advisory companies, such as Vanguard, Blackrock, Fidelity, and T. Rowe Price. The assets managed by these companies run to the trillions of dollars; their products are marketed to retail and institutional investors including defined benefit and defined contribution pension plans, charities, endowments, and central banks; and their business operations are highly regulated.

From a strategic perspective, these companies do not want to generate controversy. Controversy and scandals are bound to attract attention from regulators and to generate withdrawals from investors. Even a small difference in the growth rate of assets under management, say 4% compared to 5%, would mean $50 billion fewer assets under management for Vanguard and $21 billion fewer for Fidelity. In fact, mutual fund companies have been largely successful in staying on everybody’s good side and the industry as a whole, and the largest players, in particular, enjoy a squeaky-clean image.

Any suggestion that an investment advisor as a whole—not just some obscure analyst or a portfolio manager of an individual fund—had a policy of encouraging firms to pursue an anticompetitive strategy could be damaging. An article in the Wall Street Journal detailing internal deliberations within an investment advisor on how best to get firms to adopt such a strategy would be highly detrimental. And a criminal investigation, let alone an indictment, could be devastating.

Legal risks to advisors arise from several sources: the possibility that the mechanism engenders a violation of the antitrust laws for the portfolio company or, worse, implicates the advisor itself in a violation; the

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116 Blackrock, Inc. (Form 10-K), supra note 103, at 1.
117 Id. at 10 (“virtually all aspects of [its] business operations are subject to various laws and regulations around the world,” including the Investment Company Act, the Securities and Exchange Act, ERISA, and a multitude of other U.S., European and Asian-Pacific regulations); id. at 18–27 (containing three-and-a-half page “Legal and Regulatory Risks” disclosure, as long as the four risk sections on Market and Competition Risk, Risks Related to Investment Performance, Risks Related to Human Capital, and Risks Related to Key Third Party Relationships combined).
possibility that the mechanism involves a breach of fiduciary duty by the advisor to the advised funds and clients; and the possibility that the mechanism entails a violation of the federal securities laws.

A CCO pursuing a targeted active strategy—for example, pressing several airlines to avoid competition with one another—might well face antitrust liability. The interactions between the CCO and each portfolio firm could be regarded as vertical agreements in restraint of trade or as facilitation of a cartel among the firms, with the CCO serving as the cartel’s ringmaster. Even if the firms do not communicate among themselves, the CCO’s involvement could expose them to liability on a “hub-and-spoke-and-rim” theory of liability, in which an agreement among the firms (“along the rim”) is inferred from the interactions between the CCO (the hub) and each firm. The exact scope of inferring a horizontal agreement is not well settled, but a common formulation is that liability attaches when the hub makes an offer to each firm, which is accepted with the knowledge that (and perhaps in reliance upon the fact that) the other firms have accepted as well. Moreover, the hub is regarded as an integral (and joint and severally liable) part of the resulting conspiracy, despite its vertical relationship to the other conspirators.

Furthermore, investment advisors face potential legal risks for breach of fiduciary duty. Investment advisors provide services to mutual funds, separate legal entities, and other clients that own the shares of portfolio companies. The advisor owes an independent fiduciary duty to each fund and each other client. If an advisor votes a client’s shares in a manner that increases the advisor’s overall portfolio value, but reduces the client’s portfolio value, or otherwise uses the leverage of being in control of a client’s shares to induce a firm to adopt a strategy that is not in the best interest of the client, it violates its fiduciary duties.

Different mutual funds in the same family and advised by the same advisor, and different other clients, will own different stakes in competing firms. Any strategy that leads to a reduction in the value of one portfolio company for the benefit of other companies in the advisor’s portfolio is liable not to be in the interest of some of the advisor’s clients. To return

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121 See, e.g., John Morley, Too Big to Be Activist 9 (2018) (unpublished manuscript) (“each client is a separate locus of fiduciary duties”).
122 To be sure, a client with shares in many oligopolistic industries and a long-term horizon may, across stocks and over time, come out ahead if the advisor used its control to maximize overall portfolio, rather than client portfolio, value. Such a client may thus consent to such use.
to our example from Section IV.A, if Primecap induced United to pursue a strategy that reduced the value of United by $500 million and increased Alaska Air’s value by $700 million, its overall portfolio value would increase by about $5 million, the portfolio value of the Vanguard Primecap fund would increase by $14.5 million, but the value of the assets held in the Primecap Odyssey funds and of other assets held outside the Vanguard Primecap fund would decline by $9.6 million. \(^{123}\)

From the perspective of fiduciary duty, the safest solution is for the voting group to base its recommendations on what vote maximizes the value of a portfolio company. In the event that a portfolio fund manager believes that a different vote is in the interest of her fund, the fund could depart from the recommendations. Indeed, mutual funds in the same family sometimes vote differently. \(^{124}\) As long as an advisor does not affirmatively act in a manner that reduces the value of a portfolio company, it faces no serious risk of liability for breach of fiduciary duties. Thus, across-the-board passive mechanisms and selective omission—which merely involve a failure to take actions that would increase the value of a portfolio company—do not create material fiduciary duty risks.

Finally, investment advisors would face some legal risks under the securities laws. The principal risk arises under Rule 10b-5, which forms the basis for the prohibition of insider trading. \(^{125}\) If an advisor obtains material nonpublic information from a firm manager about her company and that manager breaches her fiduciary duties in conveying that information, the advisor must abstain from trading stock in that company until the information is disclosed.

Targeted active mechanisms create the most 10b-5 concerns. At first blush, there might seem to be no issue. The CCO is trying to direct the firm,

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Without a client’s consent, however, an advisor could not on its own decide to act for the benefit of some client portfolios and against the interest of others on the hope that, in the end, everyone will come out ahead. See also Vanguard Proxy Voting Guidelines, http://pcg.law.harvard.edu/wp-content/uploads/2016/09/5-Vanguards-proxy-voting-guidelines-.Vanguard.pdf (stating that Vanguard’s Proxy Oversight Committee is charged to vote each fund’s shares in the best interest of that fund’s shareholders).

\(^{123}\) As calculated supra note 109, the value of Vanguard Primecap would increase by $14.46 million, while the value of assets in the Primecap Odyssey funds and other assets would decline by $9.56 million.


as opposed to gleaning material nonpublic information from it. However, matters are not so simple. Targeted active mechanisms would likely be implemented through private meetings; thus, any information learned would often be nonpublic. In such private meetings, firm managers may indicate that they will follow the strategy pushed by a CCO. If that strategy relates to a significant segment of the firm’s operations, this information could be material. And since the firm manager would agree to a strategy that lowers firm value, and would presumably do so to avoid the adverse ramifications from refusing to agree, the manager would breach her fiduciary duties to the company and its shareholders. By contrast, mechanisms that involve no communications with firm managers, mechanisms where any communications take place in public settings, and communications where firm managers do not pursue an action that involves a breach of duty would not generate equivalent concerns.

To be sure, with respect to breaches of fiduciary duty and Rule 10b-5, the monetary liability even if a violation is established may be small. However, the associated reputational penalty may be much larger. Assume, for example, that, in the context of a governmental investigation or a civil lawsuit, an internal memo by Whiterock is discovered. The memo shows calculations of how a certain strategy by American would lower the firm’s profits while raising profits for Delta, and then concludes that Whiterock would benefit if American pursued that strategy because its holdings in Delta would rise by more than its holdings in American would decline. Whiterock may be able to settle a breach of fiduciary duty suit by clients who hold only stock in American for a small amount. But the reputational damage would be much higher.

Notably, any monetary liability or reputational penalty would be borne by the investment advisor, not by the advised mutual fund shareholders or other client that received the lion’s share of the benefit from any increase in portfolio value. The advised fund shareholders or other client would generally not be involved in the wrongdoing and have no particular reputational stake. The investment advisor would thus bear the full legal and reputational costs but would benefit only fractionally from an increase in portfolio values. As a result, the advisor should be reluctant to employ a mechanism that carries a significant risk of detection and significant costs if detected.

The possibility that a mechanism, if detected, could result in legal liability or reputational harm affects not just the cost-benefit calculus. It also bears on the leverage a CCO has over firm management to induce it to pursue a firm value-reducing strategy. To the extent that firm management (or, for that matter, an NCO) is aware of the mechanism, it could threaten the CCO with publicly disclosing its use if a CCO retaliates against
management for not observing the CCO-favored strategy. The CCO, as a result, would have more to lose than firm management. The only plausible mechanisms, therefore, are ones where either the firm management is not aware of its use, where detection would result in no legal liability or reputational harm, or where firm management has no incentives to disclose the use of the mechanism.

From a cost-benefit perspective, it is therefore unlikely that an advisor would want to employ targeted active mechanisms. Targeted active mechanisms generate the highest risks of material legal and reputational sanctions if detected and, as discussed in Part III, the highest risks of detection. In comparison, across-the-board mechanisms and selective omission generate lower risks of detection126 (their implementation requires no illicit communications or arrangements with the targeted firm) and sanction.

V. IMPLICATIONS

In this Part, we draw several implications from our analysis. First, we summarize the results of our evaluation of potential mechanisms, distinguishing those that are more or less supported by the available theory and evidence. Next, we explain the central importance of investor type to the analysis of CCOs. Then we identify a persistent gap in our empirical understanding of common ownership, namely direct evidence about the “who, where, when, and how” employed by CCOs. Finally, we explain our bases for concluding that the case for radical reform has not been proved.

126 The likelihood of detection of across-the-board mechanisms also depends on whether a CCO has established voting guidelines that presumptively determine its votes on certain recurring issues and has conflict of interest policies that subject votes that deviate from these guidelines to special scrutiny. For example, at T. Rowe Price, certain index funds are not permitted to cast votes inconsistent with its guidelines (and must abstain on matters not governed by guidelines). At its other funds, votes inconsistent with voting guidelines must be approved by its proxy committee. See T. Rowe Price, Proxy Voting Guidelines, http://www3.troweprice.com/usis/content/trowecorp/en/utility/policies/_jcr_content/maincontent/policies_row_1/para-mid/thiscontent/pdf_link/pdffile. At State Street, the Asset Stewardship team has the sole discretion to decide on votes, may not disclose any voting decision to individuals not affiliated with the voting process prior to the meeting dates, and must report any votes in deviation from the guidelines to the Proxy Review Committee on a quarterly basis. See State Street Global Advisors, 2018 SSGA Conflict Mitigation Guidelines (Mar. 16, 2018), http://www.ssga.com/our-insights/viewpoints/2018-ssga-conflict-mitigation-guidelines.html. Such guidelines and policies make it harder for an investment advisor to execute any across-the-board mechanism involving voting unless a larger number of advisor officials are aware of and actively participate in the execution of the mechanism.
A. Assessing Mechanisms

In Parts I through IV, we identified and then assessed a wide range of potential mechanisms linking CCOs to anticompetitive outcomes. Our assessment evaluated each mechanism according to four criteria: whether the mechanism is actually tested by the empirical evidence; whether the mechanism is effective; whether the mechanism is feasible; and whether the expected benefits to an institutional CCO from employing the mechanism are likely to exceed its expected costs.

We conclude that, as to most mechanisms, there is no strong theoretical basis for believing that institutional CCOs would want to employ them or else no significant evidence suggesting that they do employ them (or both). For example, the empirical evidence for the use of across-the-board mechanisms is scant and most of these mechanisms are of doubtful effectiveness. Targeted active mechanisms are difficult to execute and, given the risk of detection, entail substantial legal and reputational risks.

The risk of detection has a further implication for any assessment of the likelihood that the mechanism is actually in use. From a Bayesian perspective, one starts with some prior probability based (among other things) on theoretical arguments that CCOs have an interest in increasing their portfolio values, and information regarding the effectiveness and feasibility of various mechanisms. Empirical studies such as the AST airline study prompt an updating of this prior probability. To the extent that certain mechanisms as well as other factors could lead to the results that AST found, the posterior probability conditional on the empirical result found is higher than the prior probability.

But lack of direct evidence of the use of the mechanism leads to a further updating. To the extent that one would have expected such evidence to have emerged, the posterior probability conditional on such evidence of its use not having emerged is lower than the prior one. To us, the absence of any direct evidence of the use of targeted active strategies where the direct evidence should be plentiful casts significant doubt on whether these strategies are used.

However, our assessment is not uniformly negative. Selective omission is effective and feasible, consistent with the empirical evidence, and could conceivably generate benefits for institutional investors that exceed the legal and reputational risk. Some specific across-the-board mechanisms, although substantial empirical support is so far lacking, are also theoretically feasible and, at least for certain CCOs, likely to be effective. Our assessment of mechanisms is summarized in Table 3.
Table 3: Assessment of Mechanisms

<table>
<thead>
<tr>
<th>Consensus</th>
<th>Tested?</th>
<th>Effective?</th>
<th>Feasible?</th>
<th>Risk?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflict:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Across-the-Board Passive</td>
<td>No</td>
<td>No (mostly)</td>
<td>Yes</td>
<td>Very Low</td>
</tr>
<tr>
<td>Across-the-Board Active</td>
<td>No</td>
<td>No (mostly)</td>
<td>Mixed</td>
<td>Low</td>
</tr>
<tr>
<td>Targeted Active</td>
<td>Yes</td>
<td>Maybe</td>
<td>Very difficult</td>
<td>High</td>
</tr>
<tr>
<td>Targeted Passive (Selective Omission)</td>
<td>Yes</td>
<td>Maybe</td>
<td>Yes (difficult)</td>
<td>Low</td>
</tr>
</tbody>
</table>

**B. The Importance of Investor Type**

Our analysis reveals a pervasive shortcoming in the analysis of CCOs: the failure to carefully distinguish among different types of owners. Our analysis shows the need to think more carefully about how incentives differ systematically by owner type and how investment advisors that mostly advise index funds differ from other institutional CCOs.

1. **Systematic Differences.** — Owner types differ systematically in the benefits they would obtain from employing the mechanisms we have discussed and in the reputational costs of employing the mechanisms. Given the typical fee structure, investment advisors that manage predominantly index funds—Vanguard, State Street, and Blackrock—have lower incentives (relative to size) than investment advisors that manage predominantly active funds. As large institutions subject to extensive regulation, mutual fund advisors in general, and Vanguard, State Street, and Blackrock in particular, may also face high costs if they are implicated in antitrust violations or other actions that generate adverse publicity. Actively managed funds would have relatively stronger incentives since they charge higher fees and can strategically allocate a greater portion of their assets to industries where pursuit of anticompetitive strategies may be profitable. Hedge funds, which charge much higher asset-based fees than even actively-managed mutual funds as well as steep performance-based fees and which have less to lose from adverse publicity, as well as individual investors, would have even stronger incentives than investment advisors for actively managed mutual funds. Even if we had conclusive evidence that CCOs who are individuals or hedge funds employ a mechanism, such evidence would shed little light on whether investment advisors for mutual funds do so as well.
Systematic differences in incentives between different types of owners also complicate any assessment of passivity mechanisms. Mutual fund advisors are more likely to be CCOs than individual investors and hedge funds. Among mutual fund advisors, index fund advisors are more likely to be industry-wide CCOs than active funds. As a result, changes in MHHIΔ may be correlated with changes in the average incentives of shareholders to raise firm value.

Consider, for example, two industries, both duopolies, with mutual fund CCOs holding significant stakes in the duopolists in the first industry and hedge fund NCOs holding significant stakes in the duopolists in the second. Let us suppose that empirical evidence shows that pay-for-performance incentives are lower in the first industry than in the second—a finding corresponding roughly to the results in AEGS. The difference could be due to CCOs encouraging anticompetitive, firm value-reducing strategies in order to maximize the value of their portfolio—for example, by failing to push for performance incentives. But the difference in managerial incentives could instead be due to the fact that the mutual fund CCOs in the first industry have lower incentives to encourage firm value-increasing strategies than the hedge fund NCOs in the second industry—that they are passive not because passivity benefits their portfolio but because they lack, compared to NCOs, incentives to take firm-value increasing actions. To distinguish among these explanations, one would need to compare two industries, one with mutual fund CCOs and another with mutual fund NCOs; that is, one would have to control for owner type. Such an examination has not yet been pursued.

2. The Special Case of Index Fund Advisors. — Two of the largest investment advisors manage predominantly index funds. State Street Global Advisors manages hardly any active domestic equity funds. Vanguard has a quantitative equity group that manages or co-manages some active domestic equity funds, but the assets of these funds constitute a very small portion of Vanguard’s total domestic equity assets under management.¹²⁷

On the one hand, index funds are paradigmatic CCOs. They own, in equal proportions, all firms represented in the index. To the extent the index includes most of the relevant competitors, they benefit when industry profits rise. In the airline industry, for example, Alaska, United, Delta, American and Southwest are all in the S&P 500 index, and JetBlue is in the S&P Midcap index. Whereas increased ownership by an advisor of active funds may or may not raise MHHIΔ, given its ownership of some but not all

¹²⁷ In addition, some funds bearing the Vanguard name, such as the Vanguard Primecap Fund, are advised by different investment advisors (e.g., Primecap Management). See supra Part IV.
competitors.\textsuperscript{128} Increased ownership shares by index funds is much more likely to have such an effect. Index fund growth would thus appear to be a major contributor to the observed increase in MHHIΔ.\textsuperscript{129}

Moreover, index funds (absent a change in the index) do not change their relative portfolio composition. In theory, that leaves index funds better positioned to benefit from mechanisms that require longer time horizons, such as voting and across-the-board passive mechanisms.\textsuperscript{130}

But advisors that predominantly manage index funds face particularly difficult challenges in employing targeted mechanisms. The task of portfolio managers in index funds is to generate returns that match that index. Even more so than portfolio managers for active funds, they lack the incentives and the expertise to design targeted strategies.\textsuperscript{131} And investment analysts focusing on particular firms or industries are not needed at index funds. A dearth of in-house analysts makes generation of a targeted strategy harder.

Transmission of a targeted strategy may also be harder. When interacting with firm executives, analysts or their equivalent at Vanguard and State Street, who advise only the small actively-management business segment, would clearly not be viewed as representing the views of Vanguard or State Street as a whole. Top-level managers at State Street and Vanguard subscribe to an indexing culture. For them, to hold meetings with voting officials or senior firm executives to discuss issues like route-level pricing and capacity would be exceedingly odd. Indeed, based on their published information, it seems that index fund advisors in their dealings with portfolio companies focus on broad governance issues and do not get involved in business strategy.\textsuperscript{132}

On the whole, therefore, the set of potentially effective and feasible mechanisms available to Vanguard and State Street differs from the respective sets available to investment advisors that largely manage active funds (or that, like Blackrock, have an active fund business that is large in absolute size). In particular, index-fund advisors like Vanguard or State Street may have difficulty developing and executing a selective omission

\textsuperscript{128} See Appendix.
\textsuperscript{129} See AST, supra note 2.
\textsuperscript{130} See supra Part II.
\textsuperscript{132} Vanguard, for example, held 954 engagement meetings worldwide during 2017. According to Vanguard, the most frequent topics discussed during these meetings are governance (58%), executive compensation (55%), board of directors (including gender diversity) (52%), risk oversight (14%), and “activism and contentious transactions” (16%). \textit{See} VANGUARD GROUP, \textit{supra} note 92, at 7.
strategy. On the other hand, because of their longer investment horizon, they may be better equipped to execute across-the-board strategies, such as disfavoring relative performance incentives and supporting management against activists who advocate more aggressive competition. Whether Vanguard and State Street pursue any of these strategies and whether they have a material anticompetitive impact merits further inquiry.\footnote{\textsuperscript{133}}

\textbf{C. Beneficial Effects of Common Owners}

To the extent that common concentrated owners have the ability and the incentives to affect company behavior, there is no reason to believe that they limit themselves to reducing competition. Rather, they can also be expected to induce economically efficient actions by firms, where such actions increase firm value and do not unduly threaten the CCO’s other portfolio holdings.\footnote{\textsuperscript{134}}

To illustrate these points, let us return once again to our airline example. As before, American and Delta compete on Route 1, while American and United compete on Route 2. We focus on the best supported mechanism, a strategy of selective omission. Consider three types of profitable action that American might take, not all of which are available at a given moment: lower price on Route 1 or Route 2 if it is too high; reduce marginal costs, thereby improving efficiency; and raise price on Route 3 if it is too low. Some of these profitable strategies raise social welfare, and others lower it. The price reductions on Routes 1 and 2 and improved efficiency generally increase social welfare (and consumer welfare), while the price increase on Route 3 generally has the opposite effect. These strategies are summarized in Table 4.

\textsuperscript{133} See also Brav et al., supra note 46 (not finding evidence that index funds are less likely to support activists).

\textsuperscript{134} In addition, concentrated ownership more generally can have positive social welfare effects. See Anton et al., supra note 46.
Table 4: Actions that Increase Profits

<table>
<thead>
<tr>
<th>Social welfare</th>
<th>Advocate?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NCO (American)</td>
</tr>
<tr>
<td>Improve efficiency</td>
<td>+</td>
</tr>
<tr>
<td>Reduce price on Route 1</td>
<td>+</td>
</tr>
<tr>
<td>Reduce price on Route 2</td>
<td>+</td>
</tr>
<tr>
<td>Increase price on Route 3</td>
<td>–</td>
</tr>
</tbody>
</table>

Consider how an NCO and Whiterock (a CCO), each of which has a 10% stake in American, would try to use their influence over the airline. The NCO would favor any action that raises American’s profits. Whiterock would favor some but not all profitable actions. It would favor efficiency enhancements, profitable price increases on Route 3, and profitable price reductions on Route 2. However, it would tend not to favor a profitable price reduction on Route 1, at the expense of its holdings in Delta, and would tend to stay passive rather than advocating such a price reduction.\(^{135}\) These preferences are depicted in Table 4.\(^{136}\)

The net welfare effect of Whiterock’s ownership is ambiguous. Whiterock’s ownership would induce more profit-increasing price increases—a welfare loss—but on the other hand, support efficiency improvements and some (albeit not all) profitable price reductions, resulting in welfare gains.\(^{137}\)

### D. The Need for More—and Different—Evidence

The available evidence deserves the significant attention it has received from us and others. Yet, the results do not establish which specific causal mechanism, if any, links common concentrated ownership to anticompetitive outcomes and which investors employ such mechanisms.

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\(^{135}\) The price drop increases American’s profits (which is good for Whiterock) but at the expense of Delta’s profits (which is bad for Whiterock), and it is unclear a priori which effect is larger.

\(^{136}\) The same is true for a CCO invested in all three airlines. Redrock would (like Whiterock) favor profitable price increases and efficiency enhancements. Compared to Whiterock, Redrock would be more likely to stay passive as to price reductions on a wider range of routes (for example, Route 2), given its wider set of holdings.

\(^{137}\) Our point of comparison here is dispersed ownership. As we explain below, *infra* Section V.E, it is likely that reform proposals designed to address anticompetitive effects of common concentrated ownership would result in more dispersed ownership, rather than noncommon concentrated ownership.
But confirming that such a link exists, and understanding what form it takes and how widespread it is, is crucial in order to determine whether any and what kind of response is appropriate. Moreover, without a good understanding of mechanism, a court is properly reluctant to generalize from empirical results about airlines to other industries.138

The obvious next step, then, is to gather more evidence. There is an ongoing effort to do just that, in the form of studies assessing whether there exists a statistical link between certain ownership structures and anticompetitive outcomes. This work is valuable, and the first four parts of this article provide guidance as to what kinds of additional statistical studies we think should be undertaken.

Beyond the statistical work, we urge a further focus. The goal should be to obtain direct evidence—the who, where, when and how—for the steps taken by CCOs that produce anticompetitive results, and the responsive steps taken by firms to implement them. The existence and nature of such evidence varies depending on the mechanism. Thus, we have also provided guidance about where to look for direct evidence for a specific causal mechanism.

Either type of study should be informed by a deeper understanding of the “who” question—that is, structure and function of large investment advisors. This point is obvious but bears emphasis because the empirical literature has failed to highlight important differences among investment advisors.

The AST airline study is illustrative. The authors provide a table listing the top holders of nine U.S. airlines. The entities most commonly featured as one of the top five holders, and hence the most logical candidates for the “who” responsible for results found by AST, are Blackrock (all nine), Vanguard (all nine), Primecap (five), Fidelity (four), and Berkshire Hathaway (four). Together, these five entities account for 31 of the 45 top five holders; no other entity appears among the top five more than twice.

Yet, there are reasons to doubt both that these entities accounted for the statistical results found by AST and that they actually employ mechanisms that produce anticompetitive results. One reason relates to an aspect of MHHIΔ that we did not emphasize in Part I. Share ownership enters the MHHIΔ formula twice—as the “control share” and as the “ownership share.” High levels of MHHIΔ are generated as a CCO has a high control share in one competitor and a high ownership share in another

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138 See Baker, supra note 101, at 231 (making this point).
competitor. To calculate the MHHIΔ, AST count as “control share” only those shares over which an investor has sole or shared voting power. But Vanguard, in its Form 13F, disclaims voting power over more than 90% of its holdings. Therefore, its holdings would only have a minimal effect on AST’s MHHIΔ calculations. Likewise, Fidelity disclaimed voting power over 75% to 85% of its stock in the airlines, and Primecap disclaimed voting power over 60% to 85%. Measured by voting power, all of these holdings would drop out of the list of top-5 airline holders reported by AST and most would drop out of the top ten. And Berkshire Hathaway, though a large owner as of year-end 2016 (the source for AST’s table), does not seem to have been an owner of airline stock in the 2001 to 2014 period of the AST study. As measured by AST, therefore, none of these four entities was an important CCO in the 2001 to 2014 period, and changes in ownership by these entities probably made no material contribution to the regressions run by AST.

Blackrock thus looms large. It is a significant holder in all nine airlines and claims voting power over most of its shares. But Blackrock’s incentives are most misspecified by AST. Because Blackrock has a majority of its assets in low-fee indexed portfolios but a significant minority in much higher-fee actively managed portfolios, portfolio value maximization for Blackrock as a whole is not approximately the same as fee revenue maximization. As a result, if CCOs try to induce anticompetitive actions in order to maximize their own profits, Blackrock’s misspecified objective function would make it a poor candidate to generate the results found by AST. The “who” of the who, where, when and how remains as murky as ever.

E. The Unproven Case for Broad Reform

As already noted, the literature thus far does not establish which specific causal mechanism, if any, links CCOs to higher prices or which investors employ such mechanisms. Given the absence of a clear mechanism as well as

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139 To see this, recall that MHHIΔ includes this term in the numerator: \( \sum \gamma_{ij} \beta_{ik} \), where \( \gamma \) is the control fraction and \( \beta \) is the ownership fraction. This term increases in \( \gamma_{ij} \) (the control fraction of owner \( i \) in firm \( j \)) and \( \beta_{ik} \) (the ownership fraction of owner \( i \) in firm \( k \)).

140 AST, supra note 2, at 1525 (“[W]e calculate the control share . . . as the percentage of the sole and shared voting shares . . . held by shareholder \( i \). Similarly, we calculate the ownership share . . . as the percentage of all shares (voting and non-voting) . . . held by shareholder \( i \).”).

141 See, e.g., Vanguard Group Inc., Report for the Quarter Ended December 31, 2013 (Form 13F) (Feb. 12, 2014) (claiming investment authority over 49,674,722 shares in Delta Airlines, but sole or shared voting authority over only 1,171,283 of these shares).

142 See, e.g., FMR LLC, Report for the Quarter Ending March 31, 2013 (Form 13F) (May 9, 2013) (claiming investment authority over 22,785,998 shares in Delta Airlines, but sole or shared voting authority over only 3,340,619 of these shares).
as the present extent of the empirical literature, we consider the case for broad reform to be not proven. Moreover, we disagree with the view that mechanism identification can or ought to be simply dispensed with, or that reform efforts or enforcement actions against institutional investors should simply charge ahead in the meantime.

Our analysis furnishes three bases for disagreement. First, as explained above, the welfare effects of CCOs are ambiguous. Second, investment advisors differ on multiple fronts that relate to the likelihood that they would use one of the strategies we discussed: the benefits they would obtain from raising portfolio value, the costs from exposure that they induce anticompetitive actions, their ability to generate targeted mechanisms, their dependence on access to managers, and their portfolio turnover. These differences are a further reason for skepticism about reforms that fail to attend to these differences. It also bears note that these proposals go well beyond the results obtained by AST which, for example, states that the statistical link between MHHIΔ and higher prices is confined to common owners with low portfolio turnover.\textsuperscript{143}

Third, ambitious reform is beset by several perverse consequences. For example, as noted in the Introduction, PSW propose that investors be limited to holding either no more than 1% of the stock of companies in specified oligopolistic industries or to holding the stock of only a single company in any such industry.\textsuperscript{144}

Consider the implications of the proposal for large investment advisors like Blackrock, Fidelity, and T. Rowe Price whose holdings would go beyond the 1% limit. For advisors to active funds, being confined to a single stock in an industry would be extremely problematic. Large advisors manage assets in different funds and for a large number of clients. But funds (and clients) would not agree as to what stock to pick. Fund investment choices are affected by the fund objectives—growth or value, large cap or small cap—and the views of the fund portfolio manager. Since active funds are marketed on the bases of these objectives and on the track records of fund portfolio managers, limiting a fund to a single stock in an industry would place it at a severe competitive disadvantage, compared to funds managed by smaller advisors that are not constrained by the 1% limit.

Moreover, even if all portfolio managers within an investment advisory complex could agree about what company to invest in, that choice would change over time. Switching from one stock to another (say from Delta to United) as firm fortunes and investor views change would be a logistical

\textsuperscript{143} AST, supra note 2.\textsuperscript{144} PSW, supra note 7; see also Scott Morton & Hovenkamp, supra note 7. As PSW note, institutional investors that manage only index funds could also opt for pure passivity—not casting any votes and abstaining from any meetings with executives.
nightmare. To obtain exposure to the airline industry while investing only in Delta, a large advisor like Fidelity or Blackrock would have to take substantial positions in that company. The investment advisor would then have to divest itself from most of its Delta stock before it could buy a single share of United.\textsuperscript{145} By the time the advisor was permitted to buy United stock, United’s stock price might no longer present an attractive investment opportunity. To avoid these constraints, clients would probably move assets from larger investment advisors to smaller ones, for which the 1% industry limit would not be binding.

Given the disadvantages, the PSW proposal would increase fragmentation among advisors.\textsuperscript{146} Fragmentation would have several effects. For companies in the oligopolistic industries targeted by the proposal, fragmentation could lead to fewer anticompetitive results. However, this benefit only arises if CCOs employ an active mechanism. As we have explained, combining two CCOs into a larger one, or splitting a CCO in two, has no impact on anticompetitive effects achieved through pure passivity.\textsuperscript{147} On the other hand, fragmentation would reduce the procompetitive benefits of concentrated ownership, such as efficient management, with ambiguous net effects. Meanwhile, in \textit{non-oligopolistic} industries, increased fragmentation is likely to have purely adverse effects, by reducing the power and incentives of institutional holders to induce managers to increase company value.\textsuperscript{148} A final effect is on the fees paid by investors to advisors, which should increase due to the multiplication of fixed costs amidst the subdivision of advisors.

\textsuperscript{145} For example, according to AST, Blackrock held between 5.6% and 7.6% of the stock in each of the six largest U.S. airlines, suggesting holdings of about 6% of the industry. Assuming Blackrock wanted to maintain its overall exposure to airlines and held only Delta stock in an amount equal to 6% of the industry, it would have to hold about 23% of Delta’s outstanding stock. If Blackrock then decided that that United would be a better investment than Delta, it would be forced to sell 19% of Delta stock to bring its industry holdings to less than 1% before it could acquire any shares of United. During the transition period, Blackrock’s investments would be substantially underweight in airline stock overall, making it more difficult for investors to obtain the benefits of diversification.

\textsuperscript{146} The fragmentation would affect both index funds and active funds. As to index funds, the most likely effect is to split off such funds from actively managed funds. This, albeit for different reasons, is how Fidelity handles its index funds: they are advised by Geode, the voting of their shares is determined by a different group than the one that determines the vote of shares in other Fidelity funds, and their assets are not included in Fidelity’s 13F, 13D and 13G filings. For some advisors, stand-alone index funds may already fall below the 1% limit; if not, they could either be broken apart further or opt for pure passivity.

\textsuperscript{147} \textit{See supra} Part II.

\textsuperscript{148} If, as appears to be a necessary premise for reform proposals, CCOs increase portfolio value by inducing firms to adopt firm value-decreasing measures and by means that may violate antitrust laws and the CCOs’ fiduciary obligations, they presumably also do so by inducing firms to increase firm value by enhancing the efficiency of their operations.
But even putting aside the issue of reform, investigating whether and how CCOs generate anticompetitive outcomes is valuable. Sunlight is an effective disinfectant. As we have shown, to the extent that a mechanism creates the risk of legal liability or reputational harm to an investment advisor, the advisor would want to use it only as long as the risk of detection is sufficiently low. The attention drawn by AST and others to a possible link have raised the risk of detection, which may on its own tend to eliminate the use of such a mechanism.

CONCLUSION

In this article, we have identified and examined a wide range of mechanisms by which CCOs might cause anticompetitive outcomes. Some of them—notably, consensus mechanisms and across-the-board passive mechanisms—remain largely untested by the empirical literature. Others, including most targeted active mechanisms, require actions that are implausible for an institutional CCO to take. The mechanism that is tested by the data and plausibly consistent with institutional CCO capacities and incentives is selective omission. If this or other mechanisms are in fact employed by CCOs, there should be visible traces in the actions of CCOs and responses of firms. Searching for such direct evidence is therefore an urgent project for future research.

Even though it remains unclear whether CCOs might cause anticompetitive outcomes—and if so, which ones, and how—it may be tempting to follow the principle that “better safe than sorry.” On this view, even a small probability of CCOs having anticompetitive effects supports a strong prophylactic response. An NCO might appear to be a safe pair of hands, fostering competition while preserving incentives to maximize firm value. And indeed, a leading figure in the literature about CCOs has extolled the ownership structure of Virgin America, in which Virgin’s founder holds a large stake.149 Such an NCO has “incentives to encourage the firm to innovate, invest in increased capacity, reduce costs, and increase market share at the expense of the firm’s rivals.”150

This temptation should be resisted. As we have explained, getting rid of CCOs also means a significant loss of procompetitive benefits, particularly for investors that own some but not all of the firms in a market. Moreover, NCOs—particularly individual owners with large stakes—come with downsides of their own. Such owners have stakes that may enable them to dominate the board and insulate them from being ousted by their fellow shareholders—rendering them virtually unaccountable. They may use their

149 Schmalz, supra note 47 (describing Richard Branson’s 31% stake in Virgin Atlantic).
150 Id.
power not, or not just, to encourage firms to innovate or compete, but to take part in varied forms of self-interested actions that have long been the scourge of corporate law scholarship. It is against just such conduct that institutional investors such as Vanguard, State Street and BlackRock can provide a useful bulwark. Analyzing ownership structure purely through the lens of antitrust law—and embracing reforms that hobble CCOs to obtain hoped-for antitrust benefits—thus misses an important part of the story.

151 Such “private control benefits” include transactions that benefit the owner, hiring the owner or family members to corporate positions, timing corporate distributions to fit the owner’s personal tax and liquidity needs, or refusing to sell the company at a price attractive to other shareholders. For an introduction to a large literature, see Ronald J. Gilson & Jeffery N. Gordon, Controlling Controlling Shareholders, 152 U. PA. L. REV. 785 (2003); Alexander Dyck & Luigi Zingales, Private Benefits of Control: An International Comparison, 59 J. FIN. 537 (2004); Zohar Goshen & Assaf Hamdani, Corporate Control and Idiosyncratic Vision, 125 YALE L.J. 560 (2016).
APPENDIX

1. Calculating MHHI

Section I.B offers, as an illustrative example, two airlines (American and Delta) that equally share the market. To calculate MHHI, we begin with the following general formula:

$$\sum_j \sum_k s_j s_k \frac{\sum_i \gamma_{ij} \beta_{ik}}{\sum_i \gamma_{ij} \beta_{ij}} = \sum_j s_j^2 \frac{\sum_i \gamma_{ij} \beta_{ij}}{\sum_i \gamma_{ij} \beta_{ij}} + \sum_j \sum_{k \neq j} s_j s_k \frac{\sum_i \gamma_{ij} \beta_{ik}}{\sum_i \gamma_{ij} \beta_{ij}}.$$

where $i$ indexes owners, and $j$ indexes firms. $s_j$ is the market share of firm $j$, $\gamma_{ij}$ is the control fraction of owner $i$ in firm $j$, and $\beta_{ij}$ is the ownership fraction of owner $i$ in firm $j$.\textsuperscript{152} For two firms with market shares of 50% apiece, HHI equals 5000. MHHI\Delta is calculated as follows:

$$MHHI\Delta = (50)(50) \frac{\sum_i \gamma_{IA} \beta_{IB}}{\sum_i \gamma_{IA} \beta_{IA}} + (50)(50) \frac{\sum_i \gamma_{IB} \beta_{IA}}{\sum_i \gamma_{IB} \beta_{IB}}.$$

The first term represents the extent to which Firm A takes Firm B’s profits into account due to common ownership. The core of the calculation is in the numerator: $\gamma_{IA} \beta_{IB}$ is nonzero when owner $i$ has partial control of Firm A combined with partial ownership of Firm B. CCOs fit the bill; NCOs do not.

Let us further assume, following the literature, that control is proportional to ownership. Then, for a CCO with a 10% stake in both airlines, $\gamma_{IA} \beta_{IB} = (10\%)(10\%) = 1\%$. For each NCO with a 10% stake in firm A, $\gamma_{IA} \beta_{IB} = (10\%)(0\%) = 0$. As for the denominator, $\gamma_{IA} \beta_{IA} = (10\%)(10\%) = 1\%$, for each CCO or NCO. The second term, which represents the extent to which Firm B takes Firm A’s profits into account, is symmetric. Thus, if there is one CCO and nine NCOs:

\textsuperscript{152} For comparison, in AST’s formal model, firm $j$ maximizes its own firm profits plus this expression:

$$\sum_{k \neq j} \frac{\sum_i \gamma_{ij} \beta_{ik}}{\sum_i \gamma_{ij} \beta_{ij}} \pi_k.$$

See AST Appendix, supra note 41, at 2.
\[ MHHI\Delta = (50)(50) \frac{1\%}{(10)(1\%)} + (50)(50) \frac{1\%}{(10)(1\%)} = 500. \]

Table A.1 calculates MHHI and MHHI\(\Delta\) for a wide range of levels of CCO and NCO ownership. For example, one of the scenarios described is a duopoly with four 10% CCOs and six 10% NCOs (panel 1, column 3). The MHHI\(\Delta\) is 2000. But if, instead of NCOs, the noncommon shares are held instead by a very large number of dispersed owners (DOs), the MHHI\(\Delta\) is 5000 and the MHHI rises to 10,000 (panel 2, columns 3 and 4). If, on the other hand, the remaining shares are held by NCOs in a more concentrated fashion, the MHHI falls. For example, if the remaining shares are held by a single 60% NCO, MHHI\(\Delta\) falls to 500 (panel 2, column 1).

**Table A.1: Common Concentrated Owners and MHHI**

<table>
<thead>
<tr>
<th>Number of Firms</th>
<th>HHI</th>
<th>MHHI and MHHI(\Delta)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 10% CCOs</td>
<td>1 10% CCO</td>
</tr>
<tr>
<td>2</td>
<td>5000</td>
<td>5000</td>
</tr>
<tr>
<td>10</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Assumptions: firms have equal shares; each firm has ten 10% owners.

<table>
<thead>
<tr>
<th>Number of Firms</th>
<th>HHI</th>
<th>MHHI and MHHI(\Delta)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 10% CCOs</td>
<td>1 60% NCO</td>
</tr>
<tr>
<td>2</td>
<td>5000</td>
<td>5500</td>
</tr>
<tr>
<td>10</td>
<td>1000</td>
<td>1900</td>
</tr>
<tr>
<td>100</td>
<td>100</td>
<td>1090</td>
</tr>
</tbody>
</table>

Assumptions: firms have equal shares; each firm has four 10% CCOs.

153 For the first term, the numerator \(\sum \gamma_{i\alpha} \beta_{i\delta} = 4\%\). The denominator \(\sum \gamma_{i\alpha} \beta_{i\delta} = (4)(1\%) + (1)(60\%)(60\%) = 40\%\). The second term is symmetric. Thus, \(MHHI\Delta = (50)(50)(4\%/40\%) + (50)(50)(4\%/40\%) = 500.\)
Comparing the two panels illuminates the similar effect on MHHI from subtracting NCOs and adding CCOs. Column 3, with four 10% CCOs and six 10% NCOs, is identical in both tables. Eliminating NCOs entirely (panel 2, column 4) has the same effect as moving up to complete common ownership (panel 1, column 4), resulting in an MHHI of 10,000. In the other direction, combining three 20% NCOs into a single 60% NCO (panel 2, column 1) reduces MHHI to the same extent as cutting the number of CCOs down from four to one (panel 1, column 1).

2. CCOs and Firm Profits: The Case of Cournot Duopoly

Consider a duopoly of American and Delta competing in Cournot quantities, with linear demand and no costs of production. The equilibrium price is given by $P = 1 - q_A - q_D$. Table A.2 shows quantity, price, and profits, for different ownership structures characterized by one NCO for each firm and either one or no CCO. MHHI$\Delta$ is calculated using the assumptions employed by O’Brien and Salop and by AST.

### Table A.2: Quantity, Price and Profits Under Cournot Duopoly

<table>
<thead>
<tr>
<th>CCO</th>
<th>NCO</th>
<th>Quantity</th>
<th>Price</th>
<th>Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA</td>
<td>DL</td>
<td>AA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[1]</td>
<td>0%</td>
<td>any</td>
<td>any</td>
<td>0.33</td>
</tr>
<tr>
<td>[2]</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
<td>2500</td>
</tr>
<tr>
<td>[3]</td>
<td>10%</td>
<td>10%</td>
<td>5%</td>
<td>3250</td>
</tr>
<tr>
<td>[4]</td>
<td>10%</td>
<td>20%</td>
<td>10%</td>
<td>1750</td>
</tr>
<tr>
<td>[5]</td>
<td>10%</td>
<td>90%</td>
<td>10%</td>
<td>1280</td>
</tr>
</tbody>
</table>

Where NCOs hold similar shares in American and Delta, the addition of a CCO will increase the profits of both firms (compare profits in case 2, with a 10% CCO and a 10% NCO at each airline, to lower profits in case 1, with no CCO). However, where NCO stakes are sufficiently dissimilar, the addition of a CCO reduces the value of the firm where the NCO exerts less influence (compare Delta profits in case 1 to its lower profits in cases 3, 4, and 5).

3. MHHI$\Delta$ with Three Airlines

Suppose that American, Delta, and United have equal shares on a route. If each airline has a 10% NCO and Redrock owns 10% of all three, MHHI$\Delta$
is the sum of six terms. The first of these ("term A-D") is the product of market shares times this expression:

\[
\frac{γ[NCO][A]β[NCO][D] + γ[R][A]β[R][D]}{γ[NCO][A]β[NCO][A] + γ[R][A]β[R][A]} = \frac{10\% (0\%) + 10\% (10\%)}{10\% (10\%) + 10\% (10\%)} = \frac{1}{2}
\]

Term A-D reflects the weight American places on the profits of Delta in relation to its own profits. Terms D-A, A-U, U-A, D-U, and U-D proceed in the same way. Thus, MHHIΔ equals \(\frac{100}{3} \cdot \frac{100}{3} \cdot 6 \cdot \frac{1}{2} = 3333\).

Now suppose that Whiterock acquires 10% of American and Delta from dispersed owners. Once again, MHHIΔ is the sum of six terms. Term A-D is the product of market shares times this expression (term D-A is symmetric):

\[
\frac{γ[NCO][A]β[NCO][D] + γ[R][A]β[R][D] + γ[W][A]β[W][D]}{γ[NCO][A]β[NCO][A] + γ[R][A]β[R][A] + γ[W][A]β[W][A]} = \frac{10\% (0\%) + 10\% (10\%) + 10\% (0\%)}{10\% (10\%) + 10\% (10\%) + 10\% (10\%)} = \frac{2}{3}
\]

Term A-U (and likewise term D-U):

\[
\frac{γ[NCO][A]β[NCO][U] + γ[R][A]β[R][U] + γ[W][A]β[W][U]}{γ[NCO][A]β[NCO][A] + γ[R][A]β[R][A] + γ[W][A]β[W][A]} = \frac{10\% (0\%) + 10\% (10\%) + 0\% (0\%)}{10\% (10\%) + 10\% (10\%) + 10\% (10\%)} = \frac{1}{3}
\]

Term U-D (and likewise term U-A):

\[
\frac{γ[NCOU][U]β[NCOU][D] + γ[R][U]β[R][D] + γ[W][U]β[W][D]}{γ[NCOU][U]β[NCOU][U] + γ[R][U]β[R][U] + γ[W][U]β[W][U]} = \frac{10\% (0\%) + 10\% (10\%) + 0\% (0\%)}{10\% (10\%) + 10\% (10\%) + 10\% (10\%)} = \frac{1}{2}
\]

Thus, MHHIΔ equals

\[
\left( \frac{100}{3} \right) \left( \frac{100}{3} \right) \left( \frac{1}{3} + \frac{1}{3} + \frac{2}{3} + \frac{2}{3} + \frac{1}{2} + \frac{1}{2} \right) = 3333.
\]

Note that under these circumstances, MHHIΔ is unchanged by the addition of Whiterock, compared to a market with a 10% NCO at each airline and Redrock alone.

4. Relative Performance MHHIΔ

This calculation, discussed in Section IV.A, assigns control weights based on absolute ownership, just as with conventional MHHIΔ. Ownership share \(β_{ij}\) is not absolute ownership but ownership relative to the
benchmark—that is, the degree to which investor $i$ is overweight or underweight in firm $j$. To illustrate (building on the assumptions in the previous section), for American and Delta, $\text{MHHI}_\Delta$ is the sum of two terms: the extent to which American maximizes Delta profits, and the extent to which Delta maximizes American’s profits. The first of these is the product of market shares times this expression:

$$\frac{\gamma_{[NCOA]}{A_\beta[NCOA]}{D} + \gamma_{[R]}{A_\beta[R]}{D} + \gamma_{[W]}{A_\beta[W]}{D}}{\gamma_{[NCOA]}{A_\beta[NCOA]}{A} + \gamma_{[R]}{A_\beta[R]}{A} + \gamma_{[W]}{A_\beta[W]}{A}}$$

$$= \frac{10\%(-5\%) + 10\%(5\%) + 10\%(5\%)}{10\%(5\%) + 10\%(5\%) + 10\%(5\%)} = \frac{1}{3}.$$

$\text{MHHI}_\Delta$ is calculated by performing equivalent calculations for each of the six airline pairs, multiplying the results by the product of market shares (33.3\%*33.3\%) and summing up the products.
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January 15, 2019

Office of the Secretary
Federal Trade Commission
600 Pennsylvania Avenue, NW
Suite CC-5610 (Annex C)
Washington, DC 20580

Submitted online via https://www.regulations.gov/

Re: Competition and Consumer Protection in the 21st Century – Hearing #8

Dear Mr. Secretary:

BlackRock, Inc. (“BlackRock”) appreciates the opportunity to comment in connection with the eighth session of the Federal Trade Commission’s (“FTC” or the “Commission”) hearings on Competition and Consumer Protection in the 21st Century. We welcome the FTC’s Hearings Initiative and efforts to evaluate the effectiveness of competition and consumer protection law, enforcement priorities, and public policy matters in the context of America’s diverse and evolving economy. As an asset manager that invests in thousands of American companies on behalf of our clients, our business benefits from competitive markets and industries. We commend the Commission for prioritizing information gathering and fact-finding to inform its policy efforts.

BlackRock’s comment letter addresses the topics discussed in Hearing #8, ‘Common Ownership’. Specifically, this letter focuses on the following items from the Hearing Notice: (i) item one, which requests comments on the state of the econometric and qualitative evidence for and against the underlying ‘common ownership’ theories, (ii) item four, which requests comments on potential mechanisms by which concentrated holdings may lead to anticompetitive harm, (iii) item five, which requests comment on institutional investors’ incentive and opportunity to affect corporate governance, and (iv) item six, which requests comment on enforcement and policy responses. We welcome the Commission’s decision to solicit industry views on these important regulatory and policy topics.

Introduction

A nascent academic literature purports to link institutional investors’ positions in more than one firm in a concentrated industry to decreased competition and higher consumer costs. This theory, widely referred to as ‘common ownership’, has received attention largely based on a single academic paper that purports to demonstrate, on average, a 3-5% increase in the cost of a US domestic airline ticket as a result of ‘common ownership’ (the “AST Paper”).¹ The authors of this paper (“AST”) posit that firms in a single concentrated industry whose shares are owned, in part, by common minority investors maximize industry profits over firm profits, or, at least, that the

¹ José Azar, Martin C. Schmalz, and Isabel Tecu, “Anticompetitive Effects of Common Ownership,” The Journal of Finance, 2018. Hereinafter, the “AST Paper”. Schmalz and other “common ownership” proponents have claimed that there are “at least 24 papers, many of them published in top journals, documenting effects on prices, quantities, product market cooperation, innovation.” We have not been able to identify the full cohort of papers he claims support his position. See https://www.ftc.gov/system/files/documents/public_events/1422929/cpc-hearings-nyu_12-6-18.pdf.
managers of the competing firms assume this would be their shareholders’ preference and accede to it.

AST have extrapolated their theory about airline ticket prices to argue that ‘common ownership’ effects are present across the economy, stunting competition in a number of different industries and leading to a social cost that accompanies the private benefits of diversification and good corporate governance. The authors ascribe responsibility for this purported effect to asset managers including BlackRock, Vanguard, and State Street.

Many academics have voiced deep skepticism about the theory of ‘common ownership’, which suffers from serious conceptual flaws including a lack of a plausible causal mechanism, incorrect assumptions about control by non-controlling shareholders, and a failure to distinguish the incentives of asset owners from asset managers. In particular, these academics argue that the model applied by AST, which was designed to analyze partial acquisitions of competitors and joint ventures, is not an appropriate model for studying ‘common ownership’. This is because unlike cross-ownership, ‘common ownership’ involves minority equity ownership interests of thousands of corporate, institutional, and individual investors. Since these investors have varied incentive and governance structures, AST’s uniform assumptions concerning investors’ financial interests and corporate control fail to account for practical and legal realities.

By contrast, other commentators assume the AST Paper’s conclusions are sound, and have proposed remedies to address the supposed problem, including limiting asset managers to one equity position per industry, putting hard limits on managers’ holdings, or prohibiting managers from voting shares. By increasing the cost and risk of diversified investment products, such proposals would undermine households’ access to low-cost diversified investments. Moreover, given the lack of support in the academic literature for the AST findings themselves, the vast majority of studies and most of the panelists who presented at Hearing #8 have concluded that any discussion of policy interventions is extremely premature and not justified by the state of empirical research, which is grounded on highly controversial findings and theoretical research.

The proposed remedies seek to fix a problem that does not exist, and we believe these proposals themselves should be cause for concern. 100 million Americans, or 45% of all US households, own mutual funds; 56% of these households’ mutual fund assets are held in retirement accounts. Implementing the remedies proposed by ‘common ownership’ proponents would constrain the availability of reasonably priced diversified investment products that millions of investors – including pension funds, government institutions and individual retirees – depend on to meet their


financial goals. In addition, remedies that involve limiting diversified funds to one company per sector would lead to billions of dollars of divestment from public companies by mutual funds, creating massive flows and generating substantial transaction costs. In accepting as true the hypothetical, marginal harm that the AST Paper has purported to identify, proponents of these extreme remedies recklessly advance an agenda that would have concrete and wide-ranging harm on everyday investors and the economy as a whole.

BlackRock believes that any debate on ‘common ownership’ should be evidence-based and grounded in accurate and robust analysis demonstrating anti-competitive effects, as well as subject to rigorous cost-benefit analysis. To date, the existing research on this topic does not meet this standard.

The remainder of this letter is organized in four parts:

- **Part I:** Describes findings from the replication of results presented in the AST Paper and testing of those results for sensitivities to flawed assumptions. This testing was performed by a third party consultant, Analysis Group, hired by BlackRock. Analysis Group’s findings indicate that the AST Paper’s results do not hold up when incorrect assumptions are corrected.

- **Part II:** Explains index inclusion rules and the implications for treatment of companies during periods of bankruptcy in the AST Paper. Airline company stocks were dropped from the indexes during bankruptcy which is an important methodological flaw in the AST Paper.

- **Part III:** Describes some additional flaws with the AST Paper.

- **Part IV:** Addresses policy measures that have been proposed by “common ownership” proponents.

In addition, we have included an Appendix that corrects the record on factual misstatements about BlackRock made by commentators during the Hearing #8 presentations.

BlackRock has chosen to voluntarily make available the code Analysis Group used to perform the analyses in Part I of this letter. This code builds off the materials released by AST after the publication of their paper in the *Journal of Finance* in August 2018. A replication package can be downloaded at [https://www.blackrock.com/common-ownership](https://www.blackrock.com/common-ownership). It is BlackRock’s hope that making the code used by Analysis Group publicly available will help ensure the theoretical, policy and legal discussions on this topic are held to the highest academic standards. We invite a full review of the analysis.

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5. The Investment Company Institute estimates that US equity funds make up 40% of total net assets in mutual funds globally, with total AUM of nearly $7.5 trillion as of year-end 2017. This does not include global equity funds or hybrid funds that include some US equities. See ICI 2018 Fact Book.
Part I: Testing the AST Paper’s results

Notwithstanding the theoretical flaws that have been previously identified by BlackRock and a range of academics, which we believe call into question the theory of ‘common ownership’ itself, AST have recently released to the public information that has permitted BlackRock to engage a third party consultant, Analysis Group, to replicate AST’s results. Analysis Group was able to replicate AST’s results and to test the sensitivities of these results to various methodological choices, or assumptions, made by AST. Analysis Group’s sensitivity analysis reveals that AST’s results are highly sensitive to incorrect assumptions regarding corporate control and financial incentives. We believe Analysis Group’s findings suggest that even the statistical results based on AST’s own model and data are not robust to plausible alternative assumptions.

Specifically, Analysis Group found that correcting for either of the following critical flaws in AST’s assumptions eliminates the statistical significance of AST’s findings regarding anti-competitive effects of ‘common ownership’:

1. **‘Control’ During Bankruptcy:** AST assume that equity holders retain ‘control’ rights during bankruptcy. However, equity holders are ‘last in line’ in bankruptcy and do not have control over the company during bankruptcy periods. During bankruptcy, companies do not hold annual meetings and there is no venue for shareholders to vote. Even AST acknowledge that assuming equity holders have control in bankruptcy runs counter to the realities of equity ownership in bankruptcy. When this flaw is corrected, the AST Paper’s results are no longer statistically significant.

2. **Differing Financial Incentives:** AST assume that all institutional investors have the same economic interests in their shareholdings in public companies. This assumption fails to recognize the most basic difference in economic interests between asset managers and asset owners. Asset managers act as fiduciaries on behalf of their clients and earn a small management fee on the total amount of assets they manage. Asset managers invest in thousands of companies across the entire market and do not have meaningful economic interests in the performance of any individual company. When the differences in economic interests of asset managers and asset owners are properly reflected, the AST Paper’s results are no longer statistically significant.

When the aforementioned erroneous assumptions are corrected, Analysis Group finds no statistically significant relationship between ‘common ownership’ and airline ticket prices. We believe these findings suggest that the results presented in the AST Paper are not robust to even

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small changes in assumptions. At the very least, the AST paper should not be used as the basis for formulating policy decisions by the FTC or any other agency given the unreliability of the findings. A memo with information that can be used to replicate Analysis Group’s results used in forming these conclusions is publicly available at https://www.blackrock.com/common-ownership.

A. Background on AST Paper Methodology

Drawing on economic research evaluating ‘cross-ownership’ between firms (e.g., a joint venture between competing firms), AST use an economic measure that augments standard measures of industry concentration to account for the effects of ‘common ownership’. AST claim that this measure, referred to as ‘MHHI Delta’, accurately captures the impact of ‘common ownership’ on competition.

As used by AST, MHHI Delta reflects two components of an investor’s ownership in competing firms. The first is the investor’s right to vote in corporate decisions in the firm, which captures its extent of ‘corporate control’. The second is the investor’s rights to a share in the profits of the firm, which captures its ‘financial incentives’. AST assume that both of these terms are directly proportional to the fraction of total shares held by each investor for each quarter of the period they study. Furthermore, they do not account for any relevant effects that bankruptcies can have on investors’ ownership and control rights. The following two subsections will show that these two incorrect assumptions drive the statistical significance of AST’s results, and when they are corrected, the AST Paper’s results are no longer statistically significant.

B. Testing Sensitivity of “Control” Assumption During Bankruptcies

The AST Paper purports to analyze corporate control of airlines using a measurement period when three of the four major airlines — AMR Corp. (‘American Airlines’) (2011-2013), Delta Air Lines, Inc. (‘Delta Air Lines’) (2005-2007), and UAL Corp. (‘United Airlines’) (2002-2006) — experienced extended bankruptcies. Other major airlines and smaller airlines also experienced shorter bankruptcies during this period. Exhibit 1 shows that during 28 of the 56 quarters (or 50%) covered by the AST Paper’s sample, at least one major US airline was in bankruptcy.

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10 MHHI assumes control proportionate to share voting, which means that a 10% shareholder has twice the control as a 5% shareholder. In reality and corporate law, control is determined by whether a shareholder has the power to dictate the management and policies of a company. Either a shareholder has control or it does not; and as a result, a 10% shareholder does not have twice the power of a 5% shareholder, which MHHI ascribes to it.
**Exhibit 1 - Dates of Bankruptcies of Major Airlines in the US**

<table>
<thead>
<tr>
<th></th>
<th>Filing Date</th>
<th>Exit Date¹¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Airlines</td>
<td>November 29, 2011</td>
<td>December 9, 2013</td>
</tr>
<tr>
<td>Delta Air Lines</td>
<td>September 14, 2005</td>
<td>April 30, 2007</td>
</tr>
<tr>
<td>Northwest Airlines</td>
<td>September 14, 2005</td>
<td>May 31, 2007</td>
</tr>
<tr>
<td>United Airlines</td>
<td>December 9, 2002</td>
<td>February 1, 2006</td>
</tr>
<tr>
<td>US Airways</td>
<td>August 11, 2002</td>
<td>March 31, 2003</td>
</tr>
<tr>
<td>US Airways</td>
<td>September 12, 2004</td>
<td>September 27, 2005</td>
</tr>
</tbody>
</table>

**Quarters Impacted**

- American Airlines: 9
- Delta Air Lines: 8
- Northwest Airlines: 8
- United Airlines: 14
- US Airways: 3
- US Airways: 5

**Total Quarters:** 28

*Note: Number of quarters do not sum to total because of overlap between quarters.*

*Source: AST data production.*

Despite this important characteristic of the measurement period and sample analyzed, the AST Paper utilizes simplifying assumptions that AST acknowledge are not in line with reality. Specifically, the AST Paper assumes that shareholder control and financial incentives are unchanged when an airline enters bankruptcy, and remain constant at pre-bankruptcy levels throughout the entire course of the bankruptcy. As we will discuss in Part II, this assumption is particularly incorrect for index fund managers because bankrupt companies are removed from equity indexes, causing index funds to sell their shares at or shortly after the bankruptcy filing date. In other words, the AST Paper assumes index fund managers had ‘control’ over the bankrupt companies when, in fact, they did not even own shares in those companies at the time of bankruptcy.

Putting this fundamental issue aside for the moment, assuming equity holders have ‘control’ of a company that is in bankruptcy defies legal and practical realities. When a firm files for bankruptcy protection under US law, the company’s executive managers are under an obligation to act first in the best interest of the firm’s creditors and not of equity holders. Equity holders are ‘last in line’ to receive cash flows from the bankrupt firm, and thus any influence equity holders may have had over management pre-bankruptcy is substantially reduced or eliminated during bankruptcy. The rights of secured and unsecured creditors are prioritized over equity holders by law, and equity holders typically only receive compensation or regain their rights to cash flows once all creditors have been adequately compensated. Pre-bankruptcy shareholders typically have no voting rights once a firm enters bankruptcy protection. Importantly, American Airlines, Delta Air Lines and United Airlines did not hold a single shareholder meeting during the period they were in bankruptcy protection, giving their equity holders no formal venue to even attempt to exert influence.

¹¹ The date a company emerges from bankruptcy is the earliest it is eligible to return to an index. The delay some companies experience between emergence from bankruptcy and index reinstatement is due to index methodologies requiring companies meet financial viability metrics to qualify for reinstatement.

¹² AST Paper at 23.

¹³ Another flaw in the assumption of “control” during any period of time in the case of asset managers is that many institutional clients of asset managers retain their right to vote their shares on assets that they hire asset managers to invest. For example, we estimate that approximately one-quarter of equity assets managed by BlackRock do not delegate voting authority to BlackRock as of July 2018. See Index Investing ViewPoint.
AST appear to recognize their flawed assumption, as they note that “[b]ankruptcies may confound the results because shareholders have no de jure control rights during such times, and this feature is not captured in our computation of MHHI delta.” In fact, contrary to AST’s simplifying assumption that control continues throughout the bankruptcy period, the impact of bankruptcies on corporate control during the 28 quarters when airlines were in bankruptcy can easily be incorporated into the analysis by setting shareholder control rights during these periods to zero. Doing so reflects AST’s own intellectual concession that equity holders have no de jure control rights during bankruptcy.

AST claim to have controlled for this incorrect assumption regarding bankruptcy by running placebo and robustness checks. While AST conclude that their “results are generally weaker in markets and at times affected by bankruptcies,” we believe the checks they conducted were insufficient to validate their main results. AST thus fail to incorporate the actual control rights present during bankruptcy periods.

To test the sensitivity of the AST Paper’s results to this assumption, Analysis Group incorporated this adjustment into the AST methodology. After adjusting for the lack of equity holder control during bankruptcy, the association between “common ownership” and airline ticket prices across the entire study period of the AST Paper is not statistically different from zero. Exhibit 2 illustrates the weakness of the results when control rights are treated correctly. The ranges described by the bars in this exhibit represent the 95% confidence interval around the respective estimates. While the midpoint (i.e., the point estimate) of the right-most bar is positive, the confidence interval includes zero, which means that the estimate is statistically indistinguishable from zero, invalidating AST’s conclusions.

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14 AST Paper, p. 23.
15 AST Paper at 16.
16 AST Paper at 24.
17 As shown in the figure, the statistical analysis finds that the estimated range of statistical confidence (“confidence interval”) includes positive and negative values after correcting for ‘common ownership’ during bankruptcy. For further information, please see Section II.A of the replication memo available at https://www.blackrock.com/common-ownership.
This critique of the AST Paper has been raised before in an academic paper that called into question AST’s results.\textsuperscript{18} However, AST dismissed these criticisms largely on the basis that those academics were unable to fully replicate the AST Paper’s baseline results without access to the original code and data.\textsuperscript{19} The same cannot be said of the analysis presented in this letter, which is based on the actual code and data from the AST replication package. As the AST Paper’s purported correlation between ‘common ownership’ and airline ticket prices loses statistical significance once this rudimentary correction for bankruptcy periods is made, this analysis demonstrates that the AST Paper’s results are not robust.

C. Testing Sensitivity of Assumption of Equivalent Economic Interests of All Institutional Investors Given Differences between Asset Managers and Asset Owners

While the interests of asset owners and asset managers are generally aligned, the AST Paper incorrectly accounts for the different financial incentives that different types of institutional investors have. Specifically, the AST Paper incorrectly assumes that asset owners and asset managers have identical financial incentives. The authors’ reliance on regulatory reporting data ascribes a financial interest that is directly proportional to the amount of shares reported, regardless of whether the reporting entity is an asset manager or asset owner. In reality, asset


\textsuperscript{19} José Azar and Martin C. Schmalz, and Isabel Tecu, “Reply to: ‘Common Ownership Does Not Have Anti-Competitive Effects in the Airline Industry,’’ April 24, 2018.
Managers have substantially less financial interest in the portfolio companies held by funds they manage than the shareholders of those funds. While asset owners are the direct beneficiaries of the gains and losses generated by shares they own, asset managers are paid a management fee—as small as a few hundredths of a percent—based on the aggregate value of assets under their investment discretion. Thus, asset owners’ financial interest reflects the full change in market value of their shares in the company, while asset managers’ direct financial interest is necessarily limited to the management fees they earn. By ignoring differences among different types of shareholders’ financial incentives, the AST Paper overestimates “common ownership” concentration.

To illustrate this point, consider a $1 million investment in a publicly-traded company’s stock. If this position were held in an index fund managed by an asset manager that charges a 5 basis point management fee (i.e., 0.05%), an increase in the company’s share price of 1% would provide the advisor with $5 in additional fees. By contrast, an individual asset owner holding the position directly would realize a $10,000 gain on their investment. The asset owner’s financial incentive in this example is 2,000 times larger than the asset manager’s incentive.

As an aside, this example assumes that the 1% share price increase of an individual equity position has a proportionate positive impact on an investor’s overall portfolio value. However, depending on the source of incremental profit, this is not always the case. Consider the effects of an increase in airline ticket prices alleged by AST: a broad based index fund that holds securities of companies in a diverse array of industries, airlines being only one of many, may experience a net negative impact from an increase in airline ticket prices because higher airline ticket prices increase the travel expenses incurred by other companies in the portfolio. As Exhibit 3 demonstrates, airlines represent less than 1% of the most frequently used equity indexes.

Exhibit 3 – Weighting of Airlines in Equity Indexes

<table>
<thead>
<tr>
<th>Index</th>
<th>American</th>
<th>Delta</th>
<th>United</th>
<th>Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>S&amp;P 500</td>
<td>0.09%</td>
<td>0.15%</td>
<td>0.07%</td>
<td>0.31%</td>
</tr>
<tr>
<td>MSCI US Large Cap 300</td>
<td>0.12%</td>
<td>0.19%</td>
<td>0.09%</td>
<td>0.40%</td>
</tr>
<tr>
<td>FTSE RAFI US 1000</td>
<td>0.03%</td>
<td>0.05%</td>
<td>0.04%</td>
<td>0.12%</td>
</tr>
<tr>
<td>FTSE USA</td>
<td>0.03%</td>
<td>0.04%</td>
<td>0.02%</td>
<td>0.08%</td>
</tr>
<tr>
<td>MSCI USA</td>
<td>0.03%</td>
<td>0.04%</td>
<td>0.02%</td>
<td>0.08%</td>
</tr>
<tr>
<td>Russell 1000</td>
<td>0.09%</td>
<td>0.13%</td>
<td>0.07%</td>
<td>0.28%</td>
</tr>
</tbody>
</table>


Because they are compensated by management fees, asset managers’ greatest financial incentive is to compete with other asset managers on the basis of relative investment performance (net of fees) and client service. Index fund managers demonstrate relative performance by most closely tracking the index. Since index funds hold more or less identical portfolios of companies, encouraging an increase in the price of one company or sector has little effect on relative performance. Indeed, even actively managed funds must be ‘overweight’ a stock or a group of stocks compared to competing funds for their relative performance to benefit from higher equity returns of a given company or sector. As such, encouraging an increase in prices of a single company or sector has very limited benefit to asset managers of diversified portfolios relative to their primary commercial interests.

The incorrect assumption that asset owners and asset managers have identical financial incentives impacts a large portion of the ownership data included in the AST Paper’s analysis, as
75-85% of shares during any given quarter of AST’s analysis are managed by traditional investment managers of diversified portfolios (such as BlackRock, Capital Group, Fidelity, State Street Global Investors, T.Rowe Price, and Vanguard), as shown in Exhibit 4 below.

**Exhibit 4**

**Scaled Percentage of Total Shares by Investor Type**

**American Airlines**

2001 - 2014 quarterly data

In order to test whether AST’s overstatement of the financial incentives of traditional asset managers affects the results presented in the AST Paper, Analysis Group replicated the AST Paper’s regressions (again, using the AST Paper’s data and code) but instead of assuming equivalent economic interests for all institutional investors, Analysis Group adjusted asset managers’ financial incentive to be 1% of their ownership share. 1% is meant to reflect a more realistic estimate of the economic interest in the company that an asset manager would have due to its investment management fee. 1% is a conservative overestimate given that investment management fees on US equity investment products are typically much lower than 1%. For example, expense ratios of three US Large Capitalization Stock ETFs offered by three different providers are between 0.03% and 0.0945%.²⁰ For actively managed products, Reuters recently reported that the asset-weighted average expense ratio of actively managed equity mutual funds fell from 1.08% of assets managed in 2001 to 0.86% in 2014. Management fees are only a subset of a mutual fund's total expense ratio. During the AST Paper’s period of study, management fees for mutual funds were typically no greater—and often much less—than 1%.

The same article shows the asset-weighted average expense ratio of passively managed (index) equity mutual funds fell from 0.25% in 2001 to 0.11% in 2014.\textsuperscript{21}

After adjusting for asset managers’ financial incentives, Analysis Group found that the correlation between ‘common ownership’ and airline ticket prices is not statistically different from zero, as is illustrated in Exhibit 5 below.\textsuperscript{22} As such, the AST Paper’s test of the correlation between ‘common ownership’ and airline ticket prices is not robust to this minor correction.

\textbf{Exhibit 5}

Estimated Range of the Effect of ”Common Ownership“ on a $300 Airfare

\textit{Range reflects a 95% Confidence Interval}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{exhibit5.png}
\end{figure}

Note: Results from market-carrier level regressions.


\textsuperscript{22} For further information, please see Section II.B of the replication memo available at \url{https://www.blackrock.com/common-ownership}.\pagebreak
Part II: Index Inclusion Rules and the Treatment of Companies during Periods of Bankruptcy

As noted in Part I assuming that index fund managers had ‘control’ over airlines when they were in bankruptcy is incorrect. In their paper, AST assume that asset managers’ equity holdings in airlines remain constant for the duration each airline is in bankruptcy and “repeat the last observed value for percentage of shares owned” in bankrupt airlines.\(^{23}\)

This assumption is grossly inaccurate at least in the case of index fund managers (and likely for a portion of active managers as well) and reflects a lack of understanding of index construction rules. Index providers such as S&P Dow Jones and Russell Investments remove companies in bankruptcy protection from their indexes concurrent with or before the bankruptcy filing date and the de-listing of the issuer’s equity from a stock exchange.\(^{24}\) Given their objective is to track the index, index funds sell their shares in bankrupt companies at or shortly after the bankruptcy filing date. Exhibit 6(a) shows that all major airlines in the US were removed from S&P indexes during their respective bankruptcies. Exhibit 6(b) shows that airlines were added back to S&P indexes after they emerged from bankruptcy, only when they could meet the criteria for reinstatement.

### Exhibit 6(a) – Bankruptcy Filings of Major Airlines and Deletion from S&P Indexes

<table>
<thead>
<tr>
<th>Airlines</th>
<th>Filing Date</th>
<th>Delisting Date</th>
<th>S&amp;P Deletion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Airlines</td>
<td>November 29, 2011</td>
<td>Jan 5, 2012</td>
<td>Dec 1, 2011</td>
</tr>
<tr>
<td>Delta Airlines</td>
<td>September 14, 2005</td>
<td>Oct 13, 2005</td>
<td>Aug 19, 2005</td>
</tr>
<tr>
<td>Northwest Airlines</td>
<td>September 14, 2005</td>
<td>Sep 26, 2005</td>
<td>Oct 3, 2005</td>
</tr>
<tr>
<td>US Airways</td>
<td>September 12, 2004</td>
<td>Sep 22, 2004</td>
<td>N/A(^{25})</td>
</tr>
</tbody>
</table>

Source: SEC filings and S&P announcements.

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\(^{23}\) AST Paper at 16. Based on BlackRock’s experience, Form 13F does not typically include institutional holdings of companies during bankruptcy periods. Equity of bankrupt firms is typically delisted from national stock exchanges at or before the bankruptcy filings, making these securities ineligible for reporting under the SEC’s Form 13F rules. The securities are typically deleted from the quarterly Official List of Section 13(f) Securities published by the SEC in the quarter immediately following the bankruptcy filing.

\(^{24}\) See S&P U.S. Indices Methodology, “A company is deleted from the index if it is involved in a [ . . . ] significant restructuring such that it no longer meets the eligibility criteria. A company delisted as a result of a merger, acquisition or other corporate action is removed at a time announced by S&P Dow Jones Indices, normally at the close of the last day of trading or expiration of a tender offer [ . . . ] If a stock is moved to the pink sheets or the bulletin board, the stock is removed.” [https://us.spindices.com/documents/methodologies/methodology-sp-us-indices.pdf](https://us.spindices.com/documents/methodologies/methodology-sp-us-indices.pdf). See also Russell U.S. Equity Indexes Construction and Methodology, “All securities eligible for inclusion in Russell U.S. indexes must trade on an eligible U.S. exchange. Bulletin board, pink sheets or over-the-counter (OTC) traded securities are not eligible for inclusion, including securities for which prices are displayed on the FINRA ADF.” [https://www.ftse.com/products/downloads/Russell-US-indexes.pdf](https://www.ftse.com/products/downloads/Russell-US-indexes.pdf).

\(^{25}\) US Airways was removed from S&P indexes prior to its first bankruptcy filing in 2002, and was not reinstated to S&P indexes until over a year after its emergence from its second bankruptcy in 2006.
Exhibit 6(b) – Bankruptcy Exits of Major Airlines and Reinstatement to S&P Indexes

<table>
<thead>
<tr>
<th>Airline</th>
<th>Exit Date</th>
<th>Relisting Date</th>
<th>S&amp;P Addition Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Airlines</td>
<td>December 9, 2013</td>
<td>December 9, 2013</td>
<td>December 9, 2013</td>
</tr>
<tr>
<td>United Airlines</td>
<td>February 1, 2006</td>
<td>February 2, 2006</td>
<td>October 2, 2006</td>
</tr>
<tr>
<td>US Airways</td>
<td>March 31, 2003</td>
<td>October 21, 2003</td>
<td>N/A</td>
</tr>
<tr>
<td>US Airways</td>
<td>September 27, 2005</td>
<td>September 27, 2005</td>
<td>October 2, 2006</td>
</tr>
</tbody>
</table>

Source: SEC filings and S&P announcements.

For example, the overwhelming majority of holdings in portfolios managed by BlackRock in the major US airlines prior to their respective bankruptcy filings were held in index funds. BlackRock therefore sold nearly all of its holdings upon each airline’s bankruptcy filing, and did not repurchase shares until each airline had been reinstated to the relevant index. This reality of index management leads to significant differences between the shareholdings attributed to BlackRock in the AST Paper and the amount of shares actually held by BlackRock-managed portfolios during the AST Paper’s study period.

Exhibit 7 provides an example of the size of this discrepancy during the period when American Airlines was in bankruptcy.

Exhibit 7

BlackRock Equity Holdings
American Airlines
2011Q3 - 2014Q1

Notes:
[1] The "AST" line is sourced from Thomson Reuters Spectrum and AST’s manually collected SEC Form 13F filings. Share counts are aggregated across separate BlackRock entities. Shares from 2011Q3 are "forward-filled" for the bankruptcy period.
[2] The "Actual BlackRock Portfolio Holdings" line for 2011Q4 - 2013Q4 is sourced from BlackRock's internal data systems and includes shares in American Airlines that would be reported in SEC Form 13F by any of BlackRock's entities. For quarters outside of the bankruptcy period, the values of the "Actual BlackRock Portfolio Holdings" line are the same as the "AST" line.
Source: AST Replication Package; Thomson Reuters Spectrum; BlackRock Internal Data Systems.

See Footnote 11.
See Footnote 25.
Part III: Additional Theoretical Flaws with AST Paper

The fundamental shortcomings specified in Part I are premised on acceptance of the AST Paper’s data and methodologies. However, in the course of replicating the AST Paper’s results, Analysis Group identified several other data and methodological issues with the AST Paper. While a comprehensive investigation of each of these issues is beyond the scope of this letter, future empirical research should evaluate the impact of correcting for the flaws described below.

a. Flawed Reliance on Threshold Reporting Data

The AST Paper measures ‘common ownership’ using Form 13F disclosures filed by asset managers. Form 13F is a quarterly SEC filing in which institutional investors with investment discretion over $100 million in exchange-traded equity securities provide a snapshot of their holdings. While Form 13F data is intended to provide a degree of visibility into institutional investor holdings, it provides an incomplete picture of investors’ total economic exposure and voting rights, and does not provide a complete picture of a company’s shareholder base.

Institutional investors interpret the SEC’s Form 13F instructions and guidance differently, leading to inconsistencies in how holdings are reported. For example, some large asset managers who have a robust internal proxy voting function interpret the 13F rules as requiring them to report having no voting authority over such shares. This is a critical point, as the AST Paper claims to only count as “control shares” those positions over which an asset owner or manager reports having “sole” or “shared” voting authority on its 13F reports. The AST Paper does not appear to correct for inconsistencies in how different asset managers report holdings on Form 13F.

Along with the problems inherent to Form 13F data, the AST Paper relies on a version of Form 13F aggregation data provided by Thomson Reuters Spectrum, which has numerous known flaws. While the AST Paper purports to correct for missing filings, the ownership data in the Journal of Finance replication package indicates that the authors’ efforts to correct the dataset are incomplete. Flaws in the underlying ownership data are especially troubling because the AST Paper’s key explanatory variable, MHHI Delta, is extremely sensitive to missing data.

32 Suppose that an “industry” consists of 5 firms with equal market share, each with a distinct primary shareholder and with minimal “common ownership.” In particular, each primary shareholder holds 90% of the shares of a single firm, and 2.5% of the shares of each of the remaining firms. When ownership data is available from all shareholders, MHHI Delta is 462. However, if ownership information is missing for a single shareholder, MHHI Delta rises to over 15,000, exceeding the maximum Herfindahl-Hirschman index value of 10,000 – a counterintuitive result.
b. Failure to Follow Academic Conventions in Working with Airline Ticket Data

Since the domestic airline industry was deregulated in the late 1970s, airline competition has been a subject of keen academic interest. Over time, extensive literature has developed conventions and best practices for analyzing the publicly available ticket data that the AST Paper relies on. The literature analyzing competition among airlines has long recognized that airline tickets, even for a particular route, vary due to the number of stops, number of plane changes, and fare class, among other considerations. Researchers typically filter the ticket data to eliminate itineraries with more than one (or an unknown) operating carrier, one or more stops, and first and business class tickets, in order to create a homogenous sample of tickets for purposes of direct comparisons across markets and over time. The AST Paper fails to employ these well-established methodologies, potentially biasing its results.

c. Mischaracterizing Incentives and Conduct of Airline Management

The AST Paper assumes that airline management internalizes and bases management decisions upon holdings data not only of their own shareholders, but also of shareholders of all of their competitors. This assumption is implausible for several reasons.

First, and most fundamentally, this assumption would mean that executives of a particular airline are willing to sacrifice their company’s profits to advance the purported objectives of a subset of their shareholders who are common holders of competitors. Doing so would be in direct violation of their fiduciary duties to the company.

Second, these same executives would be sacrificing their own personal financial interests. Senior airline executives receive a portion -- or even all -- of their compensation in company stock.

Third, accounting for their ‘common owners’ interests would require airlines to have up-to-date knowledge of their shareholders’ entire investment portfolio, as well as access to data on the entire investment portfolio held by each institutional shareholder’s clients across their portfolios. We believe it would be difficult to obtain this data if not impossible given that many institutional investors’ holdings are not publically available.

d. Failure to Account for Proxy Advisory Firms

The AST Paper fails to account for the important influence of third party proxy advisors, which wield substantial influence over the outcome of shareholder votes. Surveys indicate that 60% of
institutional investors rely on proxy advisors in making voting decisions. The mechanical reliance by some investors on proxy advisors’ recommendations creates a voting bloc that reliably votes in parallel. One study estimates that a negative recommendation by Institutional Shareholder Services led to a 25% reduction in say-on-pay support by shareholders. By comparison, asset manager voting has been demonstrated to vary from firm to firm. While the influence of proxy advisory firms is well known in the asset management industry, their role and influence is not accounted for in the AST Paper. This omission is important as AST claims much smaller holdings by asset managers are influential.

e. No Causal Mechanism has Been Established

The AST Paper fails to substantiate a plausible mechanism for the anticompetitive effect it claims to find. The AST Paper proposes three possible causal mechanisms: (1) asset managers fail to actively encourage competition between their portfolio companies; (2) asset managers discourage competition through investment stewardship engagements; and (3) large index fund positions reduce the likelihood of activist campaign success. AST are wrong in all three respects.


41 “[N]ot explicitly demanding or incentivizing tougher competition between portfolio firms may allow managers to enjoy the ‘quiet life’ and thus lead to an equilibrium with reduced competition and sustained high margins.” AST Paper at 7.

42 “According to large asset managers, making their voice heard in private engagement meetings is the most important mechanism through which they influence corporate governance….Asset managers also frequently managers engage in direct discussions with portfolio firms.” AST Paper at 46.

43 “[C]oncentrated owners such as hedge fund activists have been shown to push their target firms to compete more aggressively against industry rivals. Competitive concerns thus arise when concentrated owners get crowded out by diversified institutions that also hold large stakes in industry rivals — even if the institutions driving the “common ownership” links are entirely ‘passive’ in terms of corporate governance (other than voting).” AST Paper at 7.

44 It is notable that the three causal mechanisms presented in the AST Paper are contradictory. Some are based on the theory that asset managers are too passive, while others are based on the theory that asset managers are too aggressive.
rewards and future employment prospects based on past successes both serve as strong incentives for managers to compete. Moreover, AST’s theory proposes a false choice between shareholders actively demanding more competition and shareholders acting anti-competitively. The idea of the “quiet life” that AST take from the literature on corporate governance does not propose such an idea.45

AST’s second argument is based on a misunderstanding of asset manager investment stewardship. In the normal course of business, most traditional asset managers such as BlackRock do not meet with boards of directors and management teams of public companies to provide direction on how to manage their business.46 This is especially true for diversified portfolios, such as index funds or actively managed funds whose performance is benchmarked relative to a diversified index. Rather, engagement provides asset managers with an opportunity to improve their understanding of portfolio companies and their governance structures to better inform proxy voting decisions. Notably, shareholders are not given the opportunity to vote on competitive strategy, nor is there evidence that directors run on a “platform” that promises to promote a competitive strategy.47 Furthermore, engagement by asset managers who disclose their >5% holdings on Schedule 13G is limited in both content and context by SEC regulations, the breech of which could lead to civil and criminal penalties.48

Finally, the allegation that index managers’ failure to support activist campaigns dampens competition is false. Voting against, or declining to support, an activist campaign is a reflection of the fact that there are differing, yet equally legitimate, views on how to best position a company for long-term economic success.49 Experience belies the allegation that index managers hinder activist campaigns. Each of the major index managers has an established track record of voting to support activist investors in proxy fights on a case-by-case basis when in their judgement such a vote is in the long-term interests of its investors.50

Part IV: Policy Measures Proposed by “Common Ownership” Proponents

A number of proponents of the AST Paper’s conclusions have advanced the argument that lawmakers and policymakers must take action to curb the alleged effects of “common ownership.” The proponents of these proposals recklessly accept as true the hypothetical harm that “common ownership” has been purported to cause, but advance an agenda that would inflict concrete,
Implementing the proposed policy measures could impair asset managers’ ability to offer the low-cost investment solutions that millions of investors – including pension funds, government institutions and individual retirees – depend on to meet their financial goals. For regulators to adopt policy changes that would have immediate and concrete impact on investors in response to an unproven and disputed hypothesis is unwarranted. Below we discuss two of the most problematic policy proposals that have been suggested.

A. Limiting mutual funds to one company per industry

One set of commentators has suggested a complicated, multi-step process in which, each calendar year, the FTC would disseminate a list of concentrated industries, solicit comments on this list, and then publish a final list within a specified time period. Following this pronouncement, asset managers would have a choice to invest in only one issuer per each concentrated industry, or hold less than 1% of each issuer in that concentrated industry. With no empirical support, these authors claim that any investment losses due to lack of diversification from only owning one company per industry would be minimal. And in any event, those investors looking to “squeeze out those last percentage points of diversification” can simply buy a multitude of different index funds across fund providers.\(^\text{51}\)

We cannot overstate how many incorrect assumptions about investing, capital market operation, and investor behavior are incorporated in this proposal. **Idiosyncratic risk of a single company is a well-understood concept in portfolio construction and underlies much of the academic work leading to diversification of risk.**\(^\text{52}\) Exhibit 8 below illustrates the risk of investing in only one company per sector, comparing one investors’ portfolio with shares in companies among the better performers in their industry, and another with shares in companies among the worst performers.

**Exhibit 8 – Idiosyncratic Risk of Non-Diversification**

<table>
<thead>
<tr>
<th>Sector</th>
<th>Portfolio 1</th>
<th>Portfolio 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Name</td>
<td>Annual Return</td>
</tr>
<tr>
<td>Financial Services</td>
<td>JPM</td>
<td>-9%</td>
</tr>
<tr>
<td>Airlines</td>
<td>United</td>
<td>+24%</td>
</tr>
<tr>
<td>Telecom</td>
<td>Verizon</td>
<td>+6%</td>
</tr>
<tr>
<td>Retail</td>
<td>Target</td>
<td>+1%</td>
</tr>
<tr>
<td>Food Franchising</td>
<td>Domino's</td>
<td>+31%</td>
</tr>
<tr>
<td>Aerospace/Defense</td>
<td>Boeing</td>
<td>+9%</td>
</tr>
<tr>
<td><strong>S&amp;P 500 Index</strong></td>
<td>-6%</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Note: Performance is calculated as the annual return. The standard deviation is calculated using daily returns. Source: Bloomberg.


\(^\text{52}\) This understanding of risk in portfolio construction is fundamental to the concepts of modern portfolio theory and the capital asset pricing model, contributions to financial economics for which Harry Markowitz, Merton Miller, and William F. Sharpe jointly received the 1990 Nobel Memorial Prize in Economics.
Owning only one company per “concentrated industry” would have a dramatic effect on the performance of index funds. To illustrate, we asked Analysis Group to perform a Monte Carlo simulation analysis of a counterfactual world in which mutual funds investing in S&P 500 Index component stocks over the period 1990 to 2017 operated within a stylized version of the proposed policy. 53

Exhibit 9 shows the simulated cumulative value of a $1 investment in the counterfactual funds under the proposed ownership limits, with selected percentiles over the period 1990 to 2017.

Exhibit 9
Cumulative Value of $1 Investment
S&P 500 Index vs. 1 Million Monte Carlo Simulations
1990 - 2017

Ex post, the cumulative value of a $1 investment in a traditional S&P 500 Index fund over the period 1990 to 2017 would have been $13.74. However, according to the Monte Carlo simulation analysis, the cumulative value of a $1 investment in the counterfactual, policy-constrained, funds over the same period would have varied considerably. Households would be forced to take considerably more idiosyncratic risk under this policy. Across one million simulations, the cumulative value of a $1 investment would have ranged from $10.36 to $18.98. Excluding

53 Each year during the period 1990 to 2017, component stocks in the S&P 500 Index are assigned to industries based on their SIC codes. An industry is assumed to be oligopolistic if it has only two to six firms represented in the S&P 500 Index. Investment decisions are made at the start of the each year. For each competitive or monopolistic industry, the fund invests in all firms within the industry in an amount proportional to the firm’s weight in the S&P 500 Index. For each oligopolistic industry, the fund randomly selects a firm to invest in within the industry and invests an amount that is directly proportional to the industry’s weight in the S&P 500 Index. The likelihood that it selects each firm within the industry is directly proportional to the firm’s weight in the S&P 500 Index and is independent of the firm’s other selections in that year or in any previous year. In each year, the fund’s annual return is equal to the weighted average of the total returns of the firms in which it invested. (Total returns are equivalent to the actual percentage change in the stock price, reinvesting any dividends distributed during the period.)
outliers, the 95th percentile outcome ($15.42) would have been 22% higher than the 5th percentile outcome ($12.61).

The results of Analysis Group’s work suggest that S&P 500 Index funds—and, indeed, institutional or individual investors trying to replicate the return of any such market index—will likely experience a wide variation in investment outcomes under such a policy. The proposed ownership limits thus needlessly expose investors to significant firm-specific risk.

But even more fundamentally, implementing these policies would substantially alter the product offerings that have made participation in the financial markets more accessible and affordable to the average investor today than it has at any other point in history. Instead of gaining cross-industry exposure through a single investment instrument, investors would be forced to choose between selecting a single component of each industry, much like an active portfolio manager, or foregoing exposure to a given industry entirely. In choosing either option, the investor would be forced to accept increased portfolio risk and potentially lower returns in the affected portfolios.

B. Restricting certain investors’ ability to vote

Another proposed policy ‘remedy’ is to limit asset managers’ ability to vote. BlackRock believes that the right to vote at shareholder meetings is a fundamental right that attaches to share ownership, and this proposal essentially disenfranchises a group of shareholders. In the US, this proposed policy runs counter to rules and guidance that apply to asset managers promulgated by the Department of Labor and the Securities and Exchange Commission. Further, constraining asset managers’ ability to vote shares on behalf of clients who delegate this responsibility to them would disenfranchise their clients – the underlying asset owners who are most often long-term investors saving for retirement. In addition, this would materially change the balance of power between management and other shareholders. Depending on the company and the composition of its shareholder base, restricting asset managers’ ability to vote may: (i) increase the power and impact of proxy advisors, (ii) empower actors such as activist hedge funds, or (iii) entrench management. All of these outcomes would have negative implications for long-term savers whose interests are not always aligned with those of other shareholders.

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54 Further, these consequences do not even factor in the increased management and transaction costs needed to run these types of funds, which would raise fund management fees.

55 Posner, Scott Morton and Weyl, supra note 3, at 34.

56 17 CFR 275.206(4)-6. SEC, Staff Legal Bulletin No. 20, Proxy Voting: Proxy Voting Responsibilities of Investment Advisers and Availability of Exemptions from the Proxy Rules for Proxy Advisory Firms (June 30, 2014), available at https://www.sec.gov/interps/legal/cfsib20.htm. The Department of Labor’s (“DoL”) position is that “the fiduciary act of managing plan assets which are shares of corporate stocks includes decisions on the voting of proxies and other exercises of shareholder rights.” The DoL has also recognized that “fiduciaries may engage in other shareholder activities intended to monitor or influence corporate management where the responsible fiduciary concludes that there is a reasonable expectation that such monitoring or communication with management… is likely to enhance the value of the plan’s investment in the corporation, after taking into account the costs involved.” The DoL’s view is that “proxies should be voted as part of the process of managing the plan’s investment in company stock unless a responsible plan fiduciary determined that the time and costs associated with voting proxies with respect to certain types of proposals or issuers may not be in the plan’s best interest.” See DoL, Field Assistance Bulletin No. 2018-01 (April 23, 2018), available at https://www.dol.gov/agencies/ebsa/employers-and-advisers/guidance/field-assistance-bulletins/2018-01; DoL, Interpretive Bulletin Relating to the Exercise of Shareholder Rights and Written Statements of Investment Policy, Including Proxy Voting Policies or Guidelines (December 29, 2016), available at https://www.gpo.gov/fdsys/pkg/FR-2016-12-29/pdf/2016-31515.pdf.

57 BlackRock, like most other asset managers, aims to vote at 100% of meetings where our clients have given us authority to vote their shares. A recent Broadridge/PwC study found that the average percentage of shares voted by institutional investors was 91% in the 2018 proxy season, contrasted with retail investors who voted 28% of their holdings. Broadridge Investor Communication Solutions, Inc. and PricewaterhouseCoopers LLP, ProxyPulse: 2018 Proxy Season Review, October 2018, available at https://www.broadridge.com/_assets/pdf/broadridge-2018-proxy-season-review.pdf.
These policy proposals are deeply troubling, especially as they are solutions in search of a non-existent problem. The benefits of institutional investment management, index investing and portfolio diversification are well-established, and each proposed remedy would fundamentally diminish the options available to investors.

**Conclusion**

The “common ownership” theory itself and the analysis presented in the AST Paper demonstrate a lack of understanding of the asset management industry, including index inclusion rules, the role of proxy advisors, and the incentives of asset managers. A growing body of literature calls into question the AST Paper’s methodologies and conclusions. In addition, the sensitivity testing performed by Analysis Group demonstrates that correcting the incorrect treatment of either control rights during bankruptcy or financial incentives of asset managers eliminates the statistical significance of the results presented in the AST Paper. Based on these methodological problems as well as the conceptual flaws in the common ownership theory itself, BlackRock believes that the findings in the AST Paper are invalid, and at the very least should not be used as the basis for public policy efforts.

Furthermore, the policy proposals that have been suggested by proponents of the “common ownership” theory would do tremendous harm to American savers and retirees, and our nation’s capital markets. Such changes would increase costs and portfolio risk for everyday investors, and substantially reduce the well-known benefits that low-cost diversified index investing provides to asset owners. In addition, many companies that currently benefit from their stock’s inclusion in indexes may find it more difficult to attract capital to invest and grow their business. Finally, engagement by institutional investors plays an important role in the corporate accountability chain and has value not just for shareholders, but for society as a whole. Unless and until the nascent “common ownership” hypothesis and the purported harm it causes can be empirically established, any policy discussions are premature and reckless.

**********

BlackRock appreciates the opportunity to provide our input in connection with the Commission’s hearings on this important debate. If you have any questions on our comment letter, contact the undersigned.

Sincerely,

Barbara G. Novick  
Vice Chairman

Bennett W. Golub, PhD  
Chief Risk Officer
cc:

Honorable Joseph J. Simons, Chairman, Federal Trade Commission
Honorable Noah Joshua Phillips, Commissioner, Federal Trade Commission
Honorable Rohit Chopra, Commissioner, Federal Trade Commission
Honorable Rebecca Kelly Slaughter, Commissioner, Federal Trade Commission
Honorable Christine S. Wilson, Commissioner, Federal Trade Commission
Honorable Jay Clayton, Chairman, Securities and Exchange Commission
Honorable Robert J. Jackson, Jr., Commissioner, Securities and Exchange Commission
Honorable Hester M. Peirce, Commissioner, Securities and Exchange Commission
Honorable Elad L. Roisman, Commissioner, Securities and Exchange Commission
Appendix: Correcting the Record Regarding Factual Misstatements about BlackRock During Hearing #8

There were a number of false claims made by panelists during Hearing #8 regarding the extent and nature of BlackRock’s engagements with companies in which it invests on behalf of clients. We would like to correct the record in regards to these claims and ask the Commission to consider these points when reviewing the record from the hearing.

A. **BlackRock does not tell companies to fire employees.**

First, in his remarks and associated PowerPoint slides, Martin Schmalz made categorically false claims about the extent to which BlackRock exerts influence on the companies in which we invest on behalf of clients. At the hearing, Dr. Schmalz stated that “Larry Fink [BlackRock’s CEO] is on the record saying we can tell a company to fire 5,000 employees tomorrow.” In making this assertion, Dr. Schmalz mischaracterized the nature of engagement between BlackRock and companies in which it invests, as well as the extent to which BlackRock is able to influence strategic decisions of companies. This particular quote appeared in a University of Chicago blog post about a discussion at the 2016 World Economic Forum. An exact transcript of that event is not available to our knowledge. However, we believe that the quote referenced was taken out of context. During the panel, which was a discussion of corporate governance and sustainability topics, Fink referenced a hypothetical counterfactual where investors are focused solely on short-term profit seeking rather than longer-term drivers of company performance. BlackRock’s investment stewardship activities do not entail telling companies to fire or hire employees.

B. **BlackRock has not lobbied for mergers of European banks.**

In his remarks, Dr. Schmalz quoted a headline from German newspaper *Frankfurter Allgemeine*, which he translates as, “*Fund giant BlackRock lobbies for mergers of European banks.*” The article drew on an interview on the topic of challenges and disappointing returns in the European banking market. The interviewer’s suggestion of a merger between two German banks, Deutsche Bank and Commerzbank, is dismissed, with the comment that “If we’re talking about a need for consolidation, then we should not do that at the national level.”

Dr. Schmalz’s quotation of the article title appears to be intended to demonstrate a “mechanism to affect mergers”, and therefore competitive outcomes. However, the article itself contains neither proactive statements by BlackRock in favor of mergers among European banks, nor specific comments regarding Deutsche Bank, Commerzbank, or any other merger scenarios. It is our view that headlines of newspaper articles should not be relied upon as statements of fact.

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C. **BlackRock does not dictate to companies their share buyback strategies.**

Additionally, in his remarks Dr. Schmalz cites that “BlackRock’s CEO L. Fink directly expresses his views on payouts and capex in letters to CEOs, threatens votes against management” as evidence that common ownership affects corporate financial choices.\(^6\) This is a misleading assertion regarding BlackRock’s engagement with companies in which we invest on behalf of our clients.

As a fiduciary, BlackRock maintains a dedicated investment stewardship team that aims to understand companies’ business models and ask probing questions—not to tell companies what to do. BlackRock’s Investment Stewardship team engages with companies to encourage practices that drive sustainable, long-term growth.

These engagements may touch on topics including share buybacks and capital expenditures as they relate to long-term strategy. However, the suggestion that Mr. Fink’s annual letter to CEOs constitutes a command to companies as to their specific strategies regarding share buybacks is clearly false. We do not dictate to companies how they should run their corporate balance sheets, nor do we have the ability to do so.

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Common Ownership by Institutional Investors and its Impact on Competition

Background Note by the Secretariat

5-6 December 2017

This document was prepared by the OECD Secretariat to serve as a background note for Item 6 at the 128th Meeting of the Competition Committee on 5-6 December 2017.

The opinions expressed and arguments employed herein do not necessarily reflect the official views of the Organisation or of the governments of its member countries.

More documentation related to this discussion can be found at www.oecd.org/daf/competition/common-ownership-and-its-impact-on-competition.htm

Mr Antonio Capobianco, Senior Competition Expert
Email: Antonio.Capobianco@oecd.org

JT03423814
Common Ownership and its Impact on Competition

Abstract

The simultaneous ownership of shares in competing firms by institutional investors, a phenomenon referred to as “common ownership”, is becoming increasingly common in some markets. This is in part due to the increasing popularity of passively managed investment funds, which allow investors to diversify their holdings and therefore reduce their exposure to individual firm risks.

Recent studies have linked common ownership with competition concerns. In particular, it has been theorized that institutional investors with holdings in multiple competing firms may have the incentive to dampen competition, either by facilitating collusion or by encouraging unilateral business decisions that may benefit some portfolio firms at the expense of others. There are a range of mechanisms that provide institutional investors with the ability to influence firm management in accordance with these incentives.

Since it involves the acquisition of minority shares, however, common ownership may in many cases not be captured by merger control legislation. Several proposals have been made to bring common ownership under merger review, which are the subject of substantial debate.

This paper will describe the theoretical and empirical foundations for the competition concerns associated with common ownership, the proposed policy responses, and associated critiques. Given the developing nature of the debate on common ownership, this paper identifies several tools available to competition authorities to analyse the phenomenon in their jurisdiction, as well as some alternative policy perspectives to bear in mind when doing so.

* This paper was prepared by James Mancini and Anita Nyeső of the OECD Competition Division.
Table of contents

Common Ownership and its Impact on Competition ................................................................. 2
1. Introduction .......................................................................................................................... 5
2. Background on minority shareholdings in merger control ............................................... 6
3. Institutional investors and the level of common ownership .................................................. 10
   3.1. Institutional investors ...................................................................................................... 10
   3.2. The extent of common ownership by institutional investors ......................................... 13
4. Competition effects stemming from common ownership ..................................................... 16
   4.1. Theories of harm regarding common ownership and institutional investor incentives .... 17
       4.1.1. Competition issues stemming from unilateral effects ............................................. 17
       4.1.2. Theories of harm involving coordinated effects ...................................................... 20
   4.2. Mechanisms for common ownership to affect firm behaviour ....................................... 21
       4.2.1. Direct influence by institutional investors ............................................................... 21
       4.2.2. Underlying management incentives ......................................................................... 25
   4.3. Potential efficiencies and other potential benefits from common ownership .................. 28
       4.3.1. Critiques ................................................................................................................... 28
5. Potential policy responses to common ownership ................................................................. 30
   5.1. Proposed competition policy responses ......................................................................... 30
       5.1.1. Addressing potential competition issues associated with common ownership under existing legislation .......................................................... 31
       5.1.2. Setting a hard limit on common ownership ............................................................. 32
       5.1.3. Establishing safe harbours for common ownership ................................................. 34
   5.2. Considering policy perspectives outside the realm of competition law ......................... 35
       5.2.1. Corporate governance ............................................................................................. 35
       5.2.2. Financial stability ................................................................................................... 36
6. Existing tools for competition authorities to analyse common ownership ............................. 37
7. Conclusion and further questions to explore ........................................................................ 40

References ............................................................................................................................. 46

Annex: Estimating the effects of common ownership .............................................................. 50

Tables

Table 1. Largest shareholders in the US airline industry (2016Q4) ............................................. 15
Table 2. Largest shareholders of European Banks (2016Q4) ...................................................... 15

Figures

Figure 1. The spectrum of control and influence as captured by merger review ....................... 7
Figure 2. Certain forms of minority shareholdings ................................................................... 9
Figure 3. Assets under management by passive equity index funds 2000-2015, bn USD .......... 12
Boxes

Box 1. Key points in Section 2: Background on minority shareholdings in merger control ............ 10
Box 2. Active vs passive investment strategy .................................................................................. 13
Box 3. Key points in Section 3: Institutional investors and the level of common ownership ........... 16
Box 4. Competition effects from cross ownership .......................................................................... 18
Box 5. Modelling how firm management takes into account common ownership ......................... 19
Box 6. Key points in Section 4: competition effects stemming from common ownership ............... 30
Box 7. The solely for investment exemption ................................................................................. 31
Box 8. Key points in Section 5: Potential policy responses to common ownership ......................... 37
Box 9. European Commission analysis of common ownership in the Dow/Dupont merger .............. 39
Box 10. Open questions for further research on common ownership ............................................ 42
Box 11. The development of the modified Herfindahl-Hirschman index ....................................... 51
1. Introduction

1. The way individuals, businesses and pension funds invest has changed dramatically. Fewer and fewer hold corporate stocks directly. Instead, investors are increasingly purchasing units of funds that pool assets together, reducing exposure to the risk of an individual stock by “diversifying” holdings. In particular, index funds have exhibited substantial growth in recent years. These funds are a highly diversified type of fund and seek to passively track the performance of an index (such as the S&P 500) rather than earn excess returns by actively choosing investments. Their low cost approach has taken on a particular appeal since the financial crisis, when some investors began to question the value of passive investment management.

2. However, recent theoretical and empirical studies have found that diversified investment funds may be having a detrimental effect on market competition in certain concentrated sectors, particularly in airlines and retail banking. They find that in oligopolistic markets where competitors have shareholders in common —which occurs naturally when funds have diversified holdings across an industry— prices may be higher, collusion may be more likely, and management incentives may be oriented toward industry, rather than firm, performance.

3. Since investment funds own only minority shares of firms, the acquisition of these shares usually falls outside the traditional scope of merger control rules. However, numerous channels, both direct and indirect, exist for these funds to exert influence on their portfolio firms. The influence of institutional investors can, for example, be particularly pronounced when the ownership structure of a firm is highly dispersed. Some studies also posit that the management of a firm may be incentivised to pursue investment fund interests, to the detriment of market competition. For example, a firm could take into account the impact of its strategic decisions on the profitability of its rivals, potentially trading off its profit for that of its rivals, to the benefit of investors who hold shares of both firms.

4. These concerns have led to far-reaching proposals about using either current or new antitrust laws to control, and potentially limit, common ownership. At the same time, numerous critiques of these proposals, and their theoretical as well as empirical foundations, have been voiced.

5. In sum, more research is needed to identify the likely effects of common ownership on competition, and to determine measures needed in response, if any. Given the extent of common ownership in at least some markets, the continuing trend towards diversified investment products and the concentration of investment funds, this research could have substantial value: value that would extend beyond the competition domain, to a range of alternative policy perspectives, including corporate governance and financial stability.

6. This background note is structured as follows:

- **Section 2** reviews the reasons why non-controlling minority shareholdings fall outside the scope of most current legal frameworks and defines the key terms and concepts behind certain forms of minority shareholdings
- **Section 3** provides an overview of the evolution of institutional investors and the extent of common ownership
- **Section 4** describes possible theories of harm for common ownership, empirical findings related to this potential harm and associated criticisms.
- **Section 5** introduces some proposed policy responses to address concerns related to common ownership.
- **Section 6** sets out the tools that competition authorities have available to analyse common ownership in their jurisdiction.
- **Section 7** concludes and suggests avenues for further research and consideration.

2. Background on minority shareholdings in merger control

7. Most jurisdictions do not apply merger control rules to the acquisition of purely financial investments in a target company when these acquisitions do not confer the ability to exercise material influence over the target company (i.e. non-controlling minority shareholding). If an investor buys minority shares in multiple companies in the same industry without being able to exercise control over the companies, this may not constitute a notifiable transaction in most jurisdictions.

8. Before discussing the potential antitrust concerns arising from the presence of institutional investors as minority shareholders in competing firms, this chapter reviews briefly the current approach towards minority shareholdings in merger control, and particularly the reasons why non-controlling minority shareholdings fall outside the scope of the legal framework.

9. Minority shareholdings, i.e. when a shareholder holds less than 50% of the voting rights attached to the equity of the target firm (EC, 2013), are a widespread phenomenon in the economy. Companies invest in minority equity shares of other firms for the same reasons as expanding their operations inland or overseas. Equity investments may be a means to diversify and spread costs and risks, to access new technologies or innovative managerial practices, to establish and strengthen business relationships, to access new markets, and to fund and exploit joint activities, such as R&D (see OECD, 2008).

10. At the same time, the establishment of an “ownership link” between actual or potential competitors might affect a firm’s incentives to compete vigorously; therefore the benefits of the partial integration must be balanced with the possible negative effects on competition. In most jurisdictions, these concerns are addressed under merger control rules. The framework for the analysis of these transactions is based on the assumption that the acquisition of control gives the acquirer the ability to raise prices unless constrained by competition from other rivals (OECD, 2008, p.21).

11. Since the ownership of minority shares in itself doesn’t indicate whether the owner is entitled to exercise control or influence over the target, the antitrust literature distinguishes between controlling and non-controlling minority shareholdings. In the former case, the minority shareholder can exercise control over the target company, either solely or jointly with other shareholders, while in the latter, minority shareholdings represent a form of purely financial investment, and thus do not confer control in the legal sense.

12. Most merger review regimes accordingly focus on the question of control when determining which transactions are captured. The diagram below illustrates the range of influence that can be associated with a transaction.
13. Different jurisdictions have differing approaches to the concept of control, which serves as a basis to define the scope of the reviewable transactions. Many jurisdictions will only review mergers when an acquisition leads to a controlling influence in another firm, whereas others will also include influence that is not equivalent to control:

- **Acquisition of “decisive influence”**. The EU merger review regime and regimes modelled after it, define control as the possibility of exercising “decisive influence” on an undertaking. Decisive influence can be exercised on the basis of rights, contracts or any other means, either separately or in combination, and taking into account all factual and legal circumstances. Only transactions which lead to the acquisition of control, or to a meaningful change in the nature of control, are subject to review (OECD, 2008, p.10).

- **Acquisition of “material influence”**. Other jurisdictions apply merger review rules to a wider range of transactions, including those which do not confer “decisive influence”. In the UK, the CMA may review a non-controlling minority shareholding where it confers on the acquirer the ability to exercise material influence over the target company. The ability to exercise material influence will be presumed if 25% or more of the shares of the target company are acquired. However, this presumption is rebuttable depending on the case (EC, 2016, p.15).^3^ In Germany and in Austria, a 25% shareholding constitutes an unambiguous legal threshold and will trigger a merger control filing. In addition, in Austria, acquisitions of less than 25% of capital shares or voting rights will also be captured by the Austrian merger regime if the acquired shares confer on the acquirer the rights which a holder of more than 25% of shares would normally be able to exercise (EC, 2016, p.25). Under German law, acquisitions of shareholdings of less than 25% can also constitute a notifiable event, if they “enable one or several undertakings to exercise directly or indirectly a material competitive influence on another undertaking.” (German Act against Restraints of Competition, Gesetz gegen Wettbewerbsbeschränkungen, “GWB” No. 4 of § 37(1)) While the term “material competitive influence” is not defined in the German merger provisions, it has gained considerable clarity through case law (EC, 2016, p.21). It can apply to any kind of influence and shareholding, as long as it confers a de-facto influence similar to the one of the holder of a 25% shareholding (see Zigelski,
2009). In both jurisdictions, the thresholds only establish jurisdiction, not competitive harm. The competition assessment takes place at the second stage.

- **No control concept, but exemption for transactions solely for investment purposes.** The US merger control system has a very extensive reach. In principle, the agencies are able to focus more directly on the question of whether an acquisition might substantially lessen competition. The jurisdiction on mergers is not premised on the concept of change in the control of a company, but covers any acquisition of 10% or more voting securities (or assets) of another firm and prohibits them, where “the effect of such acquisition may be substantially to lessen competition”.

This broad jurisdictional criterion is mitigated by the “solely for the purpose of investment” criteria, which holds that “[t]his section shall not apply to persons purchasing such stock solely for investment and not using the same by voting or otherwise to bring about, or in attempting to bring about the substantive lessening of competition”. Accordingly, acquisitions above 10% need to be notified unless the acquisitions are solely for investment purposes.

14. In view of the above, in merger regimes that use the notion of control to define the scope of the reviewable transactions such as the EU, acquisitions of non-controlling minority shareholdings fall outside the scope of the application of the merger rules. Other jurisdictions that do not rely solely on the legal concept of control, but instead include the acquiring firm’s “ability” to influence the acquired firm’s decision making process, can review acquisitions of non-controlling minority shareholdings.

15. Thus, due to the different approaches related to the legal notions of control, acquisitions of non-controlling minority shareholdings are subject to review only by certain jurisdictions. In other jurisdictions, these transactions fall outside the scope of the merger review, since shareholders are not entitled to exercise control over the target under the respective merger rules; therefore these transactions are not notifiable. As a result, there are relatively few examples of competition agencies challenging transactions of non-controlling shareholdings. Moreover, there were even fewer cases involving acquisitions of non-controlling minority shareholdings that actually raised competition concerns (EC, 2016, p.4).

16. However, merger control rules are not necessarily the only legal basis for challenging concerns raised by minority shareholdings. There are a few examples in which the acquisition of a minority stake in a company could amount to an infringement in the form of an anticompetitive agreement or abuse of dominance.

- **Application of rules on anti-competitive agreements.** Although the mere acquisition of a minority stake does not constitute conduct that restricts competition, it could nevertheless serve as an instrument for influencing the commercial conduct of a competitor, thereby restricting or distorting competition, in particular where the agreement provided for a commercial cooperation between the companies, or creates a structure likely to be used for such cooperation, or where it gave the acquiring shareholder the possibility of taking legal or de facto control of the target.

- **Application of rules on abuse of dominance.** The European Court ruled (in a case decided before the adoption of the European Commission Merger Regulation) that the acquisition of a minority shareholding in a competitor could only be considered in an abuse of dominance context if it resulted in effective control, or at least some influence over the target's commercial policy.
17. Minority shareholdings can include one-sided ownership by one firm of another, reciprocal minority shareholdings between rivals and minority shareholding by third parties, such as investors. For the purpose of this note, it is worth underlining the difference between cases in which rival firms have direct ownership interests in each other, often referred to as “cross ownership”, “cross-holdings”, “partial ownership” or “structural links”, and when competing firms have shareholders in common, such as investors that own shares in competing companies in the same industry. Although some studies refer to this phenomenon as “institutional cross-holdings”, “institutional ownership”, or “overlapping ownership/owners”, in this note we use “common ownership” in line with the mainstream of the literature (Figure 2).

**Figure 2. Certain forms of minority shareholdings**

Cross ownership

Common ownership

18. As seen above, common ownership refers to situations in which a third party, generally an investor holds minority equity shares in several competing companies at the same time. However, transactions conducted purely for investment purposes and which do not allow the investor to exercise control over the target companies may not constitute notifiable transactions in most jurisdictions.
Box 1. Key points in Section 2: Background on minority shareholdings in merger control

- Minority shareholdings can be defined as shareholdings of less than 50% of the voting rights attached to the equity of the target firm. Since the ownership of shares in a company does not indicate whether the owner of the minority stake is entitled to exercise control over the target company, the antitrust literature distinguishes between controlling and non-controlling minority shareholdings.

- There are differences in the scope of merger review regimes among jurisdictions with regard to transactions that may confer influence, but not control. However, in certain jurisdictions, transactions representing only a financial investment in a firm, and do not empower the owner with influence over the target, are explicitly exempted from the scope of the merger control rules, therefore these transactions are not notifiable.

- Cross- and common ownership are probably the most common forms of minority shareholdings. Cross ownership refers to situations, in which rival firms have direct ownership interests in each other; while common ownership covers situations when a third party, such as an investor owns shares in competing companies in the same industry.

3. Institutional investors and the level of common ownership

19. In order to provide context to the potential antitrust concerns raised by common ownership, this chapter gives an overview of the investors’ landscape and the extent of this phenomenon.

20. The umbrella term of “institutional investor” covers a variety of different institutions which collect money for investment purposes, ranging from banks to mutual funds. Irrespective of their exact form, in the past decades there has been a rapid growth in the amount of capital that these firms invest on behalf of their clients. Several studies show that in some concentrated industries, there has been a corresponding increase in the extent of common ownership.

3.1. Institutional investors

21. Institutional investors pool money for investment purposes and are major collectors of savings and suppliers of funds to financial markets. They include banks, insurance companies, pension funds, hedge funds, real estate investment trust (REITs), investment advisors, endowments, and mutual funds. These institutions can assume the legal form of joint stock companies (such as investment companies), limited liability partnerships (like private equity firms) or incorporation by special statute, for instance in the case of some sovereign wealth funds (see OECD, 2014, p.7). Institutional investors can be free-standing institutions or be a part of a larger financial institution, group or conglomerate. Mutual funds, for example, are often subsidiaries of banks and insurance companies. Some studies refer to institutional investors as “blockholders”, which was
partly related to the compulsory reporting system for the financial supervisors, since certain categories of owners must report the size of their ownership positions and in some cases their control intentions (Davis, 2008). 

22. The number and the diversity of investors increased dramatically as new types of institutions emerged (see OECD, 2014, p.8). In addition to “traditional” institutional investors, such as investment funds, pension funds or insurance companies, “alternative” investors, such as hedge funds, private equity funds, exchange-traded funds (ETFs) and sovereign wealth funds have appeared. Moreover, asset or investment management companies that offer investment services along with other financial product offerings can also be considered alternative institutional investors. OECD notes that “while a few large institutional investors manage their assets internally, the last couple of decades have seen an increase in outsourcing of asset management to external asset managers” (2014, p.102).

23. Despite some regional variation, the evolution of the investment market has followed some broadly similar trends. Among these are the following:

- **Shift from direct ownership of stocks to investment in funds.** By transitioning from the direct ownership of a small number of stocks to the ownership of units of funds, investors are able to diversify their risks and benefit from the services of professional portfolio managers. For instance: direct ownership of stocks in the US declined from 84% in the mid-1960s to 40% in 2011; direct ownership in the UK declined from 54% to 11% during the same period (OECD, 2014, p.96). Due to this, corporate ownership had become overwhelmingly intermediated by institutions rather than held directly by individuals. The primary beneficiaries of this change are mutual funds, known in the UK as “unit trusts” (Davis, 2008).

- **Spread of passive investment strategy and index funds.** Alongside actively-managed funds, which generally seek to exceed market performance, passively-managed funds have been introduced and grown significantly. These funds seek to replicate the performance of a pre-defined index while minimising expenses (further described in Box 2 below).

The movement by investors toward passively-managed funds was particularly marked after the financial crisis (Fichtner et al, 2017). Figure 3 shows the rapid growth of passive index funds that invest in equities worldwide. Since 2008, index mutual funds and exchange-traded funds (two types of passive investment funds) have grown at a roughly similar pace, doubling their assets under management between 2011 to 2014. In total, these funds had at least USD 4 trillion in assets under management at the end of 2015, thus surpassing the assets under management of the entire hedge fund industry (Fichtner et al. 2017, p.6).

- **Increasing concentration in passive funds and in the asset management market.** A large share of passive index funds are managed by the “Big Three”: BlackRock, Vanguard and State Street, who acquired significant shareholdings in thousands of publicly listed corporations both in the US and internationally (Fichtner et al. 2017, p.2). For example, in 2015, the mean ownership of 1,662 listed U.S. corporations by the Big Three was over 17.6 percent.
- **Dispersed ownership of listed companies.** The growth in the depth and sophistication of capital markets has permitted the participation of an increasing variety of investors. As a result, the ownership of publicly-listed companies has become dispersed, particularly in the US, where the largest ownership share of any investor in a firm often does not surpass 5%. The largest such shareholders are often investment funds who invest shares on behalf of clients (Davis, 2008, p.14.).

**Figure 3. Assets under management by passive equity index funds 2000-2015, bn USD.**

Box 2. Active vs passive investment strategy

Actively-managed investment funds generally seek to outperform average market performance, whereas passively-managed funds simply attempt to match the performance of a benchmark index, such as the Standard and Poor’s 500. In so doing, passive investment fund managers avoid the research and analysis costs of active fund managers, and therefore often feature lower management fees. Some key distinctions between active and passive management are summarised in the table below.

Active vs passive portfolio management

<table>
<thead>
<tr>
<th>Active Management</th>
<th>Passive Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attempts to beat benchmark performance</td>
<td>Attempts to match benchmark performance</td>
</tr>
<tr>
<td>Contends pricing inefficiencies in the market create investing opportunities</td>
<td>Contends that it is difficult or impossible to “beat the market”</td>
</tr>
<tr>
<td>Securities selected by portfolio manager</td>
<td>Securities selected based on an index</td>
</tr>
<tr>
<td>Focuses on choice of specific securities and timing of trades</td>
<td>Focuses on overall sector or asset class</td>
</tr>
<tr>
<td>Trading and the degree of liquidity for individual securities may increase portfolio cost</td>
<td>Infrequent trading tends to minimize portfolio expenses</td>
</tr>
</tbody>
</table>

Table excerpted from Williams and Ortega (2012, p.85)

3.2. The extent of common ownership by institutional investors

24. Several recent studies attempt to quantify the magnitude of common ownership in selected US industries. While using somewhat different methodologies, they generally find that the level of the common ownership in US public-listed companies has increased significantly, and especially in certain sectors of the economy, such as airlines, pharmacies, banks, breakfast cereals and soft drinks (Posner et al, 2017). As Figure 4 shows, the fraction of U.S. public firms held by institutional investors that simultaneously hold at least 5% of the common equity of other same-industry firms has increased from below 10% in 1980 to about 60% in 2014 (He and Huang, 2017). The phenomenon is not limited to the US; there is a high level of common ownership in the European banking sector and the German chemical market as well (Posner et al, 2017).
Figure 4. The evolution of common ownership in US public firms

Note: The authors refer to common ownership as cross-holding.
Source: He and Huang (2017)\textsuperscript{15}

25. Additional estimates of common ownership are listed below:

- The density of the network of the US companies with owners in common more than tripled between 2000 and 2010, going from 4% to 14%. During the same period, the percentage of companies having a top 5 fund as an investor increased from approximately 30% to almost 50% (Azar, 2011).
- In order to illustrate the extent of common ownership, Azar et al. (2017) noted that the probability that two randomly selected firms in the same industry from the S&P 1,500 have a common shareholder with at least 5% stakes in both firms increased from less than 20% in 1999Q4 to around 90% in 2014Q4. (Azar et al., 2017, p. 2).
- The overlap of owners of competing firms is not limited to the US. Among European banks, as of 2016, BlackRock was the largest shareholder of HSBC, Deutsche Bank, Banco Popolare and Banco Bilbao.
Table 1. Largest shareholders in the US airline industry (2016Q4)

<table>
<thead>
<tr>
<th>Delta Airlines</th>
<th>%</th>
<th>Southwest Airlines Co.</th>
<th>%</th>
<th>American Airlines</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berkshire Hathaway</td>
<td>8.6</td>
<td>PRIMECAP</td>
<td>11.8</td>
<td>T. Rowe Price</td>
<td>14.0</td>
</tr>
<tr>
<td>BlackRock</td>
<td>6.8</td>
<td>Berkshire Hathaway</td>
<td>7.0</td>
<td>PRIMECAP</td>
<td>9.0</td>
</tr>
<tr>
<td>Vanguard</td>
<td>6.3</td>
<td>Vanguard</td>
<td>6.2</td>
<td>Berkshire Hathaway</td>
<td>7.8</td>
</tr>
<tr>
<td>State Street</td>
<td>4.3</td>
<td>BlackRock</td>
<td>6.0</td>
<td>Vanguard</td>
<td>6.0</td>
</tr>
<tr>
<td>J.P. Morgan</td>
<td>3.8</td>
<td>Fidelity</td>
<td>5.5</td>
<td>BlackRock</td>
<td>5.8</td>
</tr>
<tr>
<td>United Continental Holdings</td>
<td>%</td>
<td>Alaska Air</td>
<td>%</td>
<td>JetBlue Airways</td>
<td>%</td>
</tr>
<tr>
<td>Berkshire Hathaway</td>
<td>9.2</td>
<td>T. Rowe Price</td>
<td>10.14</td>
<td>Vanguard</td>
<td>8.0</td>
</tr>
<tr>
<td>BlackRock</td>
<td>7.1</td>
<td>Vanguard</td>
<td>9.73</td>
<td>Fidelity</td>
<td>7.6</td>
</tr>
<tr>
<td>Vanguard</td>
<td>6.9</td>
<td>BlackRock</td>
<td>5.6</td>
<td>BlackRock</td>
<td>7.3</td>
</tr>
<tr>
<td>PRIMECAP</td>
<td>6.3</td>
<td>PRIMECAP</td>
<td>5.0</td>
<td>PRIMECAP</td>
<td>5.9</td>
</tr>
<tr>
<td>PAR Capital Mgt.</td>
<td>5.2</td>
<td>PAR Capital Mgt.</td>
<td>3.7</td>
<td>Goldman Sachs</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Source: Azar et al. (2017)

Table 2. Largest shareholders of European Banks (2016Q4)

<table>
<thead>
<tr>
<th>HSBC</th>
<th>%</th>
<th>Deutsche Bank</th>
<th>%</th>
<th>Banco Popolare</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>BlackRock</td>
<td>5.9</td>
<td>BlackRock</td>
<td>6.2</td>
<td>BlackRock</td>
<td>5.1</td>
</tr>
<tr>
<td>Legal &amp; General</td>
<td>3.0</td>
<td>Paramount</td>
<td>3.1</td>
<td>Norges Bank</td>
<td>3.7</td>
</tr>
<tr>
<td>Vanguard</td>
<td>2.3</td>
<td>Supreme Universal</td>
<td>3.1</td>
<td>Fond CdRdL</td>
<td>2.9</td>
</tr>
<tr>
<td>State Street</td>
<td>2.2</td>
<td>DB, PB&amp;IBI</td>
<td>2.6</td>
<td>Dimensional Fund</td>
<td>2.5</td>
</tr>
<tr>
<td>Norges Bank</td>
<td>2.0</td>
<td>Merrill Lynch</td>
<td>2.5</td>
<td>Vanguard</td>
<td>2.0</td>
</tr>
<tr>
<td>BPM</td>
<td>%</td>
<td>Banco Bilbao</td>
<td>%</td>
<td>Banco Santander</td>
<td>%</td>
</tr>
<tr>
<td>BlackRock</td>
<td>5.2</td>
<td>BlackRock</td>
<td>4.9</td>
<td>State Street</td>
<td>12.7</td>
</tr>
<tr>
<td>Time &amp; Life</td>
<td>4.0</td>
<td>JP Morgan</td>
<td>3.6</td>
<td>Vanguard</td>
<td>9.9</td>
</tr>
<tr>
<td>Dimensional Fund</td>
<td>3.4</td>
<td>Lyxor</td>
<td>2.9</td>
<td>BNY Mellon</td>
<td>6.1</td>
</tr>
<tr>
<td>Norges Bank</td>
<td>3.0</td>
<td>Vanguard</td>
<td>2.0</td>
<td>BlackRock</td>
<td>5.2</td>
</tr>
<tr>
<td>Standard Life</td>
<td>2.0</td>
<td>Amundi</td>
<td>1.9</td>
<td>Societe General</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Source: Schmalz (2016)

- In Germany, institutional investment seems to be an industry-specific phenomenon. In 2015, institutional investors dominated the chemical industry, holding more than 60% of its total value, while in the construction and food sectors, they hold less than 10% of the total equity in German companies. (Seldeslachts et al., 2017, p.307).
- In Iceland, common ownership exhibited a substantial increase following the financial crisis. By 2016, the pension funds had acquired shareholdings in the majority of Icelandic companies, including 45% of real estate firm shares, 35% of insurance firm shares and 50% of telecommunications firm shares (Óladóttir et al., 2017).
Box 3. Key points in Section 3: Institutional investors and the level of common ownership

- The term “institutional investor” covers different institutions which collect money for investment purposes, including banks and mutual funds.
- In the past two decades, there has been a rapid growth in the amount of capital invested by funds on behalf of their clients. Simultaneously, there was a significant increase in common ownership.
- In the US, the growth in common ownership was particularly pronounced in certain concentrated sectors, such as airlines and banks. This phenomenon is not limited to the US; there is, for example, a high level of common ownership in the European banking market.

4. Competition effects stemming from common ownership

26. Several recent studies have found that common ownership by institutional investors may result in competition problems, namely higher prices. Specifically, Azar et al (2016) conducted an econometric analysis of fees for banking deposit services and found that common ownership was associated with higher fees. A subsequent study examined the US airline industry and found that, depending on the methodology used, common ownership was associated with higher ticket prices in the magnitude of between 3% and 12%. Details of the methodologies employed in these studies, and some associated critiques, are provided in Box 3 and Annex A.

27. The broad theory underlying these studies is that firms with shareholders in common may compete with each other less aggressively than they would if they had completely different shareholders. This weakened competition may manifest itself in unilateral effects on the part of at least one of the commonly held firms, or through coordination. Active influence by shareholders with diversified holdings across an industry may not even be required for these effects to occur, as firm managers may be incentivised to independently take into account the financial interests of common owners.

28. Proponents of theories regarding competitive harm stemming from common ownership emphasise the broader economic impact that it may be having. Elhaug (2016) ties common ownership to the concentration of wealth in the US economy, comparing its effect to the period before the passage of US antitrust laws (see Figure 5 below).
Much of the debate regarding the likelihood of competitive harm from common ownership centres around (1) whether institutional investors with shareholdings across an industry have an incentive to dampen competition, and (2) the ability of these institutional investors to influence the decisions of a firm’s board and management, whether directly or through underlying incentives. This section reviews the main arguments of recent studies of common ownership focusing on these themes.

4.1. Theories of harm regarding common ownership and institutional investor incentives

30. This sub-section summarises the theories of harm that have been advanced with respect to potential unilateral effects or coordination as a result of common ownership. These theories explore how institutional investors have an incentive to dampen competition.

4.1.1. Competition issues stemming from unilateral effects

31. Unilateral effects generally refers to price increases, or declines in quality, variety or innovation, that firms can profitably implement following a merger, without needing to coordinate with competitors (see for instance ICN, 2004). In a perfectly competitive market, a firm would be unable to profitably deviate from the market equilibrium, since enough consumers would switch to the firm’s competitors to make the deviation unprofitable.

32. Transactions that link firms through common shareholders may result in a type of unilateral effect. In particular, they may render unilateral price increases profitable, at least from the perspective of shareholders with holdings in multiple competitors, even if
the transaction does not increase the market power of the individual firms involved. This mechanism, further explained in Box 4 below, is the focus of much of the recent literature on minority shareholdings.

### Box 4. Competition effects from cross ownership

Salop and O’Brien (2000) examine the case of cross ownership in an imperfectly competitive market (under both Bertrand and Cournot models of competition); specifically, the acquisition by a firm of a minority share in its competitor. This analysis built on papers by Reynolds and Snapp (1986) and by Bresnahan and Salop (1986), which found that financial interests among competing firms—even without any control rights—may lead to less vigorous competition.

Consider a hypothetical example involving two firms referred to as Firm A and Firm B, respectively, below for simplicity. Prior to the acquisition, if Firm A were contemplating a unilateral increase in price, it may have been constrained by the fact that higher margins from a price increase would not compensate for the resulting loss of customers (quantified via a diversion ratio). However, with a minority share of Firm B, Firm A’s calculus would change. Some of the customers who leave Firm A could begin purchasing from Firm B, and a portion of the profits from those sales would flow to Firm A. Thus, the lost profits from the loss of customers following the price increase could be partially mitigated by minority ownership of Firm B contributing to upward pricing pressure.

A range of factors (the size of Firm A’s interest in Firm B, the price increase, the profitability of A and B, the concentration of the industry, etc.), will determine whether the price increase would in fact be profitable as a result of minority shareholdings. Importantly, no communication or agreement between Firm A and Firm B is required for this outcome.

33. Although the example described above relates to cross ownership, the underlying theoretical incentives could apply to common ownership by institutional investors. In the example of an oligopolistic market in which an institutional investor holds a minority of all (or most) firms, it is certainly theoretically possible that a unilateral price increase by one of the firms would be profitable from the investor’s perspective. Losses from diversion of customers to competitors could be recouped because of the gains these competitors realise.

34. Several theoretical models have considered the effects of common ownership in the event that firm managers take into account the interests of horizontally-invested shareholders. These effects include a tendency toward joint profit maximisation (Azar, 2017) and internalising the impact on competitor value of key decisions, such as R&D, litigation, takeover strategy, capital budgeting, executive compensation, or behaviour during auctions (see Hansen and Lott, 1996, and Rubin, 2006). The recent studies developed models to analyse the effect of common ownership on management decisions is described in Box 5 below.
Box 5. Modelling how firm management takes into account common ownership

Models of common ownership and its impact on firm decisions (see Azar et al, 2016; Azar et al, 2017) employ a proportionate control assumption. This assumption implies that a firm’s management will seek to maximise the total portfolio value of its investors, weighted by the proportion of shares they hold. So the firm’s objective function becomes:

$$\max \Pi_j = \sum_{i=1}^{M} \sum_{k=1}^{N} \gamma_{i,j} \beta_{i,k} \pi_k$$

Where firm j seeks to maximise the weighted portfolio values of its investors ($\Pi_j$), with $\gamma_{i,j}$ denoting the weight of investor i’s interests in the decisions of firm j (in other words, the “degree of control” the investor has over the firm (see O’Brien and Salop, 2000, p. 597), $\beta_{i,k}$ denoting investor i’s share of the profits of firm k, and $\pi_k$ denoting firm k’s profits.

Based on this objective function, O’Brien and Salop (2000) derived a modified Herfindahl Hirschmann index (“MHHI”), which adapts the typical measure of firm concentration to take into account ownership interests that link competing firms (further details on the development of the index are contained in Annex A). The basic insight is that concentration could be underestimated if firms are assumed to behave fully independently, despite their underlying ownership.

The MHHI can be broken into two components – the standard HHI and a “MHHI delta”:

$$MHHI = HHI + \sum_j \sum_{k \neq j} s_j s_k \frac{\sum_i \gamma_{ij} \beta_{ik}}{\sum_i \gamma_{ij} \beta_{ij}}$$

Where $s_j$ and $s_k$ are firm j and k’s market shares, respectively. The MHHI delta therefore depends on the amount of control or influence that an investor has in a firm and its competitors, as well as its corresponding financial interests. All else equal, a higher degree of control or influence by common investors would translate to a stronger link between firms and therefore a higher MHHI, implying higher concentration in an industry.

In situations with no common or cross ownership ties, the MHHI delta would be zero, and the MHHI would be equivalent to the standard HHI (put differently, the standard HHI is a generalised version of the MHHI assuming no ownership links between firms).

35. However, the unilateral effects theories described above may oversimplify institutional investor incentives. An assessment of the profitability of unilateral effects from the perspective of a diversified investor would need to take into account that investor’s entire portfolio, rather than focusing solely on the investor holdings within a given market. When an investor has diversified holdings across many sectors of the economy, the firms in its portfolio may interact with each other as customers or suppliers. Thus, while diversified holdings across an industry may create incentives for anticompetitive outcomes, diversified holdings across many industries may counteract those incentives (see, for instance, Rock and Rubinfeld 2017).

36. The degree to which common ownership creates incentives for institutional investors to encourage unilateral effects therefore depends on the other holdings in their
portfolio. Investors in retail financial services markets may, for instance, have fewer
direct interests in downstream affected firms than would be the case in industrial input
industries.

37. In cases where a diversified institutional investor does in fact have an incentive to
promote unilateral price increases, the degree to which these price increases manifest
themselves will depend on the ability of the investor ensure that its interests are pursued
by firm management. In other words, a diversified investor with a minority share would
need to ensure that the firms it owns internalise the impact of substitution amongst
themselves.

38. Section 4.2 will seek to describe the mechanisms of influence available to
institutional investors: in other words, the ability of institutional investors to encourage
the effects described above. It will also set out some of the critiques of the theories
regarding these mechanisms.

4.1.2. Theories of harm involving coordinated effects

39. An alternative way in which common ownership could affect competition is if it
incentivises institutional investors to facilitate coordination among their portfolio firms.
An investor who holds shares in multiple firms in an industry could act as the “cartel
ringmaster” (Rock and Rubinfeld, 2017, p. 4), passing information between the parties
and monitoring compliance. The theoretical gains to the investor from this conduct would
be a share of the excess rents earned by each firm.

40. This type of coordination will be familiar to competition authorities, in that it is
similar to the potential role that an industry association could for instance play in
facilitating cartel conduct. A recent academic study cautioned investors with holdings in
competing firms, and the investor relations departments of these firms, to abstain from
discussing pricing and other topics that could facilitate a collusive agreement (see, for
example, Rock and Rubinfeld, 2017, p.35).

41. While common ownership is not required for firms to have an incentive to
collude, it could create additional incentives for shareholders with horizontal holdings to
prevent deviations from a collusive outcome (beyond the incentives that would be in
place for owners of unconnected collusive firms; see, for instance, Patel, forthcoming).
This is because any gains from deviation would, in the presence of common ownership,
be at least partially offset by the loss of collusive profits from other commonly-held
firms. However, an investor must be willing to play an active role in coordinating the
cartel, thus exposing itself to antitrust liability, to have an impact on the likelihood of firm
deviation.

42. However, the actual impact of common ownership on the likelihood and
sustainability of collusion may not always be clear. For instance, some note that in
concentrated markets, where coordination enabled by common ownership is most likely
to be successful, it may not be clear that parallel pricing, output restrictions or other forms
of coordination are the direct result of common ownership. In other words, firms may be
incentivised to tacitly collude regardless of ownership links (see Rock and Rubinfeld,
2017).

43. Further, the mere presence of common ownership may counterintuitively create
incentives for firms to deviate from a collusive agreement. Common ownership could in
fact reduce the cost of punishment if it produces unilateral effects (Patel, 2017, pp. 52-
53). The non-cooperative outcome that would result from punishment would be better
than that without common ownership. One recent paper provides a model that is consistent with this finding, particularly in cases where there is a certain probability that a cartel may be detected by an antitrust authority, thus lowering the expected benefits from collusion (Paha and de Haas, 2016).

44. One recent study investigates whether there is empirical evidence of coordination associated with common ownership by institutional investors. It involves the analysis of a sample of publicly-held firms in the US between 1980 and 2014, and concludes that commonly-owned firms: (1) are more likely to engage in joint ventures, strategic alliances and other explicit coordination and (2) exhibit higher innovation productivity and operating profit margins, suggesting these firms implicitly cooperate in their R&D efforts and may share knowledge. This cooperation was found to be associated with higher relative market share growth rates, higher profits and, as a result, higher stock prices (He and Huang, forthcoming).

45. In sum, there may in some cases be an opportunity for firms to collude with the facilitation of their common owners, particularly in a concentrated industry when common owners hold a significant amount of a company. Any explicit attempts to facilitate coordination would be captured under existing antitrust laws. Indeed, Rock and Rubinfeld (2017) advise institutional investors to implement a compliance policy to address this risk. However, the overall impact of common ownership on the likelihood of tacit collusion will depend significantly on whether an industry is already susceptible to collusion (based on factors such as homogenous products and multimarket interactions), and on the ability of an investor to encourage and facilitate a collusive agreement. This ability will be explored in Section 4.2 below.

4.2. Mechanisms for common ownership to affect firm behaviour

46. As described above, it is possible for investors owning shares in multiple competing firms to benefit from either unilateral effects or from coordination among those firms.

47. The key question in the literature on the subject, then, is whether the management and board members of firms linked by common minority ownership will act according to these interests. Posner et al. support this contention, stating “when institutions have incentive and ability to soften competition, it is likely they will find a way” (forthcoming, p.14). On the other hand, several authors posit that investor interests are too disparate, and influence often too minimal to achieve these outcomes.

48. This section will explore several potential mechanisms through which common ownership may affect firm behaviour; namely direct influence by institutional investors holding shares in a firm (in other words, their ability to lead to encourage anticompetitive outcomes), underlying incentives for managers to act according to diversified shareholder interests without direct influence, and the effects of institutional investor passivity.

4.2.1. Direct influence by institutional investors

49. The most straightforward mechanism through which common ownership by institutional investors could lead to anticompetitive behaviour by firms is if the institutional investor exerts direct influence to encourage such behaviour. Since institutional investors generally hold minority shares, any direct strategies would require the investor to have effective control, or at least sufficient influence (as discussed in
Section 2, the ownership of shares does not always translate to influence in the management of a firm).


**Voting**

51. Holders of stock with voting rights, such as common stock, have the ability to cast a vote on the selection of a firm’s board of directors, as well as on fundamental shifts in the firm’s strategy, ownership structure or holdings (e.g. as a result of an acquisition), as well as senior management pay packages (see OECD, 2015).

52. Institutional investors that wish to encourage anticompetitive behaviour that benefits the value of their holdings across an industry could therefore theoretically use their votes to encourage the selection of board members and strategies that are consistent with this objective. The likelihood of the institutional investor’s desired outcome depends on several factors.

53. The example of a strategic decision that is expected to be profitable for a firm, but negative for the portfolio value of an institutional investor’s industry-wide holdings is instructive, in that it pits the interests of non-diversified investors against diversified investors. If undiversified investors collectively hold more voting shares than diversified investors, the strategic decision would be expected to be defeated. However, this may not always be the case in practise.

54. In particular, an outright majority of shares may not be required for diversified institutional investors to influence voting results. As described in Section 3, passively-managed investment funds (and some actively-managed funds) following an explicit strategy of diversification hold a growing proportion of shares in firms. Even if these funds in many cases do not hold an outright majority of voting shares in a given firm, their influence may be decisive, for several potential reasons:

- **Low levels of shareholder meeting attendance and vote engagement** among non-institutional minority investors such as individuals could amplify the influence of motivated institutional investors. The model developed by Hansen and Lott (1996) emphasises that the level of engagement of non-diversified investors will be determinative in the decisions of a firm.

- **Further, institutional investors do, in many cases, own larger proportions of shares** than the remaining investors. For example, 25% of the shares of a firm may be sufficient for effective control if no other shareholder owns more than 1 percent (O’Brien and Salop, 2000, p. 577). Thus, dispersed shareholding, for example due to a high proportion of free float shares available for trading, can be a decisive factor in the influence of institutional investors.

- Finally, **if diversified investors voted as a bloc (forming a stable voting coalition), the marginal impact of their votes could be decisive.** Indeed, studies have found that even passive investors together exert a substantial degree of influence over firms, particularly with respect to governance and ownership structure (see for example Appel et al, forthcoming). Further, the reliance by institutional investors on a small number of proxy voting advisors, who analyse shareholder voting decisions and make recommendations, can increase the stability of voting coalitions (see, for example, the concentration of voting rights in proxy advisors in Australia, as described by Muraca and Freeman, 2017).
Critiques

55. Several critiques of the idea that voting provides a direct channel of influence for institutional investors to encourage anticompetitive conduct have been advanced; namely:

- **The interests of diversified institutional investors may not be fully aligned, undermining the stability of a voting coalition:** While diversified institutional investors may not require an outright majority of shares to shape the decisions of a firm, it is not clear that they will always be able to form a cohesive voting bloc. The heterogeneity, and sometimes rapid changes, in institutional investor portfolios as a major barrier to a common voting bloc (Rock and Rubinfeld, 2017). Heterogeneity of holdings within a given market, i.e. some institutional investors holding shares in firms that others do not could, for instance, create a divergence in incentives. Heterogeneity may also affect the incentives in place for some investment fund managers. Active investment funds compete against each other on the basis of their performance net of expenses as well as risk profile. If an institutional investor succeeds in pushing for a unilateral price increase, it would benefit the firm’s competitors. This could lead to a free-rider effect, wherein other investment funds that are invested only in the firm’s competitors would experience better performance than the institutional investor that encouraged the unilateral price increase. In other words, unilateral effects encouraged by an institutional investor could benefit competing investment funds more (see O’Brien and Waehrer, 2017, pp. 32-33).

- **Votes that dissent from management recommendations by institutional investors are somewhat rare:** While the incentive may exist for institutional investors to vote according to their entire portfolio’s value as opposed to the individual shares of the firm, it is not clear that they avail themselves of this opportunity. The rate at which shareholders dissent from management recommendations is generally low (OECD, 2011) and many institutional investors employ proxy advisory firms (see, for example GAO, 2016) to make voting recommendations that would not take into account common ownership links. For example, one study found that proposals regarding management compensation are approved 92% of the time (Rock and Rubinfeld, 2017, p. 17), although this may be proof that institutional investors’ horizontal interests benefit from existing firm management structures (per Elhauge 2017, p. 4).

- **Further, the range of issues subject to shareholder votes may constrain the influence of investors diversified across an industry:** Rock and Rubinfeld state “we see no evidence that shareholders vote on competitive strategy and no evidence that directors run on a “platform” that is directed towards a competitive strategy” (2017, p.17). Rather, the information on board candidates tends to be focused on the individuals’ experience and qualifications (as opposed to proposals for firm strategy).

- **Finally, other shareholders could have a clear incentive to defeat any anticompetitive strategies that benefit investors with shares in the firm’s competitors.** In particular, non-diversified investors could improve the value of their holdings by defeating any attempts to engage in unilateral decisions that internalises the profitability of rival firms (Rock and Rubinfeld, 2017, p.26).

56. Thus, it is not fully clear whether institutional investors have the ability to ensure a firm behaves in a way that takes into account its holdings in other firms through voting.
That said, voting is not the only mechanism through which shareholders can directly influence management decisions. Azar et al characterise voting as the “stick”, which is generally used only when the “carrot” of informal engagement using an investor’s voice fails (Azar et al, 2017, p.36).

**Voice**

57. In addition to voting, investors can influence the decisions of firm managers by directly interacting with them. A survey of institutional investors found that they prefer to engage management and board members in informal settings, i.e. outside of formal shareholder meetings, to influence firm management (McCahey et al, forthcoming). Such interactions can be more frequent and wide-reaching than formal shareholder votes.

58. Other ways for institutional investors to use their “voice” include issuing public statements regarding their preferred course of action and requesting board representation. Passive investment funds such as BlackRock and Vanguard have emphasised their frequent direct discussions with portfolio firm management (Azar et al, 2017). In an illustration of how such discussions may lead to the competition impacts described above, representatives of large US mutual funds recently gathered representatives of pharmaceutical firms in a 2016 meeting, encouraging them to maintain pricing levels and present a united front to consumers and policymakers (Chen, 2016).

59. Institutional investor engagements tend to focus on broader governance or strategic issues rather than short-term tactical considerations. Notably, 42% of investor respondents to a recent survey believed that the threat of selling shares was an effective discipline for management, without needing to resort to voting for management change (McCahey et al, forthcoming).

**Critiques**

60. On the other hand, several doubts have been expressed about how influential the institutional investor’s “voice” can be. The threat of selling shares may be less credible for passive investors seeking to track the performance of an index, since it will undermine performance, which is measured based on the deviation from the index, and its impact on stock price could be mitigated by high market liquidity (McCahey et al, forthcoming). There has also been an observed preference on the part of some funds to remain passive, including selling shares to avoid taking on an active role in a firm (Davis, 2008). On a practical level, while selling decisions can be made at the firm level, voting takes place at the individual fund level, suggesting that the mechanism by which a threat of sale can influence firm decisions may be convoluted (Rock and Rubinfeld 2017, p.14).

61. More generally, despite their public declarations, it is also not clear whether institutional investors choose to exert the full range of influence that may theoretically be at their disposal. A majority of institutional investors report having 5 or fewer staff members dedicated to engagement with their portfolio companies (see, for instance, Çelik and Isaksson, 2014, p. 109, and McCahey et al) –a limitation that could be particularly pronounced for passive investment funds seeking to minimise fees, and which hold shares of hundreds of firms. So it is not clear whether institutional investors truly take more than the “formulaic” approach to corporate governance described by Posner et al (forthcoming, p.6).

62. Finally, there may exist a conflict of interest between institutional investors that, on the one hand, manage and vote shares on behalf of clients and, on the other hand,
obtain fees from firms (including their portfolio firms) to manage pension and other investment funds (see, for example, Davis, 2008). Relatively little research or debate has explored the possibility that institutional investors may hold back on aggressively exerting governance influence on portfolio firms for the sake of obtaining other business from these firms.

63. Thus, institutional investors report having direct engagements with management, often prior to exercising voting rights to express dissent. However, while numerous anecdotal examples of such engagement have been identified, it is not clear whether institutional investors have the capacity or inclination to actively engage with the majority of their portfolio firms.

4.2.2. Underlying management incentives

64. While there exist several routes for diversified institutional investors to exert direct influence on the management of a firm, recent studies of common ownership emphasise that communication between investors and management is not required for competition effects to manifest themselves (see for example Elhauge, 2016; Azar, 2017; Patel, forthcoming). In particular, management may be obligated or incentivised to act according to diversified shareholders’ interests.

65. Firm managers are aware of the identity of their shareholders, and are likely to be particularly sensitive to the views of institutional investors with substantial blocks of shares, resulting in a tacit shift of behaviour. Managers could, for example, implicitly consider the impact of a business decision on the weighted portfolio value of shareholders, as set out in the models described in Box 5 above.

66. Even if the main levers of direct institutional investor influence, selling shares or voting to replace management, are not utilised or are unsuccessful, public expressions of institutional investor discontent do not reflect well on management, and may affect the views of other shareholders. Thus, management may actively seek to avoid incurring the dissatisfaction of large shareholders, even without being explicitly “threatened”.

67. Certain groups of institutional investors, particularly index funds, can be implicitly considered a single bloc by firm managers given their roughly aligned interests. This would enhance the weight institutional investors hold in the minds of management, and would facilitate efforts to cater to their interests.

68. Additional reasons firm managers will, without being instructed to do so, take into account institutional investor interests were identified by Elhauge, including “out of a sense of … gratitude, to gain support in future elections, to enhance future job prospects, because executive compensation methods align with shareholder interests” (2016, p.1270). The topics of executive compensation and fiduciary duty will be explored further below.

Executive compensation

69. Executive compensation creates powerful incentives for management to shape their behaviour and strategies. Conceptually, compensation that is tied to the performance of the firm, such as meeting revenue or profitability targets, or the stock price, can help align management interests with those of shareholders. Research served to refine this insight; for example, Holmstrom advised that compensation be tied to a firm’s performance relative to the market, as this would eliminate certain agency problems and “provide for better risk sharing” (1982, p. 339).
70. However, in practice, the incentive mechanisms at work in executive compensation packages are often opaque and tied to market-wide performance, rather than relative performance of the firm (see, for instance, OECD, 2009, p. 19; Jenter and Kanaan (2006)). Notably, the value of stock options, a common component of executive pay packages, is tied to both industry and firm performance, and thus does not incentivise a manager to pursue strategies that may be detrimental to the former and beneficial to the latter.

71. Several recent papers observe that basing executive compensation on industry-wide performance can align management incentives with those of institutional investors with diversified holdings across an industry. This alignment could conceivably come at the expense of non-diversified investors, who would prefer more aggressive competition that improves firm performance at the expense of its remaining competitors.

72. Anton et al. (2016) construct a theoretical model and empirical analysis to investigate these theoretical incentives. They find that executives are more often compensated for industry-wide performance as opposed to a firm’s relative performance when there are strong common ownership links. In addition, they find that higher degrees of common ownership lead to unconditional management pay, and note that passive investment funds have been found to consistently approve management pay packages, suggesting they are in favour of the status quo (Anton et al, 2016, p.1).

73. Schmalz (2015) provides an anecdotal example of institutional investors overriding an effort by an activist investor to spur more aggressive competition in his characterisation. In this case, passive investment firms voted against a campaign to: (1) to encourage “best in class revenue growth” (i.e. relative firm performance) and (2) achieve market share gains through more aggressive R&D investment. The campaign also criticised the decision by the CEO of the firm to sell a significant amount of her shares (reducing her financial stake in the firm) and providing a favourable settlement to a competitor in a licensing dispute. Schmalz states “textbooks would consider all of these measures value-enhancing improvements of DuPont’s corporate governance.”

74. After the rejection of the campaign, Schmalz observes that the stock price of the firm in question fell, whereas the stock price of the firm’s largest competitor rose. Notably, Schmalz also observed that there was a significant level of common ownership linking the two firms; 3 large institutional investors held a combined share of over 15% in each firm. These two firms jointly “dominated” (in Schmalz’s words) a market that constituted the majority of one of the firm’s revenues.

Critiques

75. The idea that management compensation packages may create incentives to act in the interest of diversified investors, at the expense of other investors, has been the subject of some critique. O’Brien and Waehrer argue that performance-based compensation such as stock options “gives a manager an incentive to maximize the profits of the firm, and it does not give the manager an incentive to take actions that increase industry profits at the expense of own-firm profit” (2017, p.5).

76. In addition, the analysis by Anton et al that links common ownership with industry performance-based compensation has been criticised for its use of a modified Herfindahl-Hirschman index (see Section 4.4 for further discussion) and its data sources (Rock and Rubinfeld, 2017). However, given the vigorous debate on the subject, the
executive compensation channel of influence is a significant potential issue that merits further investigation.

Further, the existence of a legally-enforceable fiduciary duty could reduce the likelihood that a firm manager or board will cater to investors whose ownership interests are diversified across an industry, at the expense of undiversified investors. In general, the board of directors and management of a firm owe a fiduciary duty to shareholders and, in some cases, the firm itself. For example, legislation in several countries sets out for board members of a firm (OECD, 2015, p. 46):

- a **duty of care** requiring “board members to act on a fully informed basis, in good faith, with due diligence and care”; and
- a **duty of loyalty** to the company and all its shareholders, which underpins equitable treatment of shareholders and remuneration policy.

Any efforts to grant advantages to one group of shareholders over others, such as insider trading, are considered violations of the latter duty regarding equitable treatment. Thus, board members would be obligated not to permit corporate strategies that cater to one group of shareholders at the expense of another. This would conceivably include strategies that depart from firm profit maximisation and instead seek to promote industry profit maximisation in accordance with common ownership interests.

Thus, even if institutional investor interests could, theoretically, be pursued at the expense of the remaining undiversified investors, whose influence may be less concentrated, organised or leveraged, it would be a violation of fiduciary duty and could in many jurisdictions expose board members and management to liability. This calls into question the proportionate control assumption used in recent theoretical models of common ownership, which imply that management will take into account shareholder interests in proportion to their relative stake (see for instance O’Brien and Waehrer, 2017, p.6).

However, fiduciary duty may have a limited impact on the behavioural manifestations of common ownership in practice. Legal action for the violation of a fiduciary duty may have limited odds of success (O’Brien and Salop, 2000, pp. 580-581). Further, since all shareholders would benefit from collusive conduct that is facilitated by common ownership, fiduciary duty does not by itself address all competition concerns associated with common ownership.

**Institutional investor passivity as a mechanism of influence**

There is an additional way in which common ownership by institutional investors may affect firm management: investor passivity. By failing to play an active role in pushing for aggressive competition, a role in which professional managers of large blocks of company stock could arguably be well-suited, are institutional investors contributing to a slackening of competition and potentially tacit collusion via inaction? Elhauge argues “it suffices that institutional investors have incentives to fail to exercise their corporate-governance rights in a way that demands maximizing individual corporate performance over industry performance” (2016, p. 1270).

As described above, an active investor without diversified holdings across an industry could have different incentives relative to an investor that is fully diversified across an industry. The former could be more likely to, for instance, encourage firm management to adopt strategies that result in a gain in market share for the firm. These strategies will require effort and risk-taking on the part of management, including
research and development efforts, entering new markets after conducting market research, cutting prices and expanding production capacity (see for example Azar et al, 2017, pp. 31-32).

83. It is unclear whether firm managers would accept the risks of these efforts without pressure from investors, particularly when compensation is less geared toward individual firm performance, as described above. Without active influence from substantial investors such as institutional investors, management could be expected to avoid such risk and effort when it does not translate into clear personal gains. To this point, Anton et al describe how institutional investors permitting management to “live a quiet life… with flat incentives, high profit margins, and little competition. In fact, [institutional investors] may help to achieve such an outcome simply by crowding out and occasionally voting against activist investors who would otherwise attempt to induce tougher competition” (2016, p. 37).

4.3. Potential efficiencies and other potential benefits from common ownership

84. In contrast to the theories of harm described above, some studies have identified potential efficiencies or other benefits associated with common ownership. To the extent these benefits are verifiable and passed on to consumers, they should form a part of any effort to analyse the competition impacts of common ownership.

85. Common ownership can theoretically generate the type of efficiencies commonly associated with mergers. An institutional investor could facilitate beneficial collaboration such as joint bargaining with suppliers to reduce costs, R&D coordination or sharing technical knowledge (see, for example, He and Huang, forthcoming, and Grossman and Shapiro, 1986). Such efficiencies could be evaluated as they would be in a merger context, with respect to their magnitude, the degree to which they are passed on to consumers and the associated risks for coordinated effects.

86. In addition, common ownership could theoretically generate efficiency benefits that accrue to investment fund clients, or capital markets generally, as opposed to customers of the firms in question (discussed by Baker, 2016, Posner et al, forthcoming, and Patel, forthcoming). Clients benefit from the fact that institutional investors offer a level of diversification that could be difficult to achieve economically on their own. Capital markets could benefit from the liquidity provided by frequent institutional investor transactions (e.g. portfolio rebalancing transactions conducted by index funds to ensure they track their target index). Finally, well-resourced institutional investors could develop industry-specific knowledge that would enhance their corporate governance influence on portfolio firms, to the benefit of their clients (see, for instance, OECD, 2011).

4.3.1. Critiques

87. The actual efficiency benefits of common ownership may be more ambiguous than described above. For instance, Elhauge (2016) posits that the efficiencies that are normally the result of traditional mergers are not manifested in common ownership transactions. Further, he argues that “virtually all diversification benefits could be achieved by investing in one corporation in each market” (Ibid, pp 1303-1304).

88. Theoretical efficiencies from common ownership can also be contrasted with those generated from cross ownership. Companies invest in minority equity shares of other firms for a range of reasons, including spreading costs and risks, accessing new
technologies or innovative managerial practices, establishing and strengthening business relationships, accessing new markets, and conducting joint activities, such as R&D (see OECD, 2008). Evidence of such efficiencies does not appear to have been identified in the case of common ownership, consistent with the purely financial investment motivation of transactions giving rise to common ownership.

89. More fundamental, however, is the question of who benefits from any potential efficiency. Diversification, collaboration and corporate governance efficiencies may not directly generate welfare gains for the customers of the firms in question, and so competition authorities may well be reluctant to accept them—particularly if they are accompanied by unilateral effects or coordination. In other words, the hypothesised efficiencies could be unlikely to benefit consumers, the focus of antitrust policy, in any event. Finally, if diversified investments within an industry facilitate coordination, any diversification benefit would be minimised, as firms would make joint decisions and therefore be subject to similar levels of risk.
Box 6. Key points in Section 4: competition effects stemming from common ownership

- Two types of theories of harm have been proposed, which set out the theoretical incentives for institutional investors with diversified holdings across an industry to encourage anticompetitive conduct:
  - Common ownership may incentivise unilateral price increases (or reductions in quality) that may be unprofitable for a firm, but beneficial for its investors if they also hold shares in its competitor(s).
  - Common ownership may create additional incentives to investors to facilitate collusion. This risk could be particularly pronounced in oligopolistic industries.
- These theories of harm assume that diversified investors have the ability to exert control, or at least influence, over the decisions of a firm. Numerous channels through which this may occur have been identified, and vigorously debated, in the antitrust literature. These include:
  - Direct influence (via voting or direct engagement with management),
  - Tacit management incentives (including pay that aligns with industry, rather than firm, performance), and
  - Institutional investor passivity that fails to encourage vigorous competition.
- Critics question these mechanisms of influence, emphasising the heterogeneity of institutional investor interests and the fiduciary duties placed on managers to act in the best interests of a firm, among other factors.
- Several studies have attempted to empirically measure the effect of common ownership on prices and executive compensation in concentrated industries and some of them see adverse relationships. These studies rely on an interpretation of a modified Herfindahl-Hirschman Index (MHHI), the applicability of which is the subject of some debate.

5. Potential policy responses to common ownership

90. While the debate about the competition impacts of common ownership is in its early stages, some potential policy responses have been identified by those who have concluded that common ownership harms competition. This section will set out some of the proposed policy responses and further policy questions to explore.

5.1. Proposed competition policy responses

91. There have been four recently proposed responses for competition policy to address concerns associated with common ownership: using existing competition legislation, setting a hard limit on levels of common ownership, establishing a safe harbour for common ownership and considering the impact on common ownership of investment fund mergers. These proposals focus in particular on the role of merger review mechanisms in assessing common ownership. Since common ownership resulting in influence or control of a firm (the definitions of which vary across jurisdictions) would already be undoubtedly captured under extant merger regulation, the discussion below focuses on non-controlling minority share acquisitions.
5.1.1. Addressing potential competition issues associated with common ownership under existing legislation

General proposals

92. The application of existing competition laws to common ownership has, with the exception of the US (described below), not been extensively debated in the literature. The precise application of current merger rules (summarised in Section 2) may turn on the interpretation of the degree of control or influence involved in the transaction. However, most merger control regimes are unlikely to be able to capture minority acquisitions by investment funds, even if they occur in parallel and create a stable coalition of investors that translates to control. The same is true for most cartel regimes with respect to potential tacit collusion facilitated by, or at least incentivised by, common ownership. Thus, the application of existing legislation to common ownership appears limited to sufficiently large acquisitions, or to explicit collusive agreements facilitated by institutional investors that could be prosecuted as would any other cartel with a third-party engaging in facilitating practices.

Proposals specific to US legislation

93. Elhauge (2016) argues that legislative change is not required under US antitrust law and that US antitrust agencies or private parties who can demonstrate harm can already seek remedies for competition problems associated with common ownership. Specifically, he highlights provisions in the Clayton Act (s. 7) that prohibit “any stock acquisition that leads to anticompetitive impact”, noting that this could be interpreted to include transactions resulting in common ownership.

94. The “solely for investment” exemptions (described in Box 7 below) could be interpreted as not applicable to the situation of common ownership since, in Elhauge’s view, institutional investors have an influence on the firms they own and are not simply passive in the management of the firm.

Box 7. The solely for investment exemption

In the context of the “solely for investment exemption”, the plaintiff must show actual lessening of competition, in contrast to the general clause in the Clayton Act, which requires the plaintiff to show only likely effects on competition to claim damages. The main case-law supports the view that a transaction is “solely for investment” if the acquirer of the stock does not gain influence over the actions and business conduct of the target company. On the contrary, if the acquirer obtains active control of the firm in which the investment is made, the acquisition will not be considered “solely for investment”. The “solely for investment” test will not be satisfied even if the acquirer does not acquire control but just the ability to influence the actions of the target firm, for example through representation rights allowing the acquirer to appoint a member of the target’s board. Similarly the “solely for investment” exemption is not granted if the acquirer can access sensitive information regarding the activities of the target company.

95. For antitrust agencies, Elhauge calls for pursuing common ownership shareholdings under the Clayton Act using a standard rule, based on the effect of past or potential transactions on a market’s MHHI (a modified HHI index, described in Box 5
above). Under this rule, transactions resulting in common ownership would automatically be investigated for their impact in prices (i) if they result in a MHHI delta of over 200, and (ii) take place in concentrated industries (where the competition risk of common ownership may be most pronounced), as identified by a MHHI over 2500.

96. In addition, Elhauge expresses the view that institutional investors may be held liable under the Clayton Act for private damages resulting from acquisitions that lessened competition.

97. Institutional investors may avoid liability in Elhauge’s interpretation by either not acquiring shares in competing firms active in oligopolistic industries, or by making a specific “commitment” not to vote this stock. He indicates that the former strategy would only result in a minimal loss of diversification (“because institutional investors can remain invested in one firm in each concentrated market and thus remain diversified across all industries in the economy” (p. 1314)), and could produce benefits for the investor by giving them an expanded influence on the corporate governance of the firm, via a more concentrated ownership stake.

98. Elhauge also notes that passively-managed index funds may not be captured by his proposal if their acquisition of shares does not exceed the delta MHHI threshold. This is, in his view, likely in current conditions given that pure index funds hold relatively small proportions of firm shares (p. 1316).

Critiques

99. Rock and Rubinfeld (2017) disagree with Elhauge’s characterisation of the Clayton act, and in particular the implications of his narrow interpretation of the “solely for investment” exemption. However, in the event that a consensus is reached that common ownership is unambiguously negative for market competition, Rock and Rubinfeld acknowledge there may be scope for amending legislation and narrowing the investment exemption accordingly.

100. Beyond the precise legal interpretation, concerns have been expressed about the compliance challenges of Elhauge’s proposal: significant uncertainty may be caused by differing MHHI interpretations and the rapid changes in investment fund portfolios (see, for example, Posner et al, forthcoming).

101. Further, the burden and risk of a competition authority providing market definitions to facilitate firm compliance self-assessment could be substantial. Would an authority be obligated to define every oligopolistic market in which common ownership exists? And if it were to do so based on a cursory effort, would this affect its success in enforcement or merger reviews?

102. Finally, the proposal does not address cases where institutional investors have parallel interests, and therefore could form a stable voting coalition. Thus, it would not capture cases where individual fund holdings are relatively small, but similar patterns of ownership across multiple investors could result in competition concerns.

5.1.2. Setting a hard limit on common ownership

103. Posner et al (forthcoming) propose an alternative approach that would require the issuance of additional policy by antitrust authorities, and potentially legislative change. They propose a hard limit on common ownership as follows (p. 33):
No institutional investor or individual holding shares of more than a single effective firm in an oligopoly may ultimately own more than 1% of the market share unless the entity holding shares is a free-standing index fund that commits to being purely passive.

104. The policy would apply to fund management firms as a whole, rather than to holdings within a fund, and investment in more than “single effective firm” is defined as an investor holding shares in multiple firms whose combined market share exceeds the average per-firm market share in the industry. Posner et al would require antitrust agencies to develop an annual list of oligopolies to which the policy applies. Finally, the definition of “passive” that Posner et al use is that a fund undertakes no communication with management or directors of the firm, that it casts its votes proportionately to the remainder of the votes cast in a shareholder election, and that it trades based on clear, non-discretionary public rules.

105. The benefits of this approach as identified by Posner et al include ensuring that institutional investors focus on the performance of their portfolio firms, while still permitting fully diversified funds to operate on the condition they do not influence the management of the firm. Thus, funds will be permitted to compete either (1) on their ability to follow an index in an automatic, low-cost fashion for ultimate investors prioritising diversification, or (2) on the basis of performance and the quality of corporate governance inputs they provide. In sum, “The bottom line is that our modest policy would generate enormous social gains by reducing anticompetitive behaviour while causing only trivial losses in diversification, and very likely improving corporate governance” (p. 43).

Critiques

106. Several concerns about instituting hard limits on common ownership have been expressed. These include:

- **Current evidence is not sufficient** to justify the relatively strong step of instituting a per se rule, which is the strongest approach in competition law (per O’Brien and Waehrer, 2017, p.36)
- A hard limit may require large investment management firms to split up so that individual funds within the firm do not collectively surpass the limits set out. This could increase management costs for consumers and lead to distortions in fund management strategies.
- **The burden on investment funds (or competition authorities), may also be significant** if it requires a comprehensive market definition exercise to determine whether any limits are surpassed in a share acquisition. Obligations to more actively manage (or at least monitor) portfolios beyond tracking fit with an index would necessarily involve higher management expenses, thus undermining one of the key benefits of index funds.
- Hard limits may capture many instances of common ownership that do not result in competition problems, and so they have been characterised as “overbroad” (see Elhauge, 2016, p. 1203, who noted that hard limits may capture holdings that would not exceed the limits set out in his proposal).
- Limitations on index fund voting (“putting the shares in the drawer”, as described by O’Brien and Waehrer, 2017) could have corporate governance implications, such as an amplification of activist shareholder voice and a resulting effect on orientation of the firm toward short-term, rather than long-term, performance. As
noted in Section 5.2, this outcome is directly in opposition to the objectives of corporate governance policy, which seeks to maximise shareholder engagement. The dynamics of an industry (entry and exit in specific markets, for instance) may also lead to investors surmounting limits on ownership in a passive way, well after their acquisition of the shares in question. For example, if a firm were to exit a market, the market share of the remaining firms in the market would increase, and could mean that an investment fund that was previously in compliance with statutory limits on common ownership could now surpass these limits. Thus, funds would be forced to continually monitor every market in which they have investments to ensure no changes have occurred that would require the sale of shares, creating substantial uncertainty (see for instance Posner et al, forthcoming, p.9). The outcomes could be particularly dramatic if a portfolio firm enters a market that is relatively unrelated to its current core business, causing an investor’s holdings across said market to surpass the limit (as described in Baker, 2016, pp. 225-226).

5.1.3. Establishing safe harbours for common ownership

107. Rock and Rubinfeld (2017) have offered an alternate proposal to clarify the application of competition law to common ownership and provide institutional investors with litigation certainty. In particular, they propose the introduction of a merger control safe harbour for investors with 15% or less of the shares of a firm, without a representative on the firm’s board and without engagement that extends beyond “normal engagement” (such as on the subject of board member selection, compensation, and shareholder rights).

108. The 15% threshold proposed by Rock and Rubinfeld is based on an assessment of the proportion of shares needed for an investor to exercise influence over a firm (pp. 29-30). To justify this threshold, they indicate that at least 20% is required to place an individual on a firm’s board, and that antitrust authorities generally have not challenged acquisitions below this level (2017, p. 30).

109. O’Brien and Waehrer (2017) propose a more narrow safe harbour based on the MHHI. In particular, while they express scepticism about the ability of the MHHI to measure the potential price impacts of common ownership (as set out in Annex A), they suggest that it can be a helpful tool (1) as a rough gauge of potential competition impacts when a clear structure of shareholder control can be identified; (2) when evaluating joint ventures; or (3) extreme cases wherein there is a divergence between financial ownership and voting shares.

Critiques

110. The proposed safe harbours have been criticised by those who point to potential competition problems (Elhauge, 2017). In addition, it is not clear whether these proposals would, in effect, exempt conduct that could result in competitive harm. Consider, for example, several institutional investors with individual shareholdings of less than 15%, but combined shareholdings that are sufficient to exercise influence. If these investors have incentives that are aligned in terms of diversification across an industry, and are able to exert influence on management pay, for example, the proposed safe harbours could create the risk of Type II errors. However, uncertainty about the actual competition impacts of common ownership could justify this risk in the name of avoiding unnecessary harm to investors and the functioning of capital markets.
5.2. Considering policy perspectives outside the realm of competition law

111. As demonstrated in the preceding sections, there is still no consensus on whether common ownership poses a competition problem or the extent to which it does, nor is there agreement on how competition law and policy should respond, either within existing frameworks or with the addition of new concepts. Further complicating this situation, alternative policy perspectives may introduce additional, or competing, concerns.

5.2.1. Corporate governance

112. Corporate governance concerns could, for example, be an important perspective in the design of any measure to address competition problems stemming from common ownership. In the case of institutional investor participation in shareholder voting, corporate governance policies may run contrary to some competition policy proposals, whereas in the case of the concentration of proxy voting, there may be a common interest in addressing concerns.

Institutional investor participation in corporate governance

113. Policies regarding corporate governance have, in fact, sought to encourage an active role by institutional investors in the corporate governance of their portfolio firms (see OECD, 2011, for a comprehensive overview of this policy perspective). This would run contrary to some of the competition policy proposals described in Section 5.1 above regarding institutional investors voting their shares.

114. In particular, the advent of passive funds that seek to track the performance of a specified index could be problematic because it introduces a large share of owners (or at least holders of voting rights) that do not focus on spurring management to perform well.

115. Different from traditional funds that are compensated according to their performance and role in corporate governance, broadly-invested index funds have no incentive to push for improved market share or profitability because they are not mandated to do so. As described by Gilson and Gordon, “institutional [investment] intermediaries compete and are rewarded on the basis of “relative performance” metrics that give them little incentive to engage in shareholder activism that could address shortfalls in managerial performance” (2014, p.7). They thus characterise hedge funds and other non-diversified investors as an important complement to passive investment strategies.

116. Competition policies that aim to prevent index funds from voting their shares would only exacerbate the situation, leading to a growing proportion of firm owners effectively being silent. In fact, they may push a greater share of funds into a passive role, given the limitations to active management, which could hamper performance, especially recognising the post-financial crisis emphasis on low management fees. This situation is particularly troubling from a corporate governance perspective because large institutional investors could, at least theoretically, employ resources to actively and beneficially participate in corporate governance – resources that would not otherwise be available to individual investors.
Proxy voting

117. Corporate governance policies are centred around encouraging investment funds to devote more attention and resources to the governance of portfolio firms. As a result, there is also growing concern about the concentration of voting rights, and potential conflicts of interest, associated with institutional investors employing proxy advisory firms to analyse shareholder voting decisions. This concentration could be a source of concern from both a corporate governance and competition policy perspective.

118. Some have called for industry codes or other policy responses to this phenomenon (see, for example in the case of Australia, Muraca and Freeman, 2017). These proxy services could be a catalyst for common ownership competition impacts, since they could serve to explicitly identify the common interests of institutional investors within an industry and form voting recommendations accordingly.

Index inclusion

119. A distinct corporate governance policy challenge relates to the rules for a firm to be included in a stock index, such as the Standard and Poor’s 500 Index (S&P 500). These rules are particularly relevant for the issue of common ownership, as they effectively determine the composition of a passively managed index fund’s portfolio, if the fund is targeted at tracking the index in question.

120. For example, in 2017, S&P announced a new policy for its 500 index that barred firms with multiple classes of shares, i.e. voting and non-voting shares, from inclusion in the index (although existing firms in the index with multiple class share structures would not be removed). The decision was made after the decision of technology firm Snap Inc. to only offer nonvoting shares in its initial public offering (Hunnicutt, 2017).

121. While this decision is in line with a desire to encourage institutional investors to actively participate in the governance of their portfolio firms by retaining voting rights, some commentators had alternative theories. Spross (2017) linked S&P’s decision to common ownership –and in particular a desire on the part of index funds to retain control over their portfolio firms and prevent aggressive competition that would weaken the fund’s investments in competitors. In particular, he opined that this was an effort to prevent technology firm founders from retaining voting control of a firm, given these founders would have firm rather than industry performance as a focus.

5.2.2. Financial stability

122. An example of a policy perspective that may align with the competition perspective when applied to the issue of common ownership concerns the stability of the financial system. In brief, those concerned with the financial system stability may wish to promote the separate ownership of banks to reduce the likelihood that the failure of one bank will result in the failure of others. Siciliani and Norris (2017) observe the degree of common ownership of the largest UK banks and note “common ownership also entails common exposure to contagion effects”.

123. However, in other cases, financial stability concerns may in fact produce an increase in common ownership, and therefore be at odds with a competition perspective. In particular, policymakers seeking to avoid bank failures in times of crisis could call on institutional investors to provide emergency capital, and may therefore be less likely to promote competition policy measures regarding common ownership when experiencing systemic threats.
In sum, from a financial stability perspective, procompetitive common ownership measures could in theory reduce risk exposure and, at the same time, stand in the way of efforts to prevent the failure of a given financial institution.

**Box 8. Key points in Section 5: Potential policy responses to common ownership**

- A range of competition policy responses have been proposed to address potential issues associated with common ownership:
  - One proposal calls for existing antitrust laws (at least in the US) to be leveraged by competition authorities and private parties to pursue cases associated with common ownership.
  - Another proposal calls for the imposition of hard limits on the amount of common ownership permitted by a given investor in concentrated markets, with exemptions for purely passive investors. However, this proposal could involve a substantial burden on investors and competition authorities, and may involve the risk of overbroad, or insufficient, enforcement.
  - Others have highlighted the uncertainty of the current state of affairs for institutional investors, and have proposed establishing safe harbours to avoid negatively impacting investment fund business models.

- Alternative policy perspectives may offer either complementary or opposing considerations when comparing the competition impacts of common ownership. For instance, corporate governance policy may indeed seek to promote more institutional investor involvement in the management of firms, which could run contrary to competition policy proposals seeking to limit the influence of institutional investors with horizontal holdings. Similarly, financial stability policy could see common ownership as a contagion risk, creating common ground with competition policy, or as a measure for avoiding institutional failures, in which case it may exacerbate competition concerns. Thus, a multi-disciplinary perspective may be important for addressing common ownership issues.

6. Existing tools for competition authorities to analyse common ownership

The preceding discussion has made clear that there is substantial disagreement about the harm associated with common ownership, efforts to estimate it empirically, and proposals for addressing competition problems it may cause. Before adapting their approaches and legislation, competition authorities may therefore wish to conduct further analyses of common ownership in their jurisdictions. This section introduces some potential approaches for competition authorities to do so, including: conducting market studies when common ownership concerns may be present, considering whether current merger and cartel legislation permits them to test theories of harm, consulting with financial regulators as well as academic partners, and considering the impact on common ownership of investment fund mergers.

To begin to improve internal knowledge and awareness of common ownership problems, one tool at the disposal of many competition authorities is a market study, which can investigate market-wide competition problems, including the types of concerns associated with common ownership. Given the market-specific knowledge possessed by
their case handlers, among other sources, authorities tend to have in mind at least some sectors in which they suspect competition is not functioning well. Depending on the market and the degree to which institutional investors play an important role, common ownership could be a potential line of inquiry in such a market study. Statistics associated with institutional investor ownership can, for example, be publicly-obtained in many jurisdictions. Thus, competition authorities can use market studies as a method of exploring the competition impacts of common ownership, and any necessary enforcement acts or legislative changes could be identified once these impacts are clarified. Ex-post analysis of past merger decisions could also help identify whether common ownership is indeed a gap, or missing perspective, in merger control.

127. In jurisdictions where merger review is not limited to transactions involving a change of control, competition authorities may wish to consider whether there is scope for further investigation of common ownership. Specifically, they may wish to examine whether investors may have acquired substantial influence in multiple competing firms active in a concentrated market without triggering merger review, and therefore whether they should consider reviewing future acquisitions by institutional investors in these markets.

128. Common ownership can also be considered in the context of competition policy reforms seeking to capture certain minority acquisitions, for example as proposed by the German Monopolies Commission for consideration by the European Commission (Monopolkommission, 2016). Careful consideration should be given to the impact on capital markets and investors, however, since competition policy measures will need to be balanced with the need to ensure liquidity in capital markets and the accessibility of low-cost investment products for consumers.

129. Further, common ownership can be considered as part of the analysis of transactions that are captured under merger control legislation. Box 9 describes the approach taken by the European Commission in the Dow/DuPont case.
Box 9. European Commission analysis of common ownership in the Dow/Dupont merger

In its decision regarding the merger between two large chemical producers, the European Commission conducted analysis of the level of common ownership among the largest players in the relevant markets.

As a result of substantial levels of common ownership, the Commission concluded that market share measures (including the HHI) “underestimate the expected non-coordinated effects of the Transaction” (p. 380).

The analysis focuses on R&D efforts, and in particular notes that common ownership may reduce the tendency of firms to invest in such efforts, when they may harm the interests of competing firms held in the same institutional investor portfolio. The decision states:

…the decision taken by one firm, today, to increase innovation competition has a downward impact on its current profits and is also likely to have a downward impact on the (expected future) profits of its competitors. This, in turn, will negatively affect the value of the portfolio of shareholders who hold positions in this firm and in its competitors. Therefore, as for current price competition, the presence of significant common shareholding is likely to negatively affect the benefits of innovation competition for firms subject to this common shareholding. (p. 383)

Thus, the Commission concluded that competitors of the post-merger firm may not engage in aggressive R&D efforts that would offset the competition effects of the transaction.

In addition, the Commission observed that passive investors “exert influence on individual firms with an industry-wide perspective” (Annex 5, p.7), and that dispersed ownership exaggerates that influence.

Source: Commission Decision, Case M.7932, Dow/DuPont, 27 March 2017.26

130. The application of cartel rules to situations where common ownership may be having competition impacts should also be considered. With respect to explicit collusion, the extent to which there is a risk of facilitating practices by institutional investors, and whether such practices are detectable, could be assessed in each jurisdiction. Common ownership could also be analysed from the perspective of whether it encourages pure conscious parallelism, and therefore tacit collusion.

131. Given that common ownership has implications for other areas of policy, competition authorities may also wish to engage with securities regulators, as well as macro prudential regulators, to determine the repercussions of any potential change in competition policy. Cooperation with the academic community studying common ownership, particularly through information sharing, could also be pursued. As Kennedy et al state (2017, p.23):

The study of common ownership is important not only for antitrust and regulatory policy, but also for the economic theory of the firm. A workhorse assumption in economics is that firms behave to maximize their profits, consistent with the Fisher separation theorem. This assumption is justified when owners have the same objectives, but it has
less resonance when owners have divergent interests. How firms behave when this assumption is relaxed is an ongoing area of research that would benefit from a better understanding of how ownership translates into control and ultimately firms’ decisions.

132. Finally, while this paper has primarily focused on the effect on competition of the acquisition by an institutional investor of stakes in competing firms, a similar set of considerations could be applied to the effects of mergers between institutional investors. Azar et al note that “regulators should keep in mind that consolidation in the asset management industry can adversely affect competition in the product markets of their portfolio companies” (2017, p.39). Such an analysis could also take into account the possible spill-over effects of the merger on ownership concentration in other markets, and could ask many of the questions asked in this paper regarding mechanisms of influence, and engagement with management.

7. Conclusion and further questions to explore

133. Common ownership is becoming increasingly common in at least some equity markets, due to a range of factors including the increasing popularity of passively managed index funds, and the fact that new public equity listings have not kept pace with the supply of investor capital. Examples of substantial common ownership by institutional investors have been reported in concentrated sectors including finance, air travel, consumer electronics, chemistry and pharmacies.

134. There is vigorous debate over whether this phenomenon translates to competition problems in a market. Theories of harm with respect to both unilateral effects and coordination have been advanced. In essence, by aligning the interests of the owners of competing firms, common ownership may increase the likelihood of unilateral pricing behaviour that would not otherwise be profitable, as well as collusion (either tacit or explicit). Put differently, institutional investors have an incentive to encourage unilateral effects that increase the value of their portfolio, and to facilitate collusive outcomes. Critics contend, among other things, that the heterogeneity of institutional investor interests may minimise these incentives.

135. Another key thread of the common ownership debate concerns the ability of institutional investors with minority shares in competing firms to affect firm conduct. Proponents of the theory that common ownership results in competition problems indicate that there are many channels through which institutional investors can influence firm policy, including by influencing the outcome of shareholder voting when ownership is dispersed, and by orienting management compensation toward industry performance, rather than relative firm performance. In addition, they point to management incentives that do not require explicit action on the part of institutional investors for the latter’s particular interests to be taken into account. Critiques of these theories focus on the limited influence of institutional investors, and the implied breach of fiduciary duty such management behaviour could imply.

136. Debate has also been particularly intense with regard to proposals to address potential competition problems associated with common ownership. This paper has set out the key elements of each argument. It has also described some alternative perspectives, particularly corporate governance policy, that should not be ignored in any
effort to tackle common ownership issues. In particular, a balance may need to be sought between the benefits of portfolio diversification, corporate governance effectiveness, macroeconomic policy objectives (including financial stability), and other efficiency considerations.

137. Despite the critiques of empirical models estimating the effect of common ownership, as well as the incentive and ability of institutional investors to influence firm behaviour in a manner that benefits their industry-wide ownership interests, the underlying conceptual concerns associated with common ownership remain. This can have profound implications for competition, as well as our understanding of market functioning generally, and therefore merits further academic examination.

138. In the meantime, competition authorities may wish to use market studies as an opportunity to gain visibility into markets with substantial institutional investor ownership, and may also wish to consider whether there is scope for examining common ownership under extant merger review and cartel legislation. They can also begin consulting financial sector regulators and policymakers on potential policy solutions.

139. Some key questions for authorities to consider are captured in the Box below.
### Box 10. Open questions for further research on common ownership

#### The extent of common ownership
- How does the degree of common ownership vary among jurisdictions, and for what reasons does it vary? Will this have any bearing on the potential associated implications for market competition?
- Are there any indications that common ownership arises in privately-held firms?
- What types of investors tend to own shares across multiple competing firms in a market? E.g. are they predominantly passive investors or do investors with active investment strategies also pursue such shareholdings? Do they also exhibit vertically-diversified shareholdings?

#### Institutional investor incentives and ability
- Do institutional investors have the capacity to evaluate whether a decision by a portfolio firm will improve or worsen the value of their portfolio, taking into consideration their horizontal and vertical holdings?
- What degree of parallel shareholding (institutional investors holding a similar share of most or all firms in a sector) is present in oligopolistic industries? How much is attributed to passive investors?
- Do existing competition laws adequately capture the influence of minority shareholdings, given that:
  - institutional investors may exert an outsize influence;
  - the incentives of horizontally-invested institutional investors may be closely aligned, and so they may vote as a single bloc or coalition
  - voting decisions can be concentrated in the hands of proxy advisors
  - passive diversified investors do not have the same incentives to spur firm performance that active investors have

#### Management incentives and behaviour
- Are current fiduciary duty laws an effective safeguard against company boards and management making decisions that cater to institutional investors with shares in competitors?
- What is the impact of the current approach to executive compensation on incentives for firms to compete? Have agency issues become more pronounced as a result of a change in incentives?

#### Measuring the extent of common ownership
- Should the MHHI, or any other quantitative indicator, be applied by competition authorities to measure the extent of common ownership?

#### Competition policy solutions to common ownership issues
- Should competition authorities consider the effects of mergers between investment fund managers on common ownership, even if the affected product markets are distinct from the market for the services they provide (i.e. managing to an index)?
- If hard limits on common ownership were set, would the loss of the benefits of passive investments (e.g. diversification, low management costs) be compensated for by improved competition?

#### Other policy solutions to common ownership issues
- How can contradictions between policy goals (e.g. competition, corporate governance, financial stability) be addressed?
Endnotes

1 See, for instance, Reynolds and Snapp (1986), Bresnahan and Salop (1986), Salop and O’Brien, (2000).

2 “The ability to exercise material influence is the lowest level of control that may give rise to a relevant merger situation. When making its assessment, the CMA focuses on the acquirer’s ability materially to influence policy relevant to the behaviour of the target entity in the marketplace. The policy of the target in this context means the management of its business, and thus includes the strategic direction of a company and its ability to define and achieve its commercial objectives. Assessment of material influence requires a case-by-case analysis of the overall relationship between the acquirer and the target. In making its assessment, the CMA will have regard to all the circumstances of the case. A finding of material influence may be based on the acquirer’s ability to influence the target’s policy through exercising votes at shareholders’ meetings, together with, in some cases, any additional supporting factors. However, material influence may also arise as a result of the ability to influence the board of the target, and/or through other arrangements: that is, without the acquirer necessarily being able to block votes at shareholders’ meetings.” (CMA, 2014, p.20) Mergers: Guidance on the CMA’s jurisdiction and procedure


3 A holding of less than 15% might also attract scrutiny where other factors indicating the ability to exercise influence over policy are present. In assessing if there is an acquisition of “material influence”, the following factors are taken into account: (i) the distribution and holders of the remaining shares; (ii) patterns of attendance and voting at recent shareholders’ meetings; (iii) the existence of any special voting or veto rights attached to the shareholding under consideration; (iv) any other special provisions in the constitution of the company conferring an ability to materially influence policy; (v) whether the acquiring entity has or will have board representation; and (v) whether there are any additional agreements with the company which would enable the holder to influence policy. (OECD, 2008, p.43)

4 §7 Clayton Act - 15 U.S. Code § 18 - Acquisition by one corporation of stock of another

5 Ibid.

6 In that case, an acquisition of voting securities shall be exempted from the requirements of the act, if: “(1) made directly by an institutional investor; (2) made in the ordinary course of business; (3) made solely for the purpose of investment; and (4) as a result of the acquisition the acquiring person would hold fifteen percent or less of the outstanding voting securities of the issuer.” 16 Code of Federal Regulations, Section 802.64 - Acquisitions of voting securities by certain institutional investors

7 The EU merger regime, for example, that use the “decisive influence test” to define the scope of the reviewable transactions, acquisitions of non-controlling minority shareholdings, which usually don’t confer legal or de facto control, fall outside the scope of the applications of the merger rules. The European Commission, however, has, over the past couple of years, increasingly expressed its concerns as to the existence of an enforcement gap in the EU Merger Regulation with respect to non-controlling minority shareholdings that do not affect control, but may nevertheless have negative effects on competition (See Almunia, 2011, EC, 2016). In 2014, the Commission launched a public consultation on the possible extension of the scope of the Merger Regulation to allow to review certain acquisitions of non-controlling minority shareholdings and issued a White Paper that envisaged a review mechanism for cases where such acquisitions would create a “competitively significant link” between the acquirer’s and the targets activities would be covered by the envisaged system. In order to fall within the definition of a “competitively significant link”, the transaction has to fulfil the following two cumulative criteria: (1) acquisitions of a minority
shareholding in a competitor or vertically related company (i.e. there needs to be a competitive relationship between acquirer and target); and (2) the competitive link would be considered significant if the acquired shareholding is (1) around 20% or (2) between 5% and around 20%, but accompanied by additional factors such as rights which give the acquirer a "de-facto" blocking minority, a seat on the board of directors, or access to commercially sensitive information of the target. (EC, 2014, p.13) The Commission considered requiring a self-assessment whether a transaction creates a "competitively significant link" and, if so, the submission of an information notice (EC, 2014, p.13). In 2017, the Commission launched a new phase of the consultation, which is currently ongoing.

8 For an overview of the remedies applied in such cases see OECD, 2008.


10 Ibid. para.37-40.

11 Ibid. para 65.

12 Other forms of minority interests include interlocking directorships (IDs) or loans to competitors and contracts for differences (CfDs) (EC, 2013,p.6)

Interlocking directorates refer to situations in which one or more companies have one or more members of their respective boards or a top executive in common (see OECD, 2008, p.23).

Contracts for differences are derivatives on other firms’ equity or debt value (EC, 2013, p.6)

13 As defined by He and Huang (2017), institutional cross-holdings arise when an institution simultaneously holds more than one block in the same industry at a given point in time.

14 Around the world, financial regulatory authorities require that substantial shareholdings of listed companies (usually above the threshold of 5%) be reported. Threshold reporting regulations have very specific rules concerning what constitutes a “holder” of a share for reporting purposes. Depending on the jurisdiction, the calculation may place the emphasis 1) on control of voting rights attaching to shares (voting power), or 2) the ability of an entity to dispose of the relevant shares (investment power). In the US, for example, any entity that passes a threshold of 5% of any class of stock in a listed company must divulge its stake and control intentions (a) when it crosses the 5% mark or (b) annually for some kinds of investors. Aside from this, any institutional investor holding more than $100 million in equity assets must disclose the contents of its portfolio each quarter. The Securities Act is expansive in its definition of who counts as an owner, defining a ‘beneficial owner’ as ‘any person who, directly or indirectly, through any contract, arrangement, understanding relationship, or otherwise has or shares: (1) Voting power, which includes the power to vote, or to direct the voting of such security; and/or (2) Investment power, which includes the power to dispose, or to direct the disposition, of such security (Davis, 2008, p.16)

15 The figure plots the trend in common ownership (He and Huang use the expression “cross ownership” to this phenomenon) by institutional investors from 1980 through 2014. Institutional blockholders of a firm are those that hold at least 5% of the outstanding shares of the firm. A firm is defined to be common-held by an institution in a given quarter when the institution simultaneously block-holds the firm and at least one other firm in the same four-digit SIC industry. The blue line with diamonds shows the fraction of U.S. public firms that are cross-held by institutional investors in any quarter of the fiscal year. The purple line with squares shows the fraction of U.S. public firms that are cross-held by institutional investors in the last quarter of the fiscal year. The green dotted line represents the fraction of all U.S institutional investors that cross-
hold same-industry firms in a given year. The red dashed line shows the fraction of institutional blockholders that common-held same-industry firms in a given year. The unit of observation for the green dotted line and the red dashed line is an institution-year.

Note that the term unilateral effects used in this paper is meant to illustrate the distinction between coordination and the independent action of a firm engaging in (potentially unprofitable) conduct to the benefit of its shareholders with ownership interests in its competitors. It therefore does not focus on the type of unilateral conduct associated with abusive behaviour by a dominant firm.

While this analysis is not based on a comprehensive empirical study, and its validity has been disputed (see, for example, Baker, 2016), it is consistent with the general economic intuition regarding the relationship between market competition and wealth (see, for example, OECD, 2017).

Through the mechanisms described in Section 4.2 below

Several differing approaches have been taken to calculating this value. See, for example, Azar et al, 2016, Annex D.

For example, Institutional Shareholder Services found in a 2010 study that on average 43% of minority shareholders attended meetings for European firms. While the rate reported for US shareholders was higher in a separate study, some potential explanations include the ability of brokers to vote shares when their clients do not express a preference. See OECD (2011, pp. 56-57) for further discussion.

Although Schmalz does not conduct analysis to isolate the specific effects of the campaign failure.


The FTC’s Statement of Basis and Purpose, 43 Fed. Reg. 33450, 33465 (July 31, 1978), identifies six types of conduct which could be considered evidence of an intent inconsistent with the “solely for investment” exemption: (1) nominating a candidate for the board of directors of the issuer; (2) proposing corporate action requiring shareholder approval; (3) soliciting proxies; (4) having a controlling shareholder, director, officer or employee simultaneously serving as an officer or director of the issuer; (5) being a competitor of the issuer; or (6) doing any of the foregoing with respect to any entity directly or indirectly controlling the issuer.


Accessible at: http://ec.europa.eu/competition/mergers/cases/decisions/m7932_13668_3.pdf.
References


Annex: Estimating the effects of common ownership

Two recent empirical studies have found an empirical link between common ownership and higher prices in US retail banking and airline markets, finding in the latter case that common ownership led to price increases of as much as 12%. This section will summarise the theoretical and empirical approaches of both studies, as well as associated critiques.

Azar et al (2016) conducted an econometric analysis of fees for banking deposit services and their relationship with common ownership. Specifically, they examine an increase in average fees in the US and find that greater levels of index fund ownership of banks explain part of this increase, using two approaches, an instrumental variable technique and a difference-in-difference analysis. This analysis builds on insights regarding cross ownership, including the modified Herfindahl-Hirschman index (“MHHI”) developed by O’Brien and Salop, and described in Box 11 below. To develop the model specification, Azar et al test whether their version of the MHHI (the GHHI) was more effective in predicting price changes than the standard HHI - which they found was the case.

Azar et al (2017) also examine the US airline industry, and specifically test the effect of common ownership on prices for specific airline routes. They use 14 years of firm level panel data, and the MHHI delta as a measure of common ownership, finding that airline ticket prices were 3-7% higher as a result of common ownership, compared to the counterfactual of separate ownership or firms ignoring incentives from common ownership. Azar et al conduct a range of tests to evaluate the validity of their model, including tests for reverse causality (i.e. ticket prices causing changes in common ownership). The latter included using difference in difference analysis to examine the effects of a 2007 merger, which found prices were 10-12% higher due to common ownership. In addition, they tested the impact of assumptions regarding proportional investor control (e.g. assuming only shareholders with greater than 0.5% exercise influence, only the largest 10, etc.) and Bertrand (as opposed to Cournot) competition.
Box 11. The development of the modified Herfindahl-Hirschman index

Bresnahan and Salop (1986) derived a modified Herfindahl-Hirschman index (“MHHI”) to take into account the effect of joint ventures on competition incentives in a market that operates based on Cournot competition. Specifically, they considered joint ventures undertaken by competing firms. They derived formulae for the modified index based on several scenarios of control, including a silent financial interest, control by one parent, full ownership by one parent (a merger), and limited joint control.

Building on this work, O’Brien and Salop (2000) applied the MHHI framework to measure the impact on competition incentives of cross ownership within an industry generally. They set out formulae for the change in the MHHI (the “delta”), which depends on the market shares of the acquired and acquiring firm as well as the percent ownership interest of the acquired firm that is being considered. Similar to Bresnahan and Salop, O’Brien and Salop consider a range of transactions; namely:

- **a full merger** between two competing firms (in which case the delta is the same as the standard HHI delta)
- **a silent financial interest** in which the joint venture would make decisions purely in its own interest, without considering the impact on the parent firm, but where the parent firms would take unilateral action that reflected their ownership interests in the joint venture.
- **total control** in which the acquired firm would seek to maximise the controlling parent’s profits)
- **one-way control** “where the acquiring firm influences the management of the acquired firm to maximize joint profits but acts independently with respect to its own pricing decision”(pp. 613-614)
- **Coasian joint control** where the acquiring firm managers seek to maximize the joint profits of the acquired and acquiring firms
- **Proportional control** where shareholder firm profits are taken into account according to the proportion of their ownership interests (which forms the basis of the models described above)

With the use of a hypothetical example, O’Brien and Salop show that the MHHI delta would be highest in the total control scenario due to a “free-rider problem” akin to the unilateral effects described above (where the “acquiring firm gains a benefit from the acquired firm charging a higher price but only pays a share of the price. A higher price for the acquired firm leads to more sales for the acquiring firm” (p. 578)).

Logically, the size of this free rider problem will depend on the market share of the respective firms; for example, if the acquiring firm had a relatively small market share and the product market were homogenous, it would “capture” relatively few of the acquired firm’s lost customers following its price increase. When control and financial interest are not fully aligned, the differential between the two will also determine the magnitude of the free-rider problem. For example, an acquiring firm with a high level of control but a relatively low level of financial interest may be incentivised to divert as many customers from the acquired firm as possible. That is, the acquiring firm will experience a relatively lower “cost” from the price increase by the acquired firm.

At the other extreme, the silent financial interest results in the lowers MHHI delta. O’Brien and Salop’s model assumes no collusion (either express or tacit), focusing solely on unilateral effects.
Critiques

The reliability of results from both studies has been contested by some authors. For example, O’Brien and Waehrer doubt whether the MHHI can accurately reflect how common ownership affects prices (since potential endogeneity problems in the regression may stem from the existence of other variables that affect price and MHHI).

Other concerns regarding causality (i.e. whether concentration, as opposed to common ownership, caused the price increases), model specification, market definition, robustness and, more fundamentally, the applicability of the O’Brien and Salop cross ownership paper to the issue of common ownership, were also expressed (see, in particular, Rock and Rubinfeld, 2017; Kennedy et al, 2017; O’Brien and Waehrer, 2017).

In addition, Azar et al employ a proportionate control assumption (described in Section 2 above), which is critiqued by O’Brien and Waehrer for being unsupported, and for ignoring the potential impact of minority investors that could band together to defeat institutional investor influence. When an institutional investor does not play an active role in firm management, a silent financial interest assumption may be more appropriate, which would imply a relatively small MHHI delta.

Kennedy et al (2017) conduct their own analysis of common ownership in the US airline industry using a similar dataset. Their regression uses a “common ownership incentive term” rather than the MHHI to examine the impact of common ownership, given concerns about the applicability of the MHHI to common ownership (2017, p.9). They find that there is no impact on price from common ownership.
Summary of Discussion of the Hearing on Common ownership by institutional Investors and its Impact on Competition

Annex to the Summary Record of the 128th Meeting of the Competition Committee held on 5-6 December 2017

This document prepared by the OECD Secretariat is a detailed summary of the discussion held during the 128th meeting of the Competition Committee on 6 December 2017.

More information related to this discussion can be found at www.oecd.org/daf/competition/common-ownership-and-its-impact-on-competition.htm

Please contact Mr. Antonio Capobianco [Antonio.Capobianco@oecd.org] if you have any questions regarding this document.
Summary of Discussion of the Hearing on Common ownership by institutional Investors and its Impact on Competition

By the Secretariat

The Chair of the Competition Committee, Professor Frédéric Jenny, opened the discussion by noting that common ownership – i.e. the ownership by institutional investors of minority shares in multiple competing firms – is a rapidly evolving topic of debate in the antitrust literature. He noted that common ownership is a distinct topic from cross-ownership, which was discussed by the Committee in 2008. He welcomed the panel of experts who represent various viewpoints on the topic, including the views of institutional investors. He also thanked the delegations which submitted country contributions.

The Chair explained that the Hearing would be organised in three parts; 1) theories of harm and empirical analyses of the impact of common ownership, including the critiques of the arguments, 2) views of the delegations and industry representatives, and finally 3) potential policy solutions as well as the drawbacks of the proposals. He emphasised that the discussion would primarily serve to introduce the various arguments in the literature, allowing delegates to take their own conclusions from the debate.

The Chair then invited the Secretariat to introduce the topic. The Secretariat summarised the key findings of the background paper, emphasising that the possible competition concerns raised by common ownership might be the most pronounced in concentrated industries.

The Chair thanked the Secretariat for setting the stage for the discussion and noted that common ownership is also being considered by various other OECD committees, including the Committee on Corporate Governance, which may look at common ownership from a different perspective. In case of cross-cutting issues such as this, the Chair noted that it is important to consider different point of views to find a common ground on how to move forward.

Before giving the floor to the panellists, the Chair asked them to disclose any industry affiliation they might have. Daniel O’Brien noted that two of his articles on common ownership were funded in part by the Investment Company Institute (ICI), though they are being prepared for submission to a peer-reviewed journal and are no longer funded by ICI.

1. Theories of harm and empirical analyses of the impact of common ownership and the related critiques

To begin the discussion, the Chair invited Professor Martin Schmalz from the University of Michigan to summarise the main findings of the empirical research on the potential harms of common ownership. Professor Schmalz started highlighting some key facts and what are, in his view, misconceptions about the topic. First, he noted that competition requires incentives to compete. While separate owners can give firms such incentives, Professor Schmalz opined that common owners may not.
With regards to arguments that “the ownership of shares doesn’t correlate with control”, Professor Schmalz showed examples in which the largest 10 shareholders of competitors hold enough stock to jointly control a firm. He underlined that anti-competitive effects can also arise as an “error of omission” by not pushing firms to compete, without explicit intent on behalf of investors and without collusion among firms. In other words, common owners may not encourage firms to compete, since they have no incentives to become involved in a firm’s competitive strategy. There is no evidence that common owners push for more aggressive competition, but there is evidence to the contrary. He cited an example from the airline industry in which a decision that caused a stock decline in one airline would have been compensated with increases in the shares of its competitors, from the point of view of an investor that owned stock in all firms in the sector.

He also noted that these are not new theories. He referred to studies dating back 30 years which found that common ownership causes monopoly outcomes, and that mutual funds that concentrate on specific industries do the most harm. He emphasised that it is not necessarily an airline industry-specific issue; in the US, for example, banking markets show very similar ownership structures and price effects.

The Chair then asked Professor Einer Elhauge, from Harvard Law School, to provide his perspective on the potential competition impacts of common ownership. Professor Elhauge began by clarifying the difference between horizontal shareholding and common shareholding. While common shareholding can be between firms that are vertically related or related to a conglomerate, horizontal shareholding refers to situations when the leading shareholders of horizontal competitors overlap.

Professor Elhauge focussed part of his remarks on executive compensation, specifically incentive-based compensation, and explained that this may encourage managers to take into account not just the performance of their firms, but also that of the industry. In his view, this could be connected to horizontal shareholding, since horizontal shareholders actually profit more if the industry does well, compared to cases in which just an individual firm does well. He noted that these compensation mechanisms provide direct incentives to lessen competition.

In terms of the level of horizontal shareholding, he explained that over the period from 1999 to 2014, there was a dramatic rise – from 16% to 90% – in the likelihood that two large competing firms have a large horizontal shareholder. Over the same period, the gap between corporate investment and corporate profits has increased. Furthermore, regression analysis has established that the gap between corporate investment and profits is driven by the level of horizontal shareholding in concentrated industries.

The Chair then turned to the United Kingdom to describe the degree of common ownership in the UK economy. The Competition and Markets Authority (CMA) examined the ownership structure of three key UK industries; banking, insurance and grocery retailing. With respect to the banking market, they found that there is evidence of common ownership, but the sector is less concentrated than in the United States. Further, most of the common owners have investments in only a couple of banks. Compared to the banking market, the extent of common ownership on the general insurance and grocery retail sectors is less apparent.

According to the CMA, common ownership raises the following questions; (1) can ‘maverick’ firms with concentrated owners be enough to alleviate any competition concerns, (2) what is the transmission mechanism through which investors with relatively
small shareholdings influence firms’ management, (3) what is the role of proxy voting, and (4) how important is within-industry diversification for prudential soundness.

Then Germany was asked to present the 2016 study of the German Monopolies Commission (Monopolkommission) on common ownership. The report concluded that, despite having small shares and limited formal ability to influence strategic decisions, the common ownership of shares by institutional investors may have the potential to distort competition. If investors hold shares in several companies operating in the same market, they will have an interest in maximising the returns of all shares. Thus, the investor will consider competition between the portfolio companies undesirable, because prices and profit margins of portfolio companies would fall, and if several indexes hold shares in several companies operating in the same market, the risk of eliminating competition is even higher because investors could have a common interest in reducing competition in the sector as a whole.

The Monopolies Commission carried out an empirical analysis to assess whether there were problematic “constellations” of horizontal minority shares held by institutional investors in Germany. The data showed that common ownership is particularly pronounced in the manufacturing industry, especially in the manufacturing of data-processing, optical, and electronic equipment, as well as machinery and vehicles. While this level of common ownership does not necessarily point to competition problems in these sectors, it does suggest that there is a need for further research and clarification before making any concrete recommendation for action.

Next, Daniel O’Brien, Executive Vice President at Compass Lexecon, took the floor to share his views on the theoretical and the empirical arguments regarding the competitive effects of common ownership. Dr. O’Brien began by noting that it is not a subject of disagreement that common ownership in concentrated markets can harm competition, if the ownership levels are high enough. The controversy centres on the competitive effects of common ownership that involves minority shareholdings. He emphasised that much of common ownership occurs through institutional investors that yield large benefits for retail investors. Institutional investors have brought portfolio diversification to the masses. An institutional investor can take positions in a basket of stock and diversify portfolios of thousands of retail investors all at once, which generates significant benefits.

According to Dr. O’Brien, a critical and yet unsettled question in this debate is how firms behave when owners have divergent interests. Specifically, 1) to what extent do common owners exert the control that is required to generate anti-competitive effects, and 2) to what extent does the firm place weight on non-common owners that may have different interests relative to common owners. It is critical to understand how minority ownership translates into control, since there is no basis for assuming that ownership is proportionate to control.

Dr. O’Brien also provided some additional reasons for scepticism over claims that common ownership has anti-competitive effects. First, he highlighted that laws on fiduciary duty require firms to behave in the interests of the firm and of the shareholders of the firm. Paying attention to what common owners want at the expense of non-common owners would technically violate this fiduciary duty. Dr. O’Brien also raised the question of whether or not minority ownership would translate into the kind of influence that would be required to have anti-competitive effects. Even if it translates into control, Dr. O’Brien opined that the question is about the incentives of institutional investors and whether or not contacts emerge that provide managers with incentives to take actions that are anti-competitive. He noted that there is a large variety of funds and institutions, some of which involve common ownership, cross-ownership, ownership of multiple firms, and others that
do not. Thus, it would be difficult for management to choose which shareholder would benefit in the case of potential anticompetitive conduct. This is particularly so because investors may not only hold shares in horizontal competitors, but also in suppliers and in customers. Finally, Dr. O’Brien called into question the empirical models showing harm from common ownership, and specifically their treatment of the modified Herfindahl-Hirschmann index.

Also on the side of scepticism, **Professor Daniel Rubinfeld** from New York University presented some of the views he has developed with his co-author Edward B. Rock (also from NYU). He clarified at the outset that he would focus his remarks on the airline industry, with which he has considerable expertise, including many antitrust cases as an enforcer.

Professor Rubinfeld discussed whether the ownership of minority shares by institutional investors in an oligopolistic market with four large carriers would have an effect on airline pricing. The structure of the US industry; i.e. three large legacy carriers, several low cost carriers (LCCs) and numerous ultra-LCCs, makes it hard to sort out empirically. A lot of empirical studies have found that the profitability of a certain route depends heavily not only on the number of competitors, but also on the presence or lack of presence of LCCs as well. Even the threat of entry of LCCs makes a difference, which alone has been able to depress prices on routes.

Professor Rubinfeld indicated that there is no compelling evidence of a relationship between market power and common ownership. In his view, the key issue, i.e. the causal relationship between common ownership and market power, is still unresolved. He pointed out that there are some routes in the US where airlines have substantial market power that generates profitability, whereas on other routes the opposite is true. He also noted that that the ownership shares of investors in air carriers have changed over time. Therefore, any empirical study would have to consider two factors: 1) the change in the ownership of shares and 2) the change in competitive conditions in the industry, including whether LCCs and ultra-LCCs are competing with each other.

He concluded by noting that in his views there is no obvious mechanism or control relationship to draw conclusions on the competition impacts of common ownership. However, he did suggest the possibility that there could be some form of tacit coordination stemming from the oligopolistic nature of the airline industry, which at the same time can also generate benefits from the growth of large networks. Whether eliminating the oligopolistic structure of the airline would leave consumers better off is not, in his view, clear.

Next, the Chair gave the floor to Ms. Barbara Novick, the vice-president of BlackRock Investment Management LLC, to present a view from the asset management industry. Ms. Novick started by clarifying the role of asset managers, as some of the literature on common ownership conflates asset managers and asset owners in her view. She underlined that asset managers are fiduciaries, operating under an agency business model on behalf of clients, whom they call asset owners, such as pensions, insurance companies, sovereign wealth funds, or individuals. For example, while BlackRock manages $6 trillion, that does not mean that BlackRock owns any of those assets. In fact, BlackRock owns none of those assets. Since assets under management (AUM) belong to clients, the investment results belong to the client.

Ms Novick also highlighted that BlackRock manages thousands of portfolios, each of which comes with a specific mandate that can be extremely different from the others. Some
portfolios are ‘collective investment vehicles’, such as mutual funds, and many of the assets managed by BlackRock are held in separate accounts. For example, if a pension plan or a sovereign wealth fund gives BlackRock a mandate to manage assets on their behalf, the assets will stay on the balance sheet of the asset owner. Ms. Novick underlined that it is important to be aware of this relationship in order to understand that there is no incentive in her view to bring about anticompetitive effects.

When seeking to understand the impact of common ownership on incentives to compete, Ms. Novick emphasized the importance of understanding that asset managers are regulated both at the company and at the product level. Some of the regulations specify that fiduciary duty includes voting the shares of the companies they manage. In this context she also explained the concept of investment stewardship. Asset managers need to decide whether to make voting decisions themselves or outsource this function to a proxy advisory firm. Over the past decade, many clients encouraged asset managers to vote their proxies and to become more active as fiduciaries and asset managers. BlackRock has a global team of over 30 investment stewardship professionals which are considered actively engaged, but not activist investors, with a focus on the long-term rather than short-term profits.

In terms of their engagement priorities, Ms. Novick stated that BlackRock focuses on issues of governance, long-term corporate objectives, compensation, climate risk disclosure and human capital. As evidenced in voting statistics, BlackRock does not consistently vote with or against management. She stressed that BlackRock is independent and transparent in its engagement: it publishes its voting guidelines, engagement priorities, communications with CEOs and annual voting record, and it reports quarterly on engagement and voting activities. Investment stewardship activities do not include any discussion on product development or product pricing of the companies in question.

Another area of confusion, in her view, is threshold reporting. Institutional investors are required by many jurisdictions to report the shares they control, regardless of what type of portfolio is involved (e.g. separate accounts or commingled funds) and the type of investment strategy (i.e. active or passive). However, the reporting threshold is a regulatory concept, that does not reflect economic interests or differences across portfolios. Ms. Novick also emphasised that, while BlackRock is voting the proxies for the shares it manages, it has no economic interest in these companies. Ms. Novick also clarified the question of outsourcing of proxy advisory. As the German Monopolies Commission observed, there are some concentrations of voting rights. She noted that BlackRock estimates that proxy advisory firms are estimated to effectively determine between 10% and 25% of the votes in company meetings, depending on the investor base and company size.

Finally, Ms. Novick referred to the difference between asset owners and asset managers. BlackRock is an asset manager. Asset owners usually select a small number of companies to invest in, and part of that investment can include a requirement for a board seat. In contrast, BlackRock as an asset manager has no board seats. She stressed that BlackRock does not have an economic incentive to discourage competition. For example, with reference to the airline industry which was mentioned before, airline companies represent less than 1% of any major stock indices, but 99% of the companies in these indices may use airlines as part of their cost function, which raises the question of why any common owner would have an incentive to raise the cost on a small percentage of companies, when the remaining portfolio firms would be harmed by increased cost.

Ms. Novick concluded that the theories behind common ownership are certainly novel and provocative ones, but can be discounted based on an understanding of how the asset
management industry works. She noted that additional papers cast doubt on the assumptions, methodology and conclusions of papers that find common ownership can affect the degree and intensity of competition on markets. Ms Novick concluded that the academic debate on whether common ownership by asset managers lessens competition is far from settled, and that any analysis will need to factor in the roles of proxy advisory firms and compensation consultants before any conclusions can be drawn.

The Chair noted the disagreement among panellists regarding the conclusions of the empirical studies on the effects of common ownership, and emphasised that the roundtable is intended to introduce the debate rather than resolve the questions definitively. Then, he asked Professor Schmalz to react to the presentations and the remarks so far.

First, Professor Schmalz noted that since mutual funds charge a percentage of the value of the assets they manage, the asset value increases when competition decreases, so the incentives of investors are in his view aligned with the ultimate owners of this stock. With regard to the shareholdings in suppliers and customers, Professor Schmalz underlined that he does not think that a company would charge lower prices to all of its clients just because it has an interest in one of the clients. Vertical common ownership exists, but there is no theory that says that this would contradict anticompetitive effects of common ownership or horizontal shareholdings. In addition, he recognised that portfolio heterogeneity exists, but it appears that large investment managers do not vote differently in different portfolios, suggesting that such heterogeneity does not affect voting decisions.

2. Views of the delegations

Moving to the country contributions, the Chair turned to Slovenia to describe the authority’s recent review of a transaction involving the sovereign wealth fund investing in multiple firms within an industry. Slovenia explained that the two largest asset management funds in Slovenia are entirely owned by the State and are entitled to manage the capital assets of the State in many firms. One fund was established to run the second pillar pension scheme, while the other one was established to manage the ownership interests of the State in over a hundred companies. The funds participate in general meetings of these firms; they also nominate their representatives on the supervisory boards. From a competition point of view, these funds together with the State represent a single economic unit, so the sum of the ownership in each company equals to the sum of the stakes of these two funds plus the stake of the State as well.

The Slovenian Competition Authority has recently received a merger notification involving these two funds and another foreign fund acquiring joint control over the largest company in the hotel accommodation services and spas markets. The analysis indicated that the acquirers have many corporate links, including minority shareholdings in competitors of the target company with interests ranging from 16 to over 40%. The acquirers also appointed representatives on the supervisory boards of some of the target company’s competitors. Moreover, the analysis also indicated the presence of interlocking directorships which could lead not only to co-ordinated but also to unilateral effects. Slovenia noted that the parties proposed behavioural remedies to address these concerns but the case is still ongoing.

Mexico explained how the Federal Telecommunications Institute (IFT) analyses the degree of influence held by a common investor in competing firms, and specifically, how “significant influence” is defined. Mexico started by noting that it is common in the
telecommunications and broadcasting sectors in Mexico for institutional investors to hold shares in publicly listed companies. Common ownership by institutional investors was relevant in the analysis of some merger cases. In recent decisions, the IFT has considered significant influence as: the ability of an economic agent to participate or intervene in a significant way, directly or indirectly, by any means in decisions regarding the administration of the company as well as the definition of policies and management. This analysis is carried out on a case-by-case basis, and the IFT uses certain indicators to identify the ability to influence, such as 1) the ability or the right to designate or remove a member of the board or an important director or manager, 2) the percentage of voting shares owned - IFT uses a 10% benchmark for influence and 3) the framework for governance, accountability and investment practices of the investors.

Mexico indicated that international practise recognises there is a high risk of coordination when there are structural links between economic agents that compete in one or various markets. In order to assess this risk, the IFT looks at the market structure and its degree of concentration, and at the financial interests that this structural link represents for each of the parties. The IFT also analyses if the structural link still allows the parties to act independently. The IFT looked at several mergers involving common ownership, but none of these cases led to a conclusion of harm to competition, mainly because common institutional investors did not have the right to designate, remove or veto any of the members of the board, directors or managers. One case, a transaction between owners of television channels, was cleared with conditions. The IFT considered the level of market concentration, the presence of multi-market contacts, the low number of competitors in the markets, the common shareholders, and the existence of entry barriers in this case.

Portugal shared its experience with common ownership and the creation of a Central Register of Beneficial Ownership. In Portugal, a recent merger case called for an adjustment to the toolbox for assessing the competitive effects of mergers. The vertical merger involved the acquisition of the payment acquiring services business of UNICRE by SIBS, a quasi-monopolist in payment processing services. The parties displayed a high degree of common ownership and the transaction would create an additional minority ownership link. The effect of the minority shareholding acquisition would not be captured by a standard HHI, hence Portugal decided to use the modified HHI to assess the competitive impact of the merger. Portugal also relied on a merger simulation, in which they captured the vertical aspects of common ownership and the two-sidedness of the market, to estimate the impact of the merger on pricing incentives. Regarding the vertical aspects, the authority found that, due to common ownership, the banks had their incentives aligned to use the payment processor to exclude outside entrants to the market.

Finally Portugal highlighted that the beneficial owner central register, which entered into force in November 2017, gives information about the ownership of all the companies that are registered directly or indirectly via third parties. The register can be used not just to map out all the shareholders of each of the companies, but also to identify potential gun-jumping cases, because the changes need to be notified, and there is a penalty for not notifying these changes.

The Chair then turned to Brazil and asked for an explanation of the standards they apply in mergers filed by institutional investors. The Brazilian Competition Agency (CADE) explained that when the acquisitions do not reach the minimum acquisition threshold of 20% of shares, CADE typically does not investigate the presence of a common institutional investor. In addition, CADE considers only direct acquisitions among competitors and excludes those carried out by common investors. However, CADE considered common
ownership in a merger case filed by the companies Kroton and Estácio, both active in the market of on-campus and distance-learning education in Brazil. The merger was blocked due to the competitive risks raised in the on-campus segment by a common investor of the parties, which held minority shares in each of the companies. Prior to the notification of the transaction, the institutional investor voted in favour of the merger at the general assembly of shareholders of both competitors despite having a clear interest in the merger.

From a competition perspective, the case is an important indication of how an institutional investor can possibly exercise significant influence in decision-making processes involving competitive matters, which may have the potential to harm competition. However, with the exception of this case, the analysis of common ownership by institutional investors has not been the subject of deeper discussion by CADE. This may change in the future considering the increased capital market activities in Brazil.

Next, Argentina explained the analysis of common ownership in recent mergers in the telecommunications and oil and gas sectors. The acquisition of interests of Telefonica from Spain in Telecom Italia involved the acquisition of minority shareholdings; however, the analysis revealed that these minority shareholdings provided the acquirer substantial influence in the target company. In this case, the parties offered remedies to keep the two corporate entities separate (Chinese walls). In the oil and gas case, the analysis of the authority led to the opposite result. The investors acquired shares that were not substantial enough to result in substantial influence. Argentina concluded that even if there is no substantial influence, minority shareholdings may facilitate collusion and can be a factor to take into account when analysing the effects of a merger.

3. Possible solutions from law enforcement and regulatory perspective

The final part of the discussion dealt with possible solutions to the concerns associated with common ownership in terms of competition law enforcement and market regulation. The Chair gave the floor to the experts – Professor Elhauge, Professor Schmalz, Professor Rubinfeld and Dr. O’Brien – then to the EU and the US. Finally, Ms. Novick closed the discussion with an industry perspective.

According to Professor Elhauge the question is whether we can tackle potential problems with common ownership under the existing legal framework. In his view, the US legislation (the Clayton Act) is well-placed to deal with the problem. It blocks any stock acquisition that is likely to have anti-competitive effects, and does not require the acquisition of control or even of influence. The passive investor exemption (i.e. the investment-only exemption), is not in his view an obstacle for two reasons. First, this exemption only applies if the transaction is solely for investment purposes, meaning that the investor has no influence or voting rights, which is very unlikely for these kinds of cases. Second, even if a stock acquisition were solely for investment, that would merely change the standard of proof by requiring evidence on the actual or potential anticompetitive effects. In Professor Elhauge’s views, these cases should be investigated if 1) the horizontal shareholding level is high and 2) the transaction takes place in a concentrated market.

He also noted that these concerns can also be captured under the Sherman Act, according to which any ‘contract, combination in the form of trust or otherwise, or conspiracy’, in restraint of trade is illegal. Horizontal shareholding falls, in Professor Elhauge’s view, within the reach of this statute, since it involves contracts between corporations and common investors that give horizontal shareholders rights to vote and financial rights. He
also noted that, historically, the reason why, in the US, competition law is called antitrust is because it is aimed at prohibiting trusts that in fact were horizontal shareholders. The primary difference with the historical trusts is that the possible efficiencies of modern horizontal shareholding make it subject to rule of reason analysis, rather than to per se condemnation. Multiple minority horizontal shareholdings create aggregated anticompetitive effects, similarly to cases that involve exclusive dealing and vertical price fixing.

In terms of the applicability of EU competition law, Professor Elhauge observed that the EU merger control rules are undeniably narrower than the Clayton Act, but they can cover stock acquisitions that give a group of shareholders de facto control if they have collective decisive influence. He conceded that applying the EU merger regulation to ordinary horizontal shareholding would require some changes in EU enforcement practice, which has so far focused on cases in which more direct links among shareholders create the joint control. But he argued that the regulation could sensibly be interpreted to extend to cases without such direct links, just as the old merger regulation was interpreted to extend to cases of collective dominance without direct links between firms. The best argument against such an interpretation, he reasoned, was that other EU competition laws might offer a better solution, given that even such an interpretation of the EU merger regulation would still fail to fully address the horizontal shareholding problem, because the anticompetitive effects of horizontal shareholding do not depend on a showing that some set of horizontal stock acquisitions changed control by giving collective decisive influence over business activities to the horizontal shareholders.

A more promising avenue, according to Professor Elhauge, is to apply Article 101 of the EU Treaty, which covers agreements or concerted practices between undertakings that have the effect of restricting competition. For example, in the Philip Morris case, the European Court of Justice already held Article 101 covers minority stock acquisitions if they have the “effect of influencing anticompetitive behaviour”. Further, Article 101 covers concerted practices extending beyond agreements and thus includes any indirect contact having the effect of influencing the conduct of a competitor. Horizontal shareholding can be viewed essentially as an indirect contact that has the effect of influencing behaviour among competitors.

Lastly, he pointed to another aspect of EU competition law that is broader than US competition law. Article 102 covers not just single firm dominance, but also collective dominance, and one of the abuses covered is excessive pricing. He noted that the ban on excessive pricing is often not enforced, because the “excessive” price is hard to define for a monopolist or to avoid for an oligopoly, but also because monopoly pricing is a desirable reward for firms that have invested and won the competitive race. However, unlike monopoly or oligopoly pricing, horizontal shareholdings do not present these same difficulties. When horizontal shareholding anticompetitively increases the profits of the involved firms, it can be banned without requiring courts to define the acceptable price level, and it is not a desirable reward for an additional investment that created better market options; rather, it creates a collective dominance based on contractual and structural links that results in excessive pricing. Finally, Professor Elhauge expressed scepticism that fiduciary duty would prevent horizontal shareholdings from having anticompetitive effects, since anticompetitive pricing increases the profits of all firms in an industry, including the non-horizontal shareholders.

Then, Professor Schmalz was asked by the Chair to present some other policy proposals made in response to common ownership concerns. Posner, Scott Morton and Weyl
proposed that if an investor holds less than 1% of competitors, there is no presumed influence and such investors can index invest unrestrictedly. Professor Schmalz noted that the largest index fund in the world holds less than 1% of the US stock market. But if an investor is larger than that (including a fund family that de facto coordinates and centralises voting), it would essentially be required to pick one firm per industry. In theory, this proposal could be very attractive, because it gives large benefits for consumers and ordinary households by restoring firms’ incentives to compete. In addition, Professor Schmalz noted that proponents of this approach argue that having more concentrated holdings in fewer firms gives better incentives to improve corporate governance.

Professor Schmalz indicated that there have been several critiques of the proposal. In his view, however, policy makers should keep in mind that the vast majority of households gain more from reduced consumer prices than from higher equity portfolio values, because most people do not have a large equity portfolio compared to their consumption basket. Although the proposal is likely to restrict the institutions’ ability to diversify, it does not restrict households, who could still purchase several funds. Regarding the concern that the common ownership problem threatens index funds, he opined that addressing anticompetitive effects of common ownership does not imply destroying index funds, and that common ownership can be more pronounced with actively-managed funds, or index funds that are concentrated on a particular industry. Authorities can investigate common ownership by actively mutual funds, hedge funds, or new-style private equity funds, and they can restrict or monitor the centralization of voting power across funds, all without touching the business model of index funds. Thus, policies seeking to constrain common ownership could in fact encourage greater diversification across industries, and should not interfere with index funds.

The Chair then gave the floor to Professor Rubinfeld who began by saying that in the current US environment, institutional investors play a positive role in terms of their involvement through proxy voting. Thus, any policy move that prejudges the current situation and moves towards solutions that do not provide an opportunity for investors to participate would not be advisable. Without compelling evidence, radical policy changes should not be considered. In particular, the empirical work on the airline industry fails to deal with the specific structural features of the industry. Once a better understanding of the structure of the industry is developed, it may be more likely that the effects observed in empirical studies are attributable more to market power rather than common ownership. Professor Rubinfeld opined that policy recommendations should not detract from supporting the growth of index funds.

With respect to the legal arguments made by Professor Elhauge that cases could be prosecuted under section 7 of the Clayton Act, Professor Rubinfeld noted it is certainly a possibility, but cases would not likely be successful given the burden of proof. It would be particularly challenging when there is no clear evidence of control, such as an investor’s representation on the board of directors. With regard to the possibility of pursuing a claim on Section 1 of the Sherman Act or Article 101 of the TFEU, he noted that in the absence of clear evidence of an agreement, neither possibility is likely. He concluded by mentioning that there is a risk of introducing aggressive solutions too early.

The United States was asked by the Chair to react to some of the risks identified in relation to the proposed measures on common ownership. According to the United States, interlocking directorates and cross-ownership by competitors where a possible coordination or control mechanism is clear are already covered by the US antitrust laws and both antitrust agencies have been active in this area. Turning to the question of common
ownership the delegate noted how economics has played an increasing role of antitrust law. Economic scholarship, for example, drove changes to the legal treatment of vertical restraints, as well as adjustments to the market share thresholds in the horizontal merger guidelines. Thus, agencies must be aware of the evolving scholarship, including in the area of common ownership.

However, the United States underlined that empiricism is the foundation of good policy in antitrust. This requires a better understanding of the mechanism through which common ownership would reduce competition. In addition, antitrust applies across all industries, which raises the question of whether these effects can be found outside the two industries – airlines and banks - that have been studied, and whether there is a scientific method that can be used to replicate these studies. It is also not clear whether there are certain firms or unique market conditions that are creating the observed effects. Going back to empiricism, the delegate noted that a much more robust understanding of the cause, the effect and the replicability across all industries are needed to change antitrust law in response to new and interesting theories - especially since it could have a negative impact on consumers’ investments and ability to diversify. The US concluded that given the ongoing academic research and debate, and its early stage of development, the US was not prepared at this time to make any changes to its enforcement practices, but would consider enforcement actions where sufficient evidence exists that the effect of particular acquisitions may be substantially to lessen competition.

The Chair asked Dr. O’Brien to share his views on possible uses of the modified HHI as a safe harbour for investors. Dr. O’Brien proposed distinguishing the question of policy in response to common ownership based on macro and micro levels. The macro level relates to the need for policy change towards minority shareholding. In his view, neither theory nor evidence at this point supports macro-level changes towards minority shareholdings, because it is not clear how minority shareholdings translate into control, and how institutional investors would have incentives to take anticompetitive actions even if they did have control. Similarly, it is not clear in his view how management compensation would lead to anticompetitive effects.

Dr. O’Brien cautioned against assuming that firms’ incentives to raise prices increase with partial ownership of competitors. Rather, such an outcome only occurs in the economic literature under certain control assumptions, which are key in Dr. O’Brien’s view. He also warned that decisions of competition authorities based on MHHI would be inconsistent with established safe harbour thresholds that are based on the HHI. He also argued that any merger investigation that analyses common ownership should measure it relative to the average in the economy, in order to support any concern about common ownership being particularly problematic in a given case.

Turning to the micro-level, he opined that efforts to account for common ownership using the MHHI and the pricing pressure index introduced ten years ago are valid, provided the control assumptions are clear. For example, if Firm 1 controls Firm A and acquires a financial interest in Firm B, which is its competitor, it can be expected that Firm 1 would take into account its partial ownership of Firm B in its decision making with respect to Firm A. A second example would be the cases where a firm has a clear controlling owner, even if financial interests are dispersed (i.e. a firm acquires a controlling interest and the majority of the voting shares, but only has a minority financial interest). He emphasised that, in such cases where you control two competing firms but have only a minority financial interest in one, the effects could be particularly harmful. Dr. O’Brien emphasised that understanding these patterns of ownership requires a case-by-case analysis.

Unclassified
Dr. O’Brien concluded that it needs to be clear what kind of influence common owners can exert, whether this influence is generating benefits or harm, and whether it is internalising common ownership in a way that is anticompetitive. He then emphasised that there is no one-size-fits-all analysis, and noted that while the discussion had not covered the topic in depth, if common ownership facilitates collusion, this should certainly be taken into account.

The Chair then gave the floor to Ms. Novick to present her thoughts on the proposed measures. While a manager of an active portfolio can choose to sell the securities of a company that has had poor performance or no longer fits the investment thesis, an index manager holds all of the companies in the relevant index and the manager cannot express its disapproval by selling the companies’ stock. As a result, the fiduciary responsibility to engage and vote is more important than ever. With regard to the proposal to limit ownership, whether by limiting to 1% per company, or to a single company per industry, Ms. Novick noted that these policy measures could be applied to any large asset manager, or for that matter to large diversified asset owners who manage assets internally. This would include many large pension plans and sovereign wealth funds. She argued in particular that these proposals would negate the concept of an index fund, since index funds mimic the benchmark and the holdings in the benchmark. Index funds provide long-term patient capital to thousands of companies. The holders of index funds include institutions, as well as individuals, who can purchase funds directly, or hold them via a defined contribution pension plan. As a result, millions of individuals across the socio-economic strata are likely to invest some money in index funds. The proposed remedy would eliminate the benefits of diversification in any concentrated industries. She emphasised the need for investors to be able to diversify within industries, as well as across industries. Moreover, it would not be clear who could decide which single firm each investment fund could hold in each concentrated industry. Likewise, it is not clear how firms would ration stocks within the 1% limit across different portfolios, if the limit applies on a fund manager level. Ms. Novick noted that it is well known that a large sovereign wealth fund directly owns approximately 2.5% of every public company in Europe. Given that this asset owner uses an index approach, the 1% limit on holdings in companies in concentrated industries would pose an immediate problem for this investor as well as for many other investors. In addition, the allocation of capital today is across all industries, regions and capitalisations, whereas the proposed rules would cause allocations to be very targeted, which will be very harmful to the issuers.

In relation to a proposed policy that would not allow managers to vote proxies or engage with the companies in these concentrated industries, she noted that it is in direct contradiction with recent regulatory efforts that are encouraging entities to become more engaged in corporate governance. She noted that, in the OECD, there is a group focusing on corporate engagement, and in the EU, the shareholder’s rights directive actively encourages asset managers and asset owners to engage with companies on long-term performance and environmental, social and governance (ESG) criteria. In the UK, asset managers are encouraged to become signatories to the financial reporting council’s UK stewardship code. There are similar codes in Japan and the Netherlands, which most asset managers have agreed to. Further, the investor’s stewardship group, which includes both public sector and private sector entities, has also issued a stewardship framework for institutional investors and corporate governance principles for US-listed companies. Participants in that group include several entities that have been leaders in corporate governance and ESG matters. As public authorities are actively debating how to get asset
managers to be more vocal on ESG issues, it would seem odd to recommend restricting corporate engagement or disallowing proxy voting.

Ms. Novick continued by highlighting that asset managers lack the incentive to reduce competition in any concentrated industry or in any industry at all. Common ownership by a direct investor is a different matter, as they have board seats, and direct economic interest in the companies that they own, whereas an asset manager is acting on an agency basis. She also expressed the view that there is no compelling causal link in any of the literature and no evidence of any link between common ownership and consumer harm. However, since policy measures have been proposed, it is important to consider the impact these measures would have. Specifically, harms to both the companies who are issuers and to the investor, which include many small investors who are not just consumers of products, but are also investors, often in index funds.

She then noted that various countries already have antitrust remedies that would have been implemented if there was a particular problem in a specific industry. Thus, in Ms. Novick’s view, there is no need for further measures, for example those limiting funds to investing in one firm per sector, or those preventing investors from voting.

Finally, Ms. Novick highlighted what are, in her view, critical omissions in the original papers on common ownership. In particular, she noted that (i) the paper on executive compensation fails to account for the role played by compensation consultants to public company boards, (ii) all of the papers fail to address the role of proxy advisory firms who influence more votes than any individual asset manager (where proxy advisors are estimated to control or influence between 10% and 25% of various votes). In addition, Ms. Novick indicated that the original papers on common ownership conflate asset owners and asset managers. She illustrated the difference using the example of an asset owner who holds board seats which is fundamentally different than the agency model of an asset manager. These details reflect the importance of bringing practitioners’ voices into the discussion to fill in the gaps of a theoretical econometric model.

The European Commission then took the floor, specifically to discuss the statement from Professor O’Brien about basing competition authority decisions on the MHHI. The European Commission insisted that its Decision related to the merger between Dow and DuPont, referred to by Professor O’Brien, had a full annex devoted to this issue, which (i) reported facts on the extent of the common ownership in this industry, (ii) documented the fact that large minority shareholders have more influence than their equity share, (iii) described the specific relationship between the Parties and their large shareholders, then (iv) summarized the economic literature and then (v) looked into the possible way to factor in the existence of common ownership through MHHI. The European Commission also made clear that its Decision recognized the challenges of this topic, in particular the assumptions on control necessary to compute MHHI, and therefore did not derive any conclusions on the basis of MHHI levels. The representative of the European Commission ended his intervention by reading the last paragraph of the annex which states: "Based thereupon, the Commission considers that, in general, market shares used by the Commission for the purpose of the assessment of the Transaction tend to underestimate the concentration of the market structure and, thus, the market power of the Parties, and that common shareholding in the agrochemical industry is to be taken as an element of context in the appreciation of any significant impediment to effective competition that is raised in the Decision."
4. Conclusions by the Chair

Finally, the Chair concluded the Hearing by summarising some of the main points emerging from the discussion. First, he highlighted one of the key questions raised by Dr. O’Brien: “do we have an easy understanding of how a minority shareholding can transform itself into control?” He continued by noting that the battle over the empirical results can be hard to interpret for antitrust agencies, and may at this stage simply require the recognition that there is substantial controversy. On the potential for the creative use of antitrust, the Chair noted that antitrust authorities are under the purview of courts, and courts tend to be fairly conservative when assessing economic evidence. Courts, for predictability and legal security reasons, prefer to have well-established theory and limited controversy over the basics of the empirical studies. Thus, the creative use of existing antitrust provisions is likely to be more of an academic exercise than a likely outcome. It is therefore not clear, in the Chair’s view, that the instruments competition authorities have are necessarily able to resolve competition concerns, assuming that there is an antitrust problem.

In terms of the policy proposals discussed, the Chair noted that they are more in the purview of legislators rather than of competition agencies. It is important to note that these proposals may have some unintended and detrimental consequences to the industry. He observed that there was consensus that competition policy should not aim to destroy institutional investment business models, but more to explore whether there is a competition problem of sufficient importance and to understand how to handle it. To conclude, he highlighted that the discussion has covered many aspects of the topic and benefitted a great deal from the different perspectives of the panellists and from the country contributions.
Number of Organizational Cases
Fiscal Years 2008-2017

Size of Organizations Sentenced By Number of Employees Fiscal Year 2017

- <50 Employees: 3.7%
- 50-99 Employees: 8.6%
- 100-499 Employees: 18.5%
- 500-999 Employees: 18.5%
- ≥ 1000 Employees: 65.4%

SOURCE: United States Sentencing Commission, 2017 Datafile, CORP17
Primary Offense of Organizational Cases
Fiscal Year 2017

- Fraud: 29.0%
- Environmental: 28.2%
- FDA: 6.1%
- Import/Export: 6.1%
- Antitrust: 5.3%
- Other: 25.2%

1The Other category includes the following offense types: Drugs (not FDA), Bribery, Immigration, Obstruction of Justice, Money Laundering, Administration of Justice, Copyright/Trademark Infringement, Firearms, Gambling, Larceny/Theft/Embezzlement, Other, Racketeering, and Tax.
2The Environmental category includes the following offense types: Environmental-Water Pollution, Environmental-Air Pollution, Environmental-Hazardous/Toxic Pollutants, and Environmental-Wildlife.

Fraud Offenses in Organizational Cases
Fiscal Year 2017

- Mail & Wire: 47.4%
- False Claims: 2.6%
- Bank Fraud: 5.3%
- Other: 10.5%
- Health Care: 21.1%
- False Statement: 13.2%

Number of Environmental Organizational Cases Fiscal Years 2017

- Water: 22
- Air: 8
- Hazardous Waste: 3
- Wildlife: 4

Percentage of Individual Offenders Who Were “High-Level” Officials of Co-Defendant Organizations Fiscal Years 2016-2017

**FY16**
- Not High-Level Officials: 55.2%
- Owners: 26.5%
- Board Members: 13.0%
- Mgrs./Supvs.: 5.4%

**FY17**
- Not High-Level Officials: 48.4%
- Owners: 22.6%
- Board Members: 20.8%
- Mgrs./Sup vs. 8.2%

Percentage of Organizations Sentenced that Obstructed Justice (§8C2.5(e)) Fiscal Years 2013-2017

Percentage of Organizational Cases Receiving Reduction in Culpability Score under §8C2.5(g) Fiscal Years 2013-2017

Fine and Restitution Distribution
Fiscal Years 2008-2017

# Top Ten Organizational Fines and Restitution Orders by Offense Type (Millions of Dollars)
## Fiscal Year 2017

<table>
<thead>
<tr>
<th>Offense Type</th>
<th>Fines</th>
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<tbody>
<tr>
<td>Environmental</td>
<td>$2,800.0</td>
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<tr>
<td>Fraud</td>
<td>$925.0</td>
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<tr>
<td>Fraud</td>
<td>$395.0</td>
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<tr>
<td>Import/Export Violation</td>
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<tr>
<td>Drugs (not FDA)</td>
<td>$208.0</td>
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<tr>
<td>Fraud</td>
<td>$203.0</td>
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<tr>
<td>Bribery</td>
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<td>Bribery</td>
<td>$93.0</td>
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</table>

<table>
<thead>
<tr>
<th>Offense Type</th>
<th>Restitution</th>
</tr>
</thead>
<tbody>
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<td>$975.0</td>
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<tr>
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<td>$3.0</td>
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<tr>
<td>Fraud</td>
<td>$2.5</td>
</tr>
<tr>
<td>Import/Export Violation</td>
<td>$2.3</td>
</tr>
</tbody>
</table>

Relationship of Individual Offender To Organizational Cases Fiscal Years 2016-2017

**FY16**
- At Least One Individual Co-Defendants: 53.8%
- No Individual Co-Defendants: 46.2%

**FY17**
- At Least One Individual Co-Defendants: 54.2%
- No Individual Co-Defendants: 45.8%

Percentage of Organizational Cases Receiving Probation Fiscal Years 2013-2017

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY13</td>
<td>78%</td>
</tr>
<tr>
<td>FY14</td>
<td>70%</td>
</tr>
<tr>
<td>FY15</td>
<td>77%</td>
</tr>
<tr>
<td>FY16</td>
<td>61%</td>
</tr>
<tr>
<td>FY17</td>
<td>63%</td>
</tr>
</tbody>
</table>

Percentage of Organizational Cases With Court Ordered Compliance / Ethics as Component of Sentence Fiscal Years 2013-2017

Thank you!
Introduction

The Principles of Federal Prosecution of Business Organizations in the United States Attorney’s Manual describe specific factors that prosecutors should consider in conducting an investigation of a corporate entity, determining whether to bring charges, and negotiating plea or other agreements. These factors, commonly known as the “Filip Factors,” include “the existence and effectiveness of the corporation’s pre-existing compliance program” and the corporation’s remedial efforts “to implement an effective corporate compliance program or to improve an existing one.”

Because a corporate compliance program must be evaluated in the specific context of a criminal investigation that triggers the application of the Filip Factors, the Fraud Section does not use any rigid formula to assess the effectiveness of corporate compliance programs. We recognize that each company’s risk profile and solutions to reduce its risks warrant particularized evaluation. Accordingly, we make an individualized determination in each case.

There are, however, common questions that we may ask in making an individualized determination. This document provides some important topics and sample questions that the Fraud Section has frequently found relevant in evaluating a corporate compliance program. The topics and questions below form neither a checklist nor a formula. In any particular case, the topics and questions set forth below may not all be relevant, and others may be more salient given the particular facts at issue.


Sample Topics and Questions

1. Analysis and Remediation of Underlying Misconduct

- **Root Cause Analysis** – What is the company’s root cause analysis of the misconduct at issue? What systemic issues were identified? Who in the company was involved in making the analysis?

- **Prior Indications** – Were there prior opportunities to detect the misconduct in question, such as audit reports identifying relevant control failures or allegations, complaints, or investigations involving similar issues? What is the company’s analysis of why such opportunities were missed?
2. **Senior and Middle Management**

   □ **Conduct at the Top** – How have senior leaders, through their words and actions, encouraged or discouraged the type of misconduct in question? What concrete actions have they taken to demonstrate leadership in the company’s compliance and remediation efforts? How does the company monitor its senior leadership’s behavior? How has senior leadership modeled proper behavior to subordinates?

   □ **Shared Commitment** – What specific actions have senior leaders and other stakeholders (e.g., business and operational managers, Finance, Procurement, Legal, Human Resources) taken to demonstrate their commitment to compliance, including their remediation efforts? How is information shared among different components of the company?

   □ **Oversight** – What compliance expertise has been available on the board of directors? Have the board of directors and/or external auditors held executive or private sessions with the compliance and control functions? What types of information have the board of directors and senior management examined in their exercise of oversight in the area in which the misconduct occurred?

3. **Autonomy and Resources**

   □ **Compliance Role** – Was compliance involved in training and decisions relevant to the misconduct? Did the compliance or relevant control functions (e.g., Legal, Finance, or Audit) ever raise a concern in the area where the misconduct occurred?

   □ **Stature** – How has the compliance function compared with other strategic functions in the company in terms of stature, compensation levels, rank/title, reporting line, resources, and access to key decision-makers? What has been the turnover rate for compliance and relevant control function personnel? What role has compliance played in the company’s strategic and operational decisions?

   □ **Experience and Qualifications** – Have the compliance and control personnel had the appropriate experience and qualifications for their roles and responsibilities?
Autonomy – Have the compliance and relevant control functions had direct reporting lines to anyone on the board of directors? How often do they meet with the board of directors? Are members of the senior management present for these meetings? Who reviewed the performance of the compliance function and what was the review process? Who has determined compensation/bonuses/raises/hiring/termination of compliance officers? Do the compliance and relevant control personnel in the field have reporting lines to headquarters? If not, how has the company ensured their independence?

Empowerment – Have there been specific instances where compliance raised concerns or objections in the area in which the wrongdoing occurred? How has the company responded to such compliance concerns? Have there been specific transactions or deals that were stopped, modified, or more closely examined as a result of compliance concerns?

Funding and Resources – How have decisions been made about the allocation of personnel and resources for the compliance and relevant control functions in light of the company’s risk profile? Have there been times when requests for resources by the compliance and relevant control functions have been denied? If so, how have those decisions been made?

Outsourced Compliance Functions – Has the company outsourced all or parts of its compliance functions to an external firm or consultant? What has been the rationale for doing so? Who has been involved in the decision to outsource? How has that process been managed (including who oversaw and/or liaised with the external firm/consultant)? What access level does the external firm or consultant have to company information? How has the effectiveness of the outsourced process been assessed?

4. Policies and Procedures

a. Design and Accessibility

Designing Compliance Policies and Procedures – What has been the company’s process for designing and implementing new policies and procedures? Who has been involved in the design of policies and procedures? Have business units/divisions been consulted prior to rolling them out?

Applicable Policies and Procedures – Has the company had policies and procedures that prohibited the misconduct? How has the company assessed whether these policies and procedures have been effectively implemented? How have the functions that had ownership of these policies and procedures been held accountable for supervisory oversight?
Gatekeepers – Has there been clear guidance and/or training for the key gatekeepers (e.g., the persons who issue payments or review approvals) in the control processes relevant to the misconduct? What has been the process for them to raise concerns?

Accessibility – How has the company communicated the policies and procedures relevant to the misconduct to relevant employees and third parties? How has the company evaluated the usefulness of these policies and procedures?

b. Operational Integration

Responsibility for Integration – Who has been responsible for integrating policies and procedures? With whom have they consulted (e.g., officers, business segments)? How have they been rolled out (e.g., do compliance personnel assess whether employees understand the policies)?

Controls – What controls failed or were absent that would have detected or prevented the misconduct? Are they there now?

Payment Systems – How was the misconduct in question funded (e.g., purchase orders, employee reimbursements, discounts, petty cash)? What processes could have prevented or detected improper access to these funds? Have those processes been improved?

Approval/Certification Process – How have those with approval authority or certification responsibilities in the processes relevant to the misconduct known what to look for, and when and how to escalate concerns? What steps have been taken to remedy any failures identified in this process?

Vendor Management – If vendors had been involved in the misconduct, what was the process for vendor selection and did the vendor in question go through that process? See further questions below under Item 10, “Third Party Management.”

5. Risk Assessment

Risk Management Process – What methodology has the company used to identify, analyze, and address the particular risks it faced?

Information Gathering and Analysis – What information or metrics has the company collected and used to help detect the type of misconduct in question? How has the information or metrics informed the company’s compliance program?
U.S. Department of Justice  
Criminal Division  
Fraud Section  

Evaluation of Corporate Compliance Programs

- **Manifested Risks** – How has the company’s risk assessment process accounted for manifested risks?

6. **Training and Communications**

- **Risk-Based Training** – What training have employees in relevant control functions received? Has the company provided tailored training for high-risk and control employees that addressed the risks in the area where the misconduct occurred? What analysis has the company undertaken to determine who should be trained and on what subjects?

- **Form/Content/Effectiveness of Training** – Has the training been offered in the form and language appropriate for the intended audience? How has the company measured the effectiveness of the training?

- **Communications about Misconduct** – What has senior management done to let employees know the company’s position on the misconduct that occurred? What communications have there been generally when an employee is terminated for failure to comply with the company’s policies, procedures, and controls (e.g., anonymized descriptions of the type of misconduct that leads to discipline)?

- **Availability of Guidance** – What resources have been available to employees to provide guidance relating to compliance policies? How has the company assessed whether its employees know when to seek advice and whether they would be willing to do so?

7. **Confidential Reporting and Investigation**

- **Effectiveness of the Reporting Mechanism** – How has the company collected, analyzed, and used information from its reporting mechanisms? How has the company assessed the seriousness of the allegations it received? Has the compliance function had full access to reporting and investigative information?

- **Properly Scoped Investigation by Qualified Personnel** – How has the company ensured that the investigations have been properly scoped, and were independent, objective, appropriately conducted, and properly documented?

- **Response to Investigations** – Has the company’s investigation been used to identify root causes, system vulnerabilities, and accountability lapses, including among supervisory manager and senior executives? What has been the process for responding to investigative findings? How high up in the company do investigative findings go?
8. **Incentives and Disciplinary Measures**

- **Accountability** – What disciplinary actions did the company take in response to the misconduct and when did they occur? Were managers held accountable for misconduct that occurred under their supervision? Did the company’s response consider disciplinary actions for supervisors’ failure in oversight? What is the company’s record (e.g., number and types of disciplinary actions) on employee discipline relating to the type(s) of conduct at issue? Has the company ever terminated or otherwise disciplined anyone (reduced or eliminated bonuses, issued a warning letter, etc.) for the type of misconduct at issue?

- **Human Resources Process** – Who participated in making disciplinary decisions for the type of misconduct at issue?

- **Consistent Application** – Have the disciplinary actions and incentives been fairly and consistently applied across the organization?

- **Incentive System** – How has the company incentivized compliance and ethical behavior? How has the company considered the potential negative compliance implications of its incentives and rewards? Have there been specific examples of actions taken (e.g., promotions or awards denied) as a result of compliance and ethics considerations?

9. **Continuous Improvement, Periodic Testing and Review**

- **Internal Audit** – What types of audits would have identified issues relevant to the misconduct? Did those audits occur and what were the findings? What types of relevant audit findings and remediation progress have been reported to management and the board on a regular basis? How have management and the board followed up? How often has internal audit generally conducted assessments in high-risk areas?

- **Control Testing** – Has the company reviewed and audited its compliance program in the area relating to the misconduct, including testing of relevant controls, collection and analysis of compliance data, and interviews of employees and third-parties? How are the results reported and action items tracked? What control testing has the company generally undertaken?

- **Evolving Updates** – How often has the company updated its risk assessments and reviewed its compliance policies, procedures, and practices? What steps has the company taken to determine whether policies/procedures/practices make sense for particular business segments/subsidiaries?
10. **Third Party Management**

   - **Risk-Based and Integrated Processes** – How has the company’s third-party management process corresponded to the nature and level of the enterprise risk identified by the company? How has this process been integrated into the relevant procurement and vendor management processes?

   - **Appropriate Controls** – What was the business rationale for the use of the third parties in question? What mechanisms have existed to ensure that the contract terms specifically described the services to be performed, that the payment terms are appropriate, that the described contractual work is performed, and that compensation is commensurate with the services rendered?

   - **Management of Relationships** – How has the company considered and analyzed the third party’s incentive model against compliance risks? How has the company monitored the third parties in question? How has the company trained the relationship managers about what the compliance risks are and how to manage them? How has the company incentivized compliance and ethical behavior by third parties?

   - **Real Actions and Consequences** – Were red flags identified from the due diligence of the third parties involved in the misconduct and how were they resolved? Has a similar third party been suspended, terminated, or audited as a result of compliance issues? How has the company monitored these actions (e.g., ensuring that the vendor is not used again in case of termination)?

11. **Mergers and Acquisitions (M&A)**

   - **Due Diligence Process** – Was the misconduct or the risk of misconduct identified during due diligence? Who conducted the risk review for the acquired/merged entities and how was it done? What has been the M&A due diligence process generally?

   - **Integration in the M&A Process** – How has the compliance function been integrated into the merger, acquisition, and integration process?

   - **Process Connecting Due Diligence to Implementation** – What has been the company’s process for tracking and remediating misconduct or misconduct risks identified during the due diligence process? What has been the company’s process for implementing compliance policies and procedures at new entities?
Evaluation of Corporate Compliance Programs


4 USSG § 8B2.1(b)(5)(7) and (c); USAM 9-28.800 Comment; OECD Handbook, B, p.10 et seq.


6 USSG § 8B2.1(b)(5)(C); FCPA Guide, p. 61; OECD Handbook, C.10, p.60 et seq.


This document is intended to alert human resource (HR) professionals and others involved in hiring and compensation decisions to potential violations of the antitrust laws. The Department of Justice Antitrust Division (DOJ or Division) and Federal Trade Commission (FTC) (collectively, the federal antitrust agencies) jointly enforce the U.S. antitrust laws, which apply to competition among firms to hire employees. An agreement among competing employers to limit or fix the terms of employment for potential hires may violate the antitrust laws if the agreement constrains individual firm decision-making with regard to wages, salaries, or benefits; terms of employment; or even job opportunities. HR professionals often are in the best position to ensure that their companies’ hiring practices comply with the antitrust laws. In particular, HR professionals can implement safeguards to prevent inappropriate discussions or agreements with other firms seeking to hire the same employees.
The antitrust laws establish the rules of a competitive employment marketplace.

Free and open markets are the foundation of a vibrant economy. Just as competition among sellers in an open marketplace gives consumers the benefits of lower prices, higher quality products and services, more choices, and greater innovation, competition among employers helps actual and potential employees through higher wages, better benefits, or other terms of employment. Consumers can also gain from competition among employers because a more competitive workforce may create more or better goods and services.

From an antitrust perspective, firms that compete to hire or retain employees are competitors in the employment marketplace, regardless of whether the firms make the same products or compete to provide the same services. It is unlawful for competitors to expressly or implicitly agree not to compete with one another, even if they are motivated by a desire to reduce costs. Therefore, HR professionals should take steps to ensure that interactions with other employers competing with them for employees do not result in an unlawful agreement not to compete on terms of employment. Any company, acting on its own, may typically make decisions regarding hiring, soliciting, or recruiting employees. But the company and its employees should take care not to communicate the company’s policies to other companies competing to hire the same types of employees, nor ask another company to go along.

The federal antitrust agencies have taken enforcement actions against employers that have agreed not to compete for employees. Based on those cases, here are some general principles to help HR professionals and the companies they represent avoid running afoul of the antitrust laws as they relate to agreements and communications among employers. Note that this guidance does not address the legality of specific terms contained in contracts between an employer and an employee, including non-compete clauses.

Violations of the antitrust laws can have severe consequences. Depending on the facts of the case, the DOJ could bring a criminal prosecution against individuals, the company, or both. And both federal antitrust agencies could bring civil enforcement actions. In addition, if an employee or another private party were injured by an illegal agreement among potential employers, that...
party could bring a civil lawsuit for treble damages (i.e., three times the damages the party actually suffered).

**Agreements among employers not to recruit certain employees or not to compete on terms of compensation are illegal.**

An HR professional should avoid entering into agreements regarding terms of employment with firms that compete to hire employees. It does not matter whether the agreement is informal or formal, written or unwritten, spoken or unspoken.

An individual likely is breaking the antitrust laws if he or she:

- agrees with individual(s) at another company about employee salary or other terms of compensation, either at a specific level or within a range (so-called wage-fixing agreements), or
- agrees with individual(s) at another company to refuse to solicit or hire that other company’s employees (so-called “no poaching” agreements).

Even if an individual does not agree orally or in writing to limit employee compensation or recruiting, other circumstances – such as evidence of discussions and parallel behavior – may lead to an inference that the individual has agreed to do so.

Naked wage-fixing or no-poaching agreements among employers, whether entered into directly or through a third-party intermediary, are per se illegal under the antitrust laws. That means that if the agreement is separate from or not reasonably necessary to a larger legitimate collaboration between the employers, the agreement is deemed illegal without any inquiry into its competitive effects. Legitimate joint ventures (including, for example, appropriate shared use of facilities) are not considered per se illegal under the antitrust laws.

The DOJ filed a civil enforcement action against the Arizona Hospital & Healthcare Association for acting on behalf of most hospitals in Arizona to set a uniform bill rate schedule that the hospitals would pay for temporary and per diem nurses. The case resulted in a consent judgment. And in the past few years, the DOJ brought three civil enforcement actions against
technology companies (eBay and Intuit, Lucasfilm and Pixar, and Adobe, Apple, Google, Intel, Intuit, and Pixar) that entered into “no poach” agreements with competitors. In all three cases, the competitors agreed not to cold call each other’s employees. In two cases, at least one company also agreed to limit its hiring of employees who currently worked at a competitor. All three cases ended in consent judgments against the technology companies. The FTC has brought two cases relating to competition for employment. One was against Debes Corp., for entering into agreements to boycott temporary nurses’ registries in order to eliminate competition among the nursing homes for the purchase of nursing services. The FTC also brought a case against the Council of Fashion Designers of America and the organization that produces the fashion industry’s two major fashion shows for attempting to reduce the fees and other terms of compensation for models. Both cases ended in consent judgments.

Going forward, the DOJ intends to proceed criminally against naked wage-fixing or no-poaching agreements. These types of agreements eliminate competition in the same irredeemable way as agreements to fix product prices or allocate customers, which have traditionally been criminally investigated and prosecuted as hardcore cartel conduct. Accordingly, the DOJ will criminally investigate allegations that employers have agreed among themselves on employee compensation or not to solicit or hire each others’ employees. And if that investigation uncovers a naked wage-fixing or no-poaching agreement, the DOJ may, in the exercise of its prosecutorial discretion, bring criminal, felony charges against the culpable participants in the agreement, including both individuals and companies.

**Avoid sharing sensitive information with competitors.**

Sharing information with competitors about terms and conditions of employment can also run afoul of the antitrust laws. Even if an individual does not agree explicitly to fix compensation or other terms of employment, exchanging competitively sensitive information could serve as evidence of an implicit illegal agreement. While agreements to share information are not per se illegal and therefore not prosecuted criminally, they may be subject to civil antitrust liability when they have, or are likely to have, an anticompetitive effect. Even without an express or implicit agreement on terms of compensation among firms, evidence of periodic exchange of current wage
information in an industry with few employers could establish an antitrust violation because, for example, the data exchange has decreased or is likely to decrease compensation. For example, the DOJ sued the Utah Society for Healthcare Human Resources Administration, a society of HR professionals at Utah hospitals, for conspiring to exchange nonpublic prospective and current wage information about registered nurses. The exchange caused defendant hospitals to match each other’s wages, keeping the pay of registered nurses in Salt Lake County and elsewhere in Utah artificially low. The case ended in a consent judgment so that registered nurses could benefit from competition for their services.

Even if participants in an agreement are parties to a proposed merger or acquisition, or are otherwise involved in a joint venture or other collaborative activity, there is antitrust risk if they share information about terms and conditions of employment.

However, not all information exchanges are illegal. It is possible to design and carry out information exchanges in ways that conform with the antitrust laws. For example, an information exchange may be lawful if:

- a neutral third party manages the exchange,
- the exchange involves information that is relatively old,
- the information is aggregated to protect the identity of the underlying sources, and
- enough sources are aggregated to prevent competitors from linking particular data to an individual source.

Also, in the course of determining whether to pursue a merger or acquisition, a buyer may need to obtain limited competitively sensitive information. Such information gathering may be lawful if it is in connection with a legitimate merger or acquisition proposal and appropriate precautions are taken.

For more information on information exchanges, you can review the DOJ’s and FTC’s specific guidance to the healthcare industry on when written surveys of wages, salaries, or benefits are less likely to raise antitrust concerns (see Statement 6).

If your company is considering sharing specific information or otherwise collaborating with competitors regarding compensation or other terms of
employment, and you have questions regarding the legality of the activity, the federal antitrust agencies are available to offer further guidance. The Division has a business review process that enables businesses to determine how the Division may respond to proposed joint ventures or other business conduct. The FTC has a similar process for obtaining an advisory opinion for future conduct. When the federal antitrust agencies are able to analyze and comment on the possible competitive impact of proposed business conduct before that conduct is implemented, companies are more likely to avoid enforcement investigations and lawsuits.

Questions and Answers

Question: I work as an HR professional in an industry where we spend a lot of money to recruit and train new employees. At a trade show, I mentioned how frustrated I get when a recent hire jumps ship to work at a competitor. A colleague at a competing firm suggested that we deal with this problem by agreeing not to recruit or hire each other’s employees. She mentioned that her company had entered into these kinds of agreements in the past, and they seemed to work. What should I do?

Answer: What that colleague is suggesting is a no-poaching agreement. That suggestion amounts to a solicitation to engage in serious criminal conduct. You should refuse her suggestion and consider contacting the Antitrust Division’s Citizen Complaint Center or the Federal Trade Commission’s Bureau of Competition to report the behavior of your colleague’s company. If you agree not to recruit or hire each other’s employees, you would likely be exposing yourself and your employer to substantial criminal and civil liability.

Question: My friend and I are both managers at different companies in an industry where employee wage growth seems to be out of control. Over lunch, my friend proposed that we could solve this problem by reaching out to other industry leaders to establish a more reasonable pay scale for our employees. Is this legal?

Answer: An agreement among competitors to set wages or establish a pay scale is an illegal wage-fixing agreement. If you take your friend’s suggestion and form such an agreement on behalf of your company with your
friend or others acting on behalf of their companies, you would likely be exposing yourself and your employer to substantial criminal and civil liability. The DOJ could open a criminal investigation, and if it determines that your agreement is a naked wage-fixing agreement, it could bring criminal charges against you, your employer, your friend, and other individuals or companies that participate in the agreement. Participants could also be subject to substantial civil liability.

Additionally, merely inviting a competitor to enter into an illegal agreement may be an antitrust violation – even if the invitation does not result in an agreement to fix wages or otherwise limit competition. In antitrust terms, an “invitation to collude” describes an improper communication to an actual or potential competitor that you are ready and willing to coordinate on price or output or other important terms of competition. For instance, the FTC took action after an online retailer emailed a competitor to suggest that both companies sell their products at the same price, which was higher than either company was charging. The competitor declined the invitation and notified the FTC. Be aware that private communications among competitors may violate the FTC Act if (1) the explicit or implicit communication to a competitor (2) sets forth proposed terms of coordination (3) which, if accepted, would constitute a per se antitrust violation.

**Question:** I work as a senior HR professional at a nonprofit organization that works hard to keep costs down so we can serve more people. One idea we had is to cap wage increases for certain employee groups, but we are worried that we might lose employees to other nonprofit organizations that don’t cap wage increases. So, I would like to call other nonprofit organizations in my region to ask them if they would consider a cap on wage growth rates as well. Should I do that? What if, instead of reaching out to other nonprofit organizations directly, we all agree to hire the same consultant who communicates the pay scale to the nonprofit organizations?

**Answer:** No. You would likely violate antitrust law if you and the other nonprofit organizations agreed to decrease wages or limit future wage increases. A desire to cut costs is not a defense. Your nonprofit organization and the others are competitors because you all compete for the same employees. It does not matter that your employer and the other organizations are not-for-profit; nonprofit organizations can be criminally or civilly liable for antitrust law violations. It also makes no difference if you propose to hire a consultant who will determine and set the pay scale; employing a third-
party intermediary does not insulate you or your organization from liability under the antitrust law.

**Question:** I work in the HR department of a university that sometimes gets into bidding wars to attract faculty from rival institutions. Those efforts rarely succeed, but they take up a lot of time, energy, and resources. Recently someone in the Dean’s office told me that we now had a “gentleman’s agreement” with another university not to try to recruit each other’s senior faculty. There isn’t a written agreement, and efforts to hire each other’s faculty were rarely successful. Is this okay?

**Answer:** No. An illegal agreement can be oral; it need not be written down on paper. This conduct is similar to the conduct challenged by the Division in its recent no-poaching cases involving eBay, Lucasfilm, and Adobe, and the FTC in its cases against Debes Corp. and the Council of Fashion Designers. If the no-poaching agreement is naked, that is, separate from or not reasonably necessary to a larger legitimate collaboration between the universities, it is conduct that the Division will criminally investigate and may decide to criminally prosecute, charging institutions or individuals or both.

If you stopped recruiting and bidding for faculty from another university due to a gentleman’s agreement, you have become a member of that no-poaching agreement and could be subject to criminal liability. You should take no further action to comply with that agreement, and notify your university’s legal counsel of the university’s participation in this illegal agreement. The university may wish to report the conduct to the Division under its Corporate Leniency Policy, which provides that the first qualifying corporation (including universities and other non-profit entities) to report the antitrust offense and cooperate with the Division’s investigation will not be criminally charged for the reported antitrust offense. If you have already participated in the illegal agreement, you may wish to report the conduct to the Division under its Leniency Policy for Individuals, which provides that the first qualifying individual to report the antitrust offense and cooperate with the Division’s investigation will not be criminally charged for the reported antitrust offense. For more information on these policies, see this link.

**Question:** I am the CEO of a small business. In my industry, firms traditionally offer gym memberships to all employees. Gym membership fees are increasing, so I would like to stop offering memberships, but I am worried
that current employees will become disgruntled and move to other companies. I would like to ask other firms in the industry to stop offering gym memberships, as well. Can I do that?

**Answer:** No, you would likely violate antitrust law if you and the other companies agreed to cease offering gym memberships. Job benefits such as gym membership, parking, transit subsidies, meals, or meal subsidies and similar benefits of employment are all elements of employee compensation. An agreement with a competitor to fix elements of employee compensation is an illegal wage-fixing agreement.

**Question:** I am an HR professional who serves on the board of our industry’s professional society. We are interested in determining current and future trends in industry wages. Can we distribute a survey asking companies within the industry about current and future wages?

**Answer:** It may be unlawful for you, a member of the industry, to solicit a competitor’s company-specific response to a wage survey that asks about current or future wages, or to respond to a competitor’s request to provide such information. In addition, it may be unlawful for the professional society to distribute company-specific information about past, current, and future wages. Competitors’ exchange of nonpublic, company-specific information about current and future wages may violate antitrust law, unless certain survey procedures are followed to mitigate the risk of competitive harm.

For more guidance on the antitrust treatment of information exchanges among competitors, see Statement 6 of the DOJ’s and FTC’s guidance to the healthcare industry.

**Question:** I am a new HR professional, and I am attending my first professional conference next week. What should I watch out for to avoid violating antitrust law?

**Answer:** You should not enter into agreements about employee compensation, other terms of employment, or employee recruitment with other HR professionals who work at competitors, meaning other companies that compete for the same types of employees. Also, avoid discussing specific compensation policies or particular compensation levels with HR professionals who work for competitors.
Other resources are available.

The federal antitrust agencies have prepared a list of red flags that HR professionals and others should look out for in employment settings.

When in doubt, seek legal assistance.

If HR professionals have questions regarding whether particular conduct violates the antitrust laws, they should consider seeking legal advice.

Report potential violations.

If HR professionals or other interested parties have information about a possible antitrust violation regarding agreements among competitors to fix wages, salaries, benefits, or other terms of employment, or agreements not to compete for employees in hiring decisions, the federal antitrust agencies encourage them to report such conduct.

Reports can be made to the Division through the Citizen Complaint Center by e-mail (antitrust.complaints@usdoj.gov), phone (1-888-647-3258, toll free in the U.S. and Canada, or 202-307-2040), or mail (Citizen Complaint Center, 950 Pennsylvania Avenue, NW, Room 3322, Washington, DC 20530).

Reports can be made to the FTC through the Bureau of Competition’s Office of Policy and Coordination by email (antitrust@ftc.gov), phone (202-326-3300), or mail (Office of Policy and Coordination, Room CC-5422, Bureau of Competition, Federal Trade Commission, 600 Pennsylvania Avenue, NW, Washington, DC 20580).

The federal antitrust agencies encourage HR professionals or others with information to use the following questions as a guideline to describe your complaint.

- What are the names of companies, individuals, or organizations that are involved?
- In what manner have these companies, individuals, or organizations potentially violated the federal antitrust laws?
• What examples can you give of the conduct that you believe may violate the antitrust laws? Please provide as much detail as possible.
• Who is affected by this conduct?
• How do you believe competition may have been harmed?
• What is your role in the situation?

With respect to potential criminal violations, in particular, it can be beneficial to report personal involvement in an antitrust violation quickly. Through the Division’s leniency program, corporations can avoid criminal conviction and fines, and individuals can avoid criminal conviction, prison terms, and fines, by being the first to confess participation in a criminal antitrust violation, fully cooperating with the Division, and meeting other specified conditions. Additional information about the leniency program is available here.
Annex 2 - CLO Compliance “Blue Print” and covering letter

Dear Sir/Madam

The ultimate goal of European antitrust policy is to deter practices which restrict competition in the European single market. We are writing to you now because we believe the time is ripe to add a new dimension to EU antitrust deterrence strategy. Other jurisdictions such as the United Kingdom, United States, Canada and Australia have already moved in this direction.

Business notes and welcomes the UK OFT’s recent report on Drivers of Compliance with Competition Law. Business in particular welcomes the OFT’s observation that “the majority of businesses want to comply with competition law” and the OFT’s statement that it will not generally view the existence of a compliance programme as an aggravating factor resulting in an increase of the fine. The EU’s antitrust deterrence strategy today relies almost exclusively on the presumed wider deterrent effect of ever-increasingly high fines on undertakings found to have broken the law.

However, when setting the level of fines the European Commission does not take into account whether or not organizations have promoted a compliance culture and have established generally accepted antitrust compliance standards.

We have no doubt that formally recognising an organizations’ efforts in instilling a compliance culture will decisively enhance their wider deterrent effect. It will also promote greater cooperation between corporations and antitrust authorities for the rapid identification of unlawful corporate behaviour.

One of the steps for an organization to achieve a compliance culture is to recognise the vital importance of efforts implemented by that organization to create and maintain a compliance culture. Genuine compliance efforts made by the organization ought to be acknowledged as a mitigating factor in the setting of fines. Currently there is no recognition for those organisations which invest the funds, staff and time necessary to introduce and maintain robust group-wide compliance programmes. In addition, this would create certainty on what needs to be done and certainty on its legal value as a defence in the event of violations.

Business would urge the European Commission and EU NCAs to take active steps to encourage the adoption of robust antitrust compliance standards, and as a result the agencies should not generally treat genuine compliance programmes as an aggravating factor when setting the level of any fine.

By the same token, organizations which have completely failed to take appropriate measures to prevent infringements through the implementation and enforcement of a robust compliance programme should clearly not receive any credit for any programme they may have.

This strategy will bring EU antitrust enforcement in line with EU antitrust law itself, which holds that a fine may be imposed on an undertaking if it has either intentionally or negligently broken the law. The current European Commission fining policy ignores this condition when fining an organization for a violation anywhere within its group, irrespective of the efforts of the organization to prevent it.

We believe that preventing anti-competitive practices is far more efficient than investigating and sanctioning violations after they occur. This is particularly true where illegal cartel conduct is concerned. Preventing cartel conduct depends primarily on the spread of efforts within individual undertakings to enforce compliance with the law, and more broadly on the efforts of both the business community and public authorities to foster a “culture of competition” in which cartel conduct is widely and unambiguously condemned with the appropriate sanctions.

In this perspective there is growing interest in introducing a new, preventive dimension to current EU antitrust policy, based on the recognition that the adoption by more organizations of more robust antitrust compliance programmes best serves the ultimate goal of prevention.

With a view to accelerating the EU’s move towards such an enhanced deterrence strategy, we have set out in the Annex to this letter an outline of generally accepted standards applicable for a robust antitrust compliance programme which reflect those now in place in the United Kingdom, Australia, Canada and the US, and takes into account our experience operating across the European Union.

We look forward to an opportunity to discuss this with you in the near future.
Outline of generally accepted standards applicable for a robust antitrust compliance programme: Further enhancing the foundation for a European culture of antitrust compliance

All compliance efforts must demonstrate a company’s commitment to conducting business in conformity with the law, and as such, compliance programmes will contain basic ingredients necessary for robust antitrust compliance. Programmes are designed to:

- Help companies identify and minimize/eliminate risks that infringements occur, and to provide evidence of the implementation of the programme both internally (e.g. towards the board/audit committee) and externally (e.g. towards competition authorities)
- Serve as a basis for consideration by European competition authorities and legislators of the formal recognition of compliance programmes meeting this standard as mitigating factors in possible sanctions for antitrust violations.

The design of a robust programme depends on the size, geographic presence, activity and structure of a specific company, so flexibility must be built into any description or acceptance of best practice. However, although there is no one-size-fits all programme or template, common components of a robust programme include:

### Antitrust compliance embedded as company culture with management commitment

- Formalisation of the compliance commitment which demonstrates and reflects all management levels’ commitment to comply with strong support from the top/senior management levels;
- Compliance is considered a business priority at all levels of the corporation:
  - Compliance is identified as part of the corporation’s core values;
  - Senior management accepts that it is its responsibility to create and maintain the compliance culture; it communicates and operates that illegal or unethical behaviour is not tolerated;

### Antitrust policies and procedures

- Appropriate policies and procedures should be implemented;
  - The appointment of a specialist compliance executive and advisor with overall responsibility for the programme reporting to senior management;
  - Identification of individuals responsible for each element of the programme;
- Disciplinary action will be taken internally against staff who intentionally or recklessly involves the organization in infringements of antitrust laws;

### Antitrust training

- Training (on-line, face-to-face or a combination of both) to ensure that staff understands the compliance dimension of its work;
- Availability of a clear and jargon-free antitrust law compliance manual addressing the specific risks faced by the organization;

### Risk assessment and controls

- Regular reporting and periodic reassessment of compliance risks and response:
  - Commitment and main elements of the programme communicated internally and externally to stakeholders;
  - Continuous re-evaluation and upgrading of the programme;
  - Independent internal audits and appropriate due diligence where risks have been identified;
  - Mechanisms for reporting antitrust infringements or concerns up the corporation’s ladder
European Best Practice Compliance Programmes:

Building the foundation for a European culture of antitrust compliance

I. Common Compliance Programme Components

All compliance programmes must demonstrate a company’s commitment to conducting business in conformity with the law, and as such, all will contain the same basic ingredients necessary for robust antitrust compliance. All programmes are designed to:

- Help companies design and implement a programme to identify and eliminate compliance risks, and to provide evidence of the implementation of the programme both internally (e.g. towards the board/audit committee) and externally (e.g. as part of a Compliance Defence);
- Serve as a basis for consideration by European competition authorities and legislators of the formal recognition of compliance programmes meeting this standard as mitigating factors in possible sanctions for antitrust violations.

The design of a robust programme depends on the size, geographic presence, activity and structure of a specific company, so flexibility must be built in to any description of best practice. However, although there is no one-size-fits-all programme or template, common components of a robust programme include:

- Formalisation of the compliance commitment which demonstrates and reflects senior management commitment to comply;
- Compliance is considered a priority at all levels of the corporation, starting with the highest:
  - Senior management accepts that it is their responsibility to create and maintain the compliance culture; it communicates and operates a zero tolerance policy to illegal or unethical behaviour;
  - Compliance identified as part of the corporation’s core values;
- Reporting to senior management, the appointment of a specialist compliance executive and advisor with overall responsibility for the programme:
  - Identification of individuals responsible for each element of the programme;
- Regular reporting and periodic reassessment of compliance risks:
  - Commitment and main elements of the programme communicated internally and externally to stakeholders;
  - Continuous re-evaluation and upgrading of the programme;
- Training to ensure that staff understands the compliance dimension of their work.

II. Implementation: for large organisations

The following compliance programme is a mechanism designed to identify and reduce the risk of an Organization infringing applicable antitrust laws, and in the event of a breach, rapidly and effectively to remedy that breach.

The template needs to be adapted according to the corporate structure and governance of the particular Organization concerned, and references to “Board” or “senior management body” and “senior management” should be interpreted as the highest level of management of the company.

The implementation of the elements of this template should comply with all applicable laws (for example data privacy laws).

Purpose of the Template

The purpose of the template is to assist entities to implement robust antitrust compliance programmes and therefore to avoid or reduce the risk of an antitrust violation occurring in the future.
If an Organization can demonstrate that it has in place the relevant elements of the template and the means of enforcing such elements in a manner suitable to the antitrust risks in its relevant businesses, the Organization should be deemed to have a robust antitrust compliance programme.

An organization is defined here in the broad sense as the "business" rather than a particular legal entity. This distinction is warranted because a legal entity structure rarely reflects the organizational - business structure of a Group of companies. A legal entity may host several different organizations - businesses which are managed pursuant to their respective processes and senior management structure. Accordingly, the adequacy of the compliance programme and efforts ought to be evaluated in the context of an organization rather than within the confines of a legal entity. Depending on the scope of the operations of a group, which may include a variety of businesses the said adequacy should be judged in the context of the relevant businesses.

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<thead>
<tr>
<th>Element</th>
<th>Details</th>
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<tbody>
<tr>
<td><strong>Antitrust Compliance embedded as Company Culture and Policy</strong></td>
<td>This should be reflected in a Statement of Business Principles / Code of Conduct / Code of Business Ethics (or similar corporate policy document), which must be adopted and endorsed by the most senior management body in the Organization and be made publicly available. Reasonable and effective steps shall be taken to support a culture of compliance and integrity.</td>
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<tr>
<td><strong>Senior management commitment to antitrust compliance</strong></td>
<td>“Tone at the Top” is critical and senior management’s visible commitment and support for a culture of antitrust compliance should be reflected in messages given by senior leadership, including but not limited to endorsement of the antitrust training programme.</td>
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<tr>
<td><strong>Senior management supervision and identified accountable positions</strong></td>
<td>A senior individual either on or reporting to the Board will be responsible for the Compliance Programme. A report (at least on an annual basis) on the antitrust Compliance Programme will be made to the Board, to non-executive directors, and to the Audit Committee (and/or Group Risk committee) (as appropriate to the structure of the Organization). Larger Organizations will designate a Chief Compliance Officer or a Compliance Committee who will be (or will include) a senior member of the management of the Organization with accountability for the implementation of the programme.</td>
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| Compliance organisation and resources | The Organization will establish and suitably resource / fund a compliance office or similar organisational structure with suitably qualified staff to ensure that antitrust risks are appropriately identified and managed.

This could include (as appropriate to the structure of the Organization):
- Chief ethics and compliance officer
- Business or Country / Regional Compliance Officers / Advisors (reporting to the Chief Compliance Officer)
- One or more subject matter experts (within the Legal function, if there is one) who are familiar with antitrust laws and are suitably experienced to identify and advise on antitrust risk |
| Defined risk assessment process | The Organization will define a risk assessment methodology and process. The Organization will regularly conduct antitrust risk assessments across the business and will adapt the antitrust compliance programme to manage and mitigate those risks.

The outcome of the risk assessments and actions following on from the risk assessment will be appropriately recorded. |
| Defined risk control points | The Organization will define control points. Control points in this context means control mechanisms designed to manage the identified antitrust risks.

The control points should be suitable to the risks faced by the particular Organization. |
| Antitrust Compliance Know-how | Simple, clear and jargon-free antitrust rules and guidelines must be developed to address the identified antitrust risks.

Rules, policies and procedures must be developed to address specific antitrust compliance issues in the business operations of the Organization.

Rules, guidelines and policies must be distributed to relevant staff and their circulation suitably documented. |
### Antitrust training

Antitrust training is one of the key components of an antitrust compliance programme. Training should be designed to provide practical (business specific) examples, explain the aims and reasons for the Organization's policies and procedures and the consequences if these are not followed.

Employees who need training should be identified on a risk basis, and senior management should all receive appropriate antitrust training. The Antitrust compliance programme should clearly stipulate the frequency of required training, which should be appropriate to the antitrust risks in the business concerned.

All new employees in commercial or management roles should receive onboarding antitrust training. This includes both newly recruited employees and employees who move from a lower risk role to a higher risk role within the same organization.

Antitrust training could be face-to-face, on-line or both, depending on the risks faced by the Organization concerned. Suitable records of all training must be maintained.

Regular assessment of training needs to be conducted to ensure it has been robust (see Continuous Improvement below).

### Antitrust Compliance Certification

Employees who have been identified as requiring antitrust training on a risk basis should certify after antitrust training that they have understood the Organization's policy on antitrust compliance and will comply with the law. The certification can be in any suitable manner (on-line / manual) provided records of the certification are maintained.

### Compliance incentives

The Organization should carefully consider the incentives it provides and ensure that suitable HR or other controls are in place to ensure compliance processes are followed (e.g. tracking training through performance evaluations)

### Antitrust concerns handling system

The Organization's compliance program should include a system of handling compliance concerns including antitrust concerns (for example a “whistle blower” line or “help line”), including means to identify, classify, store and investigate such concerns after seeking antitrust advice.

The compliance concerns handling system should include appropriate whistle-blower protection safeguards, to protect employees who raise compliance concerns.
<table>
<thead>
<tr>
<th><strong>Investigations</strong></th>
<th>The Organization should adopt a written process for Organization compliance related investigations / audits. Investigators / auditors should be adequately qualified, trained and resourced, and should use external resources if required.</th>
</tr>
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<tbody>
<tr>
<td><strong>Disciplinary Action</strong></td>
<td>The Organization’s antitrust compliance programme should affirm that disciplinary action would be taken internally against any staff who knowingly or recklessly infringes antitrust laws. The policy should make clear that the Organization would not indemnify those employees if personal criminal fines were imposed against them in a final decision.</td>
</tr>
<tr>
<td><strong>Antitrust Due Diligence</strong></td>
<td>The Organization will exercise due diligence and undertake all appropriate checks when: o Hiring new employees in commercial or management roles o Acquiring companies or entering into pre-existing JVs to ensure that the employee or business concerned has not engaged in antitrust violations. In the case of a business that has previously been found guilty of engaging in antitrust violations, the Organization will exercise due diligence to ensure suitable controls are in place in the business to avoid a recurrence, including ensuring that from closing of the transaction, the business adopts the Organization's Antitrust Compliance programme (or in the case of a Joint Venture, that the JV adopts an equivalent programme).</td>
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<tr>
<td><strong>Monitoring</strong></td>
<td>The Organization must regularly evaluate its own performance and its approach to ensure they are appropriate to manage the antitrust risks faced by the business. Periodically an independent review of the antitrust compliance programme processes and controls must be undertaken to ensure that the antitrust compliance programme remains best practice and fit for purpose. The reviewer must be suitably independent, qualified and experienced in antitrust and compliance matters to review the programme effectively.</td>
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<td>Continuous improvement</td>
<td>The Organization must track all feedback on the programme, including feedback on training and processes, internal audits and independent reviews, and must put deal appropriately with any deficiencies in the programme. The Organization will monitor “best practice” in antitrust compliance programmes (through benchmarking and other means) and will introduce measures consistent with best practice to improve its programme.</td>
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Good morning. I am Makan Delrahim, Assistant Attorney General for the Antitrust Division. Welcome to the Great Hall of the Department of Justice. Today, we are pleased to launch the Division’s series of roundtables on competition and deregulation.

I am starting out by asking for leniency from my friends at the FTC. I hear they come down pretty hard on deceptive claims in advertising, and I see that our first so-called “round”-table discussion is being held at an unmistakably “square” table.

I am joined at the table by several attorneys from the Antitrust Division here at DOJ. Seated to my left are Douglas Rathbun, Attorney Advisor, and Bob Potter, Section Chief for Competition Policy and Advocacy, and to my right are Rene Augustine, Senior Counsel in the Front Office, and Daniel Haar, Assistant Section Chief for Competition Policy and Advocacy.

I would like to thank our panelists and their organizations for their participation on the panels. It is an honor to see so many great thinkers in the areas of antitrust, competition and regulation here today. Let me also thank everyone who has made a written submission.

Today’s roundtable will focus on antitrust exemptions and immunities. The next roundtable, to be held on April 26th, will examine antitrust consent decrees. The third roundtable, on May 31st, will assess the consumer costs of anticompetitive regulations. I invite everyone in attendance today to join us for the entire series of roundtables, because I anticipate a very productive discussion of these important topics.
If you take a moment to look at the cast aluminum statue of Lady Justice behind me in this room, do you notice something unique about her as compared with most representations of Lady Justice? She has no blindfold. This reminds us that today, we should keep our eyes open and remain vigilant in continuing to assess the appropriate application of our nation’s antitrust laws.

In the antitrust world, we are fortunate to have durable laws along with a great body of legal precedent. Over the years, we have seen advancements in our economic analysis as applied to antitrust cases. We also have an ever-changing landscape in business and innovation. Today, we are here to evaluate circumstances when our antitrust laws should, or should not, be applied.

Free market competition is, of course, fundamental to the success of the American economy. As Justice Thurgood Marshall said, “Antitrust laws…are the Magna Carta of free enterprise. They are as important to the preservation of economic freedom and our free-enterprise system as the Bill of Rights is to the protection of our fundamental personal freedoms.”¹ The enforcement of antitrust law is, at its core, intended to ensure competition in the marketplace to promote consumer welfare.

Not long ago I saw a news story about a pet boa constrictor that escaped from its cage. The neighbors were terrorized by the roving yet elusive boa constrictor, whose exact whereabouts were unknown. This scenario reminded me a bit of where we find ourselves today. When regulation replaces antitrust enforcement, the regulations – and regulators -- become stealthy and disruptive forces that can interfere with the competitive marketplace.

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And, like a boa constrictor, they can slowly, and painfully, squeeze competition from the free market. I will stop short of pointing out that boa constrictors, in the end, swallow their prey whole!

With this in mind, it is my view that we should proceed with heavy skepticism whenever we see regulation replacing vigorous enforcement of the antitrust laws. Sound competitive analysis, not special treatment for particular industries or entities, should take precedence. Much as private restraints on competition can be harmful to consumers, government limitations on competition are equally harmful to consumers.

This series of roundtables will allow us to explore the relationship between competition and regulation, and its implications for antitrust enforcement policy. These conversations will help the Department pursue effective and appropriate competition policy and identify related regulatory burdens on the American economy. Without a doubt, early and appropriate enforcement of antitrust laws should protect the competitive process and minimize the need for regulatory intervention.

Today, we will discuss restraints in the form of exemptions and immunities from our antitrust laws, given to certain sectors of industry.

When I served on the Antitrust Modernization Commission back in 2007, we concluded that “[a]s a practical matter, an exemption from all or part of the antitrust laws means firms can avoid the tough discipline of competition. When the beneficiaries of an exemption likely
appreciate reduced market pressures, consumers … and the U.S. economy generally bear the harm.”

When an industry is given an antitrust exemption or immunity, competition is replaced by government regulation. This notion, despite an accumulation of exemptions and immunities in the law over the years, goes back many decades. One of my legal heroes, the great Justice Jackson, who previously served as the Assistant Attorney General of the Antitrust Division here at the Justice Department, had this insight over eighty years ago: “Every step to weaken antitrust laws or to suspend them in any field, or to permit price fixing, is a certain, even if unknowing, step to government control.”

In the first discussion session, we will examine the impact of express statutory exemptions from the antitrust laws. We will explore how segments of the economy with express exemptions may be unique, review justifications for those exemptions, and determine whether they are, and continue to be, warranted. We will also evaluate whether such exemptions harm consumer welfare.

In the second session, we will look at how implied immunities and exemptions have affected antitrust enforcement. We will examine the appropriate roles of the courts in creating immunities from antitrust laws. We will discuss whether the “implied repeal” doctrine in Credit Suisse helps or hampers competition.

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And finally, we will examine whether the state action doctrine in its current form strikes the appropriate balance between state sovereignty and the federal policy favoring competition in interstate commerce. We will assess policies and regulations states are adopting that may be considered exempt from antitrust scrutiny, and consider the resultant harm to competition and consumers. We will also query whether the dormant Commerce Clause can or should provide a meaningful limit on states’ ability to reduce competition involving interstate commerce.

And now for the logistics. I will ask each of our panelists to provide a brief opening statement immediately after I introduce them. At the conclusion of the opening statements, we will begin with our series of three 30 minute discussion sessions. After the first session, we will have a ten minute break. The next two sessions will be followed by a brief wrap-up.

Now, let me turn to the panelists. Thank you once again for your willingness to participate today and to share your views on these important issues. We appreciate your time and your views.
Opening Remarks at Roundtable Discussing the Antitrust Criminal Penalty Enhancement & Reform Act

MAKAN DELRAHIM
Assistant Attorney General
Antitrust Division
U.S. Department of Justice

Anne K. Bingaman Auditorium and Lecture Hall
Liberty Square Building
Washington, DC

April 11, 2019
Good afternoon. I welcome you all here today to the Anne K. Bingaman Auditorium and Lecture Hall to discuss the Antitrust Criminal Penalty Enhancement & Reform Act (ACPERA). It is fitting that we discuss this important legislation here, in our newly-dedicated auditorium, given former AAG Bingaman’s contributions to the Antitrust Division’s Leniency Program. As most of you know, Anne was the Assistant Attorney General when the Antitrust Division’s Corporate Leniency Policy was revised in 1993. In the twenty-five years since, the Leniency Policy has played a crucial role in the Division’s ability to detect, disrupt, and deter antitrust crimes. It has resulted in the prosecution of sophisticated international cartels and the collection of billions of dollars in criminal antitrust fines. ACPERA complements the Division’s Leniency Program by reducing the civil damages exposure of a company granted leniency if the company provides civil plaintiffs with timely, “satisfactory cooperation.”

I was a Deputy AAG at the Division when President Bush originally signed ACPERA into law in June 2004, and I take great pride in its passage. ACPERA not only increased criminal antitrust penalties but promised to bolster the Leniency Program by allowing a company that qualifies for leniency to avoid paying treble damages in follow-on civil lawsuits. This benefit can be substantial. Under ACPERA, a leniency applicant that satisfies ACPERA’s cooperation requirements is civilly liable only for the actual damages attributable to its own conduct, rather than being liable for three times the damages caused by the entire unlawful antitrust conspiracy. While treble damages liability can be an important deterrent for engaging in anticompetitive behavior, such enormous civil exposure can also have the unfortunate consequence of deterring the self-reporting of criminal wrongdoing.

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Then-Chairman Orrin Hatch, who I had the privilege of working for on the Senate Judiciary Committee before I came to the Division in 2003, predicted at the time of ACPERA’s passage that its “increased self-reporting incentive will serve to further destabilize and deter the formation of criminal antitrust conspiracies. In turn, these changes will lead to more open and competitive markets.”

Proponents of ACPERA say that the detrebling provisions have promoted self-disclosure and have streamlined civil antitrust litigation, just as Senator Hatch predicted. Some have recently raised concerns that ACPERA is no longer working as it was intended. That is what we are here to explore.

In my view, tools such as ACPERA’s detrebling provisions that have the potential to incentivize leniency and encourage self-reporting are of great value because they help to protect consumers from the significant harm a cartel can cause when it infects a particular industry.

At Congress’s request, in 2010, the Government Accountability Office published a report on ACPERA, which I am sure will be discussed today. In reviewing and commenting on the report, the Division recognized then that increased leniency applications since ACPERA’s enactment “provide[d] some circumstantial evidence of the value of both ACPERA’s increase in penalties and its detrebling relief” to the Leniency Program.

Despite some recent eulogies over the purported death of leniency, the Division’s Leniency Program is still alive and well. In fact, the number of leniency applications the Division received in 2018 was on par with our historical averages.

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There’s no sign that we’ve become a victim of our own success and rooted out collusion entirely. Indeed, the Division is vigorously investigating cartel conduct and closed FY 2018 with 91 pending grand jury investigations—the highest total since 2010. So far this month alone, the Division has announced charges in four new investigations. These new investigations relate to anticompetitive conduct in multiple industries taking place in various jurisdictions across the country, including the commercial construction industry in Chicago and New England and various federal programs.

Needless to say, our prosecutors are busy and there’s no sign that collusion is on the decline. Cartelists are out there, and it’s as important as ever that all of detection tools available to our prosecutors are functioning optimally. Though our cases are generated in a number of ways, for the last twenty five years, leniency applications have been an important tool in our arsenal for detecting, preventing, and prosecuting cartels. Today’s roundtable will assist our continuing examination of ACPERA’s role in ensuring the Leniency Program’s continuing success.

The late Justice Scalia has been quoted numerous times for observing that collusion is the “supreme evil of antitrust.” I could not agree more—prosecuting cartels remains our highest priority. I have explained that antitrust violations such as price-fixing, bid rigging, and market allocation unambiguously disrupt the integrity of the competitive process, harm consumers, and reduce faith in the free market system. Our Leniency Program is designed to facilitate and incentivize self-reporting of collusive behavior. Self-disclosure benefits the first-cartelist to report, and cooperation from leniency applicants furthers our investigations and helps remove

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cartels from the free market. ACPERA should encourage such behavior just as Congress contemplated in 2004.

We are here today to discuss the benefits of ACPERA; whether it is incentivizing self-reporting of cartel activity; and what, if anything, in ACPERA’s current framework can be improved. The Division would like to learn from those with experience litigating and studying ACPERA in order to better understand how ACPERA is working to uncover anticompetitive behavior and compensate victims of collusion.

I would like to thank in advance all of the Roundtable’s participants, particularly the U.S. Chamber of Commerce, the Honorable Judge Ginsburg and the Global Antitrust Institute, the American Bar Association, and the Business Industry Advisory Committee to the OECD for sharing their views on this important topic. I am also grateful to and very interested to hear views from our experienced individual panelists, including those who represent the many victims, on how ACPERA is operating today.

Now, I will invite our Deputy Assistant Attorney General for Criminal Enforcement, Richard Powers, to provide some brief remarks.