Fordham Competition Law Institute

ANTITRUST ECONOMICS WORKSHOP
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CLE Course Materials & Speaker Biographies

Fordham Law School
Skadden Conference Center | 150 West 62nd Street
New York City
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Arthur Burke
Partner, Davis Polk & Wardwell LLP
Arthur J. Burke is a partner at Davis Polk & Wardwell. In his capacity as a partner in the Litigation Department in New York and Northern California, Mr. Burke has represented clients in a variety of antitrust, securities, corporate governance and general litigation matters. In his antitrust practice, he also advises clients on the competition law aspects of mergers and acquisitions. Mr. Burke received his BA/BS from the University of Pennsylvania and his JD from the University of Michigan Law School.

Mary Coleman
Executive Vice President, Compass Lexecon (moderator)
Dr. Mary Coleman is an Executive Vice President at Compass Lexecon. Dr. Coleman received her Ph.D. in Economics from Stanford University. Dr. Coleman’s consulting practice specializes in the competitive analysis of mergers and acquisitions and joint ventures, and antitrust litigation, including class action certification issues. She has experience with a wide range of industries, including consumer products, retailing, distribution, food packaging, petroleum and natural gas, chemicals, coatings, industrial gases, concrete and cement, defense industries, telecommunication, publishing, newspapers, agricultural products, paper products, payment systems, pharmaceuticals, hospitals, physicians, medical devices, health care, computer hardware and software. She has made presentations before US and foreign antitrust authorities and submitted expert testimony in federal court.

From November 2001 until March 2004, Dr. Coleman was the Deputy Director for Antitrust in the Bureau of Economics of the Federal Trade Commission. In this role, Mary headed the antitrust group in the Bureau of Economics and was involved in all antitrust investigations at the FTC as well as several non-enforcement projects. She managed the economic input into all antitrust cases and provided advice to the Bureau of Competition staff lawyers and management as well as to the Commission.

From May 2004 to August 2009, Mary was a Managing Director at LECG, LLC. Mary also worked at LECG from 1993 to 2001 and was a Principal from 1999 to 2001. From 1990 to 1993, Dr. Coleman served as a staff economist at the Federal Trade Commission.

Michael Cragg
Principal and Chairman, The Brattle Group (moderator)
Dr. Michael I. Cragg is Principal & Chairman of The Brattle Group. Dr. Cragg has extensive consulting, research, and expert witness experience in corporate finance, financial services, and valuation.

Dr. Cragg 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.

He 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.

Prior to joining the firm, Dr. Cragg was a founding partner of Cambridge Finance Partners, LLC where he served as a consultant and expert witness on litigation cases in the financial services, pharmaceutical, electric and gas, and high-tech industries. He was also formerly a partner at Bates White and a vice president at Analysis Group, where he focused on antitrust, intellectual property, and competition analysis.

Dr. Cragg began his career as a professor of economics at Columbia University and UCLA’s Andersen School of Management. He was also a consultant at RAND, and a senior economist in the Capital Markets Section of the Milken Institute. His research has been sponsored by a range of institutions and foundations including the NSF and NIH. Dr. Cragg currently serves as a co-editor of The Economists’ Voice. He received his BSE from Princeton University, his MA from the University of British Columbia, and his Ph.D. in Finance and Economics from Stanford University.

David Evans
Founder, Market Platform Dynamics
My academic work has focused on industrial organization, including antitrust economics, with a particular expertise in multisided platforms, digital economy, information technology, and payment systems. I have authored eight books, including two
award winners, and more than one hundred articles in these areas. I have developed and taught courses related to antitrust economics, primarily for graduate students, judges and officials, and practitioners, and have authored handbook chapters on various antitrust subjects.

My expert work has focused on competition policy and regulation. I have served as a testifying or consulting expert on many significant antitrust matters in the United States, European Union, and China. I have also made submissions to, and appearances before, competition and regulatory authorities with respect to mergers and investigations in those and other jurisdictions. I have worked on litigation matters for defendants and plaintiffs, on mergers for merging parties and intervenors, and for and in opposition to competition authorities. He is a graduate of the University of Chicago, from which he earned a BA, and MA, and a PhD, all in economics.

Mark Israel
Senior Managing Director, Compass Lexecon

Mark Israel is a Senior Managing Director at Compass Lexecon. Prior to joining Compass Lexecon, he served as an Associate Professor at Northwestern University’s Kellogg School of Management. He received his Ph.D. in Economics from Stanford University in 2001.

Israel has substantial experience applying economic analysis and econometric tools to antitrust cases including mergers, joint ventures, regulatory proceedings and litigation matters, in the U.S. and internationally. He has served as an expert for both government agencies and private parties, in cases involving industries such as telecommunications, cable television, broadband internet service, airlines, health insurance, food distribution, railroads, shipping, financial markets, nuclear waste disposal, consumer retail, and many others. Israel has written numerous academic articles on topics including competition economics, econometrics, merger policy, telecommunications, airlines, insurance markets, and applied econometrics. His research has been published in leading scholarly and applied journals including, among others, The American Economics Review, The Rand Journal of Economics, The Review of Industrial Organization, The Journal of Competition Law and Economics, and The Review of Network Economics, and has been presented to business, government, and academic audiences around the world.

Israel has served as a testifying economic expert in four merger trials in the last four years—both for the government and for private parties—and has also testified in many other trials and hearings on monopolization, damages, and class certification. Additionally, Israel has served as the lead expert in front of government agencies in many high profile recent mergers including, among others, Comcast-NBCU, American Airlines-US Airways, and AT&T-Time Warner.

James Keyte
Director of Global Development, The Brattle Group (moderator)

James Keyte is the Director of Global Development at The Brattle Group. In this capacity, Mr. Keyte plays a lead role in growing Brattle’s antitrust practice and defining a new level of quality for economic consulting.

His extensive practical experience, along with his deep antitrust expertise, gives Brattle a competitive advantage in producing top quality expert work product across all competition subject areas. Mr. Keyte is directly engaged in marketing, training, and quality review across all of Brattle’s competition and antitrust engagements both in the U.S. and globally.

Mr. Keyte previously spent more than twenty years as a partner at Skadden, 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.

Mr. Keyte is the Director of the Fordham Competition Law Institute (FCLI), which he will continue to lead, and has published more than 50 articles related to antitrust across a wide range of topics, including on the subject of expert testimony. He is an adjunct professor at Fordham Law School, a former editor of Antitrust Law Journal, and currently serves as editor of Antitrust Magazine. He holds a J.D. from Loyola Law School (Law Review) and a B.A. from Harvard University (cum laude).

Bruce Kobayashi
Director, Bureau of Economics, Federal Trade Commission

Professor of Law Bruce H. Kobayashi teaches at the
Antonin Scalia Law School, George Mason University. His background in economics makes him a vital part of the law and economics focus of the University. Since coming to Scalia Law in 1992, he has been a frequent contributor to economics and law and economics journals. He previously served as a senior economist with the Federal Trade Commission, a senior research associate with the U.S. Sentencing Commission, and an economist with the U.S. Department of Justice.

He teaches Litigation and Dispute Resolution Theory, Quantitative Forensics, and Legal and Economic Theory of Intellectual Property.

Professor Kobayashi was educated at the University of California, Los Angeles, earning his BS in Economics and System Science (1981), and his MA (1982) and PhD (1986) in Economics.

Aditi Mehta
Economist, Antitrust Division, Department of Justice

I've been an economist at the Antitrust Division for nine years. This job has been a perfect fit for my skills and interests. As a graduate student at Boston University, my research examined competition in health care markets. When I first started at the Division I spent a lot of my time working on merger and conduct investigations in the health sector. I worked with a lot of smart economists and attorneys who helped me understand how to think about important issues in antitrust. At the same time I was doing work that allowed me to directly apply theoretical and empirical tools that I learned in graduate school to real world issues. Starting from those early investigations, I was presenting my work directly to decision makers; it was really gratifying to see how my empirical results and views on the facts affected the outcome of an investigation.

As I spent more time at the Division I became interested in working on a broader set of industries. I quickly had the opportunity to learn how many different industries work, including various agricultural products, airlines, software, and semiconductors. Over the last few years I’ve found that each investigation has enough unique nuances and details that I am continually challenged to think about how to evaluate a merger or potentially anticompetitive conduct given the set of facts that I’ve learned. My colleagues continue to be an invaluable resource as I work through these issues that come up in each investigation.

This past summer I had my first child. As I figure out how to handle the challenges that come with being a working mom, I’ve come to really appreciate the flexibility my job provides and the support of my colleagues and supervisors. One of the best things about working here is the recognition that promoting a healthy work-life balance is not only vital to hiring and retaining talented professionals, but it’s the right thing to do.

Barry Nigro
Deputy Assistant Attorney General, Department of Justice

The US Department of Justice (DOJ) has announced in a statement that Fried Frank antitrust partner Bernard A. Nigro has been named Deputy Assistant Attorney General in the DOJ’s Antitrust Division. In this role, Mr. Nigro will work with a team of attorneys charged with making the final call on policy issues and whether to sue or settle cases. Mr. Nigro officially joined on August 21, 2017.

“On behalf of the Firm, I am pleased to congratulate Barry on this well-deserved honor,” said Firm chairman David J. Greenwald. “I also wish to thank him for his years of service to the Firm and to our Antitrust Department, both of which are stronger today as a result of his leadership.”

Mr. Nigro joined Fried Frank as a partner in 1999 and left in 2003 to serve as the Deputy Director for the Federal Trade Commission’s Bureau of Competition through 2005. During his tenure, he managed the Bureau’s merger and anticompetitive practices investigations and litigation. He additionally supervised and participated in hundreds of matters involving a variety of industries and regularly briefed Congressional offices on antitrust matters.

Mr. Nigro rejoined Fried Frank in 2009 and served as chair of the Firm’s Antitrust Department. He played an integral role at the Firm, providing service and results to clients defending their transactions against antitrust risk. In his practice, Mr. Nigro regularly appeared before the Federal Trade Commission, the Department of Justice, state attorneys general, and Congressional offices to offer antitrust compliance counseling and training. He was involved in the antitrust clearance of some of the Firm’s most important transactions.

Fried Frank has one of the leading global antitrust and competition practices. The Firm represents a wide range of major corporations in high-profile transactions.
before the Department of Justice, the Federal Trade Commission, and the European Commission, as well as national regulatory authorities throughout Europe and Asia. Together with members of the Firm’s Corporate and Litigation Departments, the team provides seamless global coverage from its offices in the United States and Europe. The Antitrust and Competition Practice’s efforts are regularly recognized by Chambers in its USA, UK and Global guides, by Legal 500 in its US (first-tier law firm winner for Antitrust-Merger Control) and UK guides, and by Global Competition Review.

A DOJ spokesperson in an official statement has noted: “We are pleased that Barry Nigro has joined the Antitrust Division as Deputy Assistant Attorney General. Barry has demonstrated a talent for leading and supervising antitrust matters during his time in private practice and as Deputy Director of the FTC’s Bureau of Competition. He has also contributed to the antitrust bar through his work in the leadership of the ABA’s Antitrust Section. His expertise and dedication will be an asset to the Division.”

Alex Okuliar
Partner, Orrick
Alex is an antitrust lawyer and former senior government enforcer with experience handling deals and disputes in many industry sectors, including in particular matters involving technology, data, and innovation issues.

Alex divides his practice between transactions, counseling, and litigation. From 2012-2015, Alex served as advisor to FTC Commissioner Maureen Ohlhausen, counseling her on the agency’s numerous investigations, enforcement actions, and policies. He focused heavily on key developments raising new issues for US and global regulators, including big data, the growth of online technology platforms, and the intersection of intellectual property and antitrust. Earlier, from 2010-2012, Alex was a trial attorney at the DOJ Antitrust Division focused on technology and finance. Alex also worked on dozens of health care and hospital matters while at the FTC and DOJ and maintains a practice in the health care sector.

Prior to his government service, Alex spent more than a decade in private practice at other leading international law firms. He defended the transactions of domestic and international technology, media, and energy clients before antitrust agencies and represented class action defendants in federal and state court litigation around the United States. Alex received his J.D. from Vanderbilt University Law School.

Leslie Overton
Partner, Alston & Bird
Leslie Overton is a partner in the Washington, D.C. office of Alston & Bird. She provides comprehensive antitrust services to help clients assess and reduce risk.

She works to develop and execute effective strategies for merger reviews, civil non-merger investigations, cartel investigations, and litigation involving federal, state, and non-U.S. antitrust authorities. For clients concerned about anticompetitive conduct or consolidation by competitors, suppliers, or customers, she engages in proactive advocacy. Leslie provides candid, practical antitrust counseling on strategic business activities like pricing, distribution, and licensing. She also helps tailor antitrust compliance programs to a client’s exposure and business realities.

Leslie twice served in senior positions at the U.S. Department of Justice (DOJ) Antitrust Division. As deputy assistant attorney general for civil enforcement during the Obama Administration, she supervised over half of the DOJ’s merger challenges in fiscal years 2012-2014, including litigation complaints, settlements, and transactions restructured or abandoned. Leslie also managed litigation and civil non-merger investigations, as well as several criminal antitrust matters. Leslie supervised the Antitrust Division’s international engagement and health care policy work. As counsel to the assistant attorney general during the Bush Administration, she contributed to investigations, litigation, and the seminal health care hearings and report with the FTC.

She has been recognized by Best Lawyers, Global Competition Review’s “40 under 40,” the National Bar Association’s “40 Lawyers under 40,” The Root 100, and as an “Outstanding Healthcare Antitrust Lawyer” by Nightingale’s Healthcare News.

Leslie received her B.A. from the University of Pennsylvania and her J.D. from the University of Michigan.

Chul Pak
Partner, Wilson Sonsini Goodrich & Rosati
Chul Pak is a partner in Wilson Sonsini Goodrich & Rosati’s antitrust practice, where he focuses on antitrust litigation, mergers, and counseling. Chul
defends clients in class actions, individual lawsuits, and complex multi-district antitrust litigations across the United States. His litigation matters include representing manufacturers, services companies, and technology firms in monopolization, tying, exclusive dealing, price-fixing, patent misuse, and conspiracy claims. Chul also counsels companies in mergers and non-merger investigations before the Federal Trade Commission, the Department of Justice, and numerous state attorneys general.

Prior to joining the firm, Chul served as the assistant director of the Mergers IV Division at the Federal Trade Commission. In that role, Chul supervised a 25-attorney team responsible for investigating mergers and acquisitions across a wide spectrum of industries, including consumer goods (food and beverages), retail stores (supermarkets, department stores, and other retail venues), cable and related media entertainment, and hospitals. Chul also represented the FTC in numerous high-profile trials in federal court and the FTC’s internal administrative adjudication tribunal.

Chul received his J.D. from the New York University School of Law.

Ariel Pakes  
Professor, Department of Economics, Harvard University  
Ariel Pakes is the Thomas Professor of Economics in the Department of Economics at Harvard University, where he teaches courses in Industrial Organization and Econometrics. He received the Frisch Medal of the Econometric Society in 1986. He was elected as a fellow of that society in 1988, of the American Academy of Arts and Sciences in 2002, and of the National Academy of Sciences in 2017. Ariel was the Distinguished Fellow of the Industrial Organization in 2007. In 2017 he received the Jean-Jacques Laffont Prize and in 2018 the BBVA Frontiers of Knowledge Award. Ariel’s research has focused on developing methods for empirically analyzing market responses to environmental and policy changes. This includes developing: i) demand systems that are capable of analyzing the impact of environmental changes (e.g. mergers) on prices, ii) methods capable of analyzing the impact of policy changes (e.g. deregulation) on productivity, and iii) models capable of following the impacts of these changes on the evolution of markets over time. He and his co-authors have applied these tools to the analysis of the auto, electricity, health care, and telecommunications equipment industries. Ariel also developed techniques for: analyzing the impacts of privately funded research and development activity, for constructing a more accurate Consumer Price Index, and for analyzing the impact of incentive schemes on the hospital allocations of doctors. Many of Ariel’s methodological contributions have been incorporated into the work of government agencies and private firms. Ariel has mentored over sixty doctoral students, many of whom are now leading researchers at prestigious universities.

Additionally, he has done work for a number of consultancies, government agencies, and large firms. Ariel is married with two children and a granddaughter. They all enjoy hiking, jazz, and watching the NBA.

Sonia Pfaffenroth  
Partner, Arnold & Porter Kaye Scholer LLP  
Sonia Kuester Pfaffenroth rejoined Arnold & Porter in 2017 from the Antitrust Division of the US Department of Justice (DOJ) where she served most recently as Deputy Assistant Attorney General for Civil and Criminal Operations. In that role, Ms. Pfaffenroth was responsible for supervising both civil and criminal antitrust enforcement efforts, as well as the Division’s work with antitrust and competition law enforcement agencies worldwide.

While at the DOJ, Ms. Pfaffenroth oversaw a number of the Division’s most significant matters, including the Division’s challenges to the Anthem/Cigna and Aetna/Humana mergers and the American Express litigation. In addition to her responsibilities with respect to the Division’s international program, she also supervised a broad range of legal policy initiatives and competition advocacy efforts. She previously served as Deputy Assistant Attorney General for Civil Enforcement at the Antitrust Division and Chief of Staff and Senior Counsel to former Assistant Attorney General for Antitrust Bill Baer.

Before leaving to join the DOJ in 2013, Ms. Pfaffenroth was a partner at the firm, where she represented companies in a range of industries in international cartel investigations, merger and acquisition reviews and civil antitrust litigation, as well as providing day-to-day antitrust counseling.

Ms. Pfaffenroth originally joined Arnold & Porter in 2005 after clerking for Judge Paul Friedman of the US District Court for the District of Columbia. She received her J.D. from Stanford Law School.

Kenneth B. Schwartz  
Partner, Skadden, Arps, Slate, Meagher & Flom LLP
Ken Schwartz represents clients in antitrust transactional and advisory matters. He has worked in a diverse range of industries, including airlines, agriculture, chemicals, consumer products, defense and government contracting, energy, entertainment, financial services, health care, insurance, media, medical devices, natural resources, private equity, pharmaceuticals, retail and telecommunications. Mr. Schwartz routinely appears before the U.S. Department of Justice, the Federal Trade Commission and state antitrust authorities. He has assisted in numerous high-profile transactions, including:

- Ainsworth Lumber Co. in its acquisition by Norbord, Inc.;
- the unsecured creditors committee of American Airlines with respect to the merger with US Airways;
- Boral Limited in its $2.6 billion acquisition of Headwaters Incorporated;
- Builders FirstSource, Inc. (a portfolio company of JLL Partners) in its $1.6 billion acquisition of ProBuild Holdings LLC from Devonshire Investors;
- CF Industries in the sale of its phosphate business to The Mosaic Company and in an unsolicited bid for Terra Industries, Inc.;
- EMC Corporation in its $67 billion acquisition by Dell Inc.;
- HealthSouth Corporation in its acquisition of the operations of Reliant Hospital Partners and in its acquisition of EHHI Holdings, Inc.;
- Leidos Holdings Inc. in its $5 billion combination with the realigned information systems and global solutions business of Lockheed Martin Corporation in a Reverse Morris Trust transaction;
- Otsuka Pharmaceutical in its acquisition of Avanir Pharmaceuticals;
- StandardAero, Inc., a portfolio company of Veritas Capital, in its acquisition of Vector Aerospace Holding SAS (France) from Airbus SE (the Netherlands);
- The Travelers Companies, Inc. in its US$490 million acquisition of Simply

Ken received his J.D. from Tulane Law School.

Lee Van Voorhis
Partner, Jenner & Block
Lee Van Voorhis is co-chair of Jenner & Block’s Antitrust and Competition Law Practice and a member of the Corporate and Private Equity Practices. He has more than 20 years of experience representing clients before a host of US federal antitrust agencies as well as national competition agencies in the European Union, the United Kingdom and elsewhere. Mr. Van Voorhis has a wealth of experience with merger clearance and in counseling clients on antitrust compliance and competition issues, in addition to his litigation and arbitration experience.

Mr. Van Voorhis has successfully defended clients’ transactions from government challenges as well as represented them in litigation and arbitration proceedings. He has particular experience representing organizations in the technology, retail and consumer products, healthcare, and media sectors.

He also has extensive experience shepherding transactions through merger clearance and helping clients conduct business efficiently while mitigating the risk of violating antitrust and competition laws. In particular, he has advised clients on structuring business relationships and counseling their employees on a wide range of antitrust and competition issues.

Prior to joining Jenner & Block in 2016, Mr. Van Voorhis was a partner in the Washington, DC office of an international law firm, where he served as the head of the North American Antitrust & Competition Law Practice.

Mr. Van Voorhis received his B.A. from Yale University and his J.D. from Cornell University Law School.

Benjamin Wagner
Vice President, Compass Lexecon
Ben Wagner is a Vice President in Compass Lexecon’s Washington, DC office. He has performed empirical analyses supporting clients in both antitrust litigation and merger review. Mr. Wagner specializes in antitrust and competition economics, applied econometrics, and complex analysis of large datasets, and has worked on matters across a wide range of industries, including telecommunications, flat panel displays, airlines, and hospitals.

Mr. Wagner holds an M.S. and B.S. in Policy Analysis and Management from Cornell University.

Ali Yurukoglu
Professor, Graduate School of Business, Stanford University
Ali Yurukoglu is an Associate Professor at the Stanford Graduate School of Business. His research is in the area of industrial organization. He applies statistics to game theoretic models to study antitrust, regulatory policy and imperfect competition. His research focuses
on the media and telecommunications industries, including studying a la carte pricing regulations in cable television, as well as negotiations and mergers between cable channels and cable distributors.

**David Weiskopf**  
**Executive Vice President, Compass Lexecon (moderator)**  
David Weiskopf is an Executive Vice President at Compass Lexecon and a member of the faculty at Johns Hopkins University. Dr. Weiskopf specializes in industrial organization, microeconomic analysis, consumer behavior, applied econometrics and statistics, and labor economics. He has testified as an expert witness in private litigation regarding antitrust issues, economic damages, and consumer behavior. He has also published articles on merger simulation, demand estimation, market definition for intermediate goods, and consumer complaint rates. He has presented theoretical and empirical papers at academic conferences and has co-authored numerous economic studies that were presented to antitrust enforcement agencies around the world. He has led a number of engagements evaluating competitive effects as part of merger reviews. He has also consulted on a number of matters involving allegations of monopolization, market foreclosure, conspiracy/price-fixing, and exclusive dealing/refusal to deal as well as on employment and consumer protection matters. He has served clients in a variety of industries and sectors, including consumer products, department stores, building materials, oilfield services, pharmaceuticals, hospitals, funeral homes, supermarkets, cruise lines, movie theaters, petrochemicals, plastics and chemical distribution, and flour milling.

Dr. Weiskopf received a Ph.D. in Economics from Vanderbilt University where he specialized in the fields of industrial organization and econometrics.
Invigorating Vertical Merger Enforcement

ABSTRACT. This Feature summarizes why and how vertical merger enforcement should be invigorated. In our modern market system, vigorous vertical merger enforcement is a necessity. Strong enforcement is particularly important in markets where economies of scale and network effects lead to barriers to entry and durable market power. Even when there are parallel vertical mergers, the result may well be an anticompetitive reciprocal dealing, coordinated equilibrium rather than intense competition among efficient integrated firms. Stronger enforcement would involve several steps, including recognition that claims of elimination of double marginalization do not deserve to be silver bullets and that behavioral remedies are generally unable to prevent anticompetitive effects.

AUTHOR. Professor of Economics and Law, Georgetown University Law Center. The author has greatly benefited from comments from Jonathan Baker, Dennis Carlton, Daniel Culley, Serge Moresi, Nancy Rose, Mark Ryan, Michael Salinger, Jonathan Sallet, and Carl Shapiro, as well as the Yale Law Journal editors. The author has written articles and consulted on numerous vertical merger and other exclusionary conduct matters, for the merging parties, concerned competitors, and government agencies, including some of the matters discussed here. All opinions are my own and do not necessarily reflect the views of my colleagues or consulting clients. This work was not funded by any entities.
INTRODUCTION

Chicago School economics and laissez-faire ideology have intentionally targeted vertical merger enforcement. This assault has been largely successful. Enforcement has been infrequent, and remedies have been limited. However, in our modern market system, vigorous vertical merger enforcement is a necessity, particularly in markets where economies of scale and network effects lead to barriers to entry and durable market power. This Feature explains why and how vertical merger enforcement should be invigorated. This would involve a more balanced approach to the evaluation of potential competitive harms and benefits, rather than presuming that efficiency benefits are highly likely while competitive harms are unlikely or speculative.

Vertical merger enforcement was attacked as economically irrational by Chicago School commentators, notably by Robert Bork, on three principal grounds. First, while a competitive concern of vertical mergers is that they will lead to rivals being “foreclosed” from inputs or customers, leading to market power by the merged firm, Bork argued that the alleged foreclosure was illusory, seeing instead merely a neutral rearrangement of supplier-customer relations. Second, Bork viewed competitive harm as implausible because there was only a “single monopoly profit” that would be unaffected by the merger (except under rare circumstances). Third, Bork offered the affirmative argument that vertical mergers were invariably highly efficient: for example, they inevitably reduce downstream prices by “eliminating double marginalization” of the cost of the upstream merging firm on sales by the downstream merging firm. In sum, for these commentators, competitive harm was seen as implausible, and substantial competitive benefits were seen as virtually inevitable. It followed from this logic that there should be a nearly conclusive presumption that vertical mergers are procompetitive, regardless of the market shares of the merging firms in their respective markets. The spirit (although not the letter) of these critiques was reflected in the 1984 Non-Horizontal Merger Guidelines, which set out narrow conditions for vertical merger challenges.

2. BORK, supra note 1, at 232.
3. Id. at 229.
4. Id. at 226-27.
This Feature disputes the Chicago School account outlined above and explains instead that some (but not all) vertical mergers raise substantial competitive concerns. This analysis proceeds in three Parts: Part I reviews the history and explains the economic flaws in the Chicago School theories. Part II presents a more balanced approach to the potential competitive effects of vertical mergers. Part III outlines the next steps that might be taken to modernize enforcement policy and the law.

I. THE LIMITED ECONOMIC RELEVANCE OF THREE CHICAGO SCHOOL ASSUMPTIONS UNDERLYING THE VERTICAL ENFORCEMENT LANDSCAPE

A major consequence of the Chicago School commentators’ flawed economic theories with respect to vertical merger enforcement is that this body of law has remained undeveloped for the past forty years. Consider the following data points: The last vertical merger case analyzed by the Supreme Court was the 1972 merger between Ford and Autolite. There has been very little private litigation.

The last vertical merger case litigated to conclusion by the Federal Trade Commission (FTC) dates back to 1979, which the FTC lost because it was unable to prove probable anticompetitive effects. Since that time, vertical merger challenges have been infrequent. From 1994 to 2016, U.S. agencies have challenged only fifty-two mergers that involved vertical integration, and some of these also involved horizontal overlaps. In merger enforcement involving mergers with

7. Saint Alphonsus Medical Center-Nampa Inc. v. St. Luke’s Health System, Ltd., 778 F.3d 775 (9th Cir. 2015), also involved a private challenge that raised vertical-foreclosure concerns. While the District Court for the District of Idaho and the Ninth Circuit focused solely on the horizontal overlap, the factual findings were supportive of the vertical-foreclosure claim. See Thomas L. Greaney & Douglas Ross, Navigating Through the Fog of Vertical Merger Law: A Guide To Counselling Hospital-Physician Consolidation Under the Clayton Act, 91 WASH. L. REV. 199, 211 n.52, 221-22 (2016). For two other private cases, see HTI Health Services, Inc. v. Quorum Health Group, Inc., 960 F. Supp. 1104 (S.D. Miss. 1997); and O’Neill v. Coca-Cola Co., 669 F. Supp. 217 (N.D. Ill. 1987). In the latter case, the plaintiff was denied standing, and the claims were dismissed. 669 F. Supp. at 226. For further discussion of HTI Health Services, see Greaney & Ross, supra, at 219-21.
8. Fruehauf Corp. v. FTC, 603 F.2d 345 (2d Cir. 1979). The court concluded that it was necessary to show “some probable anticompetitive impact” for liability under Section 7 of the Clayton Act, not simply foreclosure. Id. at 352-53.
both vertical and horizontal components, the FTC and the Department of Justice (DOJ) typically focused only on the horizontal overlaps.\textsuperscript{11}

Within this general dearth of litigation, some more specific trends can be observed. Enforcement has varied across administrations.\textsuperscript{12} Reduced enforcement by the Bush Administration was consistent with its more minimal concerns about exclusionary conduct, as reflected in the DOJ’s Section 2 report.\textsuperscript{13} That report was withdrawn by the Obama DOJ in 2009,\textsuperscript{14} which showed increased interest in vertical merger concerns.\textsuperscript{15} While perhaps unexpected, the Trump DOJ issued a complaint in November 2017 to block the proposed AT&T-Time Warner vertical merger. This merger raised similar concerns as the Comcast-NBC Universal (NBCU) merger, but unlike in that matter, the DOJ apparently

\textsuperscript{11} For example, in the recent St. Luke’s merger case, the FTC focused on the horizontal overlap in the market for primary physicians, rather than on the vertical merger aspect of the deal, which involved combining a physicians’ group with a hospital. See St. Luke’s, 778 F.3d 775.

\textsuperscript{12} Salop & Culley, Enforcement Actions, supra note 10. The DOJ and the FTC brought about thirty-three challenges during the Clinton Administration, including three that were finalized in 2001. The George W. Bush Administration initiated five challenges, and the Obama Administration had fourteen actual and threatened enforcement actions. The Obama Administration threatened actions against the Comcast-Time Warner and Lam-KLA transactions, which were abandoned in 2016. The Comcast-Time Warner transaction was analyzed as the mix of a horizontal and complementary product combination. In News Corp’s acquisition of the parent company of DIRECTV in 2003, and in AT&T’s acquisition of DIRECTV in 2015, the DOJ did not take enforcement action in reliance on the FCC’s remedy. See AT&T Inc., 30 FCC Rcd. 9131 (2015); General Motors Corp., 19 FCC Rcd. 473 (2004). These latter two media mergers are not included in the enforcement statistics.


refused to accept a proffered conduct remedy. The outcome of the trial and whether the current DOJ and FTC will continue to follow this course of increased enforcement remain open questions at the time of this writing.

This increase in vertical merger enforcement during the Obama Administration and the AT&T-Time Warner complaint are encouraging because the Chicago School’s skepticism toward both the competitive risks of vertical mergers and foreclosure more generally has proved to be misguided. That skepticism rests on three main claims: (1) foreclosure is illusory because vertical mergers simply realign vertical relationships rather than reduce supply; (2) anticompetitive foreclosure generally would not be profitable; and (3) vertical mergers are invariably efficient, particularly because of elimination of double marginalization. However, modern economic analysis demonstrates that these theories do not provide a valid basis for such limited enforcement. Instead, modern analysis shows that competitive harm can in fact result from vertical mergers when markets are imperfectly competitive. As discussed in the next Sections, the first two claims never had a strong economic basis and have been steadily and powerfully debunked by economists, while the third cannot carry the burden to support nonenforcement.

A. Foreclosure as Illusory

Most fundamentally, Bork argued that vertical mergers do not foreclose, but rather realign, vertical relationships. Brown Shoe is a much studied and much maligned vertical and horizontal merger ruling by the Supreme Court, addressing the Brown Shoe Company’s attempted purchase of G.R. Kinney Company, another shoe manufacturer and retailer. Applied to that case, the Chicago


School critique is that while the Brown Shoe Company may supply more of the shoes that it produces to Kinney stores and fewer to competing stores, Kinney may purchase fewer shoes from rival manufacturers but more from Brown. Rather than eliminating rivals’ opportunities, the retailers no longer buying from Brown can benefit from the manufacturers no longer selling to Kinney. Thus, there is not real foreclosure. This reasoning famously led Bork to quip about a later case that the FTC should have hosted an “industry social mixer” instead of challenging the merger. 19

While this criticism may have been applicable to Brown Shoe—where Brown and Kinney had very low market shares in unconcentrated markets—it is not true in dominant firm or oligopoly markets with entry impediments. 20 For example, suppose that Brown was one of only three large shoe manufacturers selling differentiated products and Kinney had a substantial retail market share. If Brown were to raise prices or refuse to sell to Kinney’s downstream rivals, that foreclosure may reduce the total supply available to rivals. It also may incentivize Brown’s two manufacturing competitors to raise their prices to Kinney’s rivals in response, either unilaterally or through coordinated interaction. Unintegrated downstream rivals thus can be disadvantaged, and the merging firm can achieve or enhance market power in one or both markets. This explains why foreclosure is real.

In the proposed AT&T-Time Warner merger, for example, a foreclosure concern is that the merged firm will raise prices of Time Warner content to AT&T’s rival video distributors or threaten to withhold that content in order to obtain higher prices. Because video content is not fungible, the concern is that the other distributors cannot simply drop Time Warner content and replace it with other programming without losing some subscribers to AT&T and others. Nor is entry of equally popular competing programming easy. Similar foreclosure issues arose in the Comcast-NBCU merger. 21 Moreover, the foreclosure concern is now enhanced because Comcast and AT&T would have similar foreclosure incentives and might coordinate their actions. Thus, foreclosure concerns cannot simply be dismissed in oligopoly markets. Instead, a rational vertical merger policy would analyze the likely ability and incentives of the merging firms to engage in various types of foreclosure conduct.

19. BORK, supra note 1, at 232; see also Fruehauf Corp. v. FTC, 603 F.2d 345, 352 n.9 (2d Cir. 1979) ("[A] vertical merger may simply realign sales patterns.").

20. For simple models of scenarios in which foreclosure is not illusory, see Thomas G. Krattenmaker & Steven C. Salop, Anticompetitive Exclusion: Raising Rivals’ Costs To Achieve Power over Price, 96 YALE L.J. 209 (1986).

21. See infra text accompanying note 36.
B. Single Monopoly Profit

A second core Chicago School claim is that an unregulated monopolist can obtain only a single monopoly profit, so it would gain no additional market power from foreclosure through tying or vertical merger. This theory has gained some judicial acceptance. In her Jefferson Parish concurrence advocating elimination of the per se rule against tying, Justice O'Connor opined that “[c]ounterintuitive though [the single monopoly profit theory] may seem, it is easily demonstrated and widely accepted.” In Jefferson Parish, it was alleged that East Jefferson Hospital would force patients solely to use the Roux anesthesiology group, and this tying arrangement would harm consumers and competition in the local anesthesiology services market. But the single monopoly profit theory would claim that even if the hospital had market power in its hospital market, it had no anticompetitive incentive to leverage that power into the anesthesiology market. It would gain no incremental market power or profits by doing so.

Similarly, in Doman, a Second Circuit panel (including then-Judge Sotomayor) alluded to the theory in dismissing a complaint against an exclusive distributorship awarded by a lumber supplier (Doman) to a distributor (Sherwood). The court noted that an exclusive distributorship would be counterproductive so far as any monopolization goal of Doman is concerned . . . . The power to restrict output to maximize profits is complete in the manufacturing monopoly, and there is no additional monopoly profit to be made by creating a monopoly in the retail distribution of the product.

This theory is simple but invalid in all but the following extreme conditions: (i) the upstream merging firm is an unregulated monopolist, protected

22. See, e.g., BORK, supra note 1, at 229; POSNER 2d ed., supra note 1, at 198–99; Ward S. Bowman, Jr., Tying Arrangements and the Leverage Problem, 67 YALE L.J. 19 (1957); Aaron Director & Edward H. Levi, Law and the Future: Trade Regulation, 51 NW. U. L. REV. 281 (1956). The theory recognizes an exception if the monopolist is regulated, in which case the merger can be used to evade regulation.
24. Id. (explaining that tying cannot increase a monopolist’s profit).
26. Id. (citing Lamoille Valley R.R. Co. v. I.C.C., 711 F.2d 295, 318 (D.C. Cir. 1983); and 3 PHILLIP AREEDA & DONALD F. TURNER, ANTITRUST LAW § 725b (1978)).
27. See Jonathan B. Baker, Taking the Error Out of “Error Cost” Analysis: What’s Wrong with Antitrust’s Right, 80 ANTITRUST L.J. 1, 15-17 (2015) (explaining that firms can obtain, extend, and
by prohibitive entry barriers; (ii) its product is used by downstream firms in fixed proportions with all other inputs; and (iii) the downstream market is perfectly competitive. Under these very special conditions, the upstream monopolist would gain no additional monopoly profits by acquiring some downstream firms and foreclosing others to leverage market power into the other market.\textsuperscript{28}

But the market conditions under which the theory applies are far too narrow to create a procompetitive enforcement or legal presumption. The theory does not carry over to the more typical situation where neither merging partner has a monopoly protected by prohibitive entry barriers. If the merging firms face actual or potential competition, their merger can maintain, achieve, or enhance market power.

Consider one simple counterexample in which each merging firm is the monopoly producer in its market. But suppose that each faces the threat of potential competition solely from the other. Absent the merger, each would have the incentive to enter the other’s market (or partner with an entrant) in order to increase competition there and allow it to charge a higher price in its own market as demand increases. The vertical merger would extinguish these incentives and thus could preserve the two monopolies, contrary to the single monopoly profit theory. If there were other entrants, they would need to enter both markets simultaneously, which could create increased entry risks and costs which could deter entry. Even if entry is not deterred, it may be delayed.\textsuperscript{29}

Additionally, in oligopoly markets with multiple competitors, vertical mergers can harm competition from input or customer foreclosure, even without coordination. To illustrate, suppose the dominant hospital acquires a key anesthesiology group and the anesthesiology group then stops providing services or raises its prices to other, smaller hospitals. This input foreclosure could raise the costs of rival hospitals. The cost increases would be supported or enhanced if other large competing anesthesiology groups also raise prices in response. These higher prices of the critical anesthesiology input would raise the costs of the smaller hospitals, thereby permitting the merging hospital to enhance its market power. Or, imagine that the dominant hospital stops using other anesthesiologists, relying instead solely on the acquired group, and that conduct leads some smaller competing anesthesiology groups to exit from the market. This customer

\textsuperscript{28} The single monopoly profit theory was tested and rejected for railroad markets. Curtis M. Grimm et al., Foreclosure of Railroad Markets: A Test of Chicago Leverage Theory, 35 J.L. & ECON. 295 (1992).

\textsuperscript{29} Posner focuses primarily on the potential for delay. POSNER 2d ed., supra note 1, at 225.
foreclosure could permit the acquired anesthesiology group to gain market power over smaller competing hospitals and clinics. Customer foreclosure also could lead to input foreclosure effects, allowing the merging hospital to increase its prices. In short, the assumption that no additional market power can be gained from a vertical merger cannot be sustained.  

C. Efficiency Benefits from Elimination of Double Marginalization

A third Chicago School claim is that vertical mergers are invariably highly efficient. A key driver is the assumption that the downstream merging firm's price will be reduced from the merger. This claim postulates that the upstream firm will transfer its input at marginal cost instead of the higher premerger price, and this elimination of double marginalization (EDM) of the upstream firm's cost will lead the downstream merger partner to reduce its output price.  

The Acting Director of the FTC Bureau of Competition recently explained that the prospect of EDM was an “intrinsic” efficiency justification. This theory has been used as a ubiquitous justification for weak enforcement.  

While many vertical mergers, like many horizontal mergers, may entail efficiency benefits, the EDM theory does not prove that vertical mergers are almost always procompetitive. Claims that EDM must lead to lower downstream prices are overstated for several reasons. First, if the upstream firm sells to rivals at a higher price than charged to the downstream merging firm, then diverting sales

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30. However, in matters where one of the merging firms is a monopolist, answering the question of why power can be maintained or additional power gained in another market can be a useful analytical tool.


33. Indeed, the George W. Bush Administration enforcers argued that the “greater the market power (in its respective market) of each party to a vertical merger, the greater the potential for their merger to increase efficiency by eliminating the double markup between them.” Note by the United States, supra note 13, ¶ 25.
to its downstream partner creates an “opportunity cost” resulting from lower upstream profits, which mitigates or eliminates the incentive to reduce the downstream price.34 Second, if the downstream firm’s price reduction would be given to a large number of existing customers relative to the number of new customers diverted from firms that did not buy the upstream firm’s input, then the incentive to cut the downstream price will also be mitigated or eliminated. Third, double marginalization may have been totally or partially eliminated in the pre-merger market by contracts with quantity forcing or “nonlinear” pricing. Fourth, EDM would not be merger-specific if it can be achieved as a practical matter absent the merger. Fifth, there is no EDM if the downstream firm’s technology is incompatible with the upstream firm’s inputs.35 Finally, the existence of EDM does not prove that the merger is procompetitive. An EDM incentive to reduce prices may be dominated by the incentives to raise prices resulting from foreclosure or coordination. Thus, the potential for EDM is not a valid rationale for weak or nonexistent enforcement.

The limitations of EDM are beginning to carry more force. Both the Federal Communications Commission (FCC) and the DOJ were skeptical of the EDM claims in the Comcast-NBCU merger. The DOJ concluded that “much, if not all, of any potential double marginalization is reduced, if not completely eliminated, through the course of contract negotiations.”36 The FCC also noted the opportunity cost concern and concluded that the EDM claims were both overstated and not merger specific.37

D. Modern Incentives Analysis, Error Costs, and Presumptions

The implication of the Chicago School analysis is that vertical mergers are almost always procompetitive and are entitled to a strong legal presumption in

34. This opportunity cost issue was mentioned in passing by Bork, but only in the context of perfect competition in the downstream market, and it did not affect his policy recommendations. BORK, supra note 1, at 228.
35. Enghin Atalay et al., Vertical Integration and Input Flows, 104 AM. ECON. REV. 1120, 1127 (2014) (finding that almost half of establishments report no internal shipments).
order to avoid false positive errors and overdeterrence. Because of the shortcomings of these theories, they do not validly support weak enforcement or highly permissible legal standards. A balanced enforcement policy and law instead would recognize that vertical mergers can lead to competitive harms as well as competitive benefits. It would also recognize that efficiency benefits are neither invariably merger-specific nor invariably sufficient to prevent anticompetitive effects.

Some proponents of the outdated Chicago School approach contrast vertical and horizontal mergers, arguing there are intrinsic competitive concerns in horizontal mergers. They then argue that vertical mergers are the opposite, with intrinsic EDM efficiency benefits and highly unlikely competitive harms. However, these contrasting presumptions do not hold up to careful analysis. For the type of markets that are normally analyzed in antitrust, the competitive harms from vertical mergers are just as intrinsic as are harms from horizontal mergers. While vertical mergers have intrinsic benefits from cooperation, so do horizontal

38. False positive errors involve judicial findings of liability where the conduct actually is procompetitive or involve overdeterrence more generally. False negatives errors are the opposite, finding no liability for anticompetitive conduct and reflecting underdeterrence more generally.

39. The issue is not whether all or most vertical mergers are anticompetitive, but whether some are, and whether enforcers and courts informed with evidence can tell the difference. Three classic examples of a vertically integrated firm engaging in foreclosure conduct are: vertically integrated AT&T using its control over the local exchange network to raise barriers to entry into long distance, conduct that resulted in the disintegration of AT&T, United States v. AT&T Co., 552 F. Supp. 131 (D.D.C. 1982), aff’d sub nom. Maryland v. United States, 460 U.S. 1001 (1983); Microsoft engaging in foreclosure conduct towards Netscape in order to raise barriers to entry into desktop operating systems, leading to Section 2 liability, United States v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001); and Verizon delaying access to DSL competitors in violation of FCC regulations in order to maintain its market power in that market, though Verizon escaped liability on other grounds, Verizon Commc’ns, Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 407 (2004).


41. Id.; see also Yde, supra note 9, at 74-75. Yde’s view appears to be premised on the fact that the upstream and downstream markets are both either perfectly competitive, or at least one market is perfectly monopolistic, and protected by prohibitive entry barriers. In these extreme cases, vertical mergers will not have foreclosure effects but may have EDM benefits in the monopoly case. Yde, supra note 9, at 75. Yde uses these polar cases to recommend a very cautious policy. Id. However, his analysis does not apply to imperfectly competitive markets not at these two polar extremes.
mergers.\textsuperscript{42} Downward pricing pressure from EDM and other sources is not inevitable, and vertical mergers may create significant management integration challenges.\textsuperscript{43}

Consider first the well-understood and accepted notion that there is inherent upward pricing pressure from horizontal mergers in differentiated products markets, even without coordination.\textsuperscript{44} In fact, the same inherent upward pricing pressure occurs for vertical mergers in similar market structures.\textsuperscript{45} An upstream merging firm that is not an unregulated monopolist protected by prohibitive entry barriers has a similar intrinsic incentive to engage in input foreclosure by raising the input price it charges to the rivals of its downstream merger partner. A higher input price has an intrinsic upward effect on the rivals’ prices, which permits the downstream merging firm to raise its price.\textsuperscript{46} While this upward pricing pressure may be mitigated or deterred by sufficient upstream competition, repositioning, or anticipated entry (just as it can be in horizontal mergers), and by sufficient downstream competition by nonforeclosed firms, the pricing pressure is an intrinsic incentive. Moreover, the likelihood of price increases is enhanced if other upstream or downstream competitors raise their prices in response to the price increase by the integrated firm, whether unilaterally or in a coordinated fashion, just as for horizontal mergers.\textsuperscript{47}

At the same time, absent EDM, there also is an intrinsic incentive in vertical mergers to raise the price of the downstream merging firm as a way to drive additional sales to its upstream merger partner.\textsuperscript{48} EDM and other efficiencies can

\textsuperscript{42} As stated in the Horizontal Merger Guidelines, “a primary benefit of mergers to the economy is their potential to generate significant efficiencies and thus enhance the merged firm’s ability and incentive to compete, which may result in lower prices, improved quality, enhanced service, or new products.” U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, HORIZONTAL MERGER GUIDELINES 29 (2010), http://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf [http://perma.cc/SFJX-DEN6].


\textsuperscript{44} U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, supra note 42, at 20–21; Yde, supra note 9, at 74.

\textsuperscript{45} These incentives are intuitive on the basis of standard microeconomic analysis of firms producing differentiated products. For a formal treatment of these incentives, see Serge Moresi & Steven C. Salop, \textit{vGUPPI: Scoring Unilateral Pricing Incentives in Vertical Mergers}, 79 ANTI-TRUST L.J. 185 (2013).

\textsuperscript{46} Id. at 193–96.

\textsuperscript{47} Salop & Culley, \textit{Interim Guide}, supra note 10, at 20 (noting that rival upstream firms may raise prices unilaterally or in coordination).

\textsuperscript{48} Moresi & Salop, supra note 45, at 198.
mitigate or even reverse this upward inherent pricing incentive for the down-
stream merging firm, just as efficiencies do for horizontal mergers.\textsuperscript{49} However, reversing the upward pricing incentive of this merger partner and instead caus-
ing downward pricing pressure is not inevitable for the reasons discussed above. Moreover, even if EDM or other efficiencies do create downward pricing pres-
sure, that downward pressure does not necessarily dominate the upward pricing pressure from the incentive of the upstream merging firm to raise its input price to rivals.

In short, in the real world of imperfectly competitive markets, the direction of the net competitive effect is a question of fact, not theory. While vertical mer-
gers in oligopoly markets should not be subject to near-per se illegality, they also are not entitled to near-per se legality. Both of these per se rules would lead to unacceptable errors. Instead, competitive-effects analysis, enforcement, and law should be balanced and fact-based.

II. A MORE BALANCED VIEW OF THE COMPETITIVE HARMs AND BENEFITS FROM VERTICAL MERGERS

This Part offers a more balanced account of the harms and benefits associated with vertical mergers. Merger analysis under Section 7 focuses on whether the merger may have a significant likelihood of substantially lessening competi-
tion.\textsuperscript{50} For vertical mergers, this involves analysis of the relative likelihood and magnitude of competitive benefits and harms.\textsuperscript{51} In light of the “incipiency” lan-
guage of Section 7, the burden on the plaintiff to show likely anticompetitive effects on balance is reduced.\textsuperscript{52} The next Sections summarize this analysis.\textsuperscript{53}

\textsuperscript{49} Id. at 199.

\textsuperscript{50} A merger violates Section 7 of the Clayton Act if the effect of the merger “may be substantially to lessen competition, or to tend to create a monopoly” in “any line of commerce . . . in any section of the country.” 15 U.S.C. § 18 (2012).

\textsuperscript{51} For an overview, see Salop & Culley, Interim Guide, supra note 10. The European Commission issued nonhorizontal merger guidelines in 2007. See Guidelines on the Assessment of Non-
Horizontal Mergers Under the Council Regulation on the Control of Concentrations Between Undertakings, 2008 O.J. (C 265) 7 [hereinafter EC Guidelines].

\textsuperscript{52} See infra note 92.

\textsuperscript{53} For more skeptical views of the need to invigorate vertical merger analysis, see, for example, Michael W. Klass & Michael A. Salinger, Do New Theories of Vertical Foreclosure Provide Sound Guidance for Consent Agreements in Vertical Merger Cases?, 40 ANTITRUST BULL. 667 (1995); Scheffman & Higgins, supra note 17; and Yde, supra note 9.
A. Competitive Harms

The potential competitive harms from vertical mergers can be classified in various interrelated ways. First, vertical mergers can lead to anticompetitive effects centered in either the upstream or downstream market. Second, the mechanism of harm can involve unilateral, coordinated, or exclusionary effects, or a combination. Third, the merger can lead the merged firm to achieve, enhance, or maintain monopoly or market power. Fourth, vertical mergers also can facilitate the harmful exercise of preexisting market power, such as when they permit evasion of price regulation. Fifth, the adverse competitive effects can involve higher prices, lower product quality, or reduced investment and innovation that otherwise would occur absent the merger.

The primary competitive mechanism involves exclusion, though the exclusion can also operate to facilitate or support coordination. This can entail input foreclosure, customer foreclosure, or both. The paradigmatic input foreclosure concern entails the upstream merging firm raising prices or refusing to sell its critical input to one or more actual or potential rivals of the downstream merging firm. For example, in Comcast-NBCU, an input foreclosure concern was that the firm would raise the price of NBCU programming or possibly withhold it from video competitors, including online video distributors (OVDs). The AT&T-Time Warner complaint alleges that the merged firm will gain the power to raise the price of Time Warner programming. Where the upstream market has differentiated products or lacks sufficient competition, or where the foreclosure facilitates upstream coordination in a concentrated market, foreclosure can raise competitors’ costs and lead them to reduce output and raise prices, as well as raise barriers to entry. As a result, the downstream merging firm may gain power to raise or maintain price to the detriment of consumers and competition. This exercise of market power may be unilateral or involve coordination with other nonforeclosed downstream firms, where the input foreclosure reduces the ability of the foreclosed downstream firms to disrupt the coordination.

54. See, e.g., sources cited supra note 17; see also sources cited infra note 72.
55. This input foreclosure paradigm also applies to mergers between manufacturers and distributors, since distributors provide a distribution input that is required to market a product. For a general analysis of foreclosure, see Steven C. Salop, The Raising Rivals’ Cost Foreclosure Paradigm, Conditional Pricing Practices and the Flawed Incremental Price-Cost Test, 81 ANTITRUST L.J. 371, 382-95 (2017).
57. AT&T Complaint, supra note 16, at 3.
58. For analysis of these issues and types of relevant evidence, see, for example, Salop & Culley, Interim Guide, supra note 10, at 18; and Riordan & Salop, supra note 17, at 528-41. See also sources cited supra note 17.
Customer foreclosure involves the downstream merging firm reducing or ceasing purchases from actual or potential rivals of the upstream merging firm. This foreclosure can lead to one or more upstream suppliers exiting or reducing investment, thereby permitting the upstream merging firm to exercise market power. In the Comcast-Time Warner Cable proposed merger, one concern was that an OVD’s failure to obtain distribution on either Comcast or Time Warner Cable would reduce its likelihood of survival. This lack of entry could increase the market power of the cable distributors. 59

Foreclosed rivals may be actual or potential competitors. Where potential competitors are foreclosed, the exclusionary conduct can be seen as raising barriers to entry and reducing innovation. In the extreme case where one or both of the merging firms is a monopolist, the foreclosure can force entrants to enter both markets simultaneously, which may increase (or even create prohibitive) barriers to entry. 60

A vertical merger also can eliminate the most likely potential entrant. The LiveNation-Ticketmaster 61 merger provides a useful illustration. Both merging firms had substantial market power in their respective markets—large concert venues and ticketing services, respectively. LiveNation was entering the ticketing market but then merged with Ticketmaster. While the DOJ consent decree required divestiture of ticketing technologies, the ticketing market lost its most powerful future competitor. First, LiveNation could offer ticketing services for its own events to achieve minimum viable scale. Second, as a complementary product provider, it had substantial incentives to enter to disrupt Ticketmaster’s market power, as outlined in the earlier discussion of the single monopoly profit

59. For one analysis, see William P. Rogerson, Economic Theories of Harm Raised by the Proposed Comcast/TWC Transaction (2015), in THE ANTITRUST REVOLUTION: ECONOMICS, COMPETITION, AND POLICY (John E. Kwoka, Jr. & Lawrence J. White eds., 7th ed. forthcoming 2018). The result of this threat to their survival raised the bargaining power of the merging firms, which could permit them to charge higher interconnection prices, which then raises the costs of the OVDs. In this way, it can lead to input foreclosure effects.

60. Salop & Culley, Interim Guide, supra note 10, at 16 (explaining that the need for two-level entry can reduce the likelihood of entry). Posner suggests that the need for two-level entry generally would at most delay entry, unless it created a risk premium. Posner 2d ed., supra note 1, at 225. Even if entry is only delayed, delays can create substantial consumer harm during the interim. In addition, the higher sunk costs of two-level entry along with the fear of post-entry competition, and potential reduced ability to enter secretly, can deter entry permanently. Delays also can become permanent if there is only a narrow window of opportunity for new entrants. See PHILIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW 76 (3d ed. 2011).

thus, it was both economically rational and likely inevitable for LiveNation to continue to invest in its ticketing venture until it succeeded. By merging, the market lost LiveNation as a powerful entrant into ticketing.63

Foreclosure also can facilitate anticompetitive coordination in the upstream or downstream markets. When there are multiple vertically integrated firms, they have an increased ability and incentive to engage in input foreclosure against their unintegrated rivals.64 If there are multiple vertical mergers, perhaps in response to one another, the outcome may lead to a broad anticompetitive reciprocal dealing, coordination effects equilibrium with higher consumer prices. Barriers to entry also might rise from rivals facing higher costs.65

This anticompetitive reciprocal dealing, coordination effects outcome could be the end game from a series of parallel vertical mergers where no one firm achieves dominance.66 To illustrate with a hypothetical example suggested by the AT&T-Time Warner merger, suppose there initially were three competing, differentiated video content providers and three competing, differentiated video distributors, and consumers economically purchase from only a single distributor. Suppose that all three content providers initially supply all three distributors. Suppose next that there are three parallel vertical mergers of the distributors and content providers. These three now-integrated firms might well facilitate credible coordination among themselves with reciprocal contracts charging each other high input prices, perhaps also supported with Most-Favored-Nation clauses (MFNs). The higher prices then would be passed on to consumers.67

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62. See supra Section I.B.
63. The DOJ remedy required LiveNation to license its nascent ticketing entity to Anschutz in the hope of creating a new vertically integrated competitor. Ticketmaster, No. 1:10-cv-00139, 2010 WL 5699134, at *4 (July 30, 2010).
65. Id. at 1236–40 (arguing that firm conduct that blocks would-be market entrants should be considered a form of monopolization); Krattenmaker & Salop, supra note 20, at 246.
67. One might ask why this coordination would not occur in the premerger world if MFNs were used. Premerger MFNs would be a much weaker facilitating practice. If the three downstream distributors had MFNs with upstream content providers, and if those MFNs increased the content prices, the beneficiaries would be the content providers, not the distributors, so there would need to be monitoring of returns and side payments to split up the cartel profits in order to induce the distributors to go along. By contrast, after the vertical mergers, the distributors would be dealing with each other directly, and the reciprocity is a stabilizing force. In addition, if one distributor were to defect, it would lose access to two-thirds of the content, which would reduce its product quality.
this way, they could achieve the equivalent of (or an outcome closer to) the cartel outcome in the downstream video subscription market. The reciprocal dealing equilibrium also could lead to barriers to entry into the content market. Consumer harm is even more likely if the three distributors had been powerful enough in the premerger market to negotiate low content prices.

A version of this anticompetitive reciprocal dealing theory may be an issue in the DOJ complaint in the proposed AT&T-Time Warner vertical merger. The complaint alleges that the merger would “make oligopolistic coordination more likely” because it “would align the structures of the two largest traditional video distributors, who would have the incentive and ability to coordinate to impede competition from innovative online rivals and result in higher prices.” Coordination concerns would lead to even greater consumer harms if this trend towards vertical integration were to continue with subsequent vertical mergers.

Anticompetitive coordination also can be facilitated in other ways. If the downstream merging firm had been a disruptive input purchaser that deterred input market coordination, the merger might eliminate this incentive. For example, if Amazon’s low prices hold down the ability of book publishers to coordinate in pricing to other bookstores, an acquisition by Amazon of a publisher might lead Amazon to stop taking actions that disrupt this coordination. In a market where the upstream merging firm has been a maverick seller, whose behavior deterred input market coordination, a vertical merger similarly might eliminate this incentive and facilitate coordination in selling to rivals of its downstream division. Coordination also can be facilitated by one of the merging firms transferring sensitive competitive information to its merger partner, information that can be used to facilitate parallel accommodating conduct, interdependent pricing, or even express collusion.

68. Alternatively, if each firm forecloses rival distributors from owned content, then consumers would have access to only one-third of the differentiated content, in which case EDM likely would not trump the lower product quality.

69. Each of the three integrated firms would have a greater unilateral incentive to deter content entry, which also could facilitate consciously parallel decisions not to carry the content of new entrants.

70. AT&T Complaint, supra note 16.

71. Id. ¶ 9; see also id. ¶ 41.


73. Information transfer alternatively can decrease rivals’ incentives to innovate if the merged firm is able to respond more rapidly or even preemptively as a result of earlier warning.
Predicting whether competitive harms from foreclosure likely will occur can be aided by quantitative methodologies developed by economists over the last two decades. These methodologies can be used in conjunction with natural experiments and other economic and documentary evidence. The quantitative methodologies include the vertical arithmetic methodology to gauge whether total foreclosure (i.e., refusal to deal) would be profitable for the merged firm, while holding prices of the merging and rival firms constant and abstracting from any efficiency effects;74 the Nash Bargaining Equilibrium methodology to evaluate the impact of foreclosure threats on predicted negotiated prices;75 the vertical gross upward pricing pressure index (GUPPI) methodology to gauge partial foreclosure unilateral incentives to raise input prices to rival downstream firms and the resulting upward pricing pressure on rivals’ prices, as well as EDM;76 and merger simulation models that incorporate the impact of changed incentives of the merging and nonmerging firms on the postmerger market equilibrium.

These quantitative methodologies can be useful. But, while they are framed as if they are precise predicted price changes, they are more imprecise indicators of the direction and strength of incentives. They may ignore impacts on certain prices (e.g., the prices of competing upstream firms). They do not take into account all the possible determinants of prices or interactions among the various prices. Simulation models attempt to take more factors and interactions into account. All these quantitative methodologies also are limited because they generally focus only on a subset of the possible harms that are easiest to quantify with available data. They also generally focus only on unilateral effects and ignore the potential that the merger will facilitate coordination. These quantitative methodologies can be combined with documentary and other evidence to make a

76. Morei & Salop, supra note 45. Other vertical GUPPIs could be derived for different model formulations.
more reliable prediction of the likelihood of anticompetitive effects from the proposed merger.

B. Competitive Benefits

A vertical merger may generate cognizable efficiency benefits. These competitive benefits can reverse or deter potential anticompetitive conduct by creating the ability and incentives to reduce prices, increase quality, expand investment, or speed innovation. First, like a requirements contract, a vertical merger might reduce risk by creating guaranteed demand for an input supplier or guaranteed supply for a customer, either of which can lead to lower costs. For example, this could be a rationale for a firm like Apple acquiring a flash memory producer. Second, a vertical merger might “internalize” the spillover benefits that investment by one of the firms has on the profitability of the other, which might reduce costs or increase product quality or innovation. An argument along these lines might be used to rationalize Amazon’s acquisition of a robot manufacturer to complement its investments in automation. Third, a merger might also spur investment by reducing the risk of holdup, for example, when a firm that will be investing over time in machines using a developing patented technology purchases the underlying patents. Fourth, a vertical merger may lead to better information sharing or coordination between the upstream and downstream firms, which can increase product quality or reduce costs. Fifth, EDM can lead to incentives to reduce prices. The benefits can enhance competition from unilateral effects. Or, in markets vulnerable to coordination, a merger might reduce the likelihood of coordinated effects by creating a maverick, or it might disrupt oligopoly coordination by decreasing the incentives to coordinate. These various sources of downward pricing pressure could offset and reverse upward pricing pressure from the various sources of potential competitive harms. Of course, benefits lost to rivals (e.g., from reduced cooperation) and integration costs that would reduce competition also must be taken into account.

77. See, e.g., Armen A. Alchian & Harold Demsetz, Production, Information Costs, and Economic Organization, 62 AM. ECON. REV. 777 (1972); Paul L. Joskow, Vertical Integration, in HANDBOOK OF THE NEW INSTITUTIONAL ECONOMICS 319 (Claude Menard & Mary M. Shirley eds., 2005); Markus Reisinger & Emanuele Tarantino, Vertical Integration, Foreclosure, and Productive Efficiency, 46 RAND J. ECON. 461 (2015); see also sources cited supra note 17 (discussing efficiencies).

78. See Standard Oil Co. of Cal. v. United States, 337 U.S. 293, 306-07 (1949) (describing this guarantee as a benefit of requirements contracts); Dennis W. Carlton, Vertical Integration in Competitive Markets Under Uncertainty, 27 J. INDUS. ECON. 189, 194 n.5 (1979) (arguing that this guarantee is a benefit of vertical integration); Hemphill & Wu, supra note 64, at 1218 (discussing Standard Oil Co. v. United States, 337 U.S. 293 (1949), as an example of efficient requirements contracts).
C. Comparing Competitive Harms and Competitive Benefits

Determining the likelihood of an anticompetitive merger involves comparing the likelihood and magnitude of these competitive benefits and harms to determine if consumers and competition are injured on balance. As with horizontal mergers, only merger-specific efficiency benefits should be taken into account in the balance. As discussed below, the burden on the plaintiff is reduced under Section 7.79 Because the merging parties have better access to the relevant information, they also bear the burden of producing evidence of efficiency benefits, just as they do elsewhere in antitrust.

Foreclosed rivals in principle might be able to engage in responsive vertical mergers or de novo backward integration on their own. In that case, if vertical integration is efficient, consumers might get the benefit of competition among more efficient vertically integrated firms. This is theoretically possible, particularly where the inputs are homogeneous and there are no barriers to entry. But where the inputs are differentiated, even if each downstream firm integrates with an input supplier in response, all of them could end up losing access to the other differentiated inputs, which can cause harm despite somewhat lower input costs from EDM. This loss of access can be a particular concern in a dynamic, innovative input market, where each of the integrated firms would have access solely to its own input innovations. In addition, the end result could be the anticompetitive reciprocal dealing, coordination effects equilibrium. Thus, one cannot presume that the benefits of the parallel vertical integration would exceed the harms, even if no firm achieves dominance.

A vertical merger may increase the downstream merging firm’s ability to negotiate lower prices from other (rival) input suppliers because it can threaten to turn to its upstream partner. In the Anthem-Cigna horizontal merger, however, the court indicated significant skepticism whether such “procurement efficiencies” actually would benefit consumers, and indeed, it suggested that consumers may be harmed on balance.80 While increased bargaining leverage might lower the costs of the merged firm, it raises a number of factual issues regarding whether it will lead to consumer benefits. The input price decrease might lead to lower quality inputs, may take a long time to occur, or may not be passed on to consumers. Instead of bargaining for lower prices for itself, the firm instead may bargain for the suppliers to raise the prices they charge its downstream rivals.

79. See infra note 92.
This could involve an MFN-plus contractual provision, or it might be more informal.\textsuperscript{81} Or it may lead to the upstream firms having incentives to raise their prices to the other downstream firms.\textsuperscript{82} Finally, using a merger to increase bargaining power over input suppliers might harm the competitive process by creating buyer-side market power.

\textbf{III. NEXT STEPS}

Invigorating enforcement requires action by both enforcement agencies and courts to modernize vertical merger enforcement policy and update vertical merger law. This involves recognizing the substantial potential harms from vertical and complementary product mergers, foregoing strong procompetitive presumptions in making enforcement decisions, conceding that behavioral remedies are generally insufficient, and thereby requiring divestitures as remedies or taking action to block problematic vertical mergers. Enforcement policy changes could be summarized in revised vertical merger guidelines and then solidified in court decisions evaluating litigated challenges to anticompetitive mergers.

Revised guidelines would provide useful guidance to agency and state enforcers, outside counsel, potential merging firms and complaining firms.\textsuperscript{83} Guidelines also would provide useful guidance to the courts. The courts have shown themselves in recent years to be very skilled in evaluating merger cases, and their evaluations have benefited from the analysis and conclusions embedded in the Horizontal Merger Guidelines.\textsuperscript{84}

\textsuperscript{81} An MFN-plus provision mandates that the downstream firm be given a certain discount below the best price offered to others. MFN-plus provisions given to a large customer tend to raise the absolute level of prices to the nonfavored customers. \textit{See}, e.g., United States v. Blue Cross Blue Shield of Mich., 809 F. Supp. 2d 665, 669 (E.D. Mich. 2011); Jonathan B. Baker & Judith A. Chevalier, \textit{The Competitive Consequences of Most-Favored-Nation Provisions}, ANTITRUST, Spring 2013, at 20, 24.

\textsuperscript{82} In addition, the lower prices might have customer foreclosure effects in the upstream market that might lead to exit of some input suppliers and higher input prices being charged to other downstream competitors.

\textsuperscript{83} As explained by the court in a private action attacking Coca-Cola’s and PepsiCo’s acquisitions of bottlers, “O’Neill [the plaintiff] does not specifically allege how higher prices will result from these alleged consequences of these vertical acquisitions . . . . Indeed, O’Neill burdens this court to provide the causal links.” O’Neill v. Coca-Cola Co. 669 F. Supp. 2d 217, 222-23 (N.D. Ill. 1987).

The 1984 Non-Horizontal Guidelines are out-of-date. There was no appetite for revising the Guidelines during the George W. Bush or Obama Administrations. However, the current DOJ Assistant Attorney General (AAG) for Antitrust, Makan Delrahim, was a member of the Antitrust Modernization Commission (AMC) and joined the AMC recommendation to revise the Guidelines. So perhaps the Guidelines will be revised during this Administration.

New Guidelines would modernize the analysis. They would clarify the analytic methodology and summarize “best practices” with respect to analytics and types of relevant evidence. They would identify the various types of documentary and economic evidence of competitive effects. They also would analyze a variety of policy issues, including: determination of any structural near-safe harbors and anticompetitive presumptions, whether a showing of higher prices to unintegrated downstream competitors would be sufficient for liability or whether it would also be necessary to show likely harm to customers of the downstream competitors, the timing of enforcement, and the role of concerns about future vertical mergers that might occur in response to the merger under consideration.


87. AMC Report, supra note 85, at 68. By contrast, Commissioner Donald G. Kempf, Jr., the current DOJ Deputy AAG for Litigation, dissented from that recommendation. Id.

88. For a complementary, earlier analysis of this and other issues that would arise in drafting new guidelines, and discussion of the type of evidence that would be relevant for evaluating vertical mergers, see Salop & Culley, Interim Guide, supra note 10.
Revised Guidelines and the law should incorporate modern economic analysis. The Guidelines could state clearly that enforcement policy is based on the understanding that foreclosure concerns are real, the single monopoly profit theory is invalid except under the most limited specific conditions, and EDM benefits are neither inevitable nor presumptively more significant than potential competitive harms. Enforcement should pay special attention to acquisitions by leading firms, particularly in oligopoly or dominant firm markets subject to network effects or economies of scale. This would include acquisitions of firms that may become significant potential competitors. The agencies also should pay attention to the limitations of behavioral remedies.

Guidelines are not law. Courts have the key role of reviewing the standards embedded in the Guidelines in litigated cases. Therefore, the courts have the ability to convert the analysis and any enforcement presumptions in the Guidelines into legal standards or reject or revise them. In this way, judicial outcomes affect future enforcement guidelines. Hearing from a district court and perhaps also the D.C. Circuit might be an important effect of the AT&T-Time Warner litigation.

A. The Requisite Showing of Anticompetitive-Effects Harm Under Section 7

An initial question for agencies and courts is what showing of anticompetitive effects is required under Section 7. It is clear that Section 7 requires evidence of likely anticompetitive effects, not just foreclosure or harm to competitors. Section 7 calls for a prediction, and the “incipiency” standard reduces the burden on the plaintiff to show these effects, relative to cases litigated under Section 1.

89. See sources cited supra note 84.
90. The role of the courts may be very limited if the agencies set overly permissive enforcement standards and fail to challenge and litigate any cases. Challenges by state attorneys general might fill the enforcement gap. And if there is a DOJ consent decree, Tunney Act oversight provides at least a limited role for the courts. For discussion of the Tunney Act, see Joseph G. Krauss et al., The Tunney Act: A House Still Standing, ANTITRUST SOURCE (June 2007), http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/Juno7_Krauss6_2of.authcheckdam.pdf [http://perma.cc/G6D5-CAUM].
91. On anticompetitive-effects requirements, see Fruehauf Corp. v. FTC, 603 F.2d 345, 352-53 (2d Cir. 1979).
92. These incipiency concerns are reflected in the language that the merger “may” substantially lessen competition, which involves probabilities, not certainties. See Brown Shoe Co. v. United States, 370 U.S. 294, 323 (1962). As subsequently explained in Philadelphia National Bank, merger analysis “requires not merely an appraisal of the immediate impact of the merger upon competition, but a prediction of its impact upon competitive conditions in the future; this is what is meant when it is said that the amended §7 was intended to arrest anticompetitive tendencies in their ‘incipiency.’” United States v. Nat’l Bank, 374 U.S. 321, 362 (1963) (citing Brown Shoe, 370 U.S. at 317, 346).
Incipiency also places weight on concerns about the potential effects from subsequent mergers in response to this one. Substantiality in principle might be gauged in terms of the likely dollar reduction in effective consumer welfare from higher prices, reduced quality, and slowed innovation. However, as a practical matter, dollar measures generally can only be predicted for some price effects and only very roughly. Thus, qualitative predictions of likely effects will normally be given substantial weight.

One key legal and policy issue raised here is whether it should be sufficient for the government just to prove likely higher prices or other injury to the customers of the upstream firms (i.e., the unintegrated downstream competitors) or whether it is also necessary to show harm to the customers of the downstream competitors. Focusing for simplicity on prices, a potential conflict can arise because a vertical merger that leads to higher upstream (input) prices may be profitable even absent higher downstream output prices or efficiencies.

Attempting to resolve this issue is beyond the scope of this Feature but it will set out the knotty issues. Consider the case of input foreclosure. On the one hand, a court might conclude the antitrust laws are designed to protect consumers, not competitors, and that downstream firms should be viewed simply as competitors, whereas the customers of these downstream firms should be viewed as the consumers. On the other hand, a court might hold it to be sufficient to show likely higher prices charged to the unintegrated downstream firms, who are the direct purchasers. This latter impact could be said to disrupt competition on the merits. Moreover, if the unintegrated downstream firms face higher costs, these higher costs generally will be passed on to their customers to some degree, unless there is a high degree of downstream competition from non-foreclosed competitors that are sufficiently close substitutes.

If evidence of higher prices charged to the downstream firms (or other harm) is deemed sufficient for liability, it raises a question of how merger efficiencies that benefit customers of the downstream merging firm would be taken into account. Which effect would determine the ruling—the lower price to these customers of the downstream firms or the higher price paid by the direct purchasers (who also are the rivals of the downstream merging firm)? Section 7 refers to anticompetitive effects in any line of commerce. The Horizontal Merger Guidelines similarly make it clear that a horizontal merger violates Section 7 if it creates anticompetitive effects in any relevant market, which normally involves direct

93. In the context of vertical mergers, Brown Shoe also referred to a “trend towards vertical integration.” 370 U.S. at 332-33.

94. The Horizontal Merger Guidelines do not require showing harm to consumers in the case of buy-side harm to upstream sellers. See U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, supra note 42, at 32-33.

purchasers.96 In Philadelphia National Bank, the Court rejected the view that a horizontal merger that harms direct customers in one relevant market might be justified by benefits to other customers in another relevant market.97 But merger law also stresses that its goal is “the protection of competition, not competitors.”98 This suggests some possible ambiguity that courts will ultimately have to resolve in that the unintegrated downstream firms are the direct customers but also are the competitors of the downstream merging firm.

Rather than a uniform standard, one possible resolution could make the legal outcome depend on the mechanism of the harm. If the merger facilitates upstream coordination, then harm to the downstream customers and disruption to competition from that coordination might be found to be sufficient to find liability. But, if coordination is unlikely, then it would be necessary to show harm to these customers of the downstream firms.

Another possible resolution would be to use a burden-shifting rule of reason whereby evidence of likely higher prices charged to these downstream rival firms is sufficient to shift the burden to the merging parties to produce evidence of likely merger-specific benefits. If the parties carry this burden, then the burden would shift back to the plaintiff to show anticompetitive effects on balance to the customers of the downstream firms.

This legal ambiguity is not unique to vertical mergers. Suppose that a horizontal merger increases the firm’s bargaining power over input suppliers, which permits it to obtain lower input prices. If this bargaining power amounts to classical monopsony, it would lead to harm to downstream customers as well as reduced market output, ceteris paribus. However, if the increased bargaining power does not amount to classical monopsony, but rather involves countervailing bargaining power over oligopolistic input suppliers, then the input price increase would not automatically lead to reduced market output.99 The downstream merging firm might have the incentive to pass on some of the cost savings to its customers, ceteris paribus. This raises the question of whether the court would balance the benefits to those customers against the harms to the input suppliers.100

98. Brown Shoe, 370 U.S. at 320 (emphasis omitted).
99. The lower prices could reduce the input suppliers’ incentives to invest, but the same argument would suggest that the lower costs could raise the merged firm’s incentives to invest. For further discussion of these issues, see C. Scott Hemphill & Nancy L. Rose, Mergers that Harm Sellers, 127 YALE L.J. 2078 (2018).
100. This issue was potentially raised by the Anthem-Cigna merger, see supra note 80 and accompanying text, but the court was skeptical of the cost savings and whether they would be passed on.
In summary, the issue of whether it should be necessary for liability to prove harm to the customers of the downstream firms, or whether it should be sufficient to prove only harm to the unintegrated downstream firms, is still unresolved. This is a key issue for guidelines and the courts.

B. Presumptions

A second question for courts and enforcement guidelines is whether or not to adopt anticompetitive or procompetitive presumptions. In the view of this author, vertical merger law and enforcement policy should not presume that the typical vertical merger in an oligopoly market is inherently anticompetitive. Neither should the agencies nor the law adopt the outdated Chicago School view that presumes that foreclosure concerns are inherently unlikely or that efficiency benefits can be presumed to be highly likely to prevent anticompetitive effects on consumers in situations where the merger otherwise raises competitive concerns. That presumption is not supported by Section 7’s basic incipiency standard or Ford and Fruehauf. Nor is it supported by theoretical and empirical economic analysis. That permissible presumption would lead to false negative errors and underdeterrence.

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102. See supra Section I.D. By contrast, the FTC’s 2007 submission to the Organisation for Economic Co-operation and Development recommended a very permissive standard that vertical mergers “should be allowed to proceed except in those few cases where convincing, fact-based evidence relating to the specific circumstances of the vertical merger indicates likely competitive harm.” Note by the United States, supra note 13, ¶ 1.

103. In his recent speech, Bruce Hoffman argued that empirical studies suggest that vertical restraints generally are procompetitive. See Hoffman, supra note 32, at 4. Yet he failed to take into account a number of recent empirical studies, including a number of merger natural experiments that more often find anticompetitive effects of vertical mergers or lack of vertical merger efficiencies. See, e.g., Baker et al., supra note 75, at 306 (offering evidence of anticompetitive input foreclosure in that the partial vertical merger of News Corp and DIRECTV led to higher prices for Fox (News Corp) content charged to rivals of DIRECTV); Justine S. Hastings & Richard J. Gilbert, Market Power, Vertical Integration and the Wholesale Price of Gasoline, 53 J. INDUS. ECON. 469 (2005) (offering evidence consistent with vertical integration leading to higher wholesale prices charged to competitors); Ali Horţaşcu & Chad Syverson, Cementing Relationships: Vertical Integration, Foreclosure, Productivity, and Prices, 115 J. POL. ECON. 250 (2007) (concluding that vertical integration did not lead to higher prices, but also rejecting vertical integration efficiencies); Jean-François Houde, Spatial Differentiation and...
Vertical mergers can lead to efficiency benefits that can prevent or mitigate consumer harms. But, as with horizontal mergers, some or all of these efficiencies (including EDM) might be obtained without a merger. Substantial efficiency benefits also are not inevitable. Benefits accruing to the merging firms also may come at the expense of reduced efficiencies for the unintegrated rivals from loss of access to critical inputs or higher input prices. Other upstream firms might raise their prices in response to input foreclosure, which would tend to lead to higher downstream prices. Increased cooperation between the divisions of the merging firm often would be accompanied by less cooperation between the merging firm and its rivals. As a result, it cannot be presumed that prices

Vertical Mergers in Retail Markets for Gasoline, 102 AM. ECON. REV. 2147 (2012) (offering evidence that an increase in the number of vertically integrated gas stations in Quebec City led to higher prices); Leemore Dafny et al., The Price Effects of Cross-Market Hospital Mergers (Nat’l Bureau of Econ. Research, Working Paper No. 22106, 2017) (offering evidence that mergers of complementary hospitals with common customers led to higher prices, a result also inconsistent with the single monopoly profit theory), http://www.nber.org/papers/w22106 [http://perma.cc/AFX6-UR63]; Fernando Luco & Guillermo Marshall, Vertical Integration with Multi-Product Firms: When Eliminating Double Marginalization May Hurt Consumers 15 (Oct. 20, 2017) (unpublished manuscript), http://www.ftc.gov/system/files/documents/public_events/1208143/luco_marshall.pdf [http://perma.cc/85VZ-4FY4] (offering evidence that Coca-Cola and PepsiCo bottler acquisitions raised prices of Dr. Pepper Snapple products, while reducing prices of Coca-Cola and PepsiCo products). But see Gregory S. Crawford et al., The Welfare Effects of Vertical Integration in Multichannel Television Markets (Nat’l Bureau of Econ. Research, Working Paper No. 21832, 2017) (offering evidence that vertical integration of cable TV distributors with regional sports networks generally led to lower prices), http://www.nber.org/papers/w21832 [http://perma.cc/3L7J-9TCS]. Hoffman, supra note 32, at 4 n.6, cites two earlier survey articles that purported to find little evidence of harms from vertical mergers: James C. Cooper et al., Vertical Antitrust Policy as a Problem of Inference, 23 INT’L J. INDUS. ORG. 639 (2005); and Francine Lafontaine & Margaret Slade, Exclusive Contracts and Vertical Restraints: Empirical Evidence and Public Policy, in HANDBOOK OF ANTITRUST ECONOMICS, supra note 17, at 391. Some of the limited number of vertical merger studies surveyed in these articles were stock market event studies, which do not account for the possible effects of investors’ expectations that competitors also will be acquired in subsequent mergers, among other problems. Almost half of the other vertical merger articles involved markets where vertical integration was prohibited by state laws intended mainly to benefit retailers, which limit their value in forming presumptions about markets where vertical mergers might be used to maintain or enhance market power. The two most relevant studies in those surveys involved vertical integration by video distributors into content. But these studies limited their analysis solely to the issue of customer foreclosure. They did not analyze the input foreclosure concerns that have been raised in recent matters, were validated in Baker et al., supra note 75, and now are the focus of the AT&T-Time Warner complaint. More generally, Jonathan Baker elsewhere has made the point that it is important to take into account whether econometric studies of allegedly anticompetitive conduct provide biased evidence about the effects of loosening antitrust rules if more intrusive current antitrust rules deter exclusionary conduct in the most problematic markets. See Baker, supra note 27, at 17-26.

104. This was an issue in the Google-ITA merger. Competitive Impact Statement at 6-9, United States v. Google Inc., No. 1:11-cv-00688 (D.D.C. Apr. 8, 2011) [hereinafter Google-ITA CIS],
would fall, the speed of innovation would increase, or consumers would benefit on balance.

Legal and enforcement presumptions might depend on market-structure factors. For example, the existence of substantial economies of scale and demand-side network effects can lead to severe incumbency advantages, high barriers to entry, and incentives to use vertical mergers to decrease the likelihood of entry.\textsuperscript{105} If, in addition, the incumbent has the ability and incentive to integrate de novo, the cost of false positives falls, relative to false negatives. Where the acquisition target is small or nascent, and the potential harms will occur in the future, it also may be more difficult to make a precise prediction with case-specific evidence. In light of the incipiency standard, these observations suggest there might be a modest anticompetitive presumption for mergers involving dominant firms in markets with significant scale economies or network effects.\textsuperscript{106} By contrast, there might be a procompetitive presumption for vertical mergers involving firms with low market shares. But for the remaining markets, a neutral competitive-effects presumption might be warranted.

\textbf{C. Near-Safe Harbors}

A third question for courts and enforcement guidelines is whether or not to adopt any safe harbors. A vertical merger does not change concentration in either market. However, market shares and concentration measures can be relevant to the competitive evaluation and might be used to create near-safe harbors.\textsuperscript{107} For example, the 1984 Non-Horizontal Merger Guidelines had a safe harbor for markets that were not highly concentrated.\textsuperscript{108}


\textsuperscript{106.} For a far more interventionist policy suggestion, see Lina M. Khan, \textit{Note, Amazon's Antitrust Paradox}, 126 \textsc{Yale L.J.} 710, 792-97 (2017).

\textsuperscript{107.} A near-safe harbor is one that normally is followed but might be ignored in special circumstances.

\textsuperscript{108.} U.S. \textsc{Dep’t of Justice}, supra note 5, at 26.
Courts and agencies should be cautious about adopting near-safe harbors based purely on market shares and concentration. The upstream merging firm may have a relatively small market share, but its own premerger ability and incentive to rapidly expand or engage in maverick behavior may be disciplining the pricing of other upstream firms. In this scenario, the merger might lead to profitable input foreclosure by permitting the other upstream firms to raise their prices and disadvantage its downstream rivals. Similarly, a low market share of the downstream merging firm may not be a good proxy for its premerger role as a disruptive buyer or downstream maverick.\textsuperscript{109}

However, the agencies might consider a possible near-safe harbor if both markets are unconcentrated, and if concentration also would be low for a modified measure of concentration, where the merging firms are excluded from the concentration calculation.\textsuperscript{110} The latter calculation is needed to take into account the incentives of nonmerging firms to respond to foreclosure by raising their own prices.

\textbf{D. Treatment of Complementary Product Mergers}

A fourth consideration is the treatment of mergers of firms producing complementary products. These mergers are analytically identical to vertical mergers.\textsuperscript{111} Evaluation of complementary product mergers uses the same economic tools as vertical mergers.\textsuperscript{112} The competitive concerns and benefits are analogous.\textsuperscript{113}

\textsuperscript{109} This same point applies to anticompetitive presumptions based solely on market shares and concentration. The upstream merging firm may currently have a large market share, but numerous other actual and potential competitors may have the ability and incentive to expand rapidly if it forecloses downstream rivals, which can render unprofitable an attempted input foreclosure strategy.


\textsuperscript{111} To illustrate, consider a hypothetical merger between a product designer and a product fabricator. For example, the fabricator might purchase a design and then sell the product to customers, or vice versa, in which case the merger would appear vertical. Or, the market may be structured such that the customer contracts with each company separately for the design and fabrication services, in which case the merger will appear complementary.

\textsuperscript{112} One seeming difference is that some customers may purchase only one of the complementary components. However, this also can occur in the vertical merger context. For example, electrically powered automobiles do not use fuel injectors or spark plugs.

\textsuperscript{113} The potential competitive harms discussed here should be distinguished from the entrenchment theory in complementary product mergers. Under that theory, the efficiencies from the transaction might lead a more efficient merged firm to capture sales from its rivals sufficient to cause those rivals to exit. See, e.g., FTC v. Procter & Gamble, 386 U.S. 568 (1967). Note, however, that a merger alternatively can entrench market power by raising the costs of competitors and entrants.
A few issues may be described differently or present themselves with superficially different conduct. A complementary product merger may lead to increased prices for unbundled purchases, which the merging firms may characterize as a bundled discount but may really be a bundled surcharge, relative to premerger prices. Total foreclosure of one product may present as a refusal to sell the products unbundled, which might be implemented through physical or contractual tying. Or, the merged firm might make its products incompatible with potential entrants’ products. However, the basic economic analysis is the same.

**E. Timing of Enforcement**

A fifth consideration for agencies and ultimately for courts is the timing of enforcement. It has been suggested by some that enforcement policy towards vertical (or complementary product) mergers should be delayed unless and until the merged firm engages in anticompetitive conduct. The rationale is that the firm may never attempt exclusionary conduct and the unnecessary remedy may create inefficiencies.

There are several flaws in such a policy of delay. First, consumers would suffer harms during the interim until liability has been established and a remedy put into place. The ability of the merged firm to delay resolution of the matter could entail a long lag before the anticompetitive effects are remedied. Second, if enforcement is delayed, it may be impossible to unwind the merger after the fact. The market structure also may have irreversibly changed. For example, the exclusionary conduct of the merged firm may already have caused excluded rivals irreversibly to exit, in which case the only remaining remedy might be price regulation. Third, the anticompetitive conduct may not even be reliably detected after-the-fact, just as coordination may not be detected after a horizontal merger. Fourth, Section 1 and Section 2 standards are more permissive than Section 7. All in all, failure to address these kinds of issues in the context of premerger review could lead to significant consumer harm and underdeterrence.

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115. Indeed, the fundamental rationale for the Hart-Scott-Rodino Act is to prevent the delays and limitations inherent in after-the-fact enforcement of Section 7. See 15 U.S.C. § 18a (2012).
F. Remedies for Anticompetitive Vertical Mergers

A sixth consideration relates to remedies. Most vertical merger consent decrees have mandated behavioral (conduct) remedies.\textsuperscript{116} This reflects confidence that these restrictions can prevent competitive harm while allowing the firms to achieve efficiency benefits that will increase competition. This confidence is sorely misplaced. Consider the general point: a conduct remedy represents an acknowledgement that the merger likely creates incentives to behave in ways that will harm competition. It also represents a belief that the agency has identified and successfully enumerated all the behaviors that might manifest those incentives in the future. But as regulatory economics has made clear, regulated firms surely are better informed about how various actions might allow them to exercise their market power.\textsuperscript{117} Moreover, the options for anticompetitive behavior likely will evolve over time as market conditions change. Despite this dynamic context and fundamental information asymmetry, consent decrees today also are typically short-lived with little room for modification.\textsuperscript{118} This short duration may be based on the view that markets will self-correct over the life of the decree or that certain provisions will outlive their usefulness. But market self-correction may not occur, and the consent decree provisions may fail to achieve their goal of preserving competition. It follows that rational and effective consent decrees should permit the agencies and courts to monitor the market and modify the decree if conditions change that make the specific provisions of the decree ineffective in preserving competition.

While these problems with behavioral remedies have generally been acknowledged in the case of horizontal mergers, where structural relief is gener-

\textsuperscript{116} Keyte & Schwartz, \textit{supra} note 10, at 10, 12-15; Salop & Culley, \textit{Enforcement Actions, supra} note 10.

\textsuperscript{117} See \textsc{Jean-Jacques Laffont \& Jean Tirole}, \textsc{A Theory of Incentives in Procurement and Regulation} (1993).

ally required, they have tended to be ignored or downplayed in vertical transactions. The current DOJ AAG has taken a strong stand against behavioral remedies. Remedies such as firewalls, exclusion prohibitions, and antidiscrimination provisions have loopholes and may be unable to be effectively enforced by the agencies or a court. Antidiscrimination provisions such as MFNs can create their own competitive problems.

For these reasons, structural relief, such as divestitures of the critical products that raise foreclosure concerns, divestitures sufficient to eliminate postmerger market power concerns, or paid-up licenses for critical intellectual property, should generally be required. In some situations, it will be necessary to enjoin the merger. It also is important to incorporate a process for postmerger competitive reviews that provide the agencies with an opportunity to significantly alter consent decrees if necessary to ensure competitive performance. While such provisions will place financial risk on the merging parties, that is preferable to putting all the competitive risk on consumers. Requiring the merging firms to bear this risk will also help to deter overreaching claims.

The courts have an important role in remedial design. In litigated cases where the merging firms commit to a remedy as part of their merger defense, courts can take a skeptical view of behavioral remedies. Additionally, courts can

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119. The DOJ’s remedy policy guide states that “[t]ed remedies that are too vague to be enforced, or that can easily be misconstrued or evaded, fall short of their intended purpose and may leave the competitive harm unchecked.” U.S. DEP’T OF JUSTICE, ANTITRUST DIVISION POLICY GUIDE TO MERGER REMEDIES 13 (June 2011), http://www.justice.gov/sites/default/files/atr/legacy/2011/06/17/272350.pdf [http://perma.cc/6AFQ-LKAJ]. For example, Luco & Marshall, supra note 103, found that the FTC’s behavioral remedy failed to prevent price increases for the rival brands bottled by Coca-Cola and PepsiCo.

120. Makan Delrahim, Assistant Att’y Gen., U.S. Dep’t of Justice, Keynote Address at American Bar Association’s Antitrust Fall Forum (Nov. 16, 2017), http://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-keynote-address-american-bar [http://perma.cc/Y6V6-FT47]. This author agrees with his concerns. See Steven Salop, Blocking the AT&T-Time Warner Merger Is Good Antitrust Economics and Law, MEDIUM (Nov. 21, 2017), http://medium.com/@PublicKnowledge/blocking-the-at-t-time-warner-merger-is-good-antitrust-economics-and-law-1845f07ed5d6 [http://perma.cc/6J73-GQC9]. For example, some consent decrees mandate a binding arbitration remedy for alleged anticompetitive price increases by the merged firm. E.g., Google-ITA CIS, supra note 104. That remedy likely would fail because commercial arbitrators are unequipped to determine whether such price increases are competitively unreasonable under the antitrust rule of reason. They can evaluate only whether price increases are “commercially reasonable,” a standard that permits a firm with additional bargaining power to charge higher prices.

121. See, e.g., Steven C. Salop & Fiona Scott Morton, Developing an Administrable MFN Enforcement Policy, ANTITRUST, Spring 2013, at 15.

122. See, e.g., Steven C. Salop, Modifying Merger Consent Decrees: An Economist Plot To Improve Merger Enforcement Policy, ANTITRUST, Fall 2016, at 15.
reject merger settlements with weak remedies and demand a role for judicial oversight and a broader scope for modification of consent decrees.

CONCLUSION

The view that vertical mergers are invariably efficient and procompetitive is a vestige of the Chicago School’s outdated economic analysis of exclusionary conduct. In the current economy where market power is more common and concentration is high in many significant markets, and where technology has led to substantial technological and network-effects entry barriers, vertical and complementary product mergers present heightened concerns. It is time to address these concerns and invigorate vertical merger enforcement to protect a vibrant competitive process, innovation, and consumer welfare.
Bibliography Organized by Topic and Region: Merger Remedies
[Compiled by David Weiskopf and Greg Pelnar1]

Merger Remedy Studies


Merger Remedy Guides/Statements


1 David Weiskopf is an Executive Vice President at Compass Lexecon and a member of the faculty at Johns Hopkins and the University of Cincinnati’s Lindner College of Business. Greg Pelnar is a Vice President at Compass Lexecon. This bibliography includes selected listings from ICN’s merger remedies bibliography.
OECD, Remedies in Merger Cases, 2011,  

U.K. Competition & Markets Authority (formerly U.K. Competition Comm’n), Merger Remedies: Competition Commission Guidelines, 2008, para. 4.33,  

U.S. Department of Justice, Antitrust Division Policy Guide to Merger Remedies, 2011,  


**Effects on Efficiencies and Welfare**


**Behavioral Remedies**

Deborah Feinstein, “Conduct Merger Remedies: Tried but Not Tested,” ANTITRUST, Fall 2011.


**Incentives & Incentive Contracts**


**Vertical Mergers**


**General Discussions**


Diana Moss, “Realigning Merger Remedies with the Goals of Antitrust,” American Antitrust Institute, April 9, 2018, [https://www.antitrustinstitute.org/sites/default/files/AAI_Merger%20Remedies.4.9.18.pdf](https://www.antitrustinstitute.org/sites/default/files/AAI_Merger%20Remedies.4.9.18.pdf).

China


Europe


Christopher Cook, Sven Frisch and Vladimir Novak, Recent Developments in EU Merger Remedies, 6-5 J. Eur. Competition Law & Prac., 2015.


United Kingdom


United States

Bill Baer, “Remedies Matter: The Importance of Achieving Effective Antitrust Outcomes,”


1. Introduction and Overview

A. Q&A

i. What is the purpose of merger remedies?

ii. What are the main types of merger remedies?

iii. To what extent does the approach to merger remedies vary across jurisdictions?

iv. Are certain types of mergers or industries more conducive to theoretically sound and practically feasible remedies than others?

B. Course materials (see, e.g., the Merger Remedy Guides/Statements section of the bibliography)

2. Behavioral vs. Structural Remedies

A. Q&A

i. What is the difference between behavioral and structural remedies and why do antitrust enforcement agencies tend to favor structural remedies?

ii. What is the rationale and impact of policies preferring/requiring structural remedies?

iii. Are behavioral remedies a useful tool to offset expected merger harms, and if so, can we systematically identify the proper circumstances and types of remedies?

iv. Are there instances where remedies other than divestitures should really be thought of as structural remedies?
B. Course materials


3. Intersection of Merger Remedies and Merger Efficiencies

A. Q&A

i. What is the relationship between merger remedies and merger efficiencies (and how does it vary according to the type of merger, remedy, and efficiency)?

ii. Should the goal of remedies be to restore pre-merger conditions or to maximize consumer welfare considering the effect on merger efficiencies? Which of these goals do the enforcement agencies tend to focus on?

iii. Are there specific industries or types of mergers or remedies where the two goals are likely to diverge the most?

B. Course materials (see, e.g., the Effects on Efficiencies and Welfare section of the bibliography)

4. Issues in Determining a Divestiture Buyer and Ensuring It Is an Effective Competitor (time permitting)

A. Q&A

i. What characteristics do antitrust enforcement agencies look for in a potential divestiture buyer?

ii. Is it problematic if the buyer requires ongoing support from the seller?
iii. Consider a merger of two retailers – What sorts of impediments might a divestiture buyer face in trying to be an effective competitor?

iv. Consider a merger of two intermediate manufactured goods suppliers – What sorts of impediments might a divestiture buyer face in trying to be an effective competitor?

B. Course materials (see bibliography)
I. Overall Findings of the Merger Retrospective Literature

Overview

Kwoka (2015) offers perhaps the most comprehensive review of the merger retrospective literature. He compiles a dataset of merger retrospective studies that fit into a defined set of inclusion criteria, which includes studies that (1) use postmerger data; and (2) have an appropriate control group. The retrospective studies included his paper are broken into two groups: (1) studies that focus on a single transaction; and (2) studies that analyze a group of transactions together.

His review of the studies focused on individual transactions finds that about 60 percent of products studied (including mergers, joint ventures, and airline code-sharing arrangements) experienced post-merger price increases while the other 40 percent experienced post-merger price decreases (after controlling for other factors). The median effect is 0.8 percent. Joint ventures are associated with negligible price increases, and airline code sharing arrangements are associated with price decreases.

Kwoka identifies 19 studies that analyze a group of transactions together, seven of which focus on price as an outcome variable. The studies are primarily in the hospital and banking sectors, with two studies in the pharmaceutical industry, and one each in the airlines and electric utility sectors. He finds that most of the studies show anticompetitive rather than procompetitive effects depending on the measured outcome (i.e. price increase or quality decrease). The studies that focus on cost find that costs generally decrease post-merger.

Vita and Osinski (2018) critique some of the conclusions of Kwoka’s study; in particular, his conclusions regarding the effectiveness of merger policy. One critique is that the mergers studied by Kwoka are old. For example, only seven of the mergers in his sample occurred after 2000 and the latest one occurred in 2006. In addition, the mergers in his sample are concentrated in only a few industries. The authors also argue that Kwoka does not employ standard techniques when conducting meta-analyses, such as weighting his reported averages by the variance of the effect from the underlying study.


Bibliography


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1 Additional criteria: must be horizontal transactions, partial mergers are included, must involve US product markets, must address a variable that represents a final outcome (i.e. price, quality, quantity, etc.), and must have appeared in a peer-reviewed journal.
II. Conducting Merger Retrospectives: Best Practices and Potential Pitfalls

Overview

Most merger retrospectives make use of the difference-in-difference (“DID”) methodology. The DID methodology compares the difference in outcomes between two time periods (say, the difference in price pre- and post-merger) for the treatment group (for example, markets affected by a merger) to a control group (for example, markets unaffected by a merger). This methodology is dependent a number of factors including: (1) choice of an appropriate control group; (2) measurement of price; (3) the time period studied; (4) whether to control for other factors; and (5) whether there is selection bias (for example, areas affected by a merger may be different in unobservable ways from those areas unaffected by a merger). Below, a number of studies that addressed one or more of these issues are reviewed.

Bibliography


Summary: The authors study five consumer product mergers that they deemed were on the cusp of enforcement action, but where the government ultimately allowed the merger to go through. They find...
price increases in four of the five mergers studied. The authors test the sensitivity of their results to the choice of control group (private label products versus similar, branded products of non-merging parties) as well as the definition of price and the time window studied.


Summary: The authors review three key methodological decisions in conducting effective merger retrospectives: (1) modeling the counterfactual; (2) measuring price; and (3) the time period of study. The choice of each depends on the specific circumstances being modeled. For example, the authors argue that if the assumption that the control group would have behaved like the treatment group but-for the merger is not a reasonable assumption it may be better to estimate a reduced form pricing equation and explicitly control for demand and cost factors (to the extent they are available). The authors also argue that researchers also need to be careful to measure price in a way that does not risk attributing changes in price caused by other factors to merger effects. For example, in studying hospital mergers, the cost of serving patients depends on the type of care they receive. Researchers need to be careful to control for these costs or risk attributing a price increase following a merger to the merger rather than to a change in the composition of patients that are admitted. Finally, the authors argue that researchers should attempt to study a time period sufficiently long to capture merger effects but short enough so as not to compound merger effects with other changes in the market.


Summary: The authors study the effect of mergers of grocery stores on retail prices. They study several mergers around the same time period in different geographic markets with varying levels of concentration. They find that mergers tend to increase prices in highly concentrated markets, but have only a small effect or decrease prices in unconcentrated markets. The authors use a DID methodology, comparing retail prices in markets affected by mergers to similar markets unaffected by a change in concentration. They test the assumption that the control markets would have behaved like treatment markets by comparing the pre-merger price trends of treatment and control markets and removing control markets that have a dissimilar pre-merger price trend. The authors use two additional techniques to better match treatment and control groups: propensity scores and synthetic controls. They find that their results are robust to the choice of control group.


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2 Propensity scores attempt to estimate the probability that a control group would have experienced a merger. Such techniques are typically used when there are multiple treatment groups. Synthetic controls are a technique whereby a single “artificial” control group is constructed from many potential control groups. Such techniques are typically used when there is a single treatment group.
**Summary:** The authors study the effect of legacy airline mergers on fares and output. They study three mergers: Delta/Northwest, United/Continental, and American Airlines/US Airways. The authors use a DID methodology and compare routes affected by the merger (overlap routes) to a group of selected control routes. Control routes were chosen based on certain criteria, including matching the number of carriers on treatment and control routes in the pre-merger period, and ensuring that pre-merger trends in price and output were similar between the treatment and control groups. The authors also used different control groups to test the robustness of their conclusions. They find legacy airline mergers are associated with pro-competitive rather than anti-competitive effects (i.e. decrease/no change in fares and increase in output). The results were robust to choice of control group and the time period studied.


**Summary:** Tenn studies the impact of a hospital merger in the California Bay Area that was not challenged by the FTC and unsuccessfully challenged by the California AG. Sutter (a hospital network) purchased Summit hospital. The transaction combined one Sutter hospital in Berkeley, CA (Alta Bates) with Summit (located 2.5 miles away in Oakland). Tenn finds that Summit increased prices significantly post-transaction (relative to a group of control hospitals). To control for changes in case and patient mix across hospitals (which causes price to differ for non-merger related reasons), Tenn first generates a price index by estimating a model of hospital prices on patient-specific factors (including admission length, diagnosis category, cost category, plan type, patient sex, and patient age). With a comparable price metric across hospitals, Tenn then estimates a DID model, using a comparable group of control hospitals (urban, non-government, general service hospitals). He also excludes from the control group hospitals recently involved in a merger as well as other hospitals in the same MSA (because they may have been affected by the transaction). In addition, Tenn includes hospital-specific characteristics in the DID model (i.e. whether it is a teaching hospital, number of beds, for-profit status, percent of patients that are Medicare or Medicaid, etc.).


**Summary:** The authors note that even if treatment and control markets experience very similar trends in cost and demand factors, the effect of cost and demand on market outcomes might differentially effect treatment and control markets, which poses a problem for the DID methodology. Several steps can be taken to mitigate these issues. For example, the authors suggest studying markets or time periods free of large demand or cost shocks; selecting control markets that appear to be similar to the treatment markets in those parameters that affect the transmission of supply and demand shocks; and examining prices in the treatment and control markets pre-merger.

III. Usefulness of Merger Retrospectives in Antitrust Policy

Overview

Several studies have used merger retrospective to evaluate techniques used to predict merger effects such as merger simulation or stock market event studies. These studies generally find mixed results for how well simulations and other techniques do at predicting merger effects.

Studies in the specific industry or even prior mergers of one of the merging parties can be particularly useful, but such data are usually private. However, such studies have been used in two recent litigated cases. Judge Leon relied on econometric analysis showing prior vertical transactions had no effect on content prices in his AT&T/Time Warner decision. During the GE-Electrolux trial, the issue of whether a prior merger in the industry raised prices was also considered (Whirlpool-Maytag).

Bibliography


Summary: The author compares the pre-merger price predictions from merger simulations with the actual outcomes of mergers based on retrospectives for five airline mergers. He finds that pre-merger predictions based on merger simulation predict the direction of effect, but there is wide variation around the magnitude.


Summary: Carlton proposes a framework for evaluating government enforcement of merger policy, rather than evaluating individual mergers. He argues that we cannot determine whether government enforcement is too lax or too stringent based on individual outcomes. Instead, he argues, we must combine ex-ante predictions of merger effects with actual observed outcomes.


Summary: The authors compare predictions from discrete choice hospital demand models with observed outcomes. The hospital demand models predict where patients would go if a hospital is removed from the patient’s choice set (and thus are used to simulate potential mergers). The authors compare these predictions with patients’ actual observed choices in cases where a hospital was exogenously removed from the market (due to a natural disaster that closed one of the hospitals in the choice set). They find models that allow for flexible interactions between patient characteristics and unobserved hospital quality perform the best.

Summary: One theory for assessing whether a merger will be pro-competitive or anti-competitive is to look at competitors’ stock prices. This is known as an event study. If the stock price of two merging parties’ competitors goes up on news of the transaction it indicates the market thinks the merger will benefit the competitors as well (for example, because competitors will now be able to raise price). Such an effect would be consistent with anti-competitive effects from the transaction. On the other hand, if the competitors’ stock prices go down it might indicate a pro-competitive effect. The authors find the predictions of stock market event studies do not reflect whether a consummated merger was pro-competitive or anti-competitive, and thus such studies are not very useful in practice.


Summary: Weinberg and Hosken (2013) perform a similar analysis to Peters (2006), comparing the predictions from three demand system estimations (linear, logit, and AIDS) to observed outcomes. They find that while some predictions were close, the results overall are mixed.


Summary: In the AT&T/Time Warner decision, Judge Leon cites econometric evidence that prior instances of vertical integration had no statistically significant effect on content pricing, which cast doubt on the government’s theory that a combined AT&T (Direct TV)/Time Warner would raise the price of Time Warner content to rivals. The judge also notes that his opinion on the reliability of the econometric studies was further reinforced by testimony from executives of vertically integrated programmers and distributors (e.g. Comcast/NBC-Universal). Note this case is currently on appeal.


Summary: Pages 542-543 discuss the relevancy of the 2006 Whirlpool-Maytag merger to the challenged 2014 merger between GE and Electrolux (the parties ultimately dropped the transaction during trial). The parties’ economic expert econometric results differed from those found by academic researchers. The proximity of the Great Recession also made it potentially difficult to find a suitable control group. The authors conclude, “In some respects the evidence in this case shows far less about what really happened after the Whirlpool–Maytag merger than about the difficulty of identifying and executing informative merger retrospectives.”
Merger Retrospectives: History, Methodology, and Inference

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The views expressed in this presentation are those of the presenter and are not necessarily those of the Federal Trade Commission or any of its individual Commissioners.

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I. History

Retrospectives in two key industries
  ◦ Hospitals
  ◦ Petroleum

Other Studies
  ◦ Retailing
  ◦ Consumer Products

Divestitures
Hospital Merger Enforcement 1990s

Most cases decided on geographic market
  ◦ Elzinga-Hogarty Analysis
    ◦ Measure flow of patients into and out of region
    ◦ Increase region size until flows into and out of a region are small
    ◦ In hospital industry, this technique generated large geographic markets

The Relevance of Non-profit status of hospitals were a major factor in other cases.

DOJ and FTC lost 7 consecutive hospital mergers in late 1990s, and essentially stopped challenging hospital mergers.
In 2002, then FTC Chairman Muris decided to conduct retrospective analyses of a number of consummated hospital mergers.

- Subpoenaed data from hospitals and insurance companies.
- Estimated the price effects resulting from four hospital mergers.


- Haas-Wilson and Garmon, “Two Hospital Mergers on Chicago’s North Shore: A Retrospective Study”
- Tenn, “The Price Effects of Hospital Mergers: A case study of the Sutter-Summit Transaction”
- Thompson, “The Effect of Hospital Mergers on Inpatient Prices: A Case Study of the New Hannover-Cape Fear Transaction”
Outcomes of Hospital Research

Show previous methodology does not identify problematic mergers
  ◦ Many economists now explicitly model bargaining between hospitals and insurers.
    ◦ Patient flow information is used to identify bargaining model.

Successful challenge of a consummated merger
  ◦ FTC vs Evanston/Northwestern/Highland Park

FTC now has a very active prospective merger enforcement program
  ◦ Numerous hospital mergers blocked or abandoned since 2008
Gasoline Studies

Bureau of Economics staff conducted five studies of seven consummated mergers in the petroleum industry.

Gasoline Studies

Concern that increased market concentration resulting from mergers was responsible for increased gasoline prices.

- Studies by Bureau of Economics Staff do not find evidence of a significant increase in retail price following the studied mergers.
- Other studies using different modeling approaches find price increases following some of these mergers, e.g., GAO (2004), Hastings (2004), Hastings and Gilbert (2005).

Recent Studies:

Retail Markets

“Do Retail Mergers Affect Competition? Evidence from Grocery Retailing”


Estimate price effects of supermarket mergers

Examine many mergers taking place at roughly same point in time.

- 14 U.S. markets in 2007 or 2008

Different levels of concentration

- 8 in highly concentrated markets (HHI>2500)
- 6 in moderate or unconcentrated markets
Findings

Prices increased in 5 markets
  ◦ 4 were highly concentrated.

Prices decreased in 5 markets
  ◦ Only 1 highly concentrated.

Conclusions:
  ◦ HHI thresholds are a useful enforcement screen.
    ◦ Mergers in unconcentrated markets are rarely problematic.
    ◦ Mergers in concentrated markets are sometimes, but not always, problematic.
  ◦ Price reductions consistent with merger efficiencies.
Unilateral Effects: Differentiated Products

Focus on how mergers change the merged firm’s pricing incentives.
  ◦ Deneckere and Davidson (1985)

Introduced in 1992 Horizontal Merger Guidelines

Commonly assumed model for simulating merger price effects

Empirical evidence unilateral effects are important?
Unilateral Effects: Consumer Goods Markets

Ashenfelter and Hosken (2010)
- 5 Consumer Products mergers in late 1990s
- Find prices increase following 4 of 5 mergers

Ashenfelter, Hosken, Weinberg (2013)
- Examine Maytag/Whirlpool appliance merger
- Price increases in 2 of 4 most affected markets

Weinberg and Hosken (2013)
- Evaluate merger simulation methodologies using data on two consummated mergers.
- Find merger simulation sensitive to assumed demand model.
Divestiture Study: J&J/Pfizer

Examine the effectiveness of divestitures resulting from a large merger.
  ◦ Divestiture of 6 consumer products following Johnson and Johnson’s purchase of Pfizer’s consumer health division.

Determine if the divestiture maintained competition in affected markets
  ◦ Were brands as effective with a new owner?
  ◦ Did prices rise or output fall?

Finding:
  ◦ “Overall, the results are consistent with the view that the divestitures maintained the pre-transactional level of competition”

II. Methodology

Examine data
  ◦ Price, Quantity

Determine if price rose (quantity fell) as a result of merger.

Not a simple exercise
  ◦ Difficult to isolate the change in price caused by the merger.
Key Issues

Markets are Dynamic
- Prices change for many reasons.
- Need to control for other factors that may affect prices.
  - Estimate what prices would have been “but for” the merger.

Need to identify data for study
- Determine which prices/quantities to examine.
- Theory of competitive harm and institutional details are critical in determining correct price measure.

Timing
- Need to determine time period in which merger may affect prices. May be different for efficiencies (lower price) and market power (raising price).

Which Mergers to study?
- Need to focus on mergers on the enforcement margin.
What is the price in the “but for” world?

Goal of Merger Study: Measure change in prices *caused* by the merger.

- Price Effect = \( P_{\text{merger}} - P_{\text{no merger}} \)

Other things equal:

- A price decrease is interpreted as pro-consumer.
  - Merger generated efficiencies passed-thru to consumers.
- A price increase is interpreted as harming consumers.
  - Merger created/enhanced market power to the detriment of consumers.

Problem: We do not observe what prices would have been if the merger had not taken place.
Need to estimate prices “but for” the merger

We only observe a world in which the merger has taken place.

How do we forecast what prices would have been without a merger?

- Can assume prices would have been the same pre-merger as post merger.
- Price Effect: Difference in observed pre and post merger prices.
- Is this a reasonable assumption?
Hypothetical Petroleum Merger

Assume a major petroleum merger took place in the U.S. on January 1, 2008.

- Gasoline price on December 31, 2007: $3.03
- Gasoline price on June 30, 2008: $4.03
- Gasoline price on December 31, 2008: $1.57

Conclude?

- Short term price increase caused by market power, 33% price increase.
- End of year, gain efficiencies, price falls 50% from pre-merger period.
Probably not correct

What is main input into gasoline?
- Crude Oil

Crude Oil Prices/Gasoline Prices
- December 31, 2007: $96/$3.03
- June 30, 2008: $140/$4.03
- December 31, 2008: $39/$1.57

Most of the change in gasoline prices caused by change in crude prices.

We need to develop better techniques to account for prices in the “but for” world where merger did not occur.
Method 1: Explicitly model the process determining prices.

Identify all important variables that determine price (demand and cost variables).

- For gasoline this includes
  - Cost: Crude Oil Prices, Refining Capacity
  - Demand: Weather, Income, Industrial Output

Price effect of merger is defined as the change in post-merger prices *after* controlling for cost and demand factors in a regression analysis.
Potential Problem with Method 1

Often difficult to identify and measure all important variables that affect price.

Example, a refinery outage will cause gasoline prices to increase.
  ◦ Less output from outage results in higher price, not related to merger.

If a refinery stops operating in the post-merger period, we may mistakenly attribute the price increase to the merger rather than the refinery outage.
Method 2: Difference-in-Difference

Not feasible to identify and measure all factors that affect price.

Assume we can identify a product that is:

- Unaffected by the merger, but experiences same demand and supply conditions as a product affected by a merger.

Product Affected by Merger: Treatment
Product Unaffected by Merger: Control

What is merger effect?
- Change in the relative price of the treatment and control products.
Example

Estimate price effect of merger of two gasoline stations in City A.

We identify a City B
  ◦ Has same level of pre-merger competition as A.
  ◦ Has same cost of wholesale gasoline as city A.
  ◦ Has same demand as city A (similar wealth, population, weather, etc).

We determine the price effect of the merger by measuring how prices changed in City A relative to City B following the merger.
  ◦ Idea, the only change in City A relative to City B is the merger, thus the change in price must be a result of the change in market structure.
Gasoline Station Merger

Mathematically:

- Price Effect of the merger is the change in City A’s price minus the change in City B’s price:

\[
\text{Price Effect} = (\text{Price}_A^{\text{Post-Merger}} - \text{Price}_A^{\text{Pre-Merger}}) - (\text{Price}_B^{\text{Post-Merger}} - \text{Price}_B^{\text{Pre-Merger}})
\]
Potential Problems with Method 2

Need to find a control product.
- In many applications difficult to find a product that faces similar demand and cost conditions as product affected by merger that is also unaffected by the merger.

Most studies examine many different controls to test validity of finding.
- No Control is perfect. Find a number of controls, hope that estimated price effect is similar with a different control.

Most commonly used to examine mergers with narrow geographic markets.
- Idea: Each geographic market is isolated, can be viewed as separate economy. Can isolate the effect of the merger.
- Hospitals, Cement, Banking, Airline (City Pairs), Gasoline
Which method is best?

Method 1
- Production process and demand are well known.
- Data is available describing production and demand.

Method 2
- Limited data availability.
- Can identify reasonable controls.

With no viable control and limited data?
- Difficult case. Method 2 cannot be used. However, results obtained using Method 1 must be treated with caution.
Price Measurement

Goal: Measure Price Effect of Merger.

Which Price?
- Retail Price
- Wholesale Price
- List Price
- Transaction Price

Best Price is typically total cost paid by final customer, often unobservable.
Example: When Price Measure Matters

Many Mergers affect vertical structure of industry: relationship between suppliers and customers.

A merger may cause *some* wholesale prices to increase while retail prices *fall*.

- Following a vertical merger a firm may charge higher prices to downstream rivals, and lower prices to its own downstream firm.
- A merger can result in a wholesale price increase for some firms and *lower* retail prices for consumers..

Taylor and Hosken (2007) find evidence of observed wholesale price increasing while retail prices remained unchanged.
Merger Selection Issues

Which mergers should be studied?

- In U.S. most mergers have no competitive issue.

To determine effectiveness of government decision making, and given resource constraints, we need to focus on the *marginal* merger.

- Examine mergers where competitive harm likely, but agency choose not to challenge.

If estimated price effects typically positive, suggests under-enforcement.

If estimated price effects typically negative, suggests too much enforcement.
Examples of Marginal Mergers

Ashenfelter and Hosken (2008)
- Examine 5 consumer product mergers.
- Markets all highly concentrated.
- Similar levels of concentration to mergers challenged by FTC.
- Two mergers were partially modified.

Tenn (2008) estimates the price effect of a merger where government sued and lost!
- Led to large price increase.
When will merger affect pricing?

In US, by law firms can not coordinate behavior before merger is approved by government.

As a practical matter, firms may change behavior in anticipation of the merger.
  ◦ In studies of airline and banking mergers, evidence of price increases before the merger is consummated.

Price may increase after merger consummated.
  ◦ Many industries have long term contracts. A firm cannot increase price until the contract has expired.
Defining Pre and Post Merger Pricing

Correct measure depends on institutions.
  ◦ Are prices set under long term contracts?

Can look for structural breaks in pricing
  ◦ Plot average prices, see if a noticeable shift in pricing.

Experiment with different measures
  ◦ Ashenfelter and Hosken (2008) consider 2 measures.
    ◦ Defined by merger consummation date.
    ◦ Drop all data within 3 months of the merger date.
    ◦ Choice did not affect results.
III. Inference and Merger Retrospective Studies

Merger Retrospectives are Individual Case Studies
  ◦ How can we generalize findings?

Carlton (2009): Study many mergers to learn about distribution of merger price effects.
  ◦ Mergers in unconcentrated markets
  ◦ Mergers in concentrated markets
  ◦ Need information on predictions of the agency
Policy Evaluation: Study Design

Literature does not measure price effect of *average* merger
- More than 96% of mergers in U.S. cleared without a second request (*HSR Report FY 2012*)
- Many are not horizontal mergers

Goal given limited resources: Evaluate agency decision making on the enforcement margin
- Cases where agency challenged but court allowed merger
- Cases where agency allowed merger but seriously considered challenging.

Conduct Many Studies
- If prices increase, on average, following mergers on the enforcement margin, then enforcement is not aggressive enough
- Meta Analysis of existing retrospective studies (Kwoka).
Selection Effects

Can only study one side of potential enforcement errors – false negatives.

Cannot say anything about false positives

Sample for meta-analysis not randomly selected (Vita and Osinski (2016, 2017))

Hard to make inferences about observed win rates or weighted average price effects

Natural Experiments?
Distribution of Price Effects

- 31% of sample
- Median = 0.8%
- Mean = 4.31%

## Selection Effects

<table>
<thead>
<tr>
<th>Enforcement Action</th>
<th>Allow Merger</th>
<th>Block Merger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procompetitive Merger</td>
<td>Correct Negative</td>
<td>False Positive – Type I Error</td>
</tr>
<tr>
<td>Anticompetitive Merger</td>
<td>False Negative – Type II Error</td>
<td>Correct Positive</td>
</tr>
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</table>

- Observed (but not randomly selected)
- Not Observed
Selection Effects

Sampling Distribution of $\hat{\theta}$ for Efficient Merger $\theta_E < 0$

Sampling Distribution of $\hat{\theta}$ for Anticompetitive Merger $\theta_A > 0$

Effects of Merger Observable

Effects of Merger Not Observable

$\theta$ is the enforcement metric (e.g., $\theta = \Delta P$)

$\theta^T = 0$ (Enforcement Threshold)
Observable Set of Merger Effects

Increased probability of observing Efficient Merger $\theta_E < 0$

Probability of observing Anticompetitive Merger $\theta_A > 0$ (Type II Error)

Enforcement Threshold $\theta^T = 0$
Unobservable Set of Merger Effects

Probability Efficient Merger is blocked $\theta_E < 0$

Increased Probability Anticompetitive Merger is blocked $\theta_A > 0$

$\theta_T = 0$
Selection Effects – Concentrating on Enforcement Margin

Near the enforcement margin

\( \theta^T, L = \frac{f(\hat{\theta}|\theta_A)}{f(\hat{\theta}|\theta_E)} \approx 1, \)

and \( \alpha = \frac{f(\hat{\theta}|\theta_E)}{f(\hat{\theta}|\theta_E)+f(\hat{\theta}|\theta_A)} \approx .5 \)
Concluding Thoughts

Value of Retrospective Research

◦ Learn where decision making is flawed.
  ◦ Market definition in U.S. hospital markets.

◦ Can evaluate enforcement tools
  ◦ Use price effects from consummated mergers to test the predictions generated by methods of simulating price effects, (e.g., Merger Simulation, CMCR, UPP, CLA, HHI (Garmon RAND (2017), Hosken & Weinberg, RESTAT (2013))).
  ◦ Divestiture Policy (Tenn & Yun)

◦ Should be cautious when making broader inferences about merger policy from retrospective studies given selection effects:
  ◦ Agency enforcement and court decisions
  ◦ Selection of cases for retrospective study and publication
NOTE: Where it is feasible, a syllabus (headnote) will be released, as is being done in connection with this case, at the time the opinion is issued. The syllabus constitutes no part of the opinion of the Court but has been prepared by the Reporter of Decisions for the convenience of the reader. See United States v. Detroit Timber & Lumber Co., 200 U. S. 321, 337.

SUPREME COURT OF THE UNITED STATES

Syllabus

OHIO ET AL. v. AMERICAN EXPRESS CO. ET AL.

CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SECOND CIRCUIT

No. 16–1454. Argued February 26, 2018—Decided June 25, 2018

Respondent credit-card companies American Express Company and American Express Travel Related Services Company (collectively, Amex) operate what economists call a “two-sided platform,” providing services to two different groups (cardholders and merchants) who depend on the platform to intermediate between them. Because the interaction between the two groups is a transaction, credit-card networks are a special type of two-sided platform known as a “transaction” platform. The key feature of transaction platforms is that they cannot make a sale to one side of the platform without simultaneously making a sale to the other. Unlike traditional markets, two-sided platforms exhibit “indirect network effects,” which exist where the value of the platform to one group depends on how many members of another group participate. Two-sided platforms must take these effects into account before making a change in price on either side, or they risk creating a feedback loop of declining demand. Thus, striking the optimal balance of the prices charged on each side of the platform is essential for two-sided platforms to maximize the value of their services and to compete with their rivals.

Visa and MasterCard—two of the major players in the credit-card market—have significant structural advantages over Amex. Amex competes with them by using a different business model, which focuses on cardholder spending rather than cardholder lending. To encourage cardholder spending, Amex provides better rewards than the other credit-card companies. Amex must continually invest in its cardholder rewards program to maintain its cardholders’ loyalty. But to fund those investments, it must charge merchants higher fees than its rivals. Although this business model has stimulated competitive innovations in the credit-card market, it sometimes causes friction
with merchants. To avoid higher fees, merchants sometimes attempt to dissuade cardholders from using Amex cards at the point of sale—a practice known as “steering.” Amex places antisteering provisions in its contracts with merchants to combat this.

In this case, the United States and several States (collectively, plaintiffs) sued Amex, claiming that its antisteering provisions violate §1 of the Sherman Antitrust Act. The District Court agreed, finding that the credit-card market should be treated as two separate markets—one for merchants and one for cardholders—and that Amex’s antisteering provisions are anticompetitive because they result in higher merchant fees. The Second Circuit reversed. It determined that the credit-card market is one market, not two. And it concluded that Amex’s antisteering provisions did not violate §1.

**Held:** Amex’s antisteering provisions do not violate federal antitrust law. Pp. 8–20.

(a) Section 1 of the Sherman Act prohibits “unreasonable restraints” of trade. *State Oil Co. v. Khan*, 522 U. S. 3, 10. Restraints may be unreasonable in one of two ways—unreasonable *per se* or unreasonable as judged under the “rule of reason.” *Business Electronics Corp. v. Sharp Electronics Corp.*, 485 U. S. 717, 723. The parties agree that Amex’s antisteering provisions should be judged under the rule of reason using a three-step burden-shifting framework. They ask this Court to decide whether the plaintiffs have satisfied the first step in that framework—i.e., whether they have proved that Amex’s antisteering provisions have a substantial anticompetitive effect that harms consumers in the relevant market. Pp. 8–10.

(b) Applying the rule of reason generally requires an accurate definition of the relevant market. In this case, both sides of the two-sided credit-card market—cardholders and merchants—must be considered. Only a company with both cardholders and merchants willing to use its network could sell transactions and compete in the credit-card market. And because credit-card networks cannot make a sale unless both sides of the platform simultaneously agree to use their services, they exhibit more pronounced indirect network effects and interconnected pricing and demand. Indeed, credit-card networks are best understood as supplying only one product—the transaction—that is jointly consumed by a cardholder and a merchant. Accordingly, the two-sided market for credit-card transactions should be analyzed as a whole. Pp. 10–15.

(c) The plaintiffs have not carried their burden to show anticompetitive effects. Their argument—that Amex’s antisteering provisions increase merchant fees—wrongly focuses on just one side of the market. Evidence of a price increase on one side of a two-sided transaction platform cannot, by itself, demonstrate an anticompetitive exer-
Syllabus

cise of market power. Instead, plaintiffs must prove that Amex's antisteering provisions increased the cost of credit-card transactions above a competitive level, reduced the number of credit-card transactions, or otherwise stifled competition in the two-sided credit-card market. They failed to do so. Pp. 15–20.

(1) The plaintiffs offered no evidence that the price of credit-card transactions was higher than the price one would expect to find in a competitive market. Amex's increased merchant fees reflect increases in the value of its services and the cost of its transactions, not an ability to charge above a competitive price. It uses higher merchant fees to offer its cardholders a more robust rewards program, which is necessary to maintain cardholder loyalty and encourage the level of spending that makes it valuable to merchants. In addition, the evidence that does exist cuts against the plaintiffs' view that Amex's antisteering provisions are the cause of any increases in merchant fees: Visa and MasterCard's merchant fees have continued to increase, even at merchant locations where Amex is not accepted. Pp. 16–17.

(2) The plaintiffs' evidence that Amex's merchant-fee increases between 2005 and 2010 were not entirely spent on cardholder rewards does not prove that Amex's antisteering provisions gave it the power to charge anticompetitive prices. This Court will "not infer competitive injury from price and output data absent some evidence that tends to prove that output was restricted or prices were above a competitive level." *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U. S. 209, 237. There is no such evidence here. Output of credit-card transactions increased during the relevant period, and the plaintiffs did not show that Amex charged more than its competitors. P. 17.

(3) The plaintiffs also failed to prove that Amex's antisteering provisions have stifled competition among credit-card companies. To the contrary, while they have been in place, the market experienced expanding output and improved quality. Nor have Amex's antisteering provisions ended competition between credit-card networks with respect to merchant fees. Amex's competitors have exploited its higher merchant fees to their advantage. Lastly, there is nothing inherently anticompetitive about the provisions. They actually stem negative externalities in the credit-card market and promote interbrand competition. And they do not prevent competing credit-card networks from offering lower merchant fees or promoting their broader merchant acceptance. Pp. 18–20.

838 F. 3d 179, affirmed.

THOMAS, J., delivered the opinion of the Court, in which ROBERTS, C. J., and KENNEDY, ALITO, and GORSUCH, JJ., joined. BREYER, J., filed a
dissenting opinion, in which GINSBURG, SOTOMAYOR, and KAGAN, JJ., joined.
JUSTICE THOMAS delivered the opinion of the Court.

American Express Company and American Express Travel Related Services Company (collectively, Amex) provide credit-card services to both merchants and cardholders. When a cardholder buys something from a merchant who accepts Amex credit cards, Amex processes the transaction through its network, promptly pays the merchant, and subtracts a fee. If a merchant wants to accept Amex credit cards—and attract Amex cardholders to its business—Amex requires the merchant to agree to an antisteering contractual provision. The antisteering provision prohibits merchants from discouraging customers from using their Amex card after they have already entered the store and are about to buy something, thereby avoiding Amex’s fee. In this case, we must decide whether Amex’s antisteering provisions violate federal antitrust law. We conclude they do not.

I

A

Credit cards have become a primary way that consumers in the United States purchase goods and services.
When a cardholder uses a credit card to buy something from a merchant, the transaction is facilitated by a credit-card network. The network provides separate but interrelated services to both cardholders and merchants. For cardholders, the network extends them credit, which allows them to make purchases without cash and to defer payment until later. Cardholders also can receive rewards based on the amount of money they spend, such as airline miles, points for travel, or cash back. For merchants, the network allows them to avoid the cost of processing transactions and offers them quick, guaranteed payment. This saves merchants the trouble and risk of extending credit to customers, and it increases the number and value of sales that they can make.

By providing these services to cardholders and merchants, credit-card companies bring these parties together, and therefore operate what economists call a “two-sided platform.” As the name implies, a two-sided platform offers different products or services to two different groups who both depend on the platform to intermediate between them. See Evans & Schmalensee, Markets With Two-Sided Platforms, 1 Issues in Competition L. & Pol’y 667 (2008) (Evans & Schmalensee); Evans & Noel, Defining Antitrust Markets When Firms Operate Two-Sided Platforms, 2005 Colum. Bus. L. Rev. 667, 668 (Evans & Noel); Filistrucchi, Geradin, Van Damme, & Affeldt, Market Definition in Two-Sided Markets: Theory and Practice, 10 J. Competition L. & Econ. 293, 296 (2014) (Filistrucchi). For credit cards, that interaction is a transaction. Thus, credit-card networks are a special type of two-sided platform known as a “transaction” platform. See id., at 301, 304, 307; Evans & Noel 676–678. The key feature of transaction platforms is that they cannot make a sale to one side of the platform without simultaneously making a sale to the other. See Klein, Lerner, Murphy, & Plache, Competition in Two-Sided Markets: The Antitrust Eco-
Two-sided platforms differ from traditional markets in important ways. Most relevant here, two-sided platforms often exhibit what economists call “indirect network effects.” Evans & Schmalensee 667. Indirect network effects exist where the value of the two-sided platform to one group of participants depends on how many members of a different group participate. D. Evans & R. Schmalensee, Matchmakers: The New Economics of Multisided Platforms 25 (2016). In other words, the value of the services that a two-sided platform provides increases as the number of participants on both sides of the platform increases. A credit card, for example, is more valuable to cardholders when more merchants accept it, and is more valuable to merchants when more cardholders use it. See Evans & Noel 686–687; Klein 580, 584. To ensure sufficient participation, two-sided platforms must be sensitive to the prices that they charge each side. See Evans & Schmalensee 675; Evans & Noel 680; Muris, Payment Card Regulation and the (Mis)Application of the Economics of Two-Sided Markets, 2005 Colum. Bus. L. Rev. 515, 532–533 (Muris); Rochet & Tirole, Platform Competition in Two-Sided Markets, 1 J. Eur. Econ. Assn. 990, 1013 (2003). Raising the price on side A risks losing participation on that side, which decreases the value of the platform to side B. If participants on side B leave due to this loss in value, then the platform has even less value to side A—risking a feedback loop of declining demand. See Evans & Schmalensee 675; Evans & Noel 680–681. Two-sided platforms therefore must take these indirect network effects into account before making a change in price on either side. See Evans & Schmalensee 675; Evans &
Sometimes indirect network effects require two-sided platforms to charge one side much more than the other. See Evans & Schmalensee 667, 675, 681, 690–691; Evans & Noel 668, 691; Klein 585; Filistrucchi 300. For two-sided platforms, “‘the [relative] price structure matters, and platforms must design it so as to bring both sides on board.’” Evans & Schmalensee 669 (quoting Rochet & Tirole, Two-Sided Markets: A Progress Report, 37 RAND J. Econ. 645, 646 (2006)). The optimal price might require charging the side with more elastic demand a below-cost (or even negative) price. See Muris 519, 550; Klein 579; Evans & Schmalensee 675; Evans & Noel 681. With credit cards, for example, networks often charge cardholders a lower fee than merchants because cardholders are more price sensitive. See Muris 522; Klein 573–574, 585, 595. In fact, the network might well lose money on the cardholder side by offering rewards such as cash back, airline miles, or gift cards. See Klein 587; Evans & Schmalensee 672. The network can do this because increasing the number of cardholders increases the value of accepting the card to merchants and, thus, increases the number of

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1In a competitive market, indirect network effects also encourage companies to take increased profits from a price increase on side A and spend them on side B to ensure more robust participation on that side and to stem the impact of indirect network effects. See Evans & Schmalensee 688; Evans & Noel 670–671, 695. Indirect network effects thus limit the platform’s ability to raise overall prices and impose a check on its market power. See Evans & Schmalensee 688; Evans & Noel 695.

2“Cardholders are more price-sensitive because many consumers have multiple payment methods, including alternative payment cards. Most merchants, by contrast, cannot accept just one major card because they are likely to lose profitable incremental sales if they do not take [all] the major payment cards. Because most consumers do not carry all of the major payment cards, refusing to accept a major card may cost the merchant substantial sales.” Muris 522.
merchants who accept it. Muris 522; Evans & Schmalensee 692. Networks can then charge those merchants a fee for every transaction (typically a percentage of the purchase price). Striking the optimal balance of the prices charged on each side of the platform is essential for two-sided platforms to maximize the value of their services and to compete with their rivals.

B

Amex, Visa, MasterCard, and Discover are the four dominant participants in the credit-card market. Visa, which is by far the largest, has 45% of the market as measured by transaction volume. Amex and MasterCard trail with 26.4% and 23.3%, respectively, while Discover has just 5.3% of the market.

Visa and MasterCard have significant structural advantages over Amex. Visa and MasterCard began as bank cooperatives and thus almost every bank that offers credit cards is in the Visa or MasterCard network. This makes it very likely that the average consumer carries, and the average merchant accepts, Visa or MasterCard. As a result, the vast majority of Amex cardholders have a Visa or MasterCard, but only a small number of Visa and MasterCard cardholders have an Amex. Indeed, Visa and MasterCard account for more than 432 million cards in circulation in the United States, while Amex has only 53 million. And while 3.4 million merchants at 6.4 million locations accept Amex, nearly three million more locations accept Visa, MasterCard, and Discover.

3 All figures are accurate as of 2013.

4 Discover entered the credit-card market several years after Amex, Visa, and MasterCard. It nonetheless managed to gain a foothold because Sears marketed Discover to its already significant base of private-label cardholders. Discover’s business model shares certain features with Amex, Visa, and MasterCard. Like Amex, Discover interacts directly with its cardholders. But like Visa and MasterCard,
Amex competes with Visa and MasterCard by using a different business model. While Visa and MasterCard earn half of their revenue by collecting interest from their cardholders, Amex does not. Amex instead earns most of its revenue from merchant fees. Amex’s business model thus focuses on cardholder spending rather than cardholder lending. To encourage cardholder spending, Amex provides better rewards than other networks. Due to its superior rewards, Amex tends to attract cardholders who are wealthier and spend more money. Merchants place a higher value on these cardholders, and Amex uses this advantage to recruit merchants.

Amex’s business model has significantly influenced the credit-card market. To compete for the valuable cardholders that Amex attracts, both Visa and MasterCard have introduced premium cards that, like Amex, charge merchants higher fees and offer cardholders better rewards. To maintain their lower merchant fees, Visa and MasterCard have created a sliding scale for their various cards—charging merchants less for low-reward cards and more for high-reward cards. This differs from Amex’s strategy, which is to charge merchants the same fee no matter the rewards that its card offers. Another way that Amex has influenced the credit-card market is by making banking and card-payment services available to low-income individuals, who otherwise could not qualify for a credit card and could not afford the fees that traditional banks charge. See 2 Record 3835–3837, 4527–4529. In sum, Amex’s business model has stimulated competitive innovations in the credit-card market, increasing the volume of transactions and improving the quality of the services.

Despite these improvements, Amex’s business model sometimes causes friction with merchants. To maintain

Discover uses banks that cooperate with its network to interact with merchants.
the loyalty of its cardholders, Amex must continually invest in its rewards program. But, to fund those investments, Amex must charge merchants higher fees than its rivals. Even though Amex’s investments benefit merchants by encouraging cardholders to spend more money, merchants would prefer not to pay the higher fees. One way that merchants try to avoid them, while still enticing Amex’s cardholders to shop at their stores, is by dissuading cardholders from using Amex at the point of sale. This practice is known as “steering.”

Amex has prohibited steering since the 1950s by placing antisteering provisions in its contracts with merchants. These antisteering provisions prohibit merchants from implying a preference for non-Amex cards; dissuading customers from using Amex cards; persuading customers to use other cards; imposing any special restrictions, conditions, disadvantages, or fees on Amex cards; or promoting other cards more than Amex. The antisteering provisions do not, however, prevent merchants from steering customers toward debit cards, checks, or cash.

C

In October 2010, the United States and several States (collectively, plaintiffs) sued Amex, claiming that its antisteering provisions violate §1 of the Sherman Act, 26 Stat. 209, as amended, 15 U. S. C. §1. In a 7-week trial, the District Court agreed that Amex’s antisteering provisions violate §1. United States v. American Express Co., 88 F. Supp. 3d 143, 151–152 (EDNY 2015). It found that the credit-card market should be treated as two separate markets—one for merchants and one for cardholders. See id., at 171–175. Evaluating the effects on the

5Plaintiffs also sued Visa and MasterCard, claiming that their antisteering provisions violated §1. But Visa and MasterCard voluntarily revoked their antisteering provisions and are no longer parties to this case.
merchant side of the market, the District Court found that Amex's antisteering provisions are anticompetitive because they result in higher merchant fees. See id., at 195–224.

The Court of Appeals for the Second Circuit reversed. United States v. American Express Co., 838 F. 3d 179, 184 (2016). It concluded that the credit-card market is one market, not two. Id., at 196–200. Evaluating the credit-card market as a whole, the Second Circuit concluded that Amex's antisteering provisions were not anticompetitive and did not violate §1. See id., at 200–206.

We granted certiorari, 583 U. S. ___ (2017), and now affirm.

II

Section 1 of the Sherman Act prohibits “[e]very contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States.” 15 U. S. C. §1. This Court has long recognized that, “[i]n view of the common law and the law in this country” when the Sherman Act was passed, the phrase “restraint of trade” is best read to mean “undue restraint.” Standard Oil Co. of N. J. v. United States, 221 U. S. 1, 59–60 (1911). This Court's precedents have thus understood §1 “to outlaw only unreasonable restraints.” State Oil Co. v. Khan, 522 U. S. 3, 10 (1997) (emphasis added).

Restraints can be unreasonable in one of two ways. A small group of restraints are unreasonable per se because they “‘‘always or almost always tend to restrict competition and decrease output.’’” Business Electronics Corp. v. Sharp Electronics Corp., 485 U. S. 717, 723 (1988). Typically only “horizontal” restraints—restraints “imposed by agreement between competitors”—qualify as unreasonable per se. Id., at 730. Restraints that are not unreasonable per se are judged under the “rule of reason.” Id., at 723. The rule of reason requires courts to conduct a fact-specific
assessment of “market power and market structure . . . to assess the [restraint]’s actual effect” on competition. Copperweld Corp. v. Independence Tube Corp., 467 U. S. 752, 768 (1984). The goal is to “distinguishing between restraints with anticompetitive effect that are harmful to the consumer and restraints stimulating competition that are in the consumer’s best interest.” Leegin Creative Leather Products, Inc. v. PSKS, Inc., 551 U. S. 877, 886 (2007).

In this case, both sides correctly acknowledge that Amex’s antisteering provisions are vertical restraints—i.e., restraints “imposed by agreement between firms at different levels of distribution.” Business Electronics, supra, at 730. The parties also correctly acknowledge that, like nearly every other vertical restraint, the antisteering provisions should be assessed under the rule of reason. See Leegin, supra, at 882; State Oil, supra, at 19; Business Electronics, supra, at 726; Continental T. V., Inc. v. GTE Sylvania Inc., 433 U. S. 36, 57 (1977).

To determine whether a restraint violates the rule of reason, the parties agree that a three-step, burden-shifting framework applies. Under this framework, the plaintiff has the initial burden to prove that the challenged restraint has a substantial anticompetitive effect that harms consumers in the relevant market. See 1 J. Kalinowski, Antitrust Laws and Trade Regulation §12.02[1] (2d ed. 2017) (Kalinowski); P. Areeda & H. Hovenkamp, Fundamentals of Antitrust Law §15.02[B] (4th ed. 2017) (Areeda & Hovenkamp); Capital Imaging Assoc., P. C. v. Mohawk Valley Medical Associates, Inc., 996 F. 2d 537, 543 (CA2 1993). If the plaintiff carries its burden, then the burden shifts to the defendant to show a procompetitive rationale for the restraint. See 1 Kalinowski §12.02[1]; Areeda & Hovenkamp §15.02[B]; Capital Imaging Assoc., supra, at 543. If the defendant makes this showing, then the burden shifts back to the plaintiff
to demonstrate that the procompetitive efficiencies could be reasonably achieved through less anticompetitive means. See 1 Kalinowski §12.02[1]; Capital Imaging Assoc., supra, at 543.

Here, the parties ask us to decide whether the plaintiffs have carried their initial burden of proving that Amex's antisteering provisions have an anticompetitive effect. The plaintiffs can make this showing directly or indirectly. Direct evidence of anticompetitive effects would be “proof of actual detrimental effects [on competition],” FTC v. Indiana Federation of Dentists, 476 U. S. 447, 460 (1986), such as reduced output, increased prices, or decreased quality in the relevant market, see 1 Kalinowski §12.02[2]; Craftsman Limousine, Inc. v. Ford Motor Co., 491 F. 3d 381, 390 (CA8 2007); Virginia Atlantic Airways Ltd. v. British Airways PLC, 257 F. 3d 256, 264 (CA2 2001). Indirect evidence would be proof of market power plus some evidence that the challenged restraint harms competition. See 1 Kalinowski §12.02[2]; Tops Markets, Inc. v. Quality Markets, Inc., 142 F. 3d 90, 97 (CA2 1998); Spanish Broadcasting System of Fla. v. Clear Channel Communications, Inc., 376 F. 3d 1065, 1073 (CA11 2004).

Here, the plaintiffs rely exclusively on direct evidence to prove that Amex's antisteering provisions have caused anticompetitive effects in the credit-card market. To assess this evidence, we must first define the relevant market. Once defined, it becomes clear that the plaintiffs' evidence is insufficient to carry their burden.

A

Because “[l]egal presumptions that rest on formalistic distinctions rather than actual market realities are generally disfavored in antitrust law,” Eastman Kodak Co. v.

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6 Although the plaintiffs relied on indirect evidence below, they have abandoned that argument in this Court. See Brief for United States 23, n. 4 (citing Pet. for Cert. i, 18–25).
Image Technical Services, Inc., 504 U. S. 451, 466–467 (1992), courts usually cannot properly apply the rule of reason without an accurate definition of the relevant market. “Without a definition of [the] market there is no way to measure [the defendant’s] ability to lessen or destroy competition.” Walker Process Equipment, Inc. v. Food Machinery & Chemical Corp., 382 U. S. 172, 177 (1965); accord, 2 Kalinowski §24.01[4][a]. Thus, the relevant market is defined as “the area of effective competition.” Ibid. Typically this is the “arena within which significant substitution in consumption or production occurs.” Areeda & Hovenkamp §5.02; accord, 2 Kalinowski §24.02[1]; United States v. Grinnell Corp., 384 U. S. 826–827.

The plaintiffs argue that we need not define the relevant market in this case because they have offered actual evidence of adverse effects on competition—namely, increased merchant fees. See Brief for United States 40–41 (citing FTC v. Indiana Federation of Dentists, 476 U. S. 447 (1986), and Catalano, Inc. v. Target Sales, Inc., 446 U. S. 643 (1980) (per curiam)). We disagree. The cases that the plaintiffs cite for this proposition evaluated whether horizontal restraints had an adverse effect on competition. See Indiana Federation of Dentists, supra, at 450–451, 459 (agreement between competing dentists not to share X rays with insurance companies); Catalano, supra, at 464–465, 650 (agreement among competing wholesalers not to compete on extending credit to retailers). Given that horizontal restraints involve agreements between competitors not to compete in some way, this Court concluded that it did not need to precisely define the relevant market to conclude that these agreements were anticompetitive. See Indiana Federation of Dentists, supra, at 460–461; Catalano, supra, at 648–649. But vertical restraints are different. See Arizona v. Maricopa County Medical Soc., 457 U. S. 332, 348, n. 18 (1982); Leggin Creative Leather Products, Inc. v. PSKS, Inc., 551 U. S. 877, 888 (2007). Vertical restraints often pose no risk to competition unless the entity imposing them has market power, which cannot be evaluated unless the Court first defines the relevant market. See id., at 898 (noting that a vertical restraint “may not be a serious concern unless the relevant entity has market power”); Easterbrook, Vertical Arrangements and the Rule of Reason, 53 Antitrust L. J. 135, 160 (1984) (“[T]he possibly anticompetitive manifestations of vertical arrangements can occur only if there is market power”).
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563, 571 (1966). But courts should “combin[e]” different products or services into “a single market” when “that combination reflects commercial realities.” Id., at 572; see also Brown Shoe Co. v. United States, 370 U. S. 294, 336–337 (1962) (pointing out that “the definition of the relevant market” must “correspond to the commercial realities’ of the industry”).

As explained, credit-card networks are two-sided platforms. Due to indirect network effects, two-sided platforms cannot raise prices on one side without risking a feedback loop of declining demand. See Evans & Schmalensee 674–675; Evans & Noel 680–681. And the fact that two-sided platforms charge one side a price that is below or above cost reflects differences in the two sides’ demand elasticity, not market power or anticompetitive pricing. See Klein 574, 595, 598, 626. Price increases on one side of the platform likewise do not suggest anticompetitive effects without some evidence that they have increased the overall cost of the platform’s services. See id., at 575, 594, 626. Thus, courts must include both sides of the platform—merchants and cardholders—when defining the credit-card market.

To be sure, it is not always necessary to consider both sides of a two-sided platform. A market should be treated as one sided when the impacts of indirect network effects and relative pricing in that market are minor. See Filistrucchi 321–322. Newspapers that sell advertisements, for example, arguably operate a two-sided platform because the value of an advertisement increases as more people read the newspaper. Id., at 297, 315; Klein 579. But in the newspaper-advertisement market, the indirect networks effects operate in only one direction; newspaper readers are largely indifferent to the amount of advertising that a newspaper contains. See Filistrucchi 321, 323, and n. 99; Klein 583. Because of these weak indirect network effects, the market for newspaper advertising
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behaves much like a one-sided market and should be analyzed as such. See Filistrucchi 321; *Times-Picayune Publishing Co. v. United States*, 345 U. S. 594, 610 (1953).

But two-sided transaction platforms, like the credit-card market, are different. These platforms facilitate a single, simultaneous transaction between participants. For credit cards, the network can sell its services only if a merchant and cardholder both simultaneously choose to use the network. Thus, whenever a credit-card network sells one transaction’s worth of card-acceptance services to a merchant it also must sell one transaction’s worth of card-payment services to a cardholder. It cannot sell transaction services to either cardholders or merchants individually. See Klein 583 (“Because cardholders and merchants jointly consume a single product, payment card transactions, their consumption of payment card transactions must be directly proportional”). To optimize sales, the network must find the balance of pricing that encourages the greatest number of matches between cardholders and merchants.

Because they cannot make a sale unless both sides of the platform simultaneously agree to use their services, two-sided transaction platforms exhibit more pronounced indirect network effects and interconnected pricing and demand. Transaction platforms are thus better understood as “suppl[y]ing” only one product”—transactions. Klein 580. In the credit-card market, these transactions “are jointly consumed by a cardholder, who uses the payment card to make a transaction, and a merchant, who accepts the payment card as a method of payment.” *Ibid.* Tellingly, credit cards determine their market share by measuring the volume of transactions they have sold.8

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8 Contrary to the dissent’s assertion, *post*, at 11–12, merchant services and cardholder services are not complements. See Filistrucchi 297 (“[A] two-sided market [is] different from markets for complemen-
Evaluating both sides of a two-sided transaction platform is also necessary to accurately assess competition. Only other two-sided platforms can compete with a two-sided platform for transactions. See Filistrucchi 301. A credit-card company that processed transactions for merchants, but that had no cardholders willing to use its card, could not compete with Amex. See ibid. Only a company that had both cardholders and merchants willing to use its network could sell transactions and compete in the credit-card market. Similarly, if a merchant accepts the four major credit cards, but a cardholder only uses Visa or Amex, only those two cards can compete for the particular transaction. Thus, competition cannot be accurately assessed by looking at only one side of the platform in isolation.9

For all these reasons, “[i]n two-sided transaction markets, only one market should be defined.” Id., at 302; see also Evans & Noel 671 (“[F]ocusing on one dimension of . . . competition tends to distort the competition that actually exists among [two-sided platforms]”). Any other analysis would lead to “‘mistaken inferences’” of the kind that could “‘chill the very conduct the antitrust laws are designed to protect.’” Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U. S. 209, 226 (1993); see also Matsushita Elec. Industrial Co. v. Zenith Radio Corp.,

9 Nontransaction platforms, by contrast, often do compete with companies that do not operate on both sides of their platform. A newspaper that sells advertising, for example, might have to compete with a television network, even though the two do not meaningfully compete for viewers. See Filistrucchi 301.
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475 U. S. 574, 594 (1986) ("'[W]e must be concerned lest a rule or precedent that authorizes a search for a particular type of undesirable pricing behavior end up by discouraging legitimate price competition'"); Leegin, 551 U. S., at 895 (noting that courts should avoid "increas[ing] the total cost of the antitrust system by prohibiting procompetitive conduct the antitrust laws should encourage"). Accordingly, we will analyze the two-sided market for credit-card transactions as a whole to determine whether the plaintiffs have shown that Amex's antisteering provisions have anticompetitive effects.

B

The plaintiffs have not carried their burden to prove anticompetitive effects in the relevant market. The plaintiffs stake their entire case on proving that Amex's agreements increase merchant fees. We find this argument unpersuasive.

As an initial matter, the plaintiffs' argument about merchant fees wrongly focuses on only one side of the two-sided credit-card market. As explained, the credit-card market must be defined to include both merchants and cardholders. Focusing on merchant fees alone misses the mark because the product that credit-card companies sell is transactions, not services to merchants, and the competitive effects of a restraint on transactions cannot be judged by looking at merchants alone. Evidence of a price increase on one side of a two-sided transaction platform cannot by itself demonstrate an anticompetitive exercise of market power. To demonstrate anticompetitive effects on the two-sided credit-card market as a whole, the plaintiffs must prove that Amex's antisteering provisions increased the cost of credit-card transactions above a competitive level, reduced the number of credit-card transactions, or otherwise stifled competition in the credit-card market. See 1 Kalinowski §12.02[2]; Craftsman Limousine, Inc.,
The plaintiffs did not offer any evidence that the price of credit-card transactions was higher than the price one would expect to find in a competitive market. As the District Court found, the plaintiffs failed to offer any reliable measure of Amex’s transaction price or profit margins. 88 F. Supp. 3d, at 198, 215. And the evidence about whether Amex charges more than its competitors was ultimately inconclusive. Id., at 199, 202, 215.

Amex’s increased merchant fees reflect increases in the value of its services and the cost of its transactions, not an ability to charge above a competitive price. Amex began raising its merchant fees in 2005 after Visa and MasterCard raised their fees in the early 2000s. Id., at 195, 199–200. As explained, Amex has historically charged higher merchant fees than these competitors because it delivers wealthier cardholders who spend more money. Id., at 200–201. Amex’s higher merchant fees are based on a careful study of how much additional value its cardholders offer merchants. See id., at 192–193. On the other side of the market, Amex uses its higher merchant fees to offer its cardholders a more robust rewards program, which is necessary to maintain cardholder loyalty and encourage the level of spending that makes Amex valuable to merchants. Id., at 160, 191–195. That Amex allocates prices between merchants and cardholders differently from Visa and MasterCard is simply not evidence that it wields market power to achieve anticompetitive ends. See Evans & Noel 670–671; Klein 574–575, 594–595, 598, 626.

In addition, the evidence that does exist cuts against the plaintiffs’ view that Amex’s antisteering provisions are the cause of any increases in merchant fees. Visa and MasterCard’s merchant fees have continued to increase, even
at merchant locations where Amex is not accepted and, thus, Amex’s antisteering provisions do not apply. See 88 F. Supp. 3d, at 222. This suggests that the cause of increased merchant fees is not Amex’s antisteering provisions, but rather increased competition for cardholders and a corresponding marketwide adjustment in the relative price charged to merchants. See Klein 575, 609.

The plaintiffs did offer evidence that Amex increased the percentage of the purchase price that it charges merchants by an average of 0.09% between 2005 and 2010 and that this increase was not entirely spent on cardholder rewards. See 88 F. Supp. 3d, at 195–197, 215. The plaintiffs believe that this evidence shows that the price of Amex’s transactions increased.

Even assuming the plaintiffs are correct, this evidence does not prove that Amex’s antisteering provisions gave it the power to charge anticompetitive prices. “Market power is the ability to raise price profitably by restricting output.” Areeda & Hovenkamp §5.01 (emphasis added); accord, Kodak, 504 U. S., at 464; Business Electronics, 485 U. S., at 723. This Court will “not infer competitive injury from price and output data absent some evidence that tends to prove that output was restricted or prices were above a competitive level.” Brooke Group Ltd., 509 U. S., at 237. There is no such evidence in this case. The output of credit-card transactions grew dramatically from 2008 to 2013, increasing 30%. See 838 F. 3d, at 206. “Where . . . output is expanding at the same time prices are increasing, rising prices are equally consistent with growing product demand.” Brooke Group Ltd., supra, at 237. And, as previously explained, the plaintiffs did not show that Amex charged more than its competitors.
The plaintiffs also failed to prove that Amex’s antisteering provisions have stifled competition among credit-card companies. To the contrary, while these agreements have been in place, the credit-card market experienced expanding output and improved quality. Amex’s business model spurred Visa and MasterCard to offer new premium card categories with higher rewards. And it has increased the availability of card services, including free banking and card-payment services for low-income customers who otherwise would not be served. Indeed, between 1970 and 2001, the percentage of households with credit cards more than quadrupled, and the proportion of households in the bottom-income quintile with credit cards grew from just 2% to over 38%. See D. Evans & R. Schmalensee, Paying With Plastic: The Digital Revolution in Buying and Borrowing 88–89 (2d ed. 2005) (Paying With Plastic).

Nor have Amex’s antisteering provisions ended competition between credit-card networks with respect to merchant fees. Instead, fierce competition between networks has constrained Amex’s ability to raise these fees and has, at times, forced Amex to lower them. For instance, when Amex raised its merchant prices between 2005 and 2010, some merchants chose to leave its network. 88 F. Supp. 3d, at 197. And when its remaining merchants complained, Amex stopped raising its merchant prices. Id., at 198. In another instance in the late 1980s and early 1990s, competition forced Amex to offer lower merchant fees to “everyday spend” merchants—supermarkets, gas stations, pharmacies, and the like—to persuade them to accept Amex. See id., at 160–161, 202.

In addition, Amex’s competitors have exploited its higher merchant fees to their advantage. By charging lower merchant fees, Visa, MasterCard, and Discover have achieved broader merchant acceptance—approximately 3 million more locations than Amex. Id., at 204. This
broader merchant acceptance is a major advantage for these networks and a significant challenge for Amex, since consumers prefer cards that will be accepted everywhere. \textit{Ibid.} And to compete even further with Amex, Visa and MasterCard charge different merchant fees for different types of cards to maintain their comparatively lower merchant fees and broader acceptance. Over the long run, this competition has created a trend of declining merchant fees in the credit-card market. In fact, since the first credit card was introduced in the 1950s, merchant fees—including Amex’s merchant fees—have decreased by more than half. See \textit{id.}, at 202–203; Paying With Plastic 54, 126, 152.

Lastly, there is nothing inherently anticompetitive about Amex’s antisteering provisions. These agreements actually stem negative externalities in the credit-card market and promote interbrand competition. When merchants steer cardholders away from Amex at the point of sale, it undermines the cardholder’s expectation of “welcome acceptance”—the promise of a frictionless transaction. 88 F. Supp. 3d, at 156. A lack of welcome acceptance at one merchant makes a cardholder less likely to use Amex at all other merchants. This externality endangers the viability of the entire Amex network. And it undermines the investments that Amex has made to encourage increased cardholder spending, which discourages investments in rewards and ultimately harms both cardholders and merchants. Cf. \textit{Leegin}, 551 U. S., at 890–891 (recognizing that vertical restraints can prevent retailers from free riding and thus increase the availability of “tangible or intangible services or promotional efforts” that enhance competition and consumer welfare). Perhaps most importantly, antisteering provisions do not prevent Visa, MasterCard, or Discover from competing against Amex by offering lower merchant fees or promoting their broader
merchants acceptance.10

In sum, the plaintiffs have not satisfied the first step of the rule of reason. They have not carried their burden of proving that Amex’s antisteering provisions have anti-competitive effects. Amex’s business model has spurred robust interbrand competition and has increased the quality and quantity of credit-card transactions. And it is “[t]he promotion of interbrand competition,” after all, that “is . . . the primary purpose of the antitrust laws.”  Id., at 890.

* * *

Because Amex’s antisteering provisions do not unreasonably restrain trade, we affirm the judgment of the Court of Appeals.

It is so ordered.

10The plaintiffs argue that United States v. Topco Associates, Inc., 405 U. S. 596, 610 (1972), forbids any restraint that would restrict competition in part of the market—here, for example, merchant steering. See Brief for Petitioners and Respondents Nebraska, Tennessee, and Texas 30, 42. Topco does not stand for such a broad proposition. Topco concluded that a horizontal agreement between competitors was unreasonable per se, even though the agreement did not extend to every competitor in the market. See 405 U. S., at 599, 608. A horizontal agreement between competitors is markedly different from a vertical agreement that incidentally affects one particular method of competition. See Leegin, 551 U. S., at 888; Maricopa County Medical Soc., 457 U. S., at 348, n. 18.
JUSTICE BREYER, with whom JUSTICE GINSBURG, JUSTICE SOTOMAYOR, and JUSTICE KAGAN join, dissenting.

For more than 120 years, the American economy has prospered by charting a middle path between pure *làssèz-faire* and state capitalism, governed by an antitrust law “dedicated to the principle that markets, not individual firms and certainly not political power, produce the optimal mixture of goods and services.” 1 P. Areeda & H. Hovenkamp, Antitrust Law ¶100b, p. 4 (4th ed. 2013) (Areeda & Hovenkamp). By means of a strong antitrust law, the United States has sought to avoid the danger of monopoly capitalism. Long gone, we hope, are the days when the great trusts presided unfettered by competition over the American economy.

This lawsuit is emblematic of the American approach. Many governments around the world have responded to concerns about the high fees that credit-card companies often charge merchants by regulating such fees directly. See GAO, Credit and Debit Cards: Federal Entities Are Taking Actions to Limit Their Interchange Fees, but Additional Revenue Collection Cost Savings May Exist 31–35 (GAO–08–558, 2008). The United States has not followed that approach. The Government instead filed this lawsuit, which seeks to restore market competition over credit-card merchant fees by eliminating a contract-
ual barrier with anticompetitive effects. The majority rejects that effort. But because the challenged contractual term clearly has serious anticompetitive effects, I dissent.

I

I agree with the majority and the parties that this case is properly evaluated under the three-step “rule of reason” that governs many antitrust lawsuits. *Ante,* at 9–10. Under that approach, a court looks first at the agreement or restraint at issue to assess whether it has had, or is likely to have, anticompetitive effects. *FTC v. Indiana Federation of Dentists,* 476 U. S. 447, 459 (1986). In doing so, the court normally asks whether the restraint may tend to impede competition and, if so, whether those who have entered into that restraint have sufficient economic or commercial power for the agreement to make a negative difference. See *id.,* at 459–461. Sometimes, but not always, a court will try to determine the appropriate market (the market that the agreement affects) and determine whether those entering into that agreement have the power to raise prices above the competitive level in that market. See *ibid.*

It is important here to understand that in cases under §1 of the Sherman Act (unlike in cases challenging a merger under §7 of the Clayton Act, 15 U. S. C. §18), it may well be unnecessary to undertake a sometimes complex, market power inquiry:

“Since the purpose [in a Sherman Act §1 case] of the inquiries into . . . market power is [simply] to determine whether an arrangement has the potential for genuine adverse effects on competition, ‘proof of actual detrimental effects, such as a reduction in output,’ can obviate the need for an inquiry into market power, which is but a ‘surrogate for detrimental effects.’” *Indiana Federation of Dentists, supra,* at 460–461 (quoting 7 P. Areeda, Antitrust Law ¶1511, p. 429 (3d
Second (as treatise writers summarize the case law), if an antitrust plaintiff meets the initial burden of showing that an agreement will likely have anticompetitive effects, normally the “burden shifts to the defendant to show that the restraint in fact serves a legitimate objective.” 7 Areeda & Hovenkamp ¶1504b, at 415; see California Dental Assn. v. FTC, 526 U. S. 756, 771 (1999); id., at 788 (Breyer, J., dissenting).

Third, if the defendant successfully bears this burden, the antitrust plaintiff may still carry the day by showing that it is possible to meet the legitimate objective in less restrictive ways, or, perhaps by showing that the legitimate objective does not outweigh the harm that competition will suffer, i.e., that the agreement “on balance” remains unreasonable. 7 Areeda & Hovenkamp ¶1507a, at 442.

Like the Court of Appeals and the parties, the majority addresses only the first step of that three-step framework. Ante, at 10.

II
A

This case concerns the credit-card business. As the majority explains, ante, at 2, that business involves the selling of two different but related card services. First, when a shopper uses a credit card to buy something from a participating merchant, the credit-card company pays the merchant the amount of money that the merchant’s customer has charged to his card and charges the merchant a fee, say 5%, for that speedy-payment service. I shall refer to that kind of transaction as a merchant-related card service. Second, the credit-card company then sends a bill to the merchant’s customer, the shopper who holds the card; and the shopper pays the card company the sum that merchant charged the shopper for the goods or services he
or she bought. The cardholder also often pays the card company a fee, such as an annual fee for the card or an interest charge for delayed payment. I shall call that kind of transaction a shopper-related card service. The credit-card company can earn revenue from the sale (directly or indirectly) of each of these services: (1) speedy payment for merchants, and (2) credit for shoppers. (I say “indirectly” to reflect the fact that card companies often create or use networks of banks as part of the process—but I have found nothing here suggesting that that fact makes a significant difference to my analysis.)

Sales of the two basic card services are related. A shopper can pay for a purchase with a particular credit card only if the merchant has signed up for merchant-related card services with the company that issued the credit card that the shopper wishes to use. A firm in the credit-card business is therefore unlikely to make money unless quite a few merchants agree to accept that firm’s card and quite a few shoppers agree to carry and use it. In general, the more merchants that sign up with a particular card company, the more useful that card is likely to prove to shoppers and so the more shoppers will sign up; so too, the more shoppers that carry a particular card, the more useful that card is likely to prove to merchants (as it obviously helps them obtain the shoppers’ business) and so the more merchants will sign up. Moreover, as a rough rule of thumb (and assuming constant charges), the larger the networks of paying merchants and paying shoppers that a card firm maintains, the larger the revenues that the firm will likely receive, since more payments will be processed using its cards. Thus, it is not surprising that a card company may offer shoppers incentives (say, points redeemable for merchandise or travel) for using its card or that a firm might want merchants to accept its card exclusively.
This case focuses upon a practice called “steering.” American Express has historically charged higher merchant fees than its competitors. App. to Pet. for Cert. 173a–176a. Hence, fewer merchants accept American Express’ cards than its competitors’. Id., at 184a–187a. But, perhaps because American Express cardholders are, on average, wealthier, higher-spending, or more loyal to American Express than other cardholders, vast numbers of merchants still accept American Express cards. See id., at 156a, 176a–177a, 184a–187a. Those who do, however, would (in order to avoid the higher American Express fee) often prefer that their customers use a different card to charge a purchase. Thus, the merchant has a monetary incentive to “steer” the customer towards the use of a different card. A merchant might tell the customer, for example, “American Express costs us more,” or “please use Visa if you can,” or “free shipping if you use Discover.” See id., at 100a–102a.

Steering makes a difference, because without it, the shopper does not care whether the merchant pays more to American Express than it would pay to a different card company—the shopper pays the same price either way. But if steering works, then American Express will find it more difficult to charge more than its competitors for merchant-related services, because merchants will respond by steering their customers, encouraging them to use other cards. Thus, American Express dislikes steering; the merchants like it; and the shoppers may benefit from it, whether because merchants will offer them incentives to use less expensive cards or in the form of lower retail prices overall. See id., at 92a, 97a–104a.

In response to its competitors’ efforts to convince merchants to steer shoppers to use less expensive cards, American Express tried to stop, or at least to limit, steering by placing antisteering provisions in most of its con-
tracts with merchants. It called those provisions “nondiscrimination provisions.” They prohibited steering of the forms I have described above (and others as well). See id., at 95a–96a, 100a–101a. After placing them in its agreements, American Express found it could maintain, or even raise, its higher merchant prices without losing too many transactions to other firms. Id., at 195a–198a. These agreements—the “nondiscrimination provisions”—led to this lawsuit.

C

In 2010 the United States and 17 States brought this antitrust case against American Express. They claimed that the “nondiscrimination provisions” in its contracts with merchants created an unreasonable restraint of trade. (Initially Visa and MasterCard were also defendants, but they entered into consent judgments, dropping similar provisions from their contracts with merchants). After a 7-week bench trial, the District Court entered judgment for the Government, setting forth its findings of fact and conclusions of law in a 97-page opinion. 88 F. Supp. 3d 143 (EDNY 2015).

Because the majority devotes little attention to the District Court’s detailed factual findings, I will summarize some of the more significant ones here. Among other things, the District Court found that beginning in 2005 and during the next five years, American Express raised the prices it charged merchants on 20 separate occasions. See id., at 195–196. In doing so, American Express did not take account of the possibility that large merchants would respond to the price increases by encouraging shoppers to use a different credit card because the nondiscrimination provisions prohibited any such steering. Id., at 215. The District Court pointed to merchants’ testimony stating that, had it not been for those provisions, the large merchants would have responded to the price increases by
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encouraging customers to use other, less-expensive cards. Ibid.

The District Court also found that even though American Express raised its merchant prices 20 times in this 5-year period, it did not lose the business of any large merchant. Id., at 197. Nor did American Express increase benefits (or cut credit-card prices) to American Express cardholders in tandem with the merchant price increases. Id., at 196. Even had there been no direct evidence of injury to competition, American Express’ ability to raise merchant prices without losing any meaningful market share, in the District Court’s view, showed that American Express possessed power in the relevant market. See id., at 195.

The District Court also found that, in the absence of the provisions, prices to merchants would likely have been lower. Ibid. It wrote that in the late 1990’s, Discover, one of American Express’ competitors, had tried to develop a business model that involved charging lower prices to merchants than the other companies charged. Id., at 213. Discover then invited each “merchant to save money by shifting volume to Discover,” while simultaneously offering merchants additional discounts “if they would steer customers to Discover.” Ibid. The court determined that these efforts failed because of American Express’ (and the other card companies’) “nondiscrimination provisions.” These provisions, the court found, “denied merchants the ability to express a preference for Discover or to employ any other tool by which they might steer share to Discover’s lower-priced network.” Id., at 214. Because the provisions eliminated any advantage that lower prices might produce, Discover “abandoned its low-price business model” and raised its merchant fees to match those of its competitors. Ibid. This series of events, the court concluded was “emblematic of the harm done to the competitive process” by the “nondiscrimination provisions.” Ibid.
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The District Court added that it found no offsetting pro-competitive benefit to shoppers. Id., at 225–238. Indeed, it found no offsetting benefit of any kind. See ibid.

American Express appealed, and the U. S. Court of Appeals for the Second Circuit held in its favor. 838 F. 3d 179 (2016). The Court of Appeals did not reject any fact found by the District Court as “clearly erroneous.” See Fed. Rule Civ. Proc. 52(a)(6). Rather, it concluded that the District Court had erred in step 1 of its rule-of-reason analysis by failing to account for what the Second Circuit called the credit-card business’s “two-sided market” (or “two-sided platform”). 838 F. 3d, at 185–186, 196–200.

III

The majority, like the Court of Appeals, reaches only step 1 in its “rule of reason” analysis. Ante, at 10. To repeat, that step consists of determining whether the challenged “nondiscrimination provisions” have had, or are likely to have, anticompetitive effects. See Indiana Federation of Dentists, 476 U. S., at 459. Do those provisions tend to impede competition? And if so, does American Express, which imposed that restraint as a condition of doing business with its merchant customers, have sufficient economic or commercial power for the provision to make a negative difference? See id., at 460–461.

A

Here the District Court found that the challenged provisions have had significant anticompetitive effects. In particular, it found that the provisions have limited or prevented price competition among credit-card firms for the business of merchants. 88 F. Supp. 3d, at 209. That conclusion makes sense: In the provisions, American Express required the merchants to agree not to encourage customers to use American Express’ competitors’ credit cards, even cards from those competitors, such as Discover,
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that intended to charge the merchants lower prices. See id., at 214. By doing so, American Express has “disrupt[ed] the normal price-setting mechanism” in the market. Id., at 209. As a result of the provisions, the District Court found, American Express was able to raise merchant prices repeatedly without any significant loss of business, because merchants were unable to respond to such price increases by encouraging shoppers to pay with other cards. Id., at 215. The provisions also meant that competitors like Discover had little incentive to lower their merchant prices, because doing so did not lead to any additional market share. Id., at 214. The provisions thereby “suppress[ed] [American Express’] . . . competitors’ incentives to offer lower prices . . . resulting in higher profit-maximizing prices across the network services market.” Id., at 209. Consumers throughout the economy paid higher retail prices as a result, and they were denied the opportunity to accept incentives that merchants might otherwise have offered to use less-expensive cards. Id., at 216, 220. I should think that, considering step 1 alone, there is little more that need be said.

The majority, like the Court of Appeals, says that the District Court should have looked not only at the market for the card companies’ merchant-related services but also at the market for the card companies’ shopper-related services, and that it should have combined them, treating them as a single market. Ante, at 14–15; 838 F. 3d, at 197. But I am not aware of any support for that view in antitrust law. Indeed, this Court has held to the contrary.

In Times-Picayune Publishing Co. v. United States, 345 U. S. 594, 610 (1953), the Court held that an antitrust court should begin its definition of a relevant market by focusing narrowly on the good or service directly affected by a challenged restraint. The Government in that case claimed that a newspaper’s advertising policy violated the Sherman Act’s “rule of reason.” See ibid. In support of
that argument, the Government pointed out, and the
District Court had held, that the newspaper dominated
the market for the sales of newspapers to readers in New
Orleans, where it was the sole morning daily newspaper.
Ibid. But this Court reversed. We explained that “every
newspaper is a dual trader in separate though interde­
pendent markets; it sells the paper’s news and advertising
content to its readers; in effect that readership is in turn
sold to the buyers of advertising space.” Ibid. We then
added:

“This case concerns solely one of those markets. The
Publishing Company stands accused not of tying sales
to its readers but only to buyers of general and classi­
fied space in its papers. For this reason, dominance in
the advertising market, not in readership, must be de­
cisive in gauging the legality of the Company’s unit
plan.” Ibid.

Here, American Express stands accused not of limiting or
harming competition for shopper-related card services, but
only of merchant-related card services, because the chal­
allenged contract provisions appear only in American Ex­
press’ contracts with merchants. That is why the District
Court was correct in considering, at step 1, simply
whether the agreement had diminished competition in
merchant-related services.

B

The District Court did refer to market definition, and
the majority does the same. Ante, at 11–15. And I recog­
nize that properly defining a market is often a complex
business. Once a court has identified the good or service
directly restrained, as Times-Picayune Publishing Co.
requires, it will sometimes add to the relevant market
what economists call “substitutes”: other goods or services
that are reasonably substitutable for that good or service.
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See, e.g., United States v. E. I. du Pont de Nemours & Co., 351 U. S. 377, 395–396 (1956) (explaining that cellophane market includes other, substitutable flexible wrapping materials as well). The reason that substitutes are included in the relevant market is that they restrain a firm’s ability to profitably raise prices, because customers will switch to the substitutes rather than pay the higher prices. See 2B Areeda & Hovenkamp ¶561, at 378.

But while the market includes substitutes, it does not include what economists call complements: goods or services that are used together with the restrained product, but that cannot be substituted for that product. See id., ¶565a, at 429; Eastman Kodak Co. v. Image Technical Services, Inc., 504 U. S. 451, 463 (1992). An example of complements is gasoline and tires. A driver needs both gasoline and tires to drive, but they are not substitutes for each other, and so the sale price of tires does not check the ability of a gasoline firm (say a gasoline monopolist) to raise the price of gasoline above competitive levels. As a treatise on the subject states: “Grouping complementary goods into the same market” is “economic nonsense,” and would “undermin[e] the rationale for the policy against monopolization or collusion in the first place.” 2B Areeda & Hovenkamp ¶565a, at 431.

Here, the relationship between merchant-related card services and shopper-related card services is primarily that of complements, not substitutes. Like gasoline and tires, both must be purchased for either to have value. Merchants upset about a price increase for merchant-related services cannot avoid that price increase by becoming cardholders, in the way that, say, a buyer of newspaper advertising can switch to television advertising or direct mail in response to a newspaper’s advertising price increase. The two categories of services serve fundamentally different purposes. And so, also like gasoline and tires, it is difficult to see any way in which the price of
shopper-related services could act as a check on the card firm’s sale price of merchant-related services. If anything, a lower price of shopper-related card services is likely to cause more shoppers to use the card, and increased shopper popularity should make it easier for a card firm to raise prices to merchants, not harder, as would be the case if the services were substitutes. Thus, unless there is something unusual about this case—a possibility I discuss below, see infra, at 13–20—there is no justification for treating shopper-related services and merchant-related services as if they were part of a single market, at least not at step 1 of the “rule of reason.”

C

Regardless, a discussion of market definition was legally unnecessary at step 1. That is because the District Court found strong direct evidence of anticompetitive effects flowing from the challenged restraint. 88 F. Supp. 3d, at 207–224. As I said, supra, at 7, this evidence included Discover’s efforts to break into the credit-card business by charging lower prices for merchant-related services, only to find that the “nondiscrimination provisions,” by preventing merchants from encouraging shoppers to use Discover cards, meant that lower merchant prices did not result in any additional transactions using Discover credit cards. 88 F. Supp. 3d, at 213–214. The direct evidence also included the fact that American Express raised its merchant prices 20 times in five years without losing any appreciable market share. Id., at 195–198, 208–212. It also included the testimony of numerous merchants that they would have steered shoppers away from American Express cards in response to merchant price increases (thereby checking the ability of American Express to raise prices) had it not been for the nondiscrimination provisions. See id., at 221–222. It included the factual finding that American Express “did not even account for the pos-
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sibility that [large] merchants would respond to its price increases by attempting to shift share to a competitor’s network” because the nondiscrimination provisions prohibited steering. Id., at 215. It included the District Court’s ultimate finding of fact, not overturned by the Court of Appeals, that the challenged provisions “were integral to” American Express’ “[price] increases and thereby caused merchants to pay higher prices.” Ibid.

As I explained above, this Court has stated that “[s]ince the purpose of the inquiries into market definition and market power is to determine whether an arrangement has the potential for genuine adverse effects on competition, proof of actual detrimental effects . . . can obviate the need for” those inquiries. Indiana Federation of Dentists, 476 U. S., at 460–461 (internal quotation marks omitted). That statement is fully applicable here. Doubts about the District Court’s market-definition analysis are beside the point in the face of the District Court’s findings of actual anticompetitive harm.

The majority disagrees that market definition is irrelevant. See ante, at 11–12, and n. 7. The majority explains that market definition is necessary because the nondiscrimination provisions are “vertical restraints” and “[v]ertical restraints often pose no risk to competition unless the entity imposing them has market power, which cannot be evaluated unless the Court first determines the relevant market.” Ante, at 11, n. 7. The majority thus, in a footnote, seems categorically to exempt vertical restraints from the ordinary “rule of reason” analysis that has applied to them since the Sherman Act’s enactment in 1890. The majority’s only support for this novel exemption is Leegin Creative Leather Products, Inc. v. PSKS, Inc., 551 U. S. 877 (2007). But Leegin held that the “rule of reason” applied to the vertical restraint at issue in that case. See id., at 898–899. It said nothing to suggest that vertical restraints are not subject to the usual “rule of
One critical point that the majority’s argument ignores is that proof of actual adverse effects on competition is, a fortiori, proof of market power. Without such power, the restraints could not have brought about the anticompetitive effects that the plaintiff proved. See Indiana Federation of Dentists, supra, at 460 (“[T]he purpose of the inquiries into market definition and market power is to determine whether an arrangement has the potential for genuine adverse effects on competition” (emphasis added)). The District Court’s findings of actual anticompetitive harm from the nondiscrimination provisions thus showed that, whatever the relevant market might be, American Express had enough power in that market to cause that harm. There is no reason to require a separate showing of market definition and market power under such circumstances. And so the majority’s extensive discussion of market definition is legally unnecessary.

D

The majority’s discussion of market definition is also wrong. Without raising any objection in general with the longstanding approach I describe above, supra, at 10–11, the majority agrees with the Court of Appeals that the market for American Express’ card services is special because it is a “two-sided transaction platform.” Ante, at 2–5, 12–15. The majority explains that credit-card firms connect two distinct groups of customers: First, merchants who accept credit cards, and second, shoppers who use the cards. Ante, at 2; accord, 838 F. 3d, at 186. The majority adds that “no credit-card transaction can occur unless both the merchant and the cardholder simultaneously agree to use to the same credit-card network.” Ante, at 3. And it explains that the credit-card market involves “indirect network effects,” by which it means that shoppers want a card that many merchants will accept and merchants
want to accept those cards that many customers have and use. *Ibid.* From this, the majority concludes that “courts must include both sides of the platform—merchants and cardholders—when defining the credit-card market.” *Ante,* at 12; accord, 838 F. 3d, at 197.

1

Missing from the majority’s analysis is any explanation as to why, given the purposes that market definition serves in antitrust law, the fact that a credit-card firm can be said to operate a “two-sided transaction platform” means that its merchant-related and shopper-related services should be combined into a single market. The phrase “two-sided transaction platform” is not one of antitrust art—I can find no case from this Court using those words. The majority defines the phrase as covering a business that “offers different products or services to two different groups who both depend on the platform to intermediate between them,” where the business “cannot make a sale to one side of the platform without simultaneously making a sale to the other” side of the platform. *Ante,* at 2. I take from that definition that there are four relevant features of such businesses on the majority’s account: they (1) offer different products or services, (2) to different groups of customers, (3) whom the “platform” connects, (4) in simultaneous transactions. See *ibid.*

What is it about businesses with those four features that the majority thinks justifies a special market-definition approach for them? It cannot be the first two features—that the company sells different products to different groups of customers. Companies that sell multiple products to multiple types of customers are commonplace. A firm might mine for gold, which it refines and sells both to dentists in the form of fillings and to investors in the form of ingots. Or, a firm might drill for both oil and natural gas. Or a firm might make both ignition
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switches inserted into auto bodies and tires used for cars. I have already explained that, ordinarily, antitrust law will not group the two nonsubstitutable products together for step 1 purposes. Supra, at 10–11.

Neither should it normally matter whether a company sells related, or complementary, products, i.e., products which must both be purchased to have any function, such as ignition switches and tires, or cameras and film. It is well established that an antitrust court in such cases looks at the product where the attacked restraint has an anti-competitive effect. Supra, at 9; see Eastman Kodak, 504 U.S., at 463. The court does not combine the customers for the separate, nonsubstitutable goods and see if “overall” the restraint has a negative effect. See ibid.; 2B Areeda & Hovenkamp ¶565a. That is because, as I have explained, the complementary relationship between the products is irrelevant to the purposes of market-definition. See supra, at 10–11.

The majority disputes my characterization of merchant-related and shopper-related services as “complements.” See ante, at 14, n. 8. The majority relies on an academic article which devotes one sentence to the question, saying that “a two-sided market [is] different from markets for complementary products [e.g., tires and gas], in which both products are bought by the same buyers, who, in their buying decisions, can therefore be expected to take into account both prices.” Filistrucchi, Geradin, Van Damme, & Affeldt, Market Definition in Two-Sided Markets: Theory and Practice, 10 J. Competition L. & Econ. 293, 297 (2014) (Filistrucchi). I agree that two-sided platforms—at least as some academics define them, but see infra, at 19–20—may be distinct from some types of complements in the respect the majority mentions (even though the services resemble complements because they must be used together for either to have value). But the distinction the majority mentions has nothing to do with
the relevant question. The relevant question is whether merchant-related and shopper-related services are substitutes, one for the other, so that customers can respond to a price increase for one service by switching to the other service. As I have explained, the two types of services are not substitutes in this way. Supra, at 11–12. And so the question remains, just as before: What is it about the economic relationship between merchant-related and shopper-related services that would justify the majority’s novel approach to market definition?

What about the last two features—that the company connects the two groups of customers to each other, in simultaneous transactions? That, too, is commonplace. Consider a farmers’ market. It brings local farmers and local shoppers together, and transactions will occur only if a farmer and a shopper simultaneously agree to engage in one. Should courts abandon their ordinary step 1 inquiry if several competing farmers’ markets in a city agree that only certain kinds of farmers can participate, or if a farmers’ market charges a higher fee than its competitors do and prohibits participating farmers from raising their prices to cover it? Why? If farmers’ markets are special, what about travel agents that connect airlines and passengers? What about internet retailers, who, in addition to selling their own goods, allow (for a fee) other goods-producers to sell over their networks? Each of those businesses seems to meet the majority’s four-prong definition.

Apparently as its justification for applying a special market-definition rule to “two-sided transaction platforms,” the majority explains that such platforms “often exhibit” what it calls “indirect network effects.” Ante, at 3. By this, the majority means that sales of merchant-related card services and (different) shopper-related card services are interconnected, in that increased merchant-buyers mean increased shopper-buyers (the more stores in the card’s network, the more customers likely to use the card),
and vice versa. See *ibid.* But this, too, is commonplace. Consider, again, a farmers’ market. The more farmers that participate (within physical and esthetic limits), the more customers the market will likely attract, and vice versa. So too with travel agents: the more airlines whose tickets a travel agent sells, the more potential passengers will likely use that travel agent, and the more potential passengers that use the travel agent, the easier it will likely be to convince airlines to sell through the travel agent. And so forth. Nothing in antitrust law, to my knowledge, suggests that a court, when presented with an agreement that restricts competition in any one of the markets my examples suggest, should abandon traditional market-definition approaches and include in the relevant market services that are complements, not substitutes, of the restrained good. See *supra,* at 10–11.

To justify special treatment for “two-sided transaction platforms,” the majority relies on the Court’s decision in *United States v. Grinnell Corp.*, 384 U. S. 563, 571–572 (1966). In *Grinnell*, the Court treated as a single market several different “central station services,” including burglar alarm services and fire alarm services. *Id.*, at 571. It did so even though, for consumers, “burglar alarm services are not interchangeable with fire alarm services.” *Id.*, at 572. But that is because, for producers, the services were indeed interchangeable: A company that offered one could easily offer the other, because they all involve “a single basic service—the protection of property through use of a central service station.” *Ibid.* Thus, the “commercial reality[y]” that the *Grinnell* Court relied on, *ibid.*, was that the services being grouped were what economists call “producer substitutes.” See 2B Areeda & Hovenkamp ¶561, at 378. And the law is clear that “two products produced interchangeably from the same production facili-
ties are presumptively in the same market,” even if they are not “close substitutes for each other on the demand side.” *Ibid.* That is because a firm that produces one such product can, in response to a price increase in the other, easily shift its production and thereby limit its competitor’s power to impose the higher price. See *id.*, ¶561a, at 379.

Unlike the various types of central station services at issue in *Grinnell Corp.*, however, the shopper-related and merchant-related services that American Express provides are not “producer substitutes” any more than they are traditional substitutes. For producers as for consumers, the services are instead complements. Credit card companies must sell them together for them to be useful. As a result, the credit-card companies cannot respond to, say, merchant-related price increases by shifting production away from shopper-related services to merchant-related services. The relevant “commercial realities” in this case are thus completely different from those in *Grinnell Corp.* (The majority also cites *Brown Shoe Co. v. United States*, 370 U. S. 294, 336–337 (1962), for this point, but the “commercial realities” considered in that case were that “shoe stores in the outskirts of cities compete effectively with stores in central downtown areas,” and thus are part of the same market. *Id.*, at 338–339. Here, merchant-related services do not, as I have said, compete with shopper-related services, and so *Brown Shoe Co.* does not support the majority’s position.) Thus, our precedent provides no support for the majority’s special approach to defining markets involving “two-sided transaction platforms.”

What about the academic articles the majority cites? The first thing to note is that the majority defines “two-sided transaction platforms” much more broadly than the
economists do. As the economists who coined the term explain, if a “two-sided market” meant simply that a firm connects two different groups of customers via a platform, then “pretty much any market would be two-sided, since buyers and sellers need to be brought together for markets to exist and gains from trade to be realized.” Rochet & Tirole, Two-Sided Markets: A Progress Report, 37 RAND J. Econ. 645, 646 (2006). The defining feature of a “two-sided market,” according to these economists, is that “the platform can affect the volume of transactions by charging more to one side of the market and reducing the price paid by the other side by an equal amount.” Id., at 664–665; accord, Filistrucchi 299. That requirement appears nowhere in the majority’s definition. By failing to limit its definition to platforms that economists would recognize as “two sided” in the relevant respect, the majority carves out a much broader exception to the ordinary antitrust rules than the academic articles it relies on could possibly support.

Even as limited to the narrower definition that economists use, however, the academic articles the majority cites do not support the majority’s flat rule that firms operating “two-sided transaction platforms” should always be treated as part of a single market for all antitrust purposes. Ante, at 13–15. Rather, the academics explain that for market-definition purposes, “[i]n some cases, the fact that a business can be thought of as two-sided may be irrelevant,” including because “nothing in the analysis of the practices [at issue] really hinges on the linkages between the demands of participating groups.” Evans & Schmalensee, Markets With Two-Sided Platforms, 1 Issues in Competition L. & Pol’y 667, 689 (2008). “In other cases, the fact that a business is two-sided will prove important both by identifying the real dimensions of competition and focusing on sources of constraints.” Ibid. That flexible approach, however, is precisely the one the
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District Court followed in this case, by considering the effects of “[t]he two-sided nature of the . . . card industry” throughout its analysis. 88 F. Supp. 3d, at 155.

Neither the majority nor the academic articles it cites offer any explanation for why the features of a “two-sided transaction platform” justify always treating it as a single antitrust market, rather than accounting for its economic features in other ways, as the District Court did. The article that the majority repeatedly quotes as saying that “[i]n two-sided transaction markets, only one market should be defined,” ante, at 14–15 (quoting Filistrucchi 302), justifies that conclusion only for purposes of assessing the effects of a merger. In such a case, the article explains, “[e]veryone would probably agree that a payment card company such as American Express is either in the relevant market on both sides or on neither side . . . . The analysis of a merger between two payment card platforms should thus consider . . . both sides of the market.” Id., at 301. In a merger case this makes sense, but is also meaningless, because, whether there is one market or two, a reviewing court will consider both sides, because it must examine the effects of the merger in each affected market and submarket. See Brown Shoe Co., 370 U. S., at 325. As for a nonmerger case, the article offers only United States v. Grinnell as a justification, see Filistrucchi 303, and as I have already explained, supra, at 16–18, Grinnell does not support this proposition.

E

Put all of those substantial problems with the majority’s reasoning aside, though. Even if the majority were right to say that market definition was relevant, and even if the majority were right to further say that the District Court should have defined the market in this case to include shopper-related services as well as merchant-related services, that still would not justify the majority in affirm-
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ing the Court of Appeals. That is because, as the majority is forced to admit, the plaintiffs made the factual showing that the majority thinks is required. See ante, at 17.

Recall why it is that the majority says that market definition matters: because if the relevant market includes both merchant-related services and card-related services, then the plaintiffs had the burden to show that as a result of the nondiscrimination provisions, “the price of credit-card transactions”—considering both fees charged to merchants and rewards paid to cardholders—“was higher than the price one would expect to find in a competitive market.” Ante, at 16. This mirrors the Court of Appeals’ holding that the Government had to show that the “nondiscrimination provisions” had “made all [American Express] customers on both sides of the platform—i.e., both merchants and cardholders—worse off overall.” 838 F. 3d, at 205.

The problem with this reasoning, aside from it being wrong, is that the majority admits that the plaintiffs did show this: they “offer[ed] evidence” that American Express “increased the percentage of the purchase price that it charges merchants . . . and that this increase was not entirely spent on cardholder rewards.” Ante, 17 (citing 88 F. Supp. 3d, at 195–197, 215). Indeed, the plaintiffs did not merely “offer evidence” of this—they persuaded the District Court, which made an unchallenged factual finding that the merchant price increases that resulted from the nondiscrimination provisions “were not wholly offset by additional rewards expenditures or otherwise passed through to cardholders, and resulted in a higher net price.” Id., at 215 (emphasis added).

In the face of this problem, the majority retreats to saying that even net price increases do not matter after all, absent a showing of lower output, because if output is increasing, “rising prices are equally consistent with growing product demand.” Ante, at 18 (quoting Brooke
Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U. S. 209, 237 (1993)). This argument, unlike the price argument, has nothing to do with the credit-card market being a “two-sided transaction platform,” so if this is the basis for the majority’s holding, then nearly all of the opinion is dicta. The argument is also wrong. It is true as an economic matter that a firm exercises market power by restricting output in order to raise prices. But the relevant restriction of output is as compared with a hypothetical world in which the restraint was not present and prices were lower. The fact that credit-card use in general has grown over the last decade, as the majority says, see ante, at 17–18, says nothing about whether such use would have grown more or less without the nondiscrimination provisions. And because the relevant question is a comparison between reality and a hypothetical state of affairs, to require actual proof of reduced output is often to require the impossible—tantamount to saying that the Sherman Act does not apply at all.

In any event, there are features of the credit-card market that may tend to limit the usual relationship between price and output. In particular, merchants generally spread the costs of credit-card acceptance across all their customers (whatever payment method they may use), while the benefits of card use go only to the cardholders. See, e.g., 88 F. Supp. 3d, at 216; Brief for John M. Connor et al. as Amici Curiae 34–35. Thus, higher credit-card merchant fees may have only a limited effect on credit-card transaction volume, even as they disrupt the marketplace by extracting anticompetitive profits.

IV

A

For the reasons I have stated, the Second Circuit was wrong to lump together the two different services sold, at step 1. But I recognize that the Court of Appeals has not
yet considered whether the relationship between the two services might make a difference at steps 2 and 3. That is to say, American Express might wish to argue that the nondiscrimination provisions, while anticompetitive in respect to merchant-related services, nonetheless have an adequate offsetting procompetitive benefit in respect to its shopper-related services. I believe that American Express should have an opportunity to ask the Court of Appeals to consider that matter.

American Express might face an uphill battle. A Sherman Act §1 defendant can rarely, if ever, show that a procompetitive benefit in the market for one product offsets an anticompetitive harm in the market for another. In United States v. Topco Associates, Inc., 405 U. S. 596, 611 (1972), this Court wrote:

“If a decision is to be made to sacrifice competition in one portion of the economy for greater competition in another portion, this . . . is a decision that must be made by Congress and not by private forces or by the courts. Private forces are too keenly aware of their own interests in making such decisions and courts are ill-equipped and ill-situated for such decisionmaking.”

American Express, pointing to vertical price-fixing cases like our decision in Leegin, argues that comparing competition-related pros and cons is more common than I have just suggested. See 551 U. S., at 889–892. But Leegin held only that vertical price fixing is subject to the “rule of reason” instead of being per se unlawful; the “rule of reason” still applies to vertical agreements just as it applies to horizontal agreements. See id., at 898–899.

Moreover, the procompetitive justifications for vertical price-fixing agreements are not apparently applicable to the distinct types of restraints at issue in this case. A vertically imposed price-fixing agreement typically involves a manufacturer controlling the terms of sale for its
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own product. A television-set manufacturer, for example, will insist that its dealers not cut prices for the manufacturer’s own televisions below a particular level. Why might a manufacturer want its dealers to refrain from price competition in the manufacturer’s own products? Perhaps because, for example, the manufacturer wants to encourage the dealers to develop the market for the manufacturer’s brand, thereby increasing interbrand competition for the same ultimate product, namely a television set. This type of reasoning does not appear to apply to American Express’ nondiscrimination provisions, which seek to control the terms on which merchants accept other brands’ cards, not merely American Express’ own.

Regardless, I would not now hold that an agreement such as the one before us can never be justified by pro-competitive benefits of some kind. But the Court of Appeals would properly consider procompetitive justifications not at step 1, but at steps 2 and 3 of the “rule of reason” inquiry. American Express would need to show just how this particular anticompetitive merchant-related agreement has procompetitive benefits in the shopper-related market. In doing so, American Express would need to overcome the District Court’s factual findings that the agreement had no such effects. See 88 F. Supp. 3d, at 224–238.

B

The majority charts a different path. Notwithstanding its purported acceptance of the three-step, burden-shifting framework I have described, ante, at 9–10, the majority addresses American Express’ procompetitive justifications now, at step 1 of the analysis, see ante, at 18–20. And in doing so, the majority inexplicably ignores the District Court’s factual findings on the subject.

The majority reasons that the challenged nondiscrimination provisions “stem negative externalities in the credit-
card market and promote interbrand competition.” *Ante,* at 19. The “negative externality” the majority has in mind is this: If one merchant persuades a shopper not to use his American Express card at that merchant’s store, that shopper becomes less likely to use his American Express card at other merchants’ stores. *Ibid.* The majority worries that this “endangers the viability of the entire [American Express] network,” *ibid.*, but if so that is simply a consequence of American Express’ merchant fees being higher than a competitive market will support. “The antitrust laws were enacted for ‘the protection of competition, not competitors.’” *Atlantic Richfield Co. v. USA Petroleum Co.*, 495 U. S. 328, 338 (1990). If American Express’ merchant fees are so high that merchants successfully induce their customers to use other cards, American Express can remedy that problem by lowering those fees or by spending more on cardholder rewards so that cardholders decline such requests. What it may not do is demand contractual protection from price competition.

In any event, the majority ignores the fact that the District Court, in addition to saying what I have just said, also rejected this argument on independent factual grounds. It explained that American Express “presented no expert testimony, financial analysis, or other direct evidence establishing that without its [nondiscrimination provisions] it will, in fact, be unable to adapt its business to a more competitive market.” 88 F. Supp. 3d, at 231. It further explained that the testimony that was provided on the topic “was notably inconsistent,” with some of American Express’ witnesses saying only that invalidation of the provisions “would require American Express to adapt its current business model.” *Ibid.* After an extensive discussion of the record, the District Court found that “American Express possesses the flexibility and expertise necessary to adapt its business model to suit a market in which it is required to compete on both the cardholder and merchant
sides of the [credit-card] platform.” *Id.*, at 231–232. The majority evidently rejects these factual findings, even though no one has challenged them as clearly erroneous.

Similarly, the majority refers to the nondiscrimination provisions as preventing “free riding” on American Express’ “investments in rewards” for cardholders. *Ante*, at 19–20; see also *ante*, at 7 (describing steering in terms suggestive of free riding). But as the District Court explained, “[p]lainly . . . investments tied to card use (such as Membership Rewards points, purchase protection, and the like) are not subject to free-riding, since the network does not incur any cost if the cardholder is successfully steered away from using his or her American Express card.” 88 F. Supp. 3d, at 237. This, I should think, is an unassailable conclusion: American Express pays rewards to cardholders only for transactions in which cardholders use their American Express cards, so if a steering effort succeeds, no rewards are paid. As for concerns about free riding on American Express’ fixed expenses, including its investments in its brand, the District Court acknowledged that free-riding was in theory possible, but explained that American Express “ma[de] no effort to identify the fixed expenses to which its experts referred or to explain how they are subject to free riding.” *Ibid.*; see also *id.*, at 238 (American Express’ own data showed “that the network’s ability to confer a credentialing benefit trails that of its competitors, casting doubt on whether there is in fact any particular benefit associated with accepting [American Express] that is subject to free riding”). The majority does not even acknowledge, much less reject, these factual findings, despite coming to the contrary conclusion.

Finally, the majority reasons that the nondiscrimination provisions “do not prevent Visa, MasterCard, or Discover from competing against [American Express] by offering lower merchant fees or promoting their broader merchant acceptance.” *Ante*, at 20. But again, the District Court’s
factual findings were to the contrary. As I laid out above, the District Court found that the nondiscrimination provisions *in fact did prevent* Discover from pursuing a low-merchant-fee business model, by “den[y]ing merchants the ability to express a preference for Discover or to employ any other tool by which they might steer share to Discover’s lower-priced network.” 88 F. Supp. 3d, at 214; see *supra*, at 7. The majority’s statements that the nondiscrimination provisions are procompetitive are directly contradicted by this and other factual findings.

* * *

For the reasons I have explained, the majority’s decision in this case is contrary to basic principles of antitrust law, and it ignores and contradicts the District Court’s detailed factual findings, which were based on an extensive trial record. I respectfully dissent.
APPLYING TWO-SIDED MARKETS THEORY: THE MASTERCARD AND AMERICAN EXPRESS DECISIONS

Giuseppe Colangelo* & Mariateresa Maggiolino†

ABSTRACT
Since the seminal papers by Rochet and Tirole, the payment card industry has represented an elected field of study for the economic features of multisided markets and their effects on both regulation and antitrust analysis. The recent judgements of the UK High Court of Justice in MasterCard and of the US Court of Appeals for the Second Circuit in American Express are particularly relevant because they are the first to concretely apply the economic theory of multisided markets to the payment card industry. In particular, given the nature of multisided markets, the coexistence of different business models, and the dualistic competitive interpretation of the conduct, courts have emphasised the need to articulate a judgement around counterfactual hypotheses. This is a way to measure the actual impact on competition, testing the realistic scenario that would occur if the investigated conduct was absent, so as to give appropriate consideration to the business model of the single platform. The same reasoning that makes us consider advantageous a flexible antitrust approach forces us to be critical of the current US and EU regulation of payment systems.

JEL: K21; L40; L84

I. INTRODUCTION
In light of the recent decisions by the UK High Court in MasterCard¹ and the US Court of Appeals for the Second Circuit in American Express,² this article aims to fulfill a twofold goal. First, it intends to show that antitrust authorities should take into consideration the two-sided nature of the credit-card industry to offer a realistic description of the markets at stake and, even more importantly, of the theories of harm and procompetitive justifications that can explain

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¹ High Court of Justice, 2017 EWHC 93 (Comm), Arcadia and others v. MasterCard.
some business practices involving credit cards. Second, the article wants to stress that the recent EU and US regulation of payment systems bring about counterproductive results, because they do not take into full account the two-sided dynamic involving the demand and supply of credit cards.

Accordingly, the article is structured as it follows. Section II briefly describes the main economic features that characterize multisided business models. Section III deals with the functioning of the payment card systems. Section IV, by following the chronological order, analyses the main regulatory and antitrust developments that in the US and EU has addressed credit-card payment systems. Section V discusses the above-mentioned two recent decisions of the UK High Court and of the Court of Appeal of the Second Circuit. Section VI concludes, by explaining why the US and UK decisions achieved different outcomes, although using the same (sophisticated) framework of analysis, and underlines some fragility that still affect the current regulations.

II. THE ECONOMIC FEATURES OF MULTISIDED BUSINESSES

The market of payment systems is one of the most notorious and studied examples of multisided markets. In the wake of the digital and sharing economy, this type of market has become markedly predominant in the analysis and regulation of several sectors of the economy. However, as one can infer from the literature of the last 15 years, the genesis of this type of market does not coincide with the proliferation of digital platforms. Indeed, search engines, operating systems for PCs and smartphones, together with more traditional—but digitalised—activities (such as real estate companies, newspapers, malls) can all be categorised as multisided markets.

Therefore, the economic aspects of multisided markets are of interest to different businesses and affect each business in different ways. This is why one can find definitions and classifications in the current scholarship that differ from one another. For instance, whereas Rochet and Tirole highlight price structures within multisided markets (by defining ‘two-sided’ as a market in which the platform can influence the volume of transactions by applying asymmetric prices to groups working on different sides), Evans and Schmalensee believe that a multisided platform facilitates the interactions between two or more groups of economic agents that mutually depend on each other and that, without the existence of the platform, would not be able to capture the value generated by their interaction. Hagiu and Wright identify as distinctive traits of a platform its capacity for allowing direct interactions between two or multiple sides, each of

which is affiliated with the platform. Armstrong and Rysman emphasise the presence of indirect network effects that link the different sides in a fashion that the benefit gained by an individual of a given group depends on the capacity the platform has to attract the business interests of the individuals belonging to the other group, and, more generally, the decisions of those who belong to one side generate an externality that affects the welfare of those on the other side.

A tripartite classification has also been proposed, one based on the groups of users whose needs the platform aims at exchanging and from whose interactions the platform itself gains value—market makers, which allow and make interactions and exchanges easier between different groups of individuals, thereby reducing search costs (for example, real estate agencies); audience makers, which allow a group (for example, advertising agencies) to capture the attention of another group (for example, consumers); demand co-ordinators, which coordinate the aggregate demand of different user groups, thereby avoiding duplication costs (for example, payment systems and operative systems).

Lastly, platforms can be conceptualised in technological terms, that is, as complex software systems that communicate with each other within an overall architecture whose functioning and evolution are guaranteed over time by a set of technical standards that ensure the interoperability within the system. Hence, if on the one hand one is tempted to think of platforms in terms of technological compatibility and the linked switching costs, on the other hand platforms are economic agents that are capable of innovating and expanding the set of services they offer to users, at the cost of a few more lines of code but with the benefit of enriching the user’s experience, thus nudging them towards always choosing the same platform to satisfy their needs (a one-stop-shop).

All the nuances in the definitions and classifications we have listed so far being equal, a multisided market is generically characterised by the following distinctive traits: the presence of indirect network externalities that cannot be internalised through a bilateral exchange (usage and membership externalities); the necessity

9 Usage externalities result from the circumstance that two or more agents need the platform to interact; membership externalities result from the circumstance that the value realised by the group of agents on a side of the platform depends on the number of agents on the other side of the platform. Not every multisided platform is characterised by the presence of both
for an intermediary (matchmaker)\textsuperscript{10} to intervene to resolve a transaction cost issue, so generating value for at least one of the interested sides; the interdependence needed between the groups that interact through the platform to bring ‘both sides on board’, that is, it needs to gather a sufficient number of economic agents on every side of the market so as to reach a critical mass to foster indirect network effects; the nonneutrality of price structuring by the platform which, to foster every side needs to impose asymmetrical prices on the different groups operating on the platform (skewed pricing), so that these prices, although not reflecting the effective cost of the service offered to a given group of users, can incorporate demand elasticity.

Presented with the need to bring ‘both sides on board’, the platform faces the classic chicken-and-egg dilemma. In other terms, if a group of users (for example, buyers) is interested in using a platform (for example, a platform for online shopping) only when a conspicuous number of other users (for example, sellers) are on it, it is crucial to understand how to attract the latter if the platform does not have a critical number of the former.

The peculiarities of multisided platforms have obvious consequences for the analysis of the aforementioned markets.\textsuperscript{11} Indeed, if the agents on each side are interdependent and, therefore, their welfare depends on the combination of the effects on the different sides of the platform, businesses compete to attract two demands, so that the traditional one-sided approach risks being unfit to represent the competition dynamics occurring and also a suitable valuation of the competition impact of the platform’s conducts.

More specifically, the difficulties in incorporating the economic aspects of these platforms within an antitrust analysis first appear in the definition of the relevant market, given that one would need to assess whether there is only one market that encompasses both (or all) sides of the platform or one market for each side. Once it is determined that a firm operates a two-sided platform, the economic literature has focused on the competitive pressures on that two-sided

\textsuperscript{11} For a recent overview, see G. Gürkaynak, Ö. Inanilir, S. Diniz & A.G. Yasar, Multisided Markets and the Challenge of Incorporating Multisided Considerations into Competition Law Analysis, 5 JOURNAL OF ANTITRUST ENFORCEMENT 100 (2017); P. Solano Díaz, EU Competition Law Needs to Install a Plug-in, 40(3) WORLD COMPETITION 393 (2017); D. Auer & N. Petit, Two-Sided Markets and the Challenge of Turning Economic Theory into Antitrust Policy, 60 THE ANTITRUST BULLETIN 426 (2015).
platform coming from other two-sided platforms or in some cases one-sided firms.\textsuperscript{12} A difficulty that cannot always be answered in just one way, given that the definition of the relevant market is an operation by which means, through trial and error (or, if you prefer, abduction and verification), one can collect information about the competition restraints that each enterprise imposes on the other.\textsuperscript{13}

Another complexity is the evaluation of market power, which, necessarily has to take into account, among other things, the relevance of network effects and the platforms’ degree of diversification, notwithstanding the important competitive pressures that platforms exercise across industries,\textsuperscript{14} as well as the chances users have to resort contemporaneously to alternative platforms (multihoming), thereby significantly reducing the lock-in risks. This is the case even without considering the debatable role that big data can play and the relative informative advantage from which the platform can benefit. The weight of these and other factors will inevitably differ according to the type of platform and the business model being studied.

Moreover, the evaluation of market power as linked to econometric indexes (for example, the SSNIP test) has to be rethought as it was not intended to be applied to null prices and, therefore, it underestimates the sum of the platform’s lost profits which, in turn, means an increase in the prices applied to only one group of users.\textsuperscript{15} In such a case, the platform would see a decrease in the number of members to whom a higher price has been applied, although there would be a vicious circle due to the indirect network effect that would result in a loss of users on other sides of the platform: all these effects would


result in a further reduction of the buyers to whom a higher price has been proposed.\(^{16}\)

As a consequence, the characteristics of multisided markets have an impact on the antitrust evaluation of conduct and price strategies, in addition to being useful in understanding a possible theory of harm. For instance, the application of asymmetrical prices to the groups operating on the different sides of the platform is required when there is a need to balance the interests of the different sides. In other words, skewed prices impose a renewed interpretation of the legal structures traditionally deployed by antitrust authorities (such as fixed, discriminatory, and predatory prices) to analyse the definition of prices by the platform on each side of which it is made.\(^{17}\)

III. THE PAYMENT CARD SYSTEMS AS TWO-SIDED MARKETS

Payment cards offer a service to both the cardholders, by making the payment of a good or service simpler, and the merchants, by allowing them to receive the payment in a manner that is more safe and efficient, although increasing the services offered to their clients and, consequently, the volume of sales. The functionalities offered by payment systems and the structure of the demand on both sides of the market are strongly interdependent: on the one hand, cardholders obtain a benefit by being a cardholder (both credit and/or debit card) only if such a card is accepted by a vast number of merchants; by contrast, these merchants derive an advantage by accepting a card only if it is used by a sufficient number of cardholders and when cardholders do not intend to use cash. To sum up, the value of a given payment system to cardholders increases with the increase in the number of merchants that accept a given card, whereas for the merchants, it increases with the increase in the number of cardholders that use a given card. As a consequence, providers of a payment system must calibrate their price strategy looking at both sides of the market given that they aim at keeping both sides on board.

Moreover, the market for payment cards includes two different business models: the one being open (co-operative) circuits and the other being closed (proprietary) circuits. The former, notably exemplified by Visa and Mastercard, is described as a four-party scheme, albeit that it involves five parties, these

\(^{16}\) Coherently with the different definition of the relevant market for two-sided transaction markets or two-side nontransaction markets, according to Filistrucchi, Geradin, van Damme and Affeldt, supra note 12, at 330–333, in the former hypothesis the SNIPP test has to be used having as a reference the sum of the prices on the two sides, whereas in the latter hypothesis, the SNIPP test has to be adopted in its traditional fashion.

\(^{17}\) See EU Commission, Guidance on the Commission’s Enforcement Priorities in Applying Article 82 of the EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings, 2009, OJ C45/2, para. 26, footnote 19, recognising that in multisided markets it may be necessary to look at revenues and costs of both sides at the same time.
being the cardholder, the issuer (generally a bank) that issues the payment card, the merchant, the acquirer (generally a bank) that buys the credit of the merchant that accepted the card, and the provider. On the one side of the platform, the issuer operates as an intermediary between the provider and the cardholder; on the other side, the acquirer plays the same role between the provider and the merchant. The role of both the issuer and the acquirer can be played by the same subject or by different subjects. When a cardholder makes a purchase using the card, the issuer pays the same amount to the acquirer who then transfers the sum to the merchant, minus a fee (merchant discount fee or merchant service charge or usage-based discount). The amount of that fee is largely determined by another fee, the interchange fee that the acquirer pays to the issuer as a consideration for having managed the transaction with the cardholder.

This four-party system is based on a co-operative network (co-operative or open-loop system) that involves different subjects, in which the providers do not operate directly on the issuing side or on the acquiring side, instead they release licences that allow members to operate on both sides of the platform by paying a fee. Closed circuits, best exemplified by American Express and Diners Club, do not involve banks, but are proprietary systems and are, therefore, based on an integrated network (closed loop system) in which the provider is both the issuer and the acquirer and deals directly with the cardholder and the merchant. The closed loop system provider issues the card to the cardholder at a fee, and every time the card is used, pays the merchant the value of the cardholder’s purchase, minus the provider’s fee.

Thus, both systems involve a membership fee paid by the cardholder (payable to the issuer in open circuits and to the provider in closed circuits) and a usage-based discount fee paid by the merchant (payable to the acquirer in open circuits and to the provider in closed circuits). Although the transaction structure in open circuits involves a further step (issuer-acquirer) and a further fee (interbank), such a fee is implicit in closed circuits, given that costs and revenues are managed by the same enterprise.  

Such a MIF has sparked a lot of antitrust perplexities. The MIF in and of itself, outside open payment systems, might be considered traditional horizontal price-fixing, having as a consequence the restriction of competition for the agents on the market of open circuits, and a rise in costs of cards for the consumer. As far as the first issue is concerned, such collective pricing would limit the scope of the financial institutions that would like to determine their pricing strategies autonomously; as far as the second issue is concerned, the MIF

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18 In a three-party system, it can be hypothesised that the provider delegates the acquiring services and sets an interbank commission to achieve the same results as in a four-party system: this shadow commission will be equal to the difference between the merchant fee set by the provider and the acquiring costs. For recent surveys on interchange fees in payment card systems, see M. Rysman & J. Wright, *The Economics of Payment Cards*, 13 REVIEW OF NETWORK ECONOMICS 303 (2014); M. Verdier, *Interchange Fees in Payment Card Systems: A Review of the Literature*, 25 JOURNAL OF ECONOMIC SURVEYS 273 (2011).
would be paid by the consumers. It is necessary to highlight that the MIF is a
conspicuous part of the merchant discount fee that acquirers impose on mer-
chants, so that it is the minimum price merchants are obliged to pay to be able
to accept a given card: no acquirer would apply to any merchant a fee lower
than the MIF, as doing so would result in a loss. Therefore, the MIF is passed
on to merchants, who in turn pass it on to consumers (including those that do
not use payment cards) in the form of higher retail prices.

Although the interbank fee can be defined by an agreement between issuers
and acquirers, what actually happens is that such a fee is determined ex ante
and uniformly by the provider to maintain equilibrium in a system that is threa-
tened by conflicts of interests between issuers and acquirers. The acquirer is
potentially exposed to the opportunistic behaviours of the issuer that, on the
basis of its monopsony with respect to the debts of the cardholder of the card it
issued, will naturally tend to raise the fees it demands. Given the risk of hold-
up that derives from such an asymmetry in economic power and given the high
number of subjects involved on both sides, these transactions would have to
bear (ex post) insurmountable transaction costs, thereby threatening the func-
tionality of four-party systems. Therefore, resorting to the two-sided markets’
interpretation and to keep together the various players, the centralised and ex ante
definition of an MIF by the provider, applied by default (that is, in the
absence of any bilateral agreement) to any issuer and acquirer that subscribe to
the circuit, is vital for the very existence of four-party systems and, thus, neces-
sary to ensure inter-system competition with three-party circuits.

In this context, the value of the MIF would ensure equilibrium between the
costs faced by the issuing banks linked to the issuance of cards and the mem-
ers’ affiliation, and the revenues coming from cardholders and merchants.
The assumption is that revenues from the cardholders are lower than the costs
faced by the issuers, whereas revenues from the merchants are higher than the
overall costs of the payment system as a whole. The MIF to be paid to the
issuers is, as simply as it gets, a form of autoregulation through which the par-
ties eliminate the disequilibrium between the two sides of the platform, thus
balancing the interests of the banks operating on the two sides by internalising

and 155.
20 W.F. Baxter, Bank Interchange of Transactional Paper: Legal and Economic Perspectives, 26
JOURNAL OF LAW AND ECONOMICS 541 (1983), at 544: ‘The mechanics of transactional ser-
ices require that for every transaction in which a purchaser becomes a maker of a check,
there must be one—and precisely one—transaction in which a merchant becomes a payee;
similarly, each use of a credit card by a card holder must be matched by precisely one act of
acceptance of the card... by a merchant.’
21 The premise is that unregulated interbank fees are set at high levels because merchants are
willing to accept payment cards even if the commissions payable outweigh the benefits, as the
acceptance of the cards and, therefore, the ability to offer consumers have an additional pay-
ment option, increasing the quality of service to customers, whereas the refusal to accept
some cards may compromise the ability to attract customers (‘must-take cards’ argument).
the network externalities and those deriving by a system characterised by a demand interdependence.\textsuperscript{22} It is the only way to ensure the survival of the competitive coexistence of open and closed systems.

The MIF is not the only structure that changes shape and colour according to whether it is considered stand-alone or within a broader scheme (for example, the way payment systems work). Other structures to be considered are two clauses that are generally part of license agreements, of the contracts signed for the issuance of a card, or of the contracts regulating payment operations. These clauses that have a huge impact on merchants are the nondiscrimination rule (NDR), also known as no-surcharge rule or anti-steering rule and the honour all cards rule (HACR). The first means that merchants cannot apply different prices according to the payment method chosen by the consumer nor can they nudge the consumer towards a given payment method; the second means that merchants are obliged to accept all the cards bearing the mark of the circuit, regardless of the card’s cost difference (honour all products) and of the issuing bank (honour all issuers).\textsuperscript{23}

The NDR eliminates the competition between cards with different marks and the competition between different banks that issue cards with the same mark, given that it eliminates the incentives different cards and different issuers have in competing with each other to offer merchants the best deals, as this rule forecloses any possibility for the merchants to discriminate according to the card’s mark or the card’s issuer. However, the NDR prevents merchants from imposing surcharges on consumers using payment cards instead of cash. Put differently, the NDR is justified by the fact that it ensures the survival of the entire payment system based on cards and alternatives to cash.

As far as HACR is concerned, if the honour all issuers rule guarantees that consumers will not be discriminated against according to the bank that issued their card, the honour all products rule has a tying effect involving both cards that have a high fee and cards that have a low fee. This clause, too, has a somewhat partial justification in the need to support the correct functioning of the whole payment system. The effects of the limitations imposed on merchants by these clauses have to be examined in the light of the MIF and, therefore, in light of their capacity to heighten the MIF’s negative effects: the absence of such clauses can help merchants in counterbalancing the power of issuers in the definition of an MIF, nudging them towards lowering it. If merchants were free to show their clients the cost of resorting to a payment card (that is, how much any card impacts on the final price of a given good or service) and therefore differentiate the final price according to the payment system the consumer employs, this


would favour competition between payment cards and between payment cards and cash, with a consequent reduction of the MIF, that is, the cost of resorting to plastic.

To complete the research framework and better evaluate the competition relationship between the different business models, it is necessary to understand that both cardholders and merchants practice multihoming, with the possibility of using and accepting different types of payment cards. Multihoming means lower prices, being a form of alternatives in the market. But such lower prices are not necessarily an advantage to both the groups of users—the increase in competition derived by multihoming on the one side of the platform allows the provider to apply a higher price to the users on the other side, given that this latter has fewer alternatives. As far as payment systems are concerned, cardholders usually have more choice than merchants have when it comes to payment methods, given that the former can easily give up on cards that require higher membership fees or that do not offer particular advantages.

IV. THE PAYMENT CARD INDUSTRY BETWEEN REGULATIONS AND ANTITRUST DECISIONS

The antitrust profiles of MIFs and NDR and HACR clauses have sparked a number of decisions by EU and US courts and antitrust authorities, together with specific regulatory interventions. We will proceed by analysing these decisions and regulatory interventions in chronological order, given that such interventions have been adopted (at least in the EU) in response to the changing approach of the antitrust authorities. More specifically, we will look at how antitrust law has been applied to define the relevant markets and to regulate MIFs and NDR and HACR clauses. We can anticipate that the antitrust evaluation of the said clauses has been marked by a divergence in the orientation of the European Commission and of the Court of Justice (CJEU).

A. The relevant market in US case law and in the European Commission decisions

As we have just noted, with regard to card-based payment systems, identifying the relevant market is a fundamental step in evaluating the impact of the analysed conduct.

In the US, starting from the NaBanco\textsuperscript{25} and Southtrust\textsuperscript{26} cases, the relevant market for credit cards is defined in a very broad manner, so as to encompass

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\textsuperscript{24} See Regulation (EU) 2015/751 of the European Parliament and of the Council of 29 April 2015 on interchange fees for card-based payment transactions, OJ L123/1, 19 May 2015, Recital 12: ‘The application of existing legislation by the Commission and national competition authorities has not been able to redress this situation.’


all payment systems, including checks and cash. The only exception can be found in the Visa case: in dealing with a horizontal agreement involving Visa and Mastercard related to a definition in concert of exclusionary conducts against American Express and Discover, the case narrowed the relevant market to only that of credit cards.

Regarding the European Commission, it first decided that to determine a correct definition of the relevant market it is necessary to analyse the demands of both merchants and cardholders, these demands being linked and interdependent. In order for the different payment methods to be interchangeable and therefore included in the same inter-system relevant market, they ought to be interchangeable to both consumers and merchants. This induced the Commission to limit the relevant market to payment cards only.

Since MasterCard, the Commission has changed its approach and, although it reiterated the relevance of indirect network effects and interdependent demands, it no longer deemed it appropriate to define a single market for a payment platform: the definition of single market would ignore the existence of three different levels of interactions within open systems/within the open system, namely the platform, the intermediary banks, and the clients. For these reasons, the relevant market for the evaluation of MIFs was identified with the side on which there is a subscription to the circuit by the merchants, thus excluding that of the cards’ issuance.

B. The antitrust decisions on multilateral interchange fees: the US Courts and the EU Commission

Regarding an MIF provision, in the US, the thesis that this accounted for illegal price fixing was abandoned in the mid-1980s, when the courts, both in NaBanco and in other cases, established that the MIF was legitimate, authorising that it be treated according to the rule of reason applied to a two-sided market such as that of payment systems. The MIF is a tool to split costs, keeping an equilibrium between demand and offer of payment services, thus neutralising the hold-up risk run by the issuers:

‘While each and every issuer bank might not behave monopsonistically, the incentive is certainly there for opportunistic behaviour by some issuer banks which would take advantage of the situation by trying to exact higher and higher fees from merchant banks. What VISA calls the “free rider” problem, would likely lead to the system’s collapse as more and more issuer

27 United States v. Visa USA, 344 F.3d 229 (2nd Cir. 2003).
29 Arcadia and others v. MasterCard, supra note 1, paras. 259 and 307; European Commission, 8 December 2010, Case COMP/39.398, Visa Mif (hereinafter cited as Visa III), paras. 15 and 16; European Commission, 26 February 2014, Case COMP/39.398, Visa Mif (hereinafter cited as Visa IV), paras. 17 and 18.
banks following this course of action led more and more merchant banks to drop out of the system.”

To date, no US court has declared the MIF unlawful on the basis that it violated antitrust provisions: criticism of the MIF has been rejected, sometimes leading to a nonjudicial settlement.

In the EU, the approach to the MIF has gradually evolved: it is now considered a restriction by object under Article 101.1 TFEU, thus being forbidden per se.

In Visa II, the Commission did not accept the theory according to which the MIF facilitates ‘only’ a transfer of costs between enterprises that co-operate to offer a network service that is characterised by common externalities and demands. However, the Commission, although considering the MIF as an agreement between competitors that restrict the banks’ freedom to establish their own fee policy, established that the MIF does not represent a price charged to the consumer, but a remuneration between two banks that are ‘forced’ to interact to perform a payment service and cannot, therefore, choose the economic partner they prefer.

The Commission concluded that the MIF is a necessary mechanism aimed at making the functioning of the system more stable and efficient, although indirectly strengthening the competition with the tripartite systems. The Commission realised that the absence of rules on the conditions of contract could favour abuses by the issuing bank which, in fact, is in a monopsony position with respect to the acquirer, as far as the regulation of a single payment operation is concerned. Therefore, the agreement on the MIF cannot be treated as an objective restriction of the competition and the details of this mechanism will be decisive to understand whether exemptions under Article 101.3 TFEU can apply. In the case at issue, all four conditions laid out in Article 101.3 TFEU were met and, therefore, the exemption was granted. The Commission accepted a definition of the MIF as anchored to objective parameters, recognised the efficiency gains deriving from a reduction in transaction costs and the necessity of an MIF, and highlighted the lack of a

32 Visa II, supra note 28, para. 65.
33 Visa II, supra note 28, para. 66.
34 Visa II, supra note 28, para. 79.
35 Visa II, supra note 28, para. 69.
36 Visa II, supra note 28, para. 79.
37 Visa II, supra note 28, para. 79.
38 Visa II, supra note 28, paras. 84 and 85. Visa identifies three main categories of costs (the cost of the transaction, the cost of the payment guarantee and the one of the free financial coverage) as the ‘objective benchmark’ parameter of the cost of the provision of payment services objective reference ‘on which to base the MIF.
diminution in the competition between the issuers, the acquirers, and Visa and its competitors.  

The European approach has then changed following the sector analysis completed in 2007, from which the Commission inferred that a strong correlation between the fee paid by the cardholder and the MIF does not exist, and that for any increase in the MIF equal to 1€, only 25% of it is transferred to consumers in the form of a price rebate. Thus, the idea that the MIF, instead of being a necessary tool to balance the contrasting interests on the two sides of the platform, is a profit-extraction mechanism.

Indeed, the MasterCard decision of December 2007 established that the MIF was an agreement that had both the object and the effect of restricting competition. First of all, the Commission reiterated how, in order for a conduct to be qualified as a restriction by object, it is sufficient that the agreement has as a natural consequence that of potentially restricting the competition, something that amounts to an obvious consequence when price-fixing behaviours are at stake. The function and indispensability of the MIF were then discussed: the Commission affirmed that the MIF could be used by banks both for achieving efficiency gains and extracting rents, in a way that renders the evaluation criteria to grant an exemption under Article 101.3 TFEU useless if they take into account only the amount of the MIF, instead of taking into account whether the MIF in itself is able to generate efficiency gains for both the groups of users (cardholders and merchants). In the case at stake, the Commission believed that MasterCard was not able to demonstrate adequate proof that the MIF was indispensable for the good functioning of the quadripartite system and, therefore, able to transfer a significant portion of

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40 Visa II, supra note 28, para. 106: issuers remain free to fix fees charged to their customers and affiliated banks, although in fact the MIF represents a minimum limit on the fee charged by the exhibitors, they remain free to fix the amount of commission charged by traders and may still be competing with other members of the latter, other than the MIF.


42 Commission Staff Working Document accompanying the Communication from the Commission, Report on the retail banking sector inquiry, para. B.3.4: ‘These findings challenge the hypothesis advanced by some industry participants and some of the economic literature that an increase in interchange fees is fully offset by reductions in cardholder fees. These results are consistent with the findings of the inquiry’s analysis on profitability and may cast doubt on the relevance of the arguments put forward by industry participants and the economic literature concerning the role played by the interchange fee in the payment cards industry. Indeed, if issuers do not pass return the additional interchange fee revenues back to cardholders this implies that interchange fees are a way to transfer profits to the side of the scheme where they are least likely to be competed away.’

43 European Commission, 19 December 2007, Case COMP/34.579, MasterCard.

44 MasterCard, supra note 43, paras. 403 and 404.

45 MasterCard, supra note 43, para. 730.

46 MasterCard, supra note 43, para. 731.

47 The Commission has identified five alternative payment schemes that operate successfully in several Member States without the prediction of any MIF.
the alleged benefits to all users and not only to those on the side that receive the fee.48

The same approach was recently confirmed in two other decisions that involved Visa, where the exemption was denied, and the MIF was believed not to be objectively necessary, although its restrictive effects were compounded by the compresence of other conduct such as NDRs, HACRs and blending.49

C. No-surcharge rule and honour all cards rule

The evolution of the EU Commission approach also concerns the treatment of the two main clauses frequently linked to the MIF.

As far as the NDR is concerned, in *Visa I*, the Commission, albeit declaring the clause as potentially restricting the competition by limiting the merchants’ freedom of action, concluded that, in the light of the empirical evidence, no substantial prejudice to the competition existed.50 The Commission observed that the market analyses conducted in countries where the NDR was abolished (for example, Sweden and the Netherlands) showed that only a risible number of merchants took advantage of the faculty to freely fix prices: the vast majority of them did not impose a surcharge, fearing that cardholders would have reacted negatively, thus losing clients.51

The Commission’s approach to the NDR did not change in *MasterCard* either, where it affirmed that the possible abolition of the clause would not change the subjugation of merchants, something to be ascribed to the presence of the MIF, instead.52 To support this statement, together with the recollection of the empirical evidence already gathered for *Visa*, the Commission underlined the incidence other factors have in making any abolition of the NDR ineffective with respect to the market power deriving from the MIF: more specifically, the high administrative costs linked to the imposition of surcharges and the circumstance that merchants often pay only one fee to be able to accept multiple cards (blending), so that where there is an increase in the (blended) merchant fee they are not able to distinguish which payment scheme they should sanction by applying a surcharge.

The Commission approach, however, changes in the more recent *Visa* decisions, where the NDR is considered, together with the blending and the HACR, as a factor capable of enhancing the restricting effects of the MIF.53

Although the Commission’s final approach to HACR has been remembered/recalled, it is nevertheless interesting to note how in *Visa I* the tone was radically different. In fact, on that occasion the Commission judged the HACR

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49 *Visa III*, supra note 29, para. 21; *Visa IV*, supra note 29, para. 23.
50 *Visa I*, supra note 28, paras. 54–58.
53 *Visa III*, supra note 29, para. 21; *Visa IV*, supra note 29, para. 23.
as inherent to the payment system and thus excluded it from the scope of Article 101.1 TFEU, stating that the development of a payment system depends on the fact that issuers can be sure about the fact that their cards will be accepted by merchants who have reached an agreement with other acquirers, and that, in the absence of this security, a mark on a payment card loses most of its significance and utility, especially if one considers that it is an international card and travellers rely on such cards for their payments abroad.\footnote{Visa I, supra note 28, paras. 66–69.}

D. The CJEU’s New Deal: The Groupement des Cartes Bancaires and MasterCard cases

In its approach, the Commission has been progressively reluctant to incorporate economic teachings on two-sided markets in its decisions. Conversely, the CJEU has adopted a different approach, offering an interpretation of two-sided markets that takes into account economic theory when it comes to evaluating antitrust conduct.

More specifically, in Groupement des cartes bancaires, the CJEU did not redefine the relevant market as including the two sides of the platform,\footnote{CJEU, 11 September 2014, Case C-67/13 P, EU:C:2014:2204, para. 77.} albeit that it recognised the interdependence of these two sides. The Court rejected the argument brought forward by the General Court according to which art 101.1 TFEU does not apply to the need for a balance of the issuing and the acquiring activities. According to the CJEU, the General Court was wrong as a matter of law when it decided that acting in concert to fix an interbank commission accounted for a restriction by object under Article 101.1 TFEU.\footnote{Groupement des cartes bancaires, supra note 55, para. 74.} The General Court did not consider the interactions between issuing and acquiring activities that belong to a payment system, nor did it consider the existence of indirect network effects. To establish whether co-ordination between firms is damaging the natural functioning of competition, it is necessary to take into account a relevant element (including the nature of the services at stake and the real functioning and structure of the markets) with regard to the economic or legal context in which such co-ordination exists. This has to be done especially where this element is the existence of market interactions between the parties of a dual system.\footnote{Groupement des cartes bancaires, supra note 55, paras. 78 and 79.} In other words, the Court remarked on how the MIF cannot be evaluated out of context (that of card-based payment systems) in which it is deployed and by which it is justified.

On the same day, the judges filed the MasterCard sentence that completed the European judicial journey which started with the 2007 Commission decision and was then confirmed by the General Court in 2012.\footnote{CJEU, 11 September 2014, Case C-382/12 P, EU:C:2014:2201.} Although the judges rejected MasterCard’s appeal, the arguments stand in contrast to the Commission’s approach, opening the way to a new interpretation of the market.
for payment systems’ dynamics, an approach that would also be adopted by the
UK High Court.

As in Groupement des cartes bancaires, the main argument is that in dealing
with a two-sided system, when one has to evaluate whether a given measure vio-
lates Article 101.1 because it creates restrictive effects with respect to one of the
two groups of consumers associated with such a system, and whether this mea-
sure satisfies the first requirement laid out in Article 101.3, one has to take into
account the system to which this measure refers to, including the complex of
objective advantages that derive from such a measure both in the market in
which the alleged restriction took place and in the market in which the other
group of consumers is, especially when there is no evidence of the interactions
between the two sides of the system. 59

The innovative part of the decision is that where judges reiterated the neces-
sity to resort to counterfactual hypotheses when examining whether a decision
or an agreement produces an effect that restricts competition, which meant, in
the case at stake, laying out a realistic scenario for the case of the absence of a
co-ordination mechanism represented by the MIFs, thus verifying the impact of
MIFs’ fixation on competition parameters such as price, quantity, and quality of
products or services. 60 One can easily infer from the decision that the reason
why the CJEU did not overturn the General Court’s decision (and, as a conse-
quence, the Commission’s decision) has to be found in the fact that MasterCard
omitted to state that in the counterfactual scenario its own system would have
collapsed. 61 The judges went further, stating that the line of reasoning used
before the General Court did not include the argument used before the CJEU
by Bank of Scotland and Lloyds TSB Bank, that is, that to judge a restriction of
the competition, it is necessary to evaluate the two-sided character of the system
analysed. 62 The arguments that derive from the counterfactual scenario were
raised by only a few parties and were raised late, which made it impossible for
the CJEU to take them into account and afford them proper consideration.

E. Regulation 2015/751 and the Wall Street Reform and Consumer
Protection Act

Following the decisions of the CJEU, Regulation 2015/751 has introduced
(only for four-sided systems and following what happened in several Member

59 MasterCard, supra note 58, para. 237.
60 MasterCard, supra note 58, paras. 161, 164 and 166. See EU Commission, Guidance on the
Commission’s Enforcement Priorities in Applying Article 82 of the EC Treaty to Abusive
Exclusionary Conduct by Dominant Undertakings, supra note 17, para. 21 (stating that the
assessment of an anticompetitive foreclosure ‘will usually be made by comparing the actual or
likely future situation in the relevant market (with the dominant undertaking’s conduct in
place) with an appropriate counterfactual, such as the simple absence of the conduct in ques-
tion or with another realistic alternative scenario, having regard to established business
practices).’
61 MasterCard, supra note 58, para. 173.
62 MasterCard, supra note 58, para. 180.
States) a cap on interbank commissions equal to 0.2% of the value of the transaction using a debit card, and to 0.3% for the transactions done by credit card, leaving it to Member States to establish a lower threshold. The cap is not based on the cost paid by the issuing banks but, rather, on the merchant indifference test (also known as the tourist test) that makes it possible to determine the level of the fee the merchant would be inclined to pay when considering the costs it faces when the payment is done by card or without card (by cash), factoring in the fee paid to the affiliating bank, that is the fee for the services to the merchant and the interbank fee.

The European model differs from that of the US which, following the Australian Reserve Bank’s experience, implements an approach based on the cost faced by the issuing bank, so as to determine the cap on the interbank fee. More specifically, the Wall Street Reform and Consumer Protection Act (better known as the Dodd-Frank Act) adopted in 2010 in the aftermath of the financial crisis, mandates the Federal Reserve Board (§1075, known as Durbin amendment) to regulate the interbank fee on debit cards so as to make it proportional to the cost faced by the issuer related to the transaction. After a troublesome process, the cap has been set at 24 cents, equal to a reduction of approximately 50% of the average value of the fee previously applied.

However, the different regulatory interventions in the matter of establishing a cap on MIF share the same underpinning principle, being the presumption

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63 Regulation 2015/751, supra note 24, Articles 3 and 4. See also European Commission, *Survey on Merchants’ Costs of Processing Cash and Card Payments*, 2015. The regulation of MIFs does not apply to business card transactions, cash withdrawals from cash dispensers (ATMs) or to payment service providers’ branches, and to transactions with payment cards issued by card schemes of three-part payment. However, to ensure equal treatment conditions, the application also covers the implicit MIF of three-part circuits, which are considered as four-party schemes when granting other payment service providers the licence to issue and / or agreement on payment cards. Moreover, the CJEU, 7 February 2018, Cases C-304/16, *American Express Co. v. The Lords Commissioners of Her Majesty’s Treasury*, EU:C:2018:66, has recently held that, where a three-party payment card scheme enters into a co-branding arrangement or an arrangement with an agent, that scheme must be considered to be a four-party payment card scheme. In any event, in view of the peculiarities of the three-part schemes, Member States are allowed, for a transitional period (until 9 December 2018), not to apply the rules on the ceiling on interbank fees if these schemes do not exceed 3% of the value of all paper-based payment transactions carried out in the Member State concerned.

64 The test has been developed by J.C. Rochet & J. Tirole, *Must-take cards: Merchant discounts and avoided costs*, 9 *JOURNAL OF THE EUROPEAN ECONOMIC ASSOCIATION* 462 (2011).

65 However, although in Australia policymakers have allowed platforms to set different credit card interchange fees subject to a cap on the weighted average interchange fee, in the US (as well as in the EU) policymakers have required debit card interchange fees in all categories to be subject to the same cap. Thus, they rule out discriminatory interchange fees. See R. Ding & J. Wright, *Payment Card Interchange Fees and Price Discrimination*, 65 *THE JOURNAL OF INDUSTRIAL ECONOMICS* 39 (2017), and Z. Wang, *Price Cap Regulation in a Two-sided Market: Intended and Unintended Consequences*, 45 *INTERNATIONAL JOURNAL OF INDUSTRIAL ORGANIZATION* 28 (2016), finding that regulation based on a single interchange fee is suboptimal, as welfare is higher when the planner is able to set different interchange fees than when the planner can only set a single interchange fee.
that the MIF is factually employed to determine a value transfer from merchants and consumers to banks.\textsuperscript{66} In the case of a nonsufficiently competitive market on the merchants’ side, the issuer could transfer to cardholders a fraction of the MIF’s revenues, one that is lower than the costs that acquirers transfer to merchants, thus profiting from the interbank fee. In such a case, the parties that would benefit most from a MIF cap would be consumers that would see a downstream value transfer. The European Regulation follows this direction, highlighting how the competition between systems of card payment to persuade providers of payment services to issue their cards implies a rise in interbank fees, contrary to the normal effect price fixing has on competition in a market economy.\textsuperscript{67} However, some of the economic scholarship doubts the actual efficacy of this pass-through thesis, emphasising how empirical studies demonstrate the validity of a two-sided market’s analysis according to which, despite the competition concerns linked to collusive price fixing, the MIF influences prices’ structure, not their level. That is, an increase in the MIF does not correspond with a price increase for the end consumer as cartel theory dictates but, rather, a cost reallocation between two categories of end consumers (merchants and cardholders) such that a reduction of the MIF would not necessarily mean higher benefits for cardholders.\textsuperscript{68}

Regarding HACRs and NDRs, they are also both regulated by Regulation 2016/751 (Articles 10 and 11) and the Durbin amendment. In the EU, the imposition of an HACR is forbidden in relation to tripartite and quadripartite systems regarding the ‘honour all products’ rule (one exception being that of different cards belonging to the same mark, with the same interbank fee). An NDR is also forbidden in relation to these same systems, so that merchants can decide which payment system they want to favour, in addition to being able to

\textsuperscript{66} See Ding & Wright, \textit{supra} note 65, arguing that the unregulated fee structure is biased against retailers and that the bias a card platform has towards setting excessive interchange fees remains robust across various settings, thus providing support for the regulation of interchange fees. See also J. Wright, \textit{Why payment card fees are biased against retailers}, 43 RAND \textit{JOURNAL OF ECONOMICS} 761 (2012).

\textsuperscript{67} Regulation 2015/751, \textit{supra} note 24, Recital 10.

\textsuperscript{68} D.S. Evans, H. Chang, & S. Joyce, \textit{The Impact of the U.S. Debit Card Interchange Fee Regulation on Consumer Welfare: An Event Study Analysis}, 11 \textit{JOURNAL OF COMPETITION LAW & ECONOMICS} 23 (2015), noted that, as a result of the Durbin amendment, although it is true that traders have transferred some of the savings they have made to consumers, banks themselves have transferred some of their losses to consumers. In conclusion, the Authors pointed out that, due to the ceiling set by the Durbin amendment, consumers have suffered a loss resulting from higher bank overhead costs than the benefits. The analysis is supported by the empirical investigation conducted by M.D. Manuszak & K. Wozniak, \textit{The Impact of Price Controls in Two-sided Markets: Evidence from US Debit Card Interchange Fee Regulation}, Board of Governors of the Federal Reserve System, Finance and Economics Discussion Series 2017-074 (2017), \url{https://www.federalreserve.gov/econres/feds/files/2017074pap.pdf}. See also T.J. Zywicki, G.A. Manne & J. Morris, \textit{Price Controls on Payment Card Interchange Fees: The U.S. Experience}, ICLE Financial Regulatory Research Program White Paper 2014-2 (2014), \url{https://www.law.gmu.edu/assets/files/publications/working_papers/1418.pdf} (accessed 19 September 2017).
orientate consumers towards one or another payment system, and to inform consumers about the interbank fees applied by different payment methods. On this last point, it is useful to note how Directive 2015/2366 on payment systems in the internal market (PSD 2) allows the possibility of applying surcharges or discounts to consumers, provided that the amount is not higher than the costs faced by the merchants for the specific payment instrument.\textsuperscript{69} The Directive states that the possibility of applying surcharges does not apply to those payment instruments whose MIFs are subject to the Regulation and, nevertheless, Member States can extend the prohibition of surcharges to all payment cards, taking into account the need to encourage competition, and to promote the use of efficient payment instruments.\textsuperscript{70}

In the US, as from 2010, §1075 of the Wall Street Reform and Consumer Protection Act allows merchants to apply discounts or otherwise orientate consumers towards a payment system different from credit cards (that is, checks, debit cards, cash). As regards the permanence of anti-steering rules for credit cards, following legal action brought by the Department of Justice and seventeen States against an alleged agreement restrictive of the competition, in 2011, Visa and MasterCard agreed to eliminate NDRs.\textsuperscript{71} American Express did not sign the settlement, and the judicial developments that followed have subsequently been the subject of the recent decision of the Court of Appeals for the Second Circuit, on which we will focus later.

The European Regulation intervened on other aspects as well. For instance, accounting, organisational, and decision-making independence of payment card schemes and processing entities has been imposed (Article 7).\textsuperscript{72} Moreover, to foster the market transparency that would be hindered by rules applied to payment card schemes and the conduct followed by providers aimed at keeping merchants and consumers blind with respect to the differences in fees, the European legislator prohibits blending, that is, the conduct by which merchants are obliged to pay only one fee for the acceptance of different cards operating on different payment systems. The Regulation establishes that each acquirer shall offer and charge its payee merchant service charges individually specified for different categories and different brands of payment cards with different interchange fee levels, unless payees request the acquirer to charge blended merchant service charges.\textsuperscript{73}


\textsuperscript{70} Directive 2015/2366, \textit{ supra} note 69, Articles 62.4 and 62.5.


\textsuperscript{72} To establish the requirements ensuring this separation, the Regulation empowers the Commission to adopt regulatory technical standards. With the recent Regulation (EU) 2018/72 of 4 October 2017, OJ L13/1, 18 January 2018, the Commission established these regulatory technical standards, by issuing requirements with regards to information exchange, separate profit and loss accounts, separate corporate organisation and separate decision-making processes.

\textsuperscript{73} Regulation 2015/751, \textit{ supra} note 24, Article 9.
Given these regulatory choices, it is now necessary to consider antitrust decisions that have been delivered after the enactment of these measures, to understand whether more light can be shed on this conduct.

V. THE MOST RECENT ANTITRUST DECISIONS ON CREDIT CARDS

Following Regulation 2015/751, two antitrust decisions have been handed down regarding interchange fees and orientation rules, such that there is a need to re-examine the 0.3% cap and the absolute prohibition of NDRs.

A. The UK High Court’s MasterCard case and the MIF’s fixation

As we mentioned above, the European Groupement des cartes bancaires and MasterCard cases have highlighted the possibility that the MIF is a restriction of the competition necessary for the good functioning of quadripartite credit card circuits, thus necessary for the very existence of their business model. Indeed, both judgements establish how the ability of the MIF to create a balance between the different sides of the platforms cannot be considered when testing it against the conditions laid out in Article 101.3 TFEU, but rather has to be evaluated to establish the application of the prohibition laid out in Article 101.1 TFEU. It is not a coincidence that in MasterCard the CJEU highlighted how the credit card provider would have not seen any charge if it provided a counterfactual state of the world in which the absence of the MIF (or its different modulation) would have led to the collapse of its business model.74

In the same vein, there is the recent judgement of UK High Court Judge Popplewell,75 where the term ‘counterfactual’ is employed almost two hundred times, given that MasterCard attempted to prove the necessitated—thus not anticompetitive—nature of the MIF, showing how its business model would have gone down in flames if the alternative states of the world existed (‘death spiral’ argument).76

74 MasterCard, supra note 58, para. 173.
75 Actually, to be exhaustive, other two UK judgements must be mentioned, though they did not modify the analysis developed in the text. In Sainsbury’s Supermarkets Ltd v. MasterCard, [2016] CAT 11, the UK Competition Appeal Tribunal came to an opposite conclusion on the MasterCard’s MIFs due to different findings of the counterfactual assessment. Differently, in Sainsbury’s Supermarkets Ltd v. Visa Europe Services Llc, [2017] EWHC 3047 (Comm), Judge Phillips of the UK High Court shared Judge Popplewell’s view in MasterCard that there would be no bilateral agreements as to interchange fees in the counterfactual and thus concluded that the MIF under scrutiny did not restrict competition any more than did a no-MIF/default SAP (settlement at par) rule. However, despite finding that Visa’s MIF was not anticompetitive, Phillips ruled that if he had found otherwise, the fees would not have constituted procompetitive efficiencies and he would not have regarded them as objectively necessary. For an analysis of the different outcomes reached by the two UK MasterCard cases, see C. Veljanovski, Credit Cards, Counterfactuals, and Antitrust Damages: The UK MasterCard Litigations (2018), JOURNAL OF EUROPEAN COMPETITION LAW & PRACTICE (forthcoming).
76 Arcadia and others v. MasterCard, supra note 1.
First, Popplewell J agreed to consider two counterfactual scenarios: one four-party with an MIF equal to zero, and one four-party with an MIF lower than the maximum level allowed. Following the European case law, both scenarios have been considered realistic and possibly destined to happen should the MIF applied by MasterCard be declared to infringe Article 101 TFEU.  

Second, Popplewell J discussed the death spiral argument, examining whether, in the proposed counterfactual scenarios, ‘the MasterCard scheme would have survived [...] not whether the scheme would have been commercially less successful, but whether it would have existed at all.’ Popplewell J considered that the evidence convincingly supported the conclusion that, should MasterCard have applied a zero-MIF, the fee applied by Visa and American Express would have remained the same and the issuers would have had a strong economic incentive to migrate to the competing issuers, thus leaving the MasterCard network to wither.

According to the Court, the amount of the lost profits that the issuing banks would have suffered because of the lost MIF income relative to the MasterCard cards’ transactions were proving enough, even not considering the significant switching costs to be faced when changing all the MasterCard cards held by

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77 Arcadia and others v. MasterCard, supra note 1, para. 43.

78 Arcadia and others v. MasterCard, supra note 1, para. 221. Conversely, if the scheme is able to survive but with a reduced market share, the doctrine of ancillary restrictions would not apply. See MasterCard, supra note 58, paras. 89–93, stating that, without undermining the effectiveness of the prohibition laid down in Article 101(1) TFEU, the theory of ancillary restrictions could only apply to restrictions that are strictly indispensable to the implementation of the main operation. According to the CJUE, the condition of objective necessity is fulfilled only where it is not possible to dissociate the restriction at issue from the main operation without jeopardising its existence and aims, that is the case where it would be impossible to carry out the operation in the absence of the restriction. On the other hand, the fact that the operation would, in the absence of the restriction, simply be more difficult to implement, or less profitable even, does not confer on the restriction the objective necessity required for it be classified as ancillary. See also the Opinion of Advocate General Saugmandsgaard Øe delivered on 21 September 2017, Case C-179/16, Hoffmann-La Roche Ltd and others v. Autorità Garante della Concorrenza e del Mercato (AGCM), paras. 114–117.

79 Arcadia and others v. MasterCard, supra note 1, paras. 220, 222 and 223. The same conclusion has been reached in Sainsbury v. MasterCard, supra note 75, para. 167.

80 Arcadia and others v. MasterCard, supra note 1, para. 233. Moreover, see Sainsbury v. MasterCard, supra note 75, para. 196(5): ‘We consider that both Acquiring Banks and Merchants would be conscious of the risk that—if the Interchange Fee remained at zero for a significant amount of time, with other schemes offering significantly higher rates—Issuing Banks would abandon the MasterCard Scheme, and that both Acquiring Banks and Merchants would be left with a market dominated by Visa and American Express. In other words, both Acquiring Banks and Merchants would have an interest in ensuring the continued existence of the MasterCard Scheme. Equally, we consider that Merchants would be keen on retaining the Scheme in much its present form: in other words, we consider that a threat by Issuers to scale back some of the benefits or features of the MasterCard Scheme would also have some traction.’

81 Arcadia and others v. MasterCard, supra note 1, paras. 222, 223 and 224.
The MasterCard circuit would have faced the same destiny, caused by a massive migration of issuers to the competitors (that is, Visa and American Express) in the counterfactual hypothesis of a lower MIF than the one applied, that is (and this is the benchmark adopted by the case) an MIF even just 0.2% lower than the MIF employed by Visa.

Now, the UK case gives rise to a few questions, some of which are beyond the scope of an investigation of card-based payment systems.

First of all, if it were actually true that the ability of a quadripartite network to attract issuing banks depended on the difference between the MIFs charged, it would be possible that the cap on interbank fees set by the Regulation would become the price at which all credit card circuits would converge. Put another way, an intelligent market adjustment would occur and all the quadripartite credit card systems would apply an MIF that would fall somewhere close to the cap established by the Regulation, thus keeping a very low spread between MIFs.

Second, in all the above-mentioned cases on EU competition law an algorithm to be followed when verifying the existence of an agreement has been laid out. To ascertain the anticompetitive nature of such an agreement it is necessary to consider the clauses, the aim, the economic, and legal context of the agreement resulting from the nature of the goods or services involved, the real conditions of market functioning, and the structure of the very same market. Nevertheless, this analysis allows undertakings to exclude the existence of an anticompetitive object by showing that the agreement has a legitimate and pro-competitive justification. However, Groupement des cartes bancaires and the recent Lundbeck have clarified how for this legitimate and procompetitive justification to be considered under Article 101.1 TFEU: it has to be ‘objectively necessary and proportionate’ to the achievement of the agreement’s aim. Otherwise, the same objective justification has to be considered when analysing the effects of the agreement, that is under Article 101.3 TFEU. In card-based payment systems’ cases, to evaluate the MIF in the light of the necessity to secure a balance between the two sides of the platform means to embrace the idea that such a balance is an objectively necessary and proportionate justification regarding the joint fixation of the interbank fee’s amount.

Third, it is necessary to observe in general terms how resorting to counterfactual scenarios (something that for years has been done only when analysing concentrations and quantifying damages) has also recently been gaining

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82 See also Sainsbury v. MasterCard, supra note 75, para. 172.
83 Arcadia and others v. MasterCard, supra note 1, para. 257. Conversely, in Sainsbury v. MasterCard, supra note 75, paras. 261–263, the Court stated that a 0.3% difference to Visa’s favour would have not determined the collapse of MasterCard: according to the Court, many factors would have been in play against this result, such as the reaction Visa would have had and the pressure that merchants and issuers would have exerted on Visa so that it lowered the fee.
momentum in the case of anticompetitive agreements and abuses of dominant position, especially when such conduct is evaluated on the basis of their effects.\textsuperscript{85} Although legitimate, the use of these counterfactuals raises some questions. Beyond the sophisticated econometric issues, the core of the problem has to do with the economic theory used to credibly depict the market reality under scrutiny, given that that economic theory will be the one under which alternative hypotheses are formulated, that is counterfactuals. In \textit{MasterCard}, the UK Court chose to consider the two-sided markets’ theory as a reliable description of the reality, thus giving credit to the hypotheses inferred from this theory, and then it correctly collected evidence to support those hypotheses. More specifically, given that the counterfactual was examined so as to evaluate the object of the agreement, the UK Court resorted to EU case law\textsuperscript{86} and decided to test that counterfactual against the ‘likely to occur’ standard.\textsuperscript{87} Moreover, the Court of Appeals in \textit{Sainsbury} believed the counterfactual of the ‘death spiral’ proposed by MasterCard and built on the two-sided markets’ economic theory to be plausible. However, in assessing the validity of that counterfactual, it simply judged the evidence insufficient to show that that scenario would have occurred.

\textbf{B. The US \textit{American Express} case and the anti-steering rules}

With regard to nonprice conduct, some interesting issues come from the recent \textit{American Express} case decided by the US Court of Appeals for the Second Circuit.\textsuperscript{88} In that case the Court linked the validity of NDRs to the business model of tripartite payment cards’ schemes, thus fostering the doubt that the same conclusion might not be reached with reference to quadripartite circuits.

As noted above, in 2010 the Department of Justice, together with seventeen States, commenced a legal action against three network providers (Visa, MasterCard, and American Express) not because of a horizontal agreement, but rather because these providers had included NDR clauses in their affiliation agreements with merchants, agreements which consisted, according to the prosecutors, in a vertical nonprice restriction violating the Sherman Act. After

\textsuperscript{86} \textit{MasterCard}, supra note 58, paras. 161–169.
\textsuperscript{87} \textit{Arcadia and others v. MasterCard}, supra note 1, para. 43.
\textsuperscript{88} \textit{American Express}, supra note 2. See J.G. Sidak & R.D. Willig, \textit{Two-Sided Market Definition and Competitive Effects for Credit Cards After United States v. American Express}, \textit{1 THE CRITERION JOURNAL ON INNOVATION} 1301 (2016). It is worth noting that although attorneys general from eleven states (Ohio, Connecticut, Idaho, Illinois, Iowa, Maryland, Michigan, Montana, Rhode Island, Utah and Vermont) filed a petition asking the US Supreme Court to review the case, the Department of Justice did not join them and decided to drop the case. However, the Supreme Court has granted \textit{certiorari} to review the Second Circuit’s decision. At the time of elaboration of this paper, the judgement is still pending.
recalling that each network imposes different merchant fees on merchants and
that, as a consequence, each merchant has an interest in its clients using the
cards with the lowest merchant fees, the prosecution alleged that the NDRs in
the agreements with Visa, MasterCard, and American Express impeded the
merchants from suggesting to their clients which card to use. This would have
eliminated the competition between network providers that would have taken
place when using a card and, as a consequence, would have reduced networks’
interest in offering lower and lower merchant fees to merchants as a means of
being ‘suggested’ when the transaction took place. In 2011, Visa and
MasterCard signed a settlement agreement, accepting that they would elimi-
nate such anti-steering rules, although American Express proceeded with the
legal action. In 2015, the same judge (Garaufi) that years before approved the
settlement with Visa and MasterCard condemned American Express for violat-
ing Section 1 of the Sherman Act.\footnote{United States v. American Express, 88 F. Supp. 3d 143 (E.D.N.Y. 2015).}

There are three passages of the judgement worth recalling here. First of all,
the District Court, following on from Visa, circumscribed the relevant market
to that of services provided to merchants under the acceptance of payment
cards. Although defining the system of payment cards as a two-sided platform
which includes two markets that are deeply interrelated albeit separated, the
Court separated the market for services linked to the issuance of credit cards
(that of issuers and consumers) from the market for services linked to the
acceptance of cards (that of acquirers and merchants).\footnote{United States v. American Express, supra note 89, at 151. A similar approach has been applied
to the case of global distribution systems that connect airlines and travel agents in US
Airways, Inc. v. Sabre Holdings Corporation et al., 2015 U.S. Dist. LEXIS 164413 (S.D.N.Y.
2015). For critics, see D.S. Evans & R. Schmalensee, Why the Claim that Markets with Two-
Sided Platforms Become One-Sided When They Mature is Wrong (2017), https://ssrn.com/
abstract=3009452 (accessed 19 September 2017), highlighting that the court’s error is pre-
cisely the mistake condemned by the Court of Appeals in American Express; Auer and Petit,
supra note 11, at 445–446, remarking that, although the case is mired with references to two-
sided markets, those references were ultimately planted there to set the stage and nothing
more.} Then, it ascribed to
American Express a certain market power due to the obstinacy with which its
clients change merchant or spend less if payment with American Express is not
allowed.\footnote{United States v. American Express, supra note 89, at 191, stating that American Express market
share (26.4%), even in a high concentrated market with significant barriers to entry, is not by
itself able to prove market power unless ‘the amplifying effect of cardholder insistence.’ Thus,
American Express’s highly insistent or loyal cardholder base is critical to the court’s finding of
market power.} Lastly, adhering to the prosecution’s thesis, the Court established
that in the market for services of cards’ acceptance, NDRs are a vertical restric-
tion between the network provider and the merchants, given that, by impeding
merchants from nudging clients towards one card or another, they limit the
inter-brand competition between cards, thus eliminating an obstacle to the
uncontrolled rise in merchant fees, disadvantaging merchants.
However, in 2016, the appellate judgement focused on these passages, establishing that the definition of the District Court’s relevant market definition was erroneous, thus it denied the attribution of market power to American Express and rejected the evaluation done by the District Court of the competitive effects of NDRs.92

Regarding the definition of the relevant market, the Court of Appeals offered two important points. First, it chose to consider the network in its entirety, meaning that it put all the economic agents that operate on both sides of the American Express platform in the same market. The Court did so because, as clearly illustrated when disputing the one-side application of the SNIPP test performed by the District Court,93 the indirect network effects between cardholders and merchants make even high merchant fees justifiable, in the light of a necessary balance between the two sides, by the several benefits reaped by consumers, so that they are nudged towards resorting to a given card.94 Put differently, with respect to the asymmetric relationship between the prices charged to merchants and cardholders, the Court of Appeals mimicked the reasoning we are used to applying to Google Search or Facebook-skewed prices. In the same way that these two digital platforms charge users and advertisers null prices and positive prices respectively (so that the former are inclined to focus on the latter), credit card providers offer many benefits to consumers and charge high merchant fees to the merchants, so that these will benefit from consumers interested in paying at the merchants’ shops with their credit cards.

Second, when distinguishing American Express from Visa (where the relevant market was identified on the side of affiliation services), the Court of Appeals clarified that the weight of indirect network effects at play in the analysis of the relevant market depends on the considered conduct. NDRs are thought of as a means to ensure equilibrium between the two sides of American Express and, thus, their relevant market (that is, the place in which they find a justification and execute their effects) is the entire American Express network. Conversely, to understand the competitive effect underlying the exclusionary clauses established by Visa and MasterCard to impede to their affiliated banks to issue American Express and Discover credit cards, it was not necessary to apply the reasoning to both sides of the platforms. Those exclusionary clauses consisted in ‘mere’ vertical restrictions aimed at affecting horizontal competitors, and could be explained by resorting to a one-side logic, meaning they could be considered tools of the competition between networks. The Court of Appeals affirmed that ‘unlike the contested conduct in this case, the contested conduct in Visa occurred not among different sides of the same network platform, but rather between platforms themselves’; and added that:

92 American Express, supra note 2, at 196.
93 American Express, supra note 2, at 199-200.
94 American Express, supra note 2, at 200 and 204.
‘[t]he Visa panel [...] did not conduct a rule-of-reason analysis to determine whether vertical restraints were inhibiting competition on one particular side of a two-sided platform. Instead, the Visa panel conducted a rule-of-reason analysis to determine whether horizontal restraints were inhibiting competition on one particular level of competition [...because] ‘[c]ompetition in the payment card industry takes place [also] at the network level [...] among Visa, MasterCard, Amex or Discover cards?’.95

As far as NDRs’ effects are involved, the US judges highlighted how, to evaluate the impact these clauses have on competition, one has to consider the functioning mechanisms of the platforms. To this extent, the judges found that the business model adopted by American Express differs from that adopted by Visa and MasterCard. The latter implemented a lend-centric model, that is a model in which a significant part of the accrued revenues derives from the interest that providers get from charging cardholders for the unpaid balance of their card. Conversely, the business model devised by American Express is spend-centric because its revenues come from the merchant discount fees,96 meaning that they depend on the ability of the network to affiliate marquee cardholders, that is clients inclined to spend a great amount of money on a monthly or yearly basis using their credit card. This explains why American Express gives its client many prizes and benefits (ranging from a sophisticated anti-fraud system to a set of relevant discounts), although it finances such benefits through high merchant fees that, nevertheless, merchants are willing to pay to intercept clients with a greater inclination to spend. The Court of Appeals stated cuttingly that ‘[b]y attracting cardholders, Amex delivers a significant benefit to merchants: Amex cardholders.’97

There is more. This view explains why a reduction in merchant fees through the elimination of NDRs (thus allowing merchants to suggest the use of credit cards alternative to American Express) could jeopardise the functioning of this network, reducing inter-brand competition through the weakening or the elimination of a Visa and MasterCard competitor.98 Given that both categories of users on the platform (cardholders and merchants) practice multihoming, should American Express not be able to contractually impede affiliated merchants to nudge their clients towards less costly payment methods, American Express would not be able to offer its clients the level of benefits they expect to get from American Express. Its business model would, therefore, collapse (exactly as in the UK case examined above) because a reduction in benefits would result in cardholders’ migration to other circuits (for example, the open and less costly ones of Visa and MasterCard, respectively). Therefore, from a competition standpoint, NDRs find their justification because they block the merchants’ free-riding attitude of wanting marquee clients without facing the

95 American Express, supra note 2, at 198, citing National Bancard Corporation v. Visa, supra note 25, at 237.
96 American Express, supra note 2, at 189.
97 American Express, supra note 2, at 205.
98 American Express, supra note 2, at 205.
associated costs, free-riding that, should it be allowed, would result in the elimination of one competitor from the market for credit cards.

With reference to the market power, the Court of Appeals only observed how the consumers’ tendency to privilege a payment with American Express cannot be considered a power emanated by American Express but rather as evidence of consumers’ interest in resorting to this credit card to reap the benefits that flow from its ownership, thus also being the proof of how merchants intercept these consumers.  

Although the line of reasoning adopted by the Court of Appeals is heavily dependent on the American Express business model, it seems to be useful to evaluate whether it would be worth applying the same procompetitive justifications of the NDRs to open circuits such as Visa and MasterCard. Conversely, and recalling what has been stated in Regulation 2015/751 regarding orientation rules, it is necessary to test whether a prohibition that is valid for both open and closed systems could actually be procompetitive.

VI. CONCLUDING REMARKS

The peculiarities of multisided platforms have obvious repercussions for the analysis of the relevant markets. The presence of indirect network externalities, the interdependence between groups that operate through the platform, the necessity of an intermediary’s intervention to solve transaction costs, the non-neutrality of pricing structure on the platform so as to foster both sides, the intensity of multihoming are all phenomena that have a significant effect on the framework within which regulators, antitrust authorities, and judges have to operate. All phases of the inquiry are influenced by these economic features, from the definition of the relevant market to the study of the existence of a market power, to the evaluation of benefits and restrictions effects of the conduct of all concerned.

As has been said, two-sided markets force the scholar to face a twofold dualism: the first relates to the very reason for the platform and the interactions that occur on it between two different groups of users; the second one relates to the ambiguity that, because of network externalities, characterises the conduct that occurs in said context. In substance, the circumstances in which the conduct within a multisided platform can determine a restriction of the market are exactly the same in which they can generate procompetitive effects.

99 American Express, supra note 2, at 203.

100 American Express, supra note 2, at 203 and 204: ‘so long as Amex’s market share is derived from cardholder satisfaction, there is no reason to intervene and disturb the present functioning of the payment-card industry. Whatever market power Amex has appears, on this record, to be based on its rewards programs and perceived prestige … The [NDRs] protect that program and that prestige. Outlawing the [NDRs] would appear to reduce this protection—and with the likely result of increasing the market shares of Visa and MasterCard.’

Intervening by picking and choosing the conduct that harms the competition is a difficult task that could irreversibly compromise the platform’s very existence. However, this does not mean that platforms have a license to engage in any conduct simply because it is in line with their business model. Nonetheless, it is necessary to foresee the degree to which a regulatory intervention can affect competition by taking into account the specificity of the business models involved. Otherwise, it will be better to give up on trying to find a one-fits-all solution for all multisided platforms, regardless of the economic characteristics of each one and of the different business models that can be found on the same type of platform.

Indeed, in the context of payment cards, the interbank fee and the nondiscrimination clauses are two paradigmatic examples of both the ambiguity of the conduct that characterises a multisided platform and the risk of collapse this runs every time a regulator intervenes to amend the restrictive profiles of a single conduct. The MIF can represent both a necessary mechanism to manage the hold-up risk linked to issuers’ monopsony and a tool for rent extraction. Indeed, Regulation 751/2015 recognises its legitimacy, fixing a cap to limit its variations, but could probably end up setting a uniform trend in the value the MIF has in different quadripartite systems, should what the UK Court observed with relation to spreads in different circuits’ MIFs be true every time and in every geographic market. In the same way, NDRs could be aimed at neutralising merchants’ free-riding, although they could also be functional to strengthen (may be together with other contractual clauses such as HACRs and blending) the MIF’s restrictive potential, to the merchants’ own detriment. There is no doubt that NDRs are more functional in achieving one of the goals just mentioned (to control free-riding) in a context dominated by a business model similar to that of American Express than they are with respect to those of Visa or MasterCard, respectively.

Distinguishing which is the actual scenario is, from time to time a difficult task. These are the reasons why the MasterCard and American Express cases are particularly worthy of appreciation. Given the peculiarities of multisided markets, the coexistence of different business models, and the dualistic competitive interpretation of the conduct, courts have emphasised the need to articulate a judgement around counterfactual hypotheses. This is a way to measure the actual impact on competition, testing the realistic scenario that would occur if the investigated conduct was absent, so as to give appropriate consideration to the business model of the single platform. As can be inferred by the different conclusion reached by the Court in the other UK case that involved MasterCard (Sainsbury v. MasterCard) the analysis hinges on the reliability of the different possible counterfactual scenarios and the evidence to support the different hypotheses.

But the attention that the UK courts turn to counterfactuals in accordance with art. 101 TFEU reveals a difference between the European approach, of which the UK courts are ambassadors, and the US approach. In the United
States, the clauses—from MIF to NDR—whose existence is explained by reason of the economic interdependence between the two sides of the platform are automatically subject to the rule of reason. In other words, their lawfulness is immediately established by comparing the pro and anticompetitive effects they produce. In the European Union, on the other hand, the ancillary restraints doctrine is applied and, hence, the consideration of the economic rationality of those same clauses is every time tested by considering the material counterfactuals, that is, whether the payment system would work even in the absence of the clause under scrutiny. This means that when the counterfactual proves that the clause cannot find any economic justification, as it happened in the *Sainsbury v. MasterCard* case, then the clause must be prohibited as a restriction by object.

Finally, it must observed that the same reasoning that makes us consider advantageous a flexible antitrust approach (meaning a case-by-case analysis) forces us to be critical of the current regulation of payment systems. When evaluating the impact on a two-sided market, it is important to look either at the players covered by the regulation or at those in competition with the regulated players, whose actions may be indirectly affected by the regulation. In this regard, along with the competition concerns linked to collusive price fixing, it should be taken into account that the MIF influences prices’ structure, not their level. Thus, as predicted by the theoretical literature, empirical studies have shown that in the US, as a result of the cap on the interchange fee for domestic debit card transactions introduced by the Durbin Amendment, card-issuing banks mitigated lost interchange revenue adjusting cardholder terms and fees accordingly. Along these lines, by reading the prologue of the European Regulation, where an intervention was justified by the inefficiency of the antitrust legislation, one can legitimately have doubt, after *MasterCard* and *American Express*, that an (alleged) inefficacy has been substituted by a (possible) damage. Indeed, with respect to NDRs at least, the Regulation did not properly consider the differences and peculiarities that differentiate tripartite and quadripartite payment cards’ schemes.

The forthcoming US Supreme Court decision in *American Express* will shed further light on how antitrust authorities should take into consideration the two-sided nature of the credit-card industry.
Taking the Dogma out of Econometrics: Structural Modeling and Credible Inference

Aviv Nevo and Michael D. Whinston

In an influential paper with a catchy title, Leamer (1983) criticized the state of applied econometric practice. In the 25 years or so that have passed since the Leamer article was published, empirical work in economics has changed significantly. Without doubt, one of the major advances has been what Angrist and Pischke in this journal call the “credibility revolution.” Applied work today, compared to 25 years ago, is based on more careful design, including both actual and “natural,” or “quasi-,” experiments, yielding more credible estimates.

Empirical work has also changed in at least two other significant ways since Leamer’s (1983) article. First, econometric methods have advanced on many dimensions that allow for more robust inference. For example, nonparametric and semiparametric estimation (Powell, 1994), robust standard errors (White, 1980), and identification based on minimal assumptions (Manski, 2003; Tamer, forthcoming) are methods aimed at improving the credibility and robustness of data analysis.

A second major development, and our main focus here, has been in the improvement and increased use in data analysis of what are commonly called “structural methods”; that is, in the use of models based in economic theory. Structural modeling attempts to use data to identify the parameters of an underlying economic model, based on models of individual choice or aggregate

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relations derived from them. Structural estimation has a long tradition in economics (for example, Marschak, 1953), but better and larger data sets, more powerful computers, improved modeling methods, faster computational techniques, and new econometric methods such as those mentioned above have allowed researchers to make significant improvements. However, this development has been uneven across the various applied fields within economics. For example, structural analysis appears today in a large fraction of (but still far from all) empirical work in industrial organization, but is much less common in some other fields, such as labor economics.

While Angrist and Pischke extol the successes of empirical work that estimates “treatment effects” based on actual or quasi experiments, they are much less sanguine about structural analysis and hold industrial organization (or as they put it, industrial “disorganization”) up as an example where “progress is less dramatic.” Indeed, reading their article one comes away with the impression that there is only a single way to conduct credible empirical analysis. This seems to us a very narrow and dogmatic approach to empirical work; credible analysis can come in many guises, both structural and nonstructural, and for some questions structural analysis offers important advantages.

In this comment on Angrist and Pischke’s article, we address their criticism of structural analysis and its use in industrial organization, and also offer some thoughts on why empirical analysis in industrial organization differs in such striking ways from that in fields such as labor, which have recently emphasized the methods favored by Angrist and Pischke.

Credible Identification and Structural Analysis: Complements, Not Substitutes

We firmly believe in the importance of credible inference, or “credible identification,” and applaud the ingenious approaches to generating or identifying exogenous variation that often appear in the work using actual or quasi-experiments. Moreover, we don’t think anyone (or, at least, anyone sensible) in more structurally oriented fields, such as industrial organization, would disagree with the importance of credible sources of identification. While authors of structural papers are sometimes more focused on issues such as estimation and modeling methods, this should not be taken to mean that they do not appreciate the need for credible sources of identification. In the industrial organization seminars and conferences we attend, discussions of identification and its credibility play a

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1 By a structural model we do not mean the econometric textbook definition (Greene, 2003, Chapter 15), but rather an economic behavioral model that defines the relationship between exogenous and endogenous variables, both observed and unobserved by the researcher. For further discussion, see Heckman (2000).
In an ideal research environment, this is not always so ideal. The change we are interested in may literally never have occurred before, and even if it has, it may have been in different circumstances, so the previously observed effects may not provide a good prediction of the current one. Structural analysis gives us a way to relate observations of responses to changes in the past to predict the responses to different changes in the future.

It does so in two basic steps: First, it matches observed past behavior with a theoretical model to recover fundamental parameters such as preferences and technology. Then, the theoretical model is used to predict the responses to possible environmental changes, including those that have never happened before, under the assumption that the parameters are unchanged.

Another closely related use of structural modeling is to conduct welfare calculations. In some cases, for example, we might be able to predict price changes due to a proposed policy, but without an economic model we could not compute the welfare implications of these changes. We may want to know the overall effect on consumers if some prices go up and others down, or we may want to compare effects on consumers with the changes in firms’ profits. When changes in consumers’ well-being and firms’ true economic profits are unobserved, estimation of treatment effects is not possible, but inferences about underlying preference or cost parameters drawn from observed behavior can allow us to predict these welfare changes. In fact, this use of structural models can again be seen as an example of extrapolation. If we could see previous examples of consumers and firms choosing between the “before” and “after” outcomes we would not need a model. Rather, we could infer welfare changes based on which outcome they chose. But this is usually impossible, so instead a model is used to extrapolate from observation of other choices by consumers and firms to predict whether they would prefer the before or the after outcome.

To illustrate these points, we focus on the example highlighted by Angrist and Pischke from industrial organization: the analysis of mergers.
The Analysis of Mergers: Who Can You Trust When It Comes to Antitrust?

As an example of a field that does not fit their mold, Angrist and Pischke offer industrial organization. In particular they discuss merger analysis and conclude that industrial organization has got it wrong. The merger example is a good one, but it demonstrates not the “disorganization” of industrial organization, but rather the limitations of Angrist and Pischke’s approach.

Angrist and Pischke contrast two possible approaches to merger analysis: one that they describe as the “transparent analysis of past experience” (that is, quasi-experimental analysis of treatment effects) and the other as the “complex, simulation-based estimates coming out of the new empirical industrial organization paradigm.” To them, it is hard to see why one might favor the latter over the former.

Consider the problem faced by an antitrust agency or a court confronted with a proposed merger between two firms and charged with protecting consumer welfare. Should the merger be allowed? For simplicity let’s assume that the firms both produce substitute varieties of the same differentiated product (that is, this is a “horizontal” merger). Economic theory gives the basic tradeoffs. The merger will cause the two firms to make pricing decisions jointly, internalizing the effect of their price choices on each other’s profits. This increase in “market power” will tend to raise prices, although the precise amount depends on factors such as demand substitution between the products of the two firms, the diversion of consumers to rivals caused by a price increase, and the structure of costs. On the other hand, the merger might result in some reductions in marginal cost that would offset the incentive to increase prices. Indeed, with large enough efficiency gains, prices might decrease as a result of the merger.

The key question facing the antitrust agency or court is which of these two effects dominates. If prices go up, consumers will be harmed and the merger should be blocked; if they go down, consumers will be better off and the merger should be allowed. (When some prices rise and some fall, the overall impact on consumer welfare would need to be assessed.)

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2 This is basically the situation in the United States and many other countries. If the goal of the agency or the court is different (for example, to maximize total welfare) then the details of the discussion that follows would differ, but our basic points about the Angrist and Pischke thesis would be unchanged.

3 In fact, this prescription ignores a number of potentially complicating factors in the determination of an optimal merger policy. For example, if market conditions may change in the future, a merger that is good for consumers today might become bad for them in the future, and vice versa. Moreover, today’s decision might alter the set of future merger proposals, introducing another effect on consumer welfare (Nocke and Whinston, 2008). In addition, even absent these dynamic effects, it may be optimal to block certain types of mergers to encourage firms to propose other ones that would be more beneficial for consumers (Lyons, 2002; Armstrong and Vickers, forthcoming; Nocke and Whinston, 2010). We simplify here to remain focused on the issues that Angrist and Pischke raise.
Extrapolation of Merger Treatment Effects

How do Angrist and Pischke propose to address this tradeoff? They propose to look at outcomes in past mergers. Of course, simply looking at the average effect of all previously consummated mergers is unlikely to provide a very useful prediction. Angrist and Pischke never provide details, but apparently what they have in mind when they suggest the use of “direct” evidence is some sort of predictive model that averages over the outcomes in “similar” past mergers to predict the effects of a current merger.

There are several problems with this approach. The most important problem, in our view, is how to define “similar” mergers. Clearly, we would not want to predict the effects of a merger, say, in the retail gasoline industry based on what happened after, for example, a merger in the cereal industry. But it is also unclear whether we would want to use a past merger in the gasoline industry to predict the effects of a current proposed merger in the same industry. The circumstances of the industry could have changed or the characteristics of the merging firms may differ from those in the previous merger, and therefore the previous merger might not provide a good prediction of what will happen.

As an example of a way to “trace a shorter route from facts to findings,” Angrist and Pischke offer the analysis by Hastings (2004). Hastings analyzes the price effects of the acquisition of Thrifty, a California gasoline retail chain selling unbranded gasoline, by ARCO, a national branded and vertically integrated gasoline chain. After the merger, ARCO re-branded the Thrifty stations with the ARCO name and colors. Hastings studies how rivals’ prices changed as a result of the merger. To do so, she compares the differences in price change, before and after the merger, between gas stations that were near a Thrifty station (the treatment group) and those that were not (the control group). The circumstances of the acquisition provide a reasonable basis to think that the merger can be considered as exogenous to the local market; that is, it seems unlikely to be correlated with any unobserved factors that would have changed prices in markets containing Thrifty stations differently from prices in markets without them. She finds that gas stations that were near a Thrifty station raised their prices after the merger more than those that were not, indicating that the merger caused prices to increase.

Hastings’s (2004) analysis is based on clever and careful design and sheds light on an interesting question in an important industry. But does it allow us to predict the effect of other possible mergers in this industry? What if two of the largest branded firms in this market wanted to merge? Or if ARCO wanted to acquire a small but branded gasoline retailer in this market (such as Citgo)? Or if ARCO proposed doing this merger without rebranding the Thrifty stations? What if a merger was proposed with convincing evidence of greater cost efficiencies than the ARCO/Thrifty merger? What about a merger in a different part of the country? And what if the acquiring firm in the merger was not vertically integrated?

Of course, if we had previous experiences with all possible types of mergers (and could distinguish them), we could answer all these questions by looking at past outcomes. But given the many possible circumstances of a merger, it seems
inevitable that many possible proposed mergers will not have been seen and studied before. In that case, to use past mergers to predict future outcomes, one needs a model. This model can be a statistical model or it can be an economic model. A statistical model, Angrist and Pischke’s preferred approach, would seek to predict the outcome of a merger using either a group of not-too-dissimilar mergers (perhaps all mergers in similarly concentrated industries resulting in similar increases in concentration), or more generally fitting some prediction function based on a set of observable merger attributes. The ARCO/Thrifty example makes clear that this will often be a difficult task to do in a convincing manner, even when some mergers have previously been observed in an industry.

There are other concerns with this approach, beyond the extrapolation issue. One is the difficulty of defining a reasonable benchmark by which to judge the outcomes of mergers. A naive approach would compare outcomes of the impacted firms—the merging parties and their competitors—to unaffected firms. But it is not obvious how to find firms that are good comparisons yet at the same time are not affected by the merger. In Hastings (2004), for example, the use of the control group relies on the assumption that stations further than one mile from a Thrifty station will be unaffected by the merger. If consumers search for stations beyond this distance, this assumption could fail, most likely leading to an underestimate of the merger’s effect. Fortunately, Hastings does examine the use of different distances and finds no change in her results, and also documents that the control and treatment group prices moved in parallel prior to the merger.

Finding such a control group is likely to be harder, however, in many other industries. For example, Angrist and Pischke offer Ashenfelter and Hosken (2008) as another example of direct evidence of mergers’ effects. Ashenfelter and Hosken examine the price effects of five national branded consumer product mergers and use private-label products as a control group for the products of the merging firms. However, retail prices of private-label products can be affected by a merger of branded manufacturers if marginal costs are not constant, if private-label producers are not perfectly competitive, or if retailers adjust retail margins of private-label products in response to wholesale price changes.

A second difficulty is that the treatment effect approach requires that the mergers effectively be exogenous events. But mergers are an endogenous choice of firms that may be motivated, in part, by past, current, or anticipated future changes in unobservable (to the researcher) market conditions. While we find Hastings’ (2004) argument for exogeneity reasonably convincing, we are more troubled by Ashenfelter and Hosken’s (2008) exogeneity assumption, which they adopt with little discussion or justification. For example, one of the acquisitions they study is the purchase of the Chex brand by General Mills. Ralston, which sold Chex to General Mills, produces many private-label products and according to reports in

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4 Absent such a benchmark, it would be necessary to include as explanatory variables all of the factors that would explain prices absent a merger and which are correlated with the occurrence of the merger (Ashenfelter, Hosken, and Weinberg, 2009).
the press was selling Chex to focus on its private-label business. Therefore, it seems likely that this event could be related to unobserved changes in the demand for private-label products.

Add to these concerns the fact that the merger treatment effect approach cannot produce measures of welfare change and it becomes clear that it is far from the simple solution to predicting merger effects that Angrist and Pischke make it out to be.

Extrapolation Using an Economic Model

An alternative approach to predicting a merger’s effect instead consists of using economic theory to simulate what the effect of the merger is likely to be.

The basic idea is simple. Historical data are used to recover the structure of an economic model that consists of demand, supply, and competition. Identification of the fundamental parameters of this structure follows instrumental variable procedures similar to those in classical demand and supply estimation. Using the model, one can then simulate the effect of the merger under a variety of assumptions. The assumptions can include different models of post-merger competition and changes in marginal cost. For example, one could ask what level of cost efficiencies are needed, under the model, to assure that prices will not increase. This can lead to some assessment of the likelihood that these efficiencies will be realized. The typical exercise does not offer a single number, as Angrist and Pischke suggest, but rather a range of numbers under different assumptions.

The data used to estimate the model also do not need to consist of past mergers (although they could when mergers have occurred that can be considered exogenous), which can be very helpful in industries where there have been no past mergers. Moreover, because of this feature, a researcher is more able to use careful design and credible inference to shed light on the likely effect of the merger.

In addition, the method makes calculation of welfare effects straightforward. Just as before, a model is used to extrapolate from the past to infer the effect of the merger. But while before it was a statistical model, now it is an economic model. So we repeat the question that Angrist and Pischke ask: Who should we trust when it comes to antitrust? A model grounded in economic theory, estimated using careful design? Or a statistical model that is based on a few observations of previous, quite different mergers, where exogeneity may be questionable?

Comparing the Two Approaches

To highlight the flaws in Angrist and Pischke’s argument, we have so far highlighted the problems with the treatment effect approach to predicting merger effects and deliberately overemphasized the benefits of structural simulation analysis. While one-sided comments may make good controversy, they probably don’t make for good economics.

We do in fact believe that the treatment effect approach will sometimes prove useful for predicting a merger’s effects. Even if it is unlikely that we will be able to obtain credible evidence on a wide range of merger treatment effects given the
many possible circumstances of mergers, it may prove fruitful to focus efforts on examining the effects of certain types of mergers. For example, Ashenfelter and Hosken (2008) suggest focusing on mergers that are on the margin of current enforcement practice, where evidence is likely to be most useful. Particular industries with extensive merger histories and credible inference possibilities might also be targeted.

We also believe that merger simulation has limitations. First, while in principle the first step, demand estimation, can incorporate credible inference, in practice a typical exercise may rely on less-than-ideal instrumental variables. For example, following Hausman (1997), Nevo (2000) uses prices in other markets as instruments for price when estimating demand. Angrist and Pischke refer to the assumptions that justify these instruments as “arbitrary.” While we are somewhat more positive about the validity of these instruments, we are sympathetic to the concerns. These instruments are not the only ones used, or even the most popular, and the validity of the assumptions justifying the instruments will vary on a case-by-case basis. In general, we think it is fair to say that in many cases the instruments are less than ideal. In our view, rather than invalidating the entire approach, this concern merely highlights the importance of ongoing work that explores additional instruments and different inference methods. For example, Nevo and Rosen (2009) study the above instrumental variables and propose a way to (set) identify the parameters of interest even if the standard orthogonality conditions fail.

Second, one needs a good model of a variable’s determination to predict accurately how a merger will change it. Thus, current merger simulations focus mostly on predicting price changes holding the current set of products, firms, and pricing behavior fixed. Effects on prices due to changes in long-run investments, research and development, and entry are typically ignored at present, as are effects on available product offerings. (This is one advantage of the treatment effect approach, where it is feasible, since in principle it can capture some of these additional effects of a merger.) In addition, merger simulation relies on assumptions about how the merger will change behavior, often based on static Nash equilibrium before and after the merger. Richer models of how behavior changes (for example, models of collusion) have seen little use. These limitations are potentially serious, although this is an active area of research and we expect economist’s abilities on both fronts to improve over time.

Another concern often raised with merger simulation and structural work more generally is of an “elaborate superstructure,” to use the words of Angrist and Pischke. There is a feeling that results are driven by nontransparent complicated models and not by data per se. This is a concern to be taken seriously, because estimates driven by functional form rather than credible sources of identification

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5 Nevo (2001) provides a discussion of these instruments, including cases where they might fail, and shows that in a more limited model they yield results almost identical to those obtained from using cost variation as the exogenous source of variation. In his full model, the cost variation cannot be used as the sole source of exogenous variation due to a dimensionality problem: there are too many parameters to estimate.
in the data are unlikely to produce useful predictions. Yet, while sometimes this might be the case, often the so-called “complicated models” are introduced exactly to relax the reliance on functional forms. For example, the “complicated” demand model of Berry, Levinsohn, and Pakes (1995) relaxes some of the strong implications of the much simpler multinomial logit model. More recent work that explores nonparametric identification and estimation of this model (for example, Berry and Haile, 2009) even further relaxes some of the imposed structure. We therefore believe that these concerns are due at least in part to a lack of familiarity and comfort with the models used in industrial organization.

In sum, both merger simulation and the merger treatment effect approach seem likely to be useful in some cases and fail in others. Depending on the question being addressed, and the availability of data, one approach might dominate.

Other Uses of Retrospective Estimates of Merger Treatment Effects

While using estimates of merger treatment effects to predict the effect of a given merger has some serious limitations, the estimates can be very useful for addressing other questions. Indeed, we have been encouraging retrospective merger studies for a while (for example, Nevo, 2000; Whinston, 2007a, b).

First, whatever methods are used for predicting the effects of mergers before they occur, retrospective studies of merger effects can be useful for judging the accuracy of those methods. This use of retrospective studies is fairly recent. For example, Peters (2006) examines structural merger simulation methods as applied to a set of airline mergers in the 1980s. He finds that the merger simulations fail to predict accurately the magnitude of price changes in several of the mergers. Peters also explores the sources of the errors in his merger simulations (for example, post-merger changes in product offerings, shifts in demand, or changes in behavior). Of course, the perhaps more relevant issue is how the simulation method does compared to other possibilities, such as prediction based on treatment effects computed from other past mergers. Indeed, we can imagine future studies comparing structural merger simulation methods to the treatment effect approach championed by Angrist and Pischke, as well as other methods. (Peters, for example, compares the structural merger simulation predictions to the predictions from a reduced-form regression with industry concentration as the independent variable and price as the dependent variable.)

Second, the problem of optimal legal (and regulatory) review has one important feature we have not mentioned: the costliness of the proceedings makes it optimal to have screens based on limited evidence. For example, there may be “safe harbors” granting approval to certain mergers without a full review. (This is in effect what happens when the U.S. antitrust agencies decide not to issue a “second request” for additional information about mergers that are reported under the Hart–Scott–Rodino merger filing law.) For this purpose, knowing the average

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6 See the discussion in Nevo (2000, page 416) in the context of mergers, or Hausman and Leonard (2002), who evaluate the ability of structural models to accurately predict the gains from new goods.
effect in a wide class of mergers (for example, those in industries with concentration below some level) would be useful information. However, determining this average effect is nontrivial: in particular, it will not equal the average treatment effect of approved mergers because the sample of approved mergers is a selected sample, where the selection is based on additional information that was at the agency or court’s disposal.

How and Why Are Industrial Organization and Labor Different?

Empirical work in industrial organization does differ in some striking ways from that in labor (and other fields that emphasize estimation of treatment effects). We have discussed extensively one important difference—the heavier reliance on structural modeling (and greater attention to issues this raises) in industrial organization—but this is not the only difference.

Empirical papers in industrial organization are also less likely than are papers in labor to focus on pinning down a particular “number”—like an elasticity or a price effect. Many structural papers in industrial organization, for example, are focused on showing that an approach to answering a question is feasible. And even nonstructural “reduced form” papers whose methods resemble the treatment effect approach often focus on testing a general prediction of a class of theoretical models rather than producing an estimate of a treatment effect. For example, Borenstein and Shepard (1996) study cyclical pricing in the gasoline market, using what is clearly not a structural approach, yet their focus is on providing evidence in support of collusive pricing and not recovering a particular number. Indeed, even Hastings (2004) seems to focus as much or more on the sign of the price effects arising from the ARCO/Thrifty merger and what they imply about the structure of retail gasoline competition than on the exact magnitude of those effects.

An interesting question is why these differences across fields exist. Several possible explanations suggest themselves. As our discussion of merger analysis illustrates, industrial organization economists seem far more concerned than labor economists that environmental changes are heterogeneous, so that useful estimates of average treatment effects in similar situations are not likely to be available. We are unsure whether the typical merger is more distinctive than is the typical labor market or education policy intervention, but Angrist and Pischke’s discussion of class size studies suggests that this may be the case. In addition, Angrist and Pischke’s discussion also suggests that the data available to labor economists may be more likely than that in industrial organization to contain many examples of similar changes, as well as a richer set of directly observable controls. To the extent that either of these differences is present, it creates good reason for industrial

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7 Actually, knowing the full distribution of effects, as well as how those distributions would be narrowed with more information, would also be helpful.
organization economists to rely more explicitly on theory to predict responses than labor economists do.

Another factor may relate to differences between the data available to researchers and the data available to policymakers in the two fields. For example, when an antitrust agency examines a merger, it is likely to have much more information than would the typical researcher studying the same issue. In contrast, a policymaker approaching a labor question probably has no more information than does an outside researcher. As a result, it may be most useful for industrial organization economists to identify techniques for policymakers to use, while labor economists are most useful when they estimate effects, pinning down numbers such as the elasticity of labor supply or the effect of smaller class sizes.

Still another difference may be related to the nature of the models used in the different fields. In general, the models used by industrial organization economists tend to be more complicated than those used by labor economists. Consider, for example, demand analysis. A labor economist might study how technical change (perhaps the advent of computers) affects the demand for skilled and unskilled labor. Doing so involves a fairly simple demand system. In contrast, an industrial organization economist looking at how a change in the price of gasoline affects consumer demand for cars would often be concerned with estimating reasonable elasticities for many different car models. This leads to a much more complicated model and estimation problem, as in Berry, Levinsohn, and Pakes (1995). Moreover, in many of the problems studied by industrial organization economists, strategic interaction between agents is of first-order importance, requiring tools beyond simple supply and demand analysis. There are, of course, subfields of labor where more complicated theoretical models arise, such as in studying search, but these represent a minority of current work in labor.

That said, we suspect that some of the differences in the styles of empirical work may be due more to cultural differences than to the actual economic problems, suggesting that the differences are greater than they should be. For example, in the demand estimation problems discussed in the previous paragraph: Should labor economists distinguish among many different types of skilled and unskilled labor? Should industrial organization economists use simpler, more aggregated demand structures for cars? It probably depends on the question, but cultural differences may now be driving these choices to some degree.

Indeed, a typical scholar of industrial organization is exposed to theory earlier and more often in his or her career than is the typical labor economist, and is therefore more likely to want, and be able, to relate to economic theory in empirical work. The industrial organization researcher may also be more concerned about the exact circumstances surrounding a policy intervention or exogenous event, having been trained to think they are likely to be important (recall the merger versus class size discussion). The exposure to theory could also be driving a desire to not just measure an effect but to understand the mechanism at work—even if there is no policy relevance.
As this point and the discussion above suggest, we suspect that researchers in industrial organization and those in fields where treatment effect methods are dominant would both do well to ask themselves where adoption of each others’ approaches could prove useful, while respecting the fact that differences in the markets, data, and questions considered in different fields will call for differing approaches.

Belaboring the Obvious

Our view is that the future of econometrics and applied microeconomic work is in combining careful design, credible inference, robust estimation methods, and thoughtful modeling. Therefore, any serious empirical researcher should build a toolkit consisting of different methods, to be used according to the specifics of the question being studied and the available data. That this should not be an either–or proposition seems quite obvious to us.

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References


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1. Liran Einav, Amy Finkelstein. 2018. Moral Hazard in Health Insurance: What We Know and How We Know It. *Journal of the European Economic Association* 16:4, 957-982. [Crossref]


11. Santiago M. Pinto. Regional Policy and Fiscal Competition 199-215. [Crossref]


17. Gene Moo Lee, Liangfei Qiu, Andrew B. Whinston. Strategic Network Formation in a Location-Based Social Network: A Topic Modeling Approach 5249-5258. [Crossref]

18. P.K. Goldberg, N. Pavcnik. The Effects of Trade Policy 161-206. [Crossref]


21. Judea Pearl. 2015. TRYGVE HAAVELMO AND THE EMERGENCE OF CAUSAL CALCULUS. *Econometric Theory* 31:01, 152-179. [Crossref]
22. Shuhei Kurizaki, Taehee Whang. 2015. Detecting Audience Costs in International Disputes. *International Organization* 69:04, 949-980. [Crossref]
34. Orley Ashenfelter, Daniel Hosken, Michael Vita, Matthew Weinberg. 2011. Retrospective Analysis of Hospital Mergers. *International Journal of the Economics of Business* 18:1, 5-16. [Crossref]