ORAL ARGUMENT NOT YET SCHEDULED

United States Court of Appeals for the District of Columbia Circuit

No. 18-5214

UNITED STATES OF AMERICA, Plaintiff-Appellant,

v.

AT&T INC.; DIRECTV GROUP HOLDINGS, LLC; AND TIME WARNER INC., Defendants-Appellees.

On Appeal from the United States District Court for the District of Columbia, No. 1:17-cv-2511 (Hon. Richard J. Leon)

BRIEF FOR 27 ANTITRUST SCHOLARS AS AMICI CURIAE IN SUPPORT OF NEITHER PARTY

Mary Jean Moltenbrey 2328 Champlain Street NW Washington, DC 20009 (202) 615-6599 mj.moltenbrey@gmail.com Eric F. Citron GOLDSTEIN & RUSSELL, P.C. 7475 Wisconsin Avenue Suite 850 Bethesda, MD 20814 (202) 362-0636 ecitron@goldsteinrussell.com

Counsel for Amici Curiae

CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Pursuant to D.C. Circuit Rule 28(a)(1), *amici curiae* 27 Antitrust Scholars hereby certify as follows:

(A) Parties and Amici. All parties, intervenors, and amici appearing before the district court and in this Court are listed in the Proof Brief of Appellant United States of America except for amici curiae who submit this brief and amicus curiae the Federal Communications Commission, which filed a brief in this Court in support of neither party.

(B) Rulings Under Review. References to the rulings at issue appear in the Proof Brief of Appellant United States of America.

(C) Related Cases. The case on review was not previously before this Court or any other court. Counsel is not aware of any related case pending before this Court or any court.

CERTIFICATE OF COUNSEL PURSUANT TO D.C. CIRCUIT RULE 29(d)

Pursuant to D.C. Circuit Rule 29(d), *amici curiae* 27 Antitrust Scholars hereby certify that the filing of this brief separate from other *amici* is necessary because (i) 27 disparate scholars did coordinate with one another to submit a single brief, (ii) in light of the expedited briefing schedule, it was not practicable to coordinate with other (unknown) *amici*, and (iii) *amici curiae* 27 Antitrust Scholars are filing on behalf of neither party—this brief focuses solely on issues of law and economics and does not address evidentiary issues raised by the appeal.

August 13, 2018

<u>/s/ Eric F. Citron</u> Eric F. Citron

TABLE OF CONTENTS

CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASESi	
CERTIFICATE OF COUNSEL PURSUANT TO D.C. CIRCUIT RULE 29(d)ii	
TABLE OF AUTHORITIESiv	
STATEMENT OF INTEREST	
PERTINENT STATUTE	
SUMMARY OF ARGUMENT	
ARGUMENT	
I. Vertical Mergers Should Be Evaluated Using The Same Burden- Shifting Framework That This Court Employs In Horizontal Merger Cases	
II. The District Court Erred In Finding The Nash Bargaining Model Inapplicable To Negotiations Between Content Providers And Multichannel Video Programming Distributers	
A. The Nash Bargaining Model Is an Accepted Economic Framework for Analyzing Markets Characterized by Bargaining	
 B. The District Court Erred in Failing to Properly Apply the Nash Bargaining Model in This Case	
1) The district court failed to apply <i>Copperweld</i> principles in analyzing the merging parties' incentives24	
2) The district court failed to properly apply the Nash bargaining model	
CONCLUSION	
ADDENDUM: Identity of Amici Curiae1a	

TABLE OF AUTHORITIES

Cases

Caribe BMW, Inc. v. Bayerische Motoren Werke AG, 19 F.3d 745 (1st Cir. 1994)25, 2'	7
In re Comcast Corp., 26 F.C.C. Rcd. 4238 (2011)17, 19	9
Copperweld Corp. v. Independence Tube Corp., 467 U.S. 752 (1984)	7
<i>FTC v. H.J. Heinz Co.</i> , 246 F.3d 708 (D.C. Cir. 2001)	4
Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877 (2007)12	2
ProMedica Health Sys., Inc. v. FTC, 749 F.3d 559 (6th Cir. 2014)10	6
St. Alphonsus Med. CtrNampa Inc. v. St. Luke's Health Sys., Ltd., 778 F.3d 775 (9th Cir. 2015)17, 19	9
United States v. Anthem, Inc., 855 F.3d 345 (D.C. Cir. 2017)	2
United States v. Baker Hughes, Inc., 908 F.2d 981 (D.C. Cir. 1990)	2
United States v. H&R Block, Inc., 833 F. Supp. 2d 36 (D.D.C. 2011)	4
United States v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001)13	3
United States v. Visa U.S.A. Inc., 344 F.3d 229 (2d Cir. 2003)13	3

Other Authorities

Jonathan B. Baker, <i>Exclusion as a Core Competition Concern</i> , 78 Antitrust L.J. 527 (2013)
Jonathan B. Baker, <i>Taking the Error Out of "Error Cost"</i> Analysis: What's Wrong with Antitrust's Right, 80 Antitrust L.J. 1 (2015)11
K. Binmore, A. Rubinstein & A. Wolinsky, <i>The Nash Bargaining</i> Solution in Economic Modelling, 17 Rand J. Econ. 176 (1986)17
Robert H. Bork, <i>The Antitrust Paradox: A Policy at War with</i> <i>Itself</i> (1978)10
Gregory S. Crawford, Robin S. Lee, Michael D. Whinston & Ali Yurukoglu, <i>The Welfare Effects of Vertical Integration in</i> <i>Multichannel Television Markets</i> , 86 Econometrica 891 (2018)
Leemore Dafny, Kate Ho & Robin S. Lee, <i>The Price Effects of</i> <i>Cross-Market Hospital Mergers</i> (NBER Working Paper No. 22106, June 2018)
Dep't of Justice & Fed. Trade Comm'n, <i>Commentary on the</i> <i>Horizontal Merger Guidelines</i> (Mar. 2006), http://www.usdoj.gov/atr/public/guidelines/215247.pdf
Dep't of Justice & Fed. Trade Comm'n, <i>Horizontal Merger</i> <i>Guidelines</i> (2010), https://www.ftc.gov/sites/default/files/ attachments/merger-review/100819hmg.pdf14, 18, 19
A. Dixit & B. Nalebuff, <i>Thinking Strategically: The Competitive Edge in Business, Politics, and Everyday Life</i> (1991)17, 21, 22
A. Dixit & S. Skeath, Games of Strategy (4th ed. 2015)17
Fed. Trade Comm'n & Dep't of Justice, <i>Hart-Scott-Rodino</i> <i>Annual Report Fiscal Year 2017</i> , https://www.ftc.gov/system/ files/documents/reports/federal-trade-commission-bureau- competition-department-justice-antitrust-division-hart-scott- rodino/p110014_fy_2017_hsr_report_final_april_2018.pdf7
Gautam Gowrisankaran, Aviv Nevo & Robert Town, Mergers When Prices Are Negotiated: Evidence from the Hospital Industry, 105(1) Am. Econ. Rev. 172 (2015)

Curtis M. Grimm, Clifford Winston & Carol A. Evans, Foreclosure of Railroad Markets: A Test of Chicago Leverage Theory, 35 J.L. & Econ. 295 (1992)	11
Justine S. Hastings & Richard J. Gilbert, Market Power, Vertical Integration and the Wholesale Price of Gasoline, 53 J. Indus. Econ. 469 (2005)	11
Henrick Horn & Asher Wolinsky, <i>Bilateral Monopolies and</i> <i>Incentives for Merger</i> , 19(3) Rand J. Econ. 408 (1988)	18
Jean-François Houde, Spatial Differentiation and Vertical Mergers in Retail Markets for Gasoline, 102 Am. Econ. Rev. 47 (2012)	11
Eric Hovenkamp & Neel Sukhatme, Vertical Mergers and the MFN Thicket in Television, Antitrust Chron., https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3213884 (forthcoming 2018)	16
Thomas G. Krattenmaker & Steven C. Salop, <i>Anticompetitive</i> <i>Exclusion: Raising Rivals' Costs to Achieve Power over Price</i> , 96 Yale L.J. 209 (1986)	11
Margaret C. Levenstein & Valerie Y. Suslow, <i>How Do Cartels</i> Use Vertical Restraints? Reflections on Bork's The Antitrust Paradox, 57 J.L. & Econ. S33 (2014)	11
Nathan H. Miller, <i>Modeling the Effects of Mergers in</i> <i>Procurement</i> , 37 Int'l J. Indus. Org. 201 (2014)	
John F. Nash, Jr., <i>The Bargaining Problem</i> , 18 Econometrica 155 (1950)	17
Aviv Nevo, Mergers That Increase Bargaining Leverage (Jan. 22, 2014), https://www.justice.gov/atr/file/517781/ download	.17, 19
Eric B. Rasmusen et al., <i>Naked Exclusion</i> , 81 Am. Econ. Rev. 1137 (1991)	11
Patrick Rey & Jean Tirole, <i>A Primer on Foreclosure</i> , <i>in</i> 3 Handbook of Industrial Organization 2145 (M. Armstrong & R. Porter eds., 2007)	8

Michael H. Riordan, <i>Competitive Effects of Vertical Integration</i> , <i>in</i> Handbook of Antitrust Economics 145 (Paolo Buccirossi ed., 2008)	8
Michael H. Riordan & Steven C. Salop, <i>Evaluating Vertical</i> <i>Mergers: A Post-Chicago Approach</i> , 63 Antitrust L.J. 513 (1995)	11
 William P. Rogerson, A Vertical Merger in the Video Programming and Distribution Industry: Comcast-NBCU (2011), in The Antirust Revolution 534 (J. Kwoka & L. White eds., 6th ed. 2014) 	
Steven C. Salop, <i>Invigorating Vertical Merger Enforcement</i> , 127 Yale L.J. 1962 (2018)11	, 15, 16
Steven C. Salop & Daniel P. Culley, <i>Revising the U.S. Vertical</i> <i>Merger Guidelines: Policy Issues and an Interim Guide for</i> <i>Practitioners</i> , 4 J. Antitrust Enforcement 1 (2016)	8

STATEMENT OF INTEREST¹

Amici curiae are 27 antitrust scholars, both lawyers and economists, who write to share their disinterested perspective with the Court. The names and backgrounds of the signatories appear in the attached Addendum. This group of scholars consists of recognized experts in the field of antitrust law and economics.

Amici have an interest in ensuring that antitrust doctrine is guided by and reflects modern economic principles. We believe that the district court made significant errors of economics, law, and logic in applying the government's theory of competitive harm to the evidence presented at trial, and that neither these errors nor certain extreme positions advocated by the defendants below should be enshrined into law.

In light of the expedited briefing schedule, *amici* have not been able to review and analyze all of the extensive evidence that was presented at trial, and so take no position on the ultimate outcome of this appeal. But

¹ No counsel for a party authored this brief in whole or in part, and no such counsel or party, and no person other than *amici* or their counsel, made a monetary contribution intended to fund the preparation or submission of this brief. The parties have consented to the filing of this *amicus* brief.

whatever way this Court rules, *amici* submit that its decision should correctly reflect modern economic principles, or at least not cast doubt upon them in a manner that could have significant adverse ramifications for future vertical merger cases. At a minimum, certain key aspects of the district court's decision, if adopted as the law of this Circuit, would pose a serious threat to the effective enforcement of the antitrust laws.

PERTINENT STATUTE

All applicable statutes are contained in the addendum to the Proof Brief of Appellant United States of America.

SUMMARY OF ARGUMENT

Defendants below asserted that this Court's well-established burden-shifting framework for analyzing mergers should not apply to vertical mergers. In particular, defendants argued that vertical mergers should be presumed to create substantial efficiencies, and that the government should bear the burden of accounting for all of the defendants' proffered efficiencies to establish a prima facie case that the merger is likely to substantially lessen competition. The district court properly rejected these arguments and applied the burden-shifting framework set out in *United States v. Baker Hughes, Inc.*, 908 F.2d 981 (D.C. Cir. 1990) and *FTC v. H.J. Heinz Co.*, 246 F.3d 708 (D.C. Cir. 2001) to analyze the legality of the merger. Although both horizontal and vertical mergers often are procompetitive or benign, both also have the potential to harm competition in oligopoly markets. While the specific mechanisms of harm and the nature of the efficiencies may be different in a vertical case, there is no good reason to apply a different standard of proof to horizontal and vertical merger cases, or to adopt a presumption that any efficiencies from a vertical merger likely will outweigh its anticompetitive effects. This Court should resist any invitation from defendants to do either.

Although the district court properly applied a burden-shifting framework in this case, it made significant errors of law and logic in applying established economic principles to the evidence produced at trial. The government's primary theory of competitive harm was based on an analysis of the merger's impact on Turner's bargaining leverage in its negotiations with programming distributors, as explained using an economic framework known as the Nash bargaining model. The key point was that, after the merger, AT&T's distributor subsidiaries would stand to benefit from additional subscribers if AT&T's new Turner division failed to reach agreements regarding Turner programing with distributors competing with AT&T. Accordingly, and according to the Nash bargaining model, the merger would lower the overall cost of such a failure to the merged firm, enhancing Turner's bargaining leverage and allowing it to negotiate higher prices from AT&T's distribution competitors.

Many industries in today's economy are characterized by bargaining between suppliers, who manufacture products or offer services, and distributors, who use these inputs to make and sell their products and services to their customers. The Nash bargaining model provides the standard economic framework for gauging the potential competitive effects of both horizontal and vertical mergers in these types of industries. It is important that court decisions accurately reflect the fundamental economic learning derived from that model. But the district court's decision failed to do so in two primary ways.

First, the district court erred in accepting bare assertions from Time Warner executives as well as from certain third parties that AT&T's ownership of Turner would have no impact on Turner's economic incentives or demands when conducting negotiations with rival video programming distributors. In doing so, the district ignored one of the most fundamental economic principles that underlies antitrust law: that firms

4

maximize profits. That principle was the basis of the Supreme Court's decision in *Copperweld Corp. v. Independence Tube Corp.*, 467 U.S. 752 (1984), holding that a parent and wholly owned subsidiary are presumed to have a complete unity of interest and therefore to be a single economic entity within the meaning of section 1 of the Sherman Act. The district court also failed to recognize that the Nash bargaining model teaches that Turner's own bargaining leverage and divisional profits increase when it takes AT&T's interests into account following the merger.

Second, although the district court did not reject the Nash bargaining model out of hand, it either did not understand the model or else did not properly apply the model to the facts of the case. The district court emphasized its belief that prolonged blackouts were infeasible, because they are so costly to both programmers and distributors. But the Nash bargaining model does not assume that there is a substantial likelihood that the buyer and seller will fail to reach an agreement, or, in the context of a merger, that the merger will make such a failure more likely. All that matters is how the merger would affect the *costs* of a blackout to the bargaining parties *if* a blackout did occur. Accordingly, even if a merger does not increase the likelihood of a blackout, and even if blackouts rarely occur, if the merger makes a blackout substantially less costly to one of two bargaining parties—here, Turner vis-à-vis AT&T's distribution competitors—that increases the first party's bargaining leverage and thereby alters the expected outcome of the negotiation. The first party gets a better deal. Here, that means that Turner gets higher prices.

ARGUMENT

I. Vertical Mergers Should Be Evaluated Using The Same Burden-Shifting Framework That This Court Employs In Horizontal Merger Cases.

Both horizontal and vertical mergers can generate efficiencies that benefit consumers.² For example, horizontal mergers can lead to economies of scale, or to cost savings from adopting best-practices. Vertical mergers can lead to efficiencies by combining complementary assets, reducing costs and harmonizing incentives in the distribution chain, or creating economies of scope. In practice, relatively few mergers, whether

² Mergers between firms and their suppliers or distributors (or, more generally, between firms selling demand complements) are termed vertical. Mergers between competitors (or, more generally, between firms selling demand substitutes) are termed horizontal.

horizontal or vertical, are challenged or found to violate section 7 of the Clayton Act.³

But both horizontal and vertical mergers can also harm competition in ways that outweigh those proffered benefits. Horizontal mergers directly eliminate competition between the merging firms, which may facilitate coordination or lead to a unilateral exercise of market power that raises prices. Although vertical mergers (or other exclusionary vertical restraints) do not eliminate direct competition between the merging firms, in oligopoly markets such mergers may nevertheless restrain competition in a number of ways, including by raising barriers to entry, by foreclosing or threatening to foreclose competitors' access to an important input or otherwise raising competitors' costs, by limiting rivals' access to

³ For example, of the 2052 mergers requiring notification to be filed in 2017 under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 (a small subset of the total number of mergers that take place), the federal enforcement agencies raised antitrust objections to 39, fewer than 2%. FTC & DOJ, *Hart-Scott-Rodino Annual Report Fiscal Year 2017*, https://www.ftc.gov/system/files/documents/reports/federal-trade-commission-bureau-competition-department-justice-antitrust-division-hart-scottrodino/p110014_fy_2017_hsr_report_final_april_2018.pdf. The rate of merger challenges in prior years was consistently in the range of 2% of notified transactions.

customers or threatening to do so, by increasing the merged firm's bargaining leverage, or by facilitating coordination.⁴ For example, if an upstream firm supplies a valuable input to a downstream buyer at a competitive price, the upstream firm will encourage downstream competition between the buyer and its rivals. If it then merges with one of the downstream rivals and, after the merger, raises the buyer's costs, it may induce the buyer to raise price, thereby leading to involuntary cooperation between the disadvantaged buyer and the downstream merging firm (and possibly also its other downstream rivals) to raise price.⁵

These harms are more likely to occur and to have significant effects in oligopoly markets where there are high barriers to entry or where the technology exhibits economies of scale, network effects, or product differentiation. Such industries are less likely to self-correct, making the

⁴ Steven C. Salop & Daniel P. Culley, *Revising the U.S. Vertical Merger Guidelines: Policy Issues and an Interim Guide for Practitioners*, 4 J. Antitrust Enforcement 1 (2016); Patrick Rey & Jean Tirole, *A Primer on Foreclosure*, *in* 3 Handbook of Industrial Organization 2145 (M. Armstrong & R. Porter eds., 2007); Michael H. Riordan, *Competitive Effects of Vertical Integration*, *in* Handbook of Antitrust Economics 145 (Paolo Buccirossi ed., 2008).

⁵ See Jonathan B. Baker, *Exclusion as a Core Competition Concern*, 78 Antitrust L.J. 527, 556-58 (2013) (explaining that exclusionary conduct can harm competition by creating an involuntary or coerced cartel).

anticompetitive effects of vertical foreclosure more durable and dangerous. For these reasons, vertical mergers may be of particular concern in the modern digital economy, which bears many of these characteristics.

This Court has established a burden-shifting framework for evaluating mergers under section 7 of the Clayton Act. See, e.g., United States v. Anthem, Inc., 855 F.3d 345 (D.C. Cir. 2017); United States v. Baker Hughes, Inc., 908 F.2d 981 (D.C. Cir. 1990). Under that framework, the plaintiff must first establish a prima facie case that the effect of the merger may be substantially to lessen competition. If the plaintiff establishes a prima facie case, the burden then shifts to defendants to rebut the case by proffering sufficient evidence that the prima facie case "inaccurately predicts the relevant transaction's probable effect on future competition." Anthem, Inc., 855 F.3d at 349 (quoting Baker Hughes, 908 F.2d at 991). The defendant can attack the plaintiff's theory of competitive harm, proffer offsetting efficiencies, or both. "Upon rebuttal by the defendant, 'the burden of producing additional evidence of anticompetitive effect shifts to the [plaintiff], and merges with the ultimate burden of persuasion, which remains with the [plaintiff] at all times." Id. at 350 (quoting *Baker Hughes*, 908 F.2d at 983).

9

The district court properly rejected arguments by the merging parties that the burden-shifting framework should not apply to vertical mergers, that vertical mergers should be entitled to a presumption that they are procompetitive, and that defendants should bear no burden at all on any issue. *See* Def. Pretrial Br. 28-29. There is no basis in either law or economics for accepting such arguments.

Defendants' arguments echoed those of the early Chicago school of law and economics, which had pointed to vertical mergers and vertical restraints as examples of how some earlier cases had condemned arrangements that were not likely to harm competition.⁶ But economic theory and empirical analysis have greatly progressed in the intervening decades. One of the principal areas of progress has been research into the potential pro- and anti-competitive effects of vertical mergers and exclusionary restraints. That research has shown—as a matter of both

⁶ See, e.g., Robert H. Bork, The Antitrust Paradox: A Policy at War with Itself 225-45, 299-309 (1978).

economic theory⁷ and empirical evidence⁸—that vertical mergers and exclusionary restraints in oligopoly markets can and often do harm competition. To similar effect, modern economic literature does not support presuming that exclusionary (interbrand) vertical restraints in oligopoly markets benefit competition. Consistent with that literature, the Supreme Court recently declined to presume competitive benefits exceed

⁷ See, e.g., Steven C. Salop, Invigorating Vertical Merger Enforcement, 127 Yale L.J. 1962 (2018); Thomas G. Krattenmaker & Steven C. Salop, Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price, 96 Yale L.J. 209 (1986); Michael H. Riordan & Steven C. Salop, Evaluating Vertical Mergers: A Post-Chicago Approach, 63 Antitrust L.J. 513 (1995); Baker, supra note 5, at 538-43; Eric B. Rasmusen et al., Naked Exclusion, 81 Am. Econ. Rev. 1137, 1140-43 (1991) (explaining how competition can be harmed through exclusionary vertical agreements).

⁸ See, e.g., Leemore Dafny, Kate Ho & Robin S. Lee, The Price Effects of Cross-Market Hospital Mergers (NBER Working Paper No. 22106, June 2018) (addressing mergers involving demand complements); Jean-François Houde, Spatial Differentiation and Vertical Mergers in Retail Markets for Gasoline, 102 Am. Econ. Rev. 47 (2012); Curtis M. Grimm, Clifford Winston & Carol A. Evans, Foreclosure of Railroad Markets: A Test of Chicago Leverage Theory, 35 J.L. & Econ. 295 (1992); Justine S. Hastings & Richard J. Gilbert, Market Power, Vertical Integration and the Wholesale Price of Gasoline, 53 J. Indus. Econ. 469 (2005); Margaret C. Levenstein & Valerie Y. Suslow, How Do Cartels Use Vertical Restraints? Reflections on Bork's The Antitrust Paradox, 57 J.L. & Econ. S33 (2014) (concluding that at least one-quarter of cartels used vertical restraints to support their exercise of market power); see also Jonathan B. Baker, Taking the Error Out of "Error Cost" Analysis: What's Wrong with Antitrust's Right, 80 Antitrust L.J. 1, 17-23 (2015).

harms even from resale price maintenance, an intrabrand vertical price restraint. 9

Defendants based their argument against applying the burdenshifting framework to vertical mergers in part on the inability of plaintiffs challenging vertical mergers to utilize the structural presumption (based on concentration and market shares) that is available to plaintiffs in a horizontal merger case. Def. Pretrial Br. 28. In a horizontal case, plaintiffs may meet their initial burden by showing a significant increase in concentration in a relevant market. *Anthem, Inc.*, 855 F.3d at 349; *FTC v. Heinz*, 246 F.3d 708, 715 (D.C. Cir. 2001); *Baker Hughes*, 908 F.2d at 983. Because these structural changes are presumed to cause anticompetitive effects, they alone suffice for a plaintiff's prima facie showing that a merger is anticompetitive, shifting the burden to the merging parties to rebut the presumption.

Although this structural presumption is inapplicable to vertical merger cases, that is no reason to alter the legal standard or burdenshifting framework that applies. Indeed, courts have applied the same

⁹ Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877 (2007).

type of burden-shifting framework in other types of antitrust cases where the plaintiff is not entitled to any type of concentration-based presumption. See, e.g., United States v. Microsoft Corp., 253 F.3d 34, 50 (D.C. Cir. 2001) (applying the burden-shifting framework to monopolization claims under section 2 of the Sherman Act); United States v. Visa U.S.A. Inc., 344 F.3d 229, 238 (2d Cir. 2003) (applying burden-shifting framework to rule of reason analysis under section 1 of the Sherman Act). In each type of case, the initial burden remains on the plaintiff to demonstrate a prima facie case that the merger may substantially lessen competition. For example, in vertical merger cases, this burden commonly may be met with sufficient evidence that the merger involves one or more concentrated markets with high barriers to entry, along with fact and expert testimony explaining why the merger may substantially restrain competition.

Defendants further contended that in a vertical merger case, the plaintiffs should have the burden of production and persuasion to prove that the merger will not generate efficiencies. Def. Pretrial Br. 28-29. There is no basis in law or economics for adopting such a presumption. As noted above, *see supra* pp. 10-11 & notes 7-8, modern economic analysis recognizes that vertical mergers in oligopoly industries can have potential anticompetitive effects, and do not inevitably result in mergerspecific efficiencies that will lead to consumer benefits.

Accordingly, prominent decisions from this Court and the D.C. district courts have held that, in order for efficiencies to be balanced against the potential anticompetitive effects of a merger, those claimed efficiencies must be "cognizable." To be "cognizable," claimed efficiencies must be of sufficient magnitude and certainty to outweigh the potential anticompetitive effects, and "more than mere speculation and promises about post-merger behavior," Heinz, 246 F.3d at 721; United States v. H&R Block, Inc., 833 F. Supp. 2d 36, 89 (D.D.C. 2011). They also must be merger specific—that is, unable to be realized through other, non-merger means that would not be anticompetitive. H&R Block, 833 F. Supp. 2d at 89. Much of the evidence relating to the cognizability of claimed efficiencies will involve the merging firm's own internal operations and processes and so reside uniquely in the possession of the merging firms.¹⁰ Accordingly, the burden-shifting framework appropriately places the burden on the merging parties to produce evidence of those efficiencies,

¹⁰ DOJ & FTC, *Horizontal Merger Guidelines* (2010), https://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf.

rather than placing an all-but-unmeetable burden on antitrust plaintiffs to prove the negative fact that all theoretical efficiencies do not exist.

As an example, consider "elimination of double marginalization," which is often asserted as an efficiency benefit of vertical mergers in oligopoly markets, and which the Department of Justice (DOJ) conceded would provide some benefit here.¹¹ It is important that the Court understand that while the elimination of double marginalization is one *possible* benefit of a vertical merger, that result also might not come to pass or might not be appropriately credited as an efficiency of the merger itself. It already may have been achieved prior to the merger, or it might not make much difference to downstream prices given other economic incentives.¹² Or the efficiency might not be merger-specific—perhaps it could have been achieved through non-merger means.¹³ Thus, whether any

¹¹ Because we had limited time and ability to review the extensive factual record underlying the expert testimony in this case, we do not know whether this concession was correct or not. The important point is that whether or not elimination of double marginalization would occur as a result of this merger, it should not be presumed to be a necessary merger-specific consequence of all vertical mergers. *See* Salop, *supra* note 7.

¹² Salop, *supra* note 7.

¹³ For example, it may be possible to eliminate double marginalization without merging through the use of non-linear pricing or quantity-forcing

particular merger is likely to generate sufficient merger-specific efficiencies sufficient to outweigh any anticompetitive effects is an empirical question that needs to be decided on a case-by-case basis, not presumed.

II. The District Court Erred In Finding The Nash Bargaining Model Inapplicable To Negotiations Between Content Providers And Multichannel Video Programming Distributers.

DOJ alleged that AT&T's acquisition of Time Warner's valuable programming content would give the merged firm increased leverage in negotiating with AT&T's rival programming distributors. In doing so, DOJ relied on a standard economic model of bargaining, called the Nash bargaining model after the mathematician and Nobel laureate economist John Nash.¹⁴ This model has been employed by economists in a wide range of settings and relied upon by courts to predict the impact of mergers on competition. *See, e.g., ProMedica Health Sys., Inc. v. FTC*, 749 F.3d 559, 562, 570 (6th Cir. 2014) (horizontal merger would increase

vertical contracts. Salop, *supra* note 7; *see also* Eric Hovenkamp & Neel Sukhatme, *Vertical Mergers and the MFN Thicket in Television*, Anti-trust Chron., https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3213884 (forthcoming 2018).

¹⁴ We use the term "Nash bargaining model" in the way it was used by the district court: to refer to bargaining models that have the specific outcome identified by Nash as a possible solution.

merged hospitals' bargaining leverage with respect to managed care organizations); St. Alphonsus Med. Ctr.-Nampa Inc. v. St. Luke's Health Sys., Ltd., 778 F.3d 775 (9th Cir. 2015) (same); In re Comcast Corp., 26 F.C.C. Rcd. 4238, 4258-58, 4294-96, 4382-4404 (2011); see generally Aviv Nevo, Mergers That Increase Bargaining Leverage (Jan. 22, 2014), https://www.justice.gov/atr/file/517781/download.

A. The Nash Bargaining Model Is an Accepted Economic Framework for Analyzing Markets Characterized by Bargaining.

The Nash bargaining model has been the subject of substantial economic research and development since John Nash published his seminal article in 1950,¹⁵ and forms the basis for economists' analysis of negotiation markets. It is well accepted as an appropriate model for analyzing

¹⁵ See John F. Nash, Jr., *The Bargaining Problem*, 18 Econometrica 155 (1950). In the ensuing decades, economists have expanded on Nash's model, analyzing its application for business strategy in various circumstances. *See, e.g.*, K. Binmore, A. Rubinstein & A. Wolinsky, *The Nash Bargaining Solution in Economic Modelling*, 17 Rand J. Econ. 176 (1986); A. Dixit & S. Skeath, *Games of Strategy* 663-91 (4th ed. 2015). For a nontechnical explanation of the Nash bargaining model and its implications for business strategy see A. Dixit & B. Nalebuff, *Thinking Strategically: The Competitive Edge in Business, Politics, and Everyday Life* 286-99 (1991).

the impact of horizontal and vertical mergers in markets characterized by negotiation.¹⁶

In markets characterized by bargaining between sellers and buyers, where the parties are jointly better off by reaching an agreement, the Nash bargaining model teaches that an important factor affecting the outcome of the negotiation is the parties' *relative* losses in the event they fail to reach an agreement. All else equal, the greater would be one party's losses from a failed negotiation, the greater will be the other party's bargaining leverage, and the more favorable price the other party can achieve in the negotiation.

¹⁶ Economists routinely rely on the Nash bargaining model to understand the consequences of mergers, both theoretically and empirically. E.g., Gregory S. Crawford, Robin S. Lee, Michael D. Whinston & Ali Yurukoglu, The Welfare Effects of Vertical Integration in Multichannel Television Markets, 86 Econometrica 891, 891-954 (2018); Nathan H. Miller, Modeling the Effects of Mergers in Procurement, 37 Int'l J. Indus. Org. 201 (2014); Henrick Horn & Asher Wolinsky, Bilateral Monopolies and Incentives for Merger, 19(3) Rand J. Econ. 408 (1988); Gautam Gowrisankaran, Aviv Nevo & Robert Town, Mergers When Prices Are Negotiated: Evidence from the Hospital Industry, 105(1) Am. Econ. Rev. 172 (2015); William P. Rogerson, A Vertical Merger in the Video Programming and Distribution Industry: Comcast-NBCU (2011), in The Antirust Revolution 534 (J. Kwoka & L. White eds., 6th ed. 2014); see also Horizontal Merger Guidelines, supra note 10, § 6.2; DOJ & FTC, Commentary on the Horizontal Merger Guidelines 34-36 (Mar. 2006), http://www.usdoj.gov/ atr/public/guidelines/215247.pdf.

It follows that a merger that changes the relative bargaining positions of the parties—by changing the losses that either of the parties would experience in the event they fail to reach agreement—will affect the expected negotiated price. St. Alphonsus Med. Ctr.-Nampa Inc., 778 F.3d at 786-87; In re Comcast Corp., 26 F.C.C. Rcd. 4238, App. B, ¶ 37 (2011); see generally Nevo, supra, at 4; Horizontal Merger Guide*lines*, supra note 10, § 10. Both horizontal and vertical mergers can affect prices by altering the bargaining leverage between buyers and sellers. For example, if a buyer would have turned to supplier B if it failed to reach agreement with supplier A, a horizontal merger between suppliers A and B will reduce the buyer's bargaining leverage (because turning to B would no longer harm A) and thus result in higher negotiated prices. Similarly, a vertical merger between an upstream input supplier A and downstream firm B, who is a competitor of rival downstream firm C, may reduce the losses to the merged firm from failing to reach agreement with firm C (because the merged firm can now capture some of the business lost by firm C after negotiations fail). The potential to capture this revenue will increase supplier A's leverage in bargaining with firm C.

In general, where the negotiating parties are both better off with a deal, economists normally would expect them to reach an agreement.¹⁷ But they nonetheless must negotiate to determine their relative share of the benefits the deal can produce. And the critical point is that this bargaining occurs in the shadow of both parties' knowledge about what they would each lose if their negotiations ultimately fail. When parties reject offers and make counteroffers, they are threatening not to agree, and thus to impose that harm on the other party, unless their terms are met. And it is the relative force of that threat that principally determines the outcome of a negotiation.

Importantly, application of the Nash bargaining model does not assume that negotiations actually will fail, nor does it depend on the probability that the parties will not ultimately agree. To the contrary, only the relative consequences of that theoretical possibility will affect the terms on which the parties are very likely to agree. To be sure, economics teaches that, in unusual circumstances, the parties might fail to reach agreement for a long period (as in the case of, say, a labor strike).

¹⁷ The likelihood of reaching an agreement may be affected by the extent to which the negotiating parties have private information.

Because failure to agree can persist indefinitely even as negotiations continue, economists applying the Nash bargaining model normally evaluate bargaining leverage and its impact on negotiated outcomes by estimating the losses from a permanent failure to reach agreement. Dixit & Nalebuff, *supra* note 15, at 287-89. But that evaluation in no way depends upon an assumption that any such permanent failure is likely or will actually come to pass. Put another way, the predictive force of Nash bargaining models does not rely on the probability that a prolonged disagreement will actually occur; it relies instead on analyzing what the consequences for the parties would be if there were, for any reason, a prolonged disagreement.

To see this clearly, consider labor strikes or lockouts. Strikes and lockouts are rare and almost always temporary because they are harmful to both sides; as in most bargaining-centric markets, both sides are better-off with a deal and so a deal is the expected outcome. But labor negotiations remain governed by the Nash bargaining model. That's because the theory is premised on *threats*, not *actual* strikes or lockouts. Strike threats, for example, have ambiguous effects (if any) on whether a strike actually occurs, but are designed to raise the stakes of a strike for

21

a negotiating firm, increasing the union's leverage and improving the price term of their eventual contract.¹⁸ The same analysis would apply to blackouts of video content: It is the *stakes* of a blackout, not the *probability* of a blackout, that drives the model.

Nor do threats become unconvincing (lose their credibility) when the costs of long-term failure to agree are very high. Negotiating parties may be willing to follow through on such threats when they can implement them by raising the risk in stages day-by-day, rather than all-ornothing. In the context of a labor strike, "[t]he threat never to return to work would not be credible, especially if management comes close to meeting the union's demands. But waiting one more day is a credible threat." Dixit & Nalebuff, *supra* note 15, at 294.¹⁹ To similar effect, a program distributor and content provider each can credibly threaten to

¹⁸ Dixit & Nalebuff, *supra* note 15, at 292-95. Even if long strikes are catastrophic for both sides, that fact does not prevent firms and unions from making threats and demanding larger concessions in an attempt to get a better deal, although this may lead to longer delays until one side finally blinks.

¹⁹ Applied to nuclear war threats, "[a]lthough the threat of a certainty of war is not credible, one of a risk or probability of war can be credible.... The uncertainty scales down the risk." Dixit & Nalebuff, *supra* note 15, at 209.

continue a blackout for one more day, because the incremental costs are small relative to the increased expected profits from the likely cave-in by the other side for future days.

B. The District Court Erred in Failing to Properly Apply the Nash Bargaining Model in This Case.

In this case, the government alleged that AT&T's acquisition of Turner will increase the merged firm's bargaining leverage, leading AT&T's rival distributors to pay higher prices for Turner content. The merger would increase Turner's bargaining leverage because, in the event of a blackout of a rival distributor, AT&T's DirecTV subsidiary would stand to gain by obtaining customers from its blacked-out rival. Rival distributors also would recognize Turner's increased bargaining leverage and so would capitulate and pay more. As a result, Turner would gain the ability to negotiate a higher affiliate fee.

Although the district court appeared to accept the validity of the Nash bargaining model in theory, it rejected its applicability to this case, concluding that the merger would have no impact whatsoever on Time Warner's incentives or ability to negotiate for higher prices for Turner programming. In reaching that conclusion, the district court made two critical errors.

23

1) The district court failed to apply Copperweld principles in analyzing the merging parties' incentives.

The district court heavily credited testimony from executives who suggested that they have never considered the interests of their corporate parent during negotiations about content-distribution contracts in this industry. Op. 106-08. Based in part on that testimony, the court concluded that the merger would have no impact on the way Turner subsequently would negotiate with distributor rivals of AT&T's distributor affiliates. *Id.* at 149. That reasoning is flawed for several reasons.

First, it ignores economic logic and the teaching of the Supreme Court's decision in *Copperweld Corp. v. Independence Tube Corp.*, 467 U.S. 752 (1984). In that decision, the Court held that as a matter of law, a parent and a wholly owned subsidiary could not conspire with one another but rather should be deemed to be a single entity for purposes of section 1 of the Sherman Act. In light of the fundamental economic principle that economic actors seek to maximize their self-interest, the Court reasoned that

[a] parent and its wholly owned subsidiary have a complete unity of interest. Their objectives are common, not disparate; their general corporate actions are guided or determined not by two separate corporate consciousnesses, but one. *Id.* at 771. That holding was not limited to a case where a parent actively

controlled the behavior of its subsidiary. As the Court stated:

[I] in reality a parent and a wholly owned subsidiary always have a 'unity of purpose or a common design.' They share a common purpose whether or not the parent keeps a tight rein over the subsidiary; the parent may assert full control at any moment if the subsidiary fails to act in the parent's best interests.

Id. at 771-72. Applying the holding in Copperweld, the First Circuit sim-

ilarly held that as a matter of law, a parent and its wholly owned subsid-

iary should be deemed to be the same person within the meaning of the

Robinson-Patman Act. In Caribe BMW, Inc. v. Bayerische Motoren Werke

AG, 19 F.3d 745 (1st Cir. 1994), in an opinion by then-Judge Breyer, the

court explained that the rationale underlying the Copperweld decision

applied equally to antitrust laws other than the Sherman Act:

Any claimed instance of truly "independent," owner-hostile, subsidiary decision making would meet with the skeptical question, "But, if the subsidiary acts contrary to its parent's economic interest, why does the parent not replace the subsidiary's management?" Given the strength of that joint economic interest, we do not see how a case-specific judicial examination of "actual" parental control would help achieve any significant antitrust objective.

Id. at 750.

Second, while the district court said that it accepted the government's premise that "generally 'a firm with multiple divisions will act to maximize profits across them," Op. 114-15 (quoting Gov't Post-Trial Br. 19), it suggested (based on executives' self-interested testimony) that vertically integrated companies might determine that the best way to profit maximize was to direct each business component to separately maximize its respective revenue. *Id.* The court's reasoning is illogical.

First, both the parties and the district court concluded that the merger would generate at least some efficiencies from the elimination of double marginalization. In order to achieve those efficiencies, the two divisions of a vertically integrated firm will need to maximize the profits of the integrated firm. It simply makes no sense to conclude that AT&T and Time Warner jointly profit maximize for efficiency purposes and separately profit maximize for the purpose of bargaining with competitors.

Second, the Nash bargaining model shows that Turner will be able to negotiate a higher price (and higher profits for its division) following the merger because the negotiating parties will necessarily recognize the impact of a blackout on AT&T. In other words, maximizing Turner's profits is entirely consistent with the Nash bargaining model; the district court may have wrongly understood the model to assume that Turner would sacrifice profits to benefit AT&T. Moreover, neither the testimony on which the court relied nor economics provides any basis to conclude that AT&T would permit its subsidiaries to be operated, not just independently, but in a way that reduced AT&T's overall profits.

Third, as then-Judge Breyer recognized in *Caribe BMW*, judicial examination of "actual" parental control in this case would not advance the goals of the antitrust laws. Indeed, it would be dangerous to credit the merging parties' claims or the district court's conclusion that the merged firm would not act in its economic interest. If the merger is allowed to proceed, nothing would prevent the merged firm from acting in accordance with its economic incentives by changing its conduct—that is, to require Turner to act in the economic interest of AT&T overall. Because *Copperweld* would insulate such a change in behavior from any subsequent antitrust scrutiny, merger analysis must proceed today on the assumption that *Copperweld* is right about how subsidiaries work to maximize their single-entity profits.²⁰

²⁰ Indeed, if this vertical merger were permitted to proceed based on the parties' testimony that the merged firm would instruct its divisions to maximize their own profits without regard to the interests of the parent, then Coke and Pepsi could justify a horizontal merger with testimony that post-merger they will instruct their divisions to do likewise.

2) The district court failed to properly apply the Nash bargaining model.

Focusing on testimony both from certain fact witnesses as well as the government's expert, the district court noted that long-term blackouts are quite rare. It also noted that even following its merger with AT&T, the costs to Turner of a prolonged blackout would be high, and that a long-term blackout of Turner content was infeasible. "Indeed, the evidence showed that there has never been, and is likely never going to be an actual long-term blackout of Turner content." Op. 115. From this evidence, the court incorrectly reasoned that the Nash bargaining model was not applicable and that the government's contention that the merger would give Turner increased bargaining leverage that would lead to a material increase in the fees it negotiates for its programming was not credible.

As explained above, however, this reasoning reflects a fundamental misunderstanding of the underlying economic model because it focuses on the probability of a blackout and not the stakes. Again, the Nash bargaining model does not require or assume that bargaining is likely to fail, and so the government's theory did not require that the merger make such a failure likely or any more likely than before. All that matters is that the negotiations occur in the shadow of a potential blackout. Even if blackouts are rare or non-existent, and even if a merger has no impact on the likelihood that negotiations will fail, the Nash bargaining model nevertheless predicts that changes in bargaining leverage will have an impact on the negotiated terms, and it is *that* impact (on resulting contract terms) that drives merger analysis throughout antitrust law. Moreover, the district court wrongly assumed that the only way to make a credible threat was with a *long-term* blackout, which it concluded was infeasible. Op. 115. It failed to recognize that threats that may seem to require prohibitively costly follow-through can be credible when carried out one day at time.

The district court recognized that blackout threats are common in negotiations between programmers and distributors,²¹ and that both programmers and distributors often try to calculate the costs they would

²¹ In the district court's words, "That is not to say, however, that blackouts are irrelevant to the negotiating dynamic. Rather, in what can best be thought of as an elaborate and stylized Kabuki dance, the evidence shows that 'almost every negotiation' involves both programmers and distributors threatening blackouts, especially when one side is seen as demanding terms that are out of line with the market." Op. 17 (citation omitted). The court's analogy mistakenly treats threats as a ritual play with a predetermined outcome, however.

incur in the event of a blackout. As the court observed: "To better understand how to assign the 'right value' to a particular deal, programmers and distributors might perform 'drop' or 'go dark' analyses to estimate the potential impact of a blackout on the programmer's advertising or affiliate fee revenues or on the distributor's customer base." Op. 17-18 (citation omitted). Nevertheless, the court accepted blanket and unsupported assertions by Turner executives that the risk of blackouts has *no impact* on their negotiations. Not only is this contrary to economic principles, it simply makes no sense in light of the district court's own observation that the reason the programmers calculate the costs of a blackout is to "understand how to assign the 'right value' to a particular deal," *id.* at 17—in other words, to develop their negotiating positions.

Because AT&T, through its DirectTV subsidiary, would stand to benefit from a Turner blackout by taking customers away from blackedout rivals, the risk to the merged firm as a whole would be lower than the risk to Turner alone prior to the merger, and Turner's bargaining leverage would increase in its negotiations with DirecTV's distribution competitors.

CONCLUSION

We ask the Court to recognize that vertical mergers in oligopoly markets can have substantial anticompetitive consequences, and ask that it not, in either its decision or its opinion, cast doubt on that fact or on the sound legal and economic principles that should guide application of the antitrust laws to vertical mergers.

Respectfully submitted.

Mary Jean Moltenbrey 2328 Champlain Street NW Washington, DC 20009 (202) 615-6599 mj.moltenbrey@gmail.com

August 13, 2018

<u>/s/ Eric F. Citron</u> Eric F. Citron GOLDSTEIN & RUSSELL, P.C. 7475 Wisconsin Avenue Suite 850 Bethesda, MD 20814 (202) 362-0636 ecitron@goldsteinrussell.com

CERTIFICATE OF COMPLIANCE

 Pursuant to Fed. R. App. P. 32(g)(1), this document complies with the type-volume limit of Fed. R. App. P. 29(a)(5) and 32(a)(7)(B)(i) because, excluding the parts of the document exempted by Fed. R. App. P. 32(f) and D.C. Cir. R. 32(e)(1), this document contains 6,409 words.

This document complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type-style requirements of Fed. R. App. P. 32(a)(6) because this document has been prepared in a proportionally spaced typeface using Microsoft Word 2016 in 14-point Century Schoolbook font.

August 13, 2018

<u>/s/ Eric F. Citron</u> Eric F. Citron

CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the D.C. Circuit by using the appellate CM/ECF system on August 13, 2018. All participants in the case are registered CM/ECF users, and service will be accomplished by the appellate CM/ECF system.

> <u>/s/ Eric F. Citron</u> Eric F. Citron

ADDENDUM

Identity of Amici Curiae

Jonathan B. Baker is Research Professor of Law at American University Washington College of Law. He previously served as Chief Economist of the Federal Communications Commission from 2009 to 2011, as the Director of the Bureau of Economics at the Federal Trade Commission from 1995 to 1998, and as a Senior Economist at the President's Council of Economic Advisors. He is the co-author of an antitrust casebook, and has published widely in the fields of antitrust law, policy and economics.

Michael A. Carrier is Distinguished Professor at Rutgers Law School where he specializes in antitrust and intellectual property law. He is co-author of the leading treatise on IP and antitrust and has written more than 100 articles and book chapters on these topics.

William S. Comanor is Professor of Economics Emeritus at the University of California, Santa Barbara, and Professor, UCLA Fielding School of Public Health. He previously served as Special Economic Assistant to the head of the Antitrust Division, US Department of Justice, 1965-66; and as Director of the Bureau of Economics at the Federal Trade Commission, 1978-80. He has published numerous articles on the law

and economics of vertical restraints, vertical mergers and exclusionary conduct.

Aaron S. Edlin is the Richard Jennings Professor of Law and Professor of Economics at UC Berkeley. He served as a Senior Economist at the President's Council of Economic Advisors. He is co-author of an antitrust casebook, with Philip Areeda and Louis Kaplow, and is author of numerous articles on antitrust law, antitrust economics, and other areas of economics and law in economics journals and law reviews.

Einer R. Elhauge is the Petrie Professor of Law at Harvard Law School, where he writes and teaches on Antitrust Law and Economics. Professor Elhauge is the author of U.S. Antitrust Law & Economics, coauthor of Global Antitrust Law & Economics, co-author of Areeda, Elhauge & Hovenkamp, Vol X, Antitrust Law, editor of the Research Handbook on the Economics of Antitrust Law, and the author of articles on antitrust law and economics.

Harry First is Charles L. Denison Professor of Law at New York University School of Law and Co-Director of the law school's Competition, Innovation, and Information Law Program. From 1999-2001 he served as Chief of the Antitrust Bureau of the Office of the Attorney General of

the State of New York. He is a co-author of an antitrust casebook and has published widely on antitrust law and policy.

Eleanor M. Fox is the Walter J. Derenberg Professor of Trade Regulation at New York University School of Law. She is author of an antitrust casebook and has published widely on antitrust law and policy, including mergers and exclusionary restraints.

Martin Gaynor is the E.J. Barone University Professor of Economics and Public Policy at Carnegie Mellon University. He served as Director of the Bureau of Economics at the Federal Trade Commission from 2013 to 2014. He has testified before Congress, and has advised the governments of the United Kingdom, the Netherlands, and South Africa on competition issues. Professor Gaynor also has published widely in economics, policy, and antitrust.

Joseph Harrington is the Patrick T. Harker Professor at The Wharton School of the University of Pennsylvania. He has published widely on antitrust economics and is a co-author of the leading textbook, Economics of Regulation and Antitrust (5th ed.). He is a past President of the Industrial Organization Society and has been on the editorial boards of the leading journals in industrial organization. Herbert Hovenkamp is the James G. Dinan University Professor, Univ. of Pennsylvania School of Law and the Wharton School. He is the author (with the late Phillip E. Areeda and others) of *Antitrust Law* and has written numerous books and articles concerning antitrust policy, including mergers.

James R. Kearl is the A. O. Smoot Professor of Economics and former Associate Academic Vice President at Brigham Young University. He has been a White House Fellow and a Special Assistant to the Secretary of Defense. His research interests deal with the use of economics in antitrust and other legal settings and the analysis of the law and public policy.

Robert H. Lande is Venable Professor of Law at the University of Baltimore School of Law, where he teaches antitrust and other subjects. He has published more than 70 antitrust law articles. These include articles on mergers, monopolization, exclusionary conduct, and vertical restraints.

Marina Lao is the Edward S. Hendrickson Professor of Law at Seton Hall University School of Law. She served as Director of Policy Planning at the Federal Trade Commission from 2015-2016. She has published on antitrust law and policy.

Margaret C. Levenstein is Research Professor at the Institute for Social Research and the School of Information and Adjunct Professor of Business Economics and Public Policy at the Stephen M. Ross School of Business, University of Michigan. She is the author of numerous econometric studies on competition and collusion, including the role of vertical restraints in supporting collusion.

Phillip R. Malone is a Professor of Law at Stanford Law School and Director of SLS's Juelsgaard Intellectual Property and Innovation Clinic. Previously he was a Clinical Professor of Law at Harvard Law School. From 1984 to 2004 he served as a Trial Attorney and Senior Trial Attorney in the Antitrust Division of the United States Department of Justice. His teaching has focused in part on the intersection of antitrust, technology and innovation in high-tech and digital markets.

A. Douglas Melamed is Professor of the Practice of Law at Stanford University. He served as Acting Assistant Attorney General in charge of the Antitrust Division of the U.S. Department of Justice and, before that, as Principal Deputy Assistant Attorney General, from 1996 to 2001. He

is a co-author of an antitrust casebook and has published widely on antitrust law and policy.

Nathan H. Miller is an Associate Professor of Economics and Strategy at the Georgetown University McDonough School of Business. His research on antitrust economics has appeared in numerous academic journals. He previously served as an economist at the Antitrust Division of the U.S. Department of Justice.

Barry Nalebuff is the Milton Steinbach Professor at Yale School of Management where he has taught for thirty years. Professor Nalebuff is an expert in the application of game theory to business strategy and negotiation and has numerous article and books on these topics. He also has published several articles on exclusionary vertical restraints. Professor Nalebuff also was the cofounder of Honest Tea.

Roger G. Noll is Professor Emeritus of Economics at Stanford University. His published research includes several books and articles on the economics of antitrust, broadcasting and telecommunications.

Fiona M. Scott Morton is the Theodore Nierenberg Professor of Economics at the Yale School of Management. Her research and publications are in the area of empirical competition economics with a focus on pricing

and exclusionary conduct. She served as Deputy Assistant Attorney General for Economic Analysis at the US Department of Justice from 2011 to 2012.

David Sibley is the John Michael Stuart Centennial Professor of Economics University of Texas at Austin. He was formerly Chief Economist, Antitrust Division, US Department of Justice. Professor Sibley has carried out extensive research in the areas of industrial organization, microeconomic theory, and regulation. His publications have appeared in a number of leading economic journals.

Joseph E. Stiglitz is University Professor at Columbia University, where he teaches in the Economics Department and Business School. Professor Stiglitz was the recipient of the Nobel Memorial Prize in Economic Sciences in 2001 and the John Bates Clark Medal winner in 1979. He was chairman of the Council of Economic Advisers, where he coordinated antitrust policy with the Justice Department and its effects on the economy. He also was senior vice president and chief economist of the World Bank. Known for his pioneering work on asymmetric information, Professor Stiglitz has written seminal articles and books across virtually every field of economics, including industrial organization. Valerie Y. Suslow is Professor and Vice Dean for Faculty & Research at the Johns Hopkins Carey Business School. She has authored numerous articles on the economics of price fixing and cartel operations, with a focus on the determinants of cartel stability, as well as studies on the intersection of international cartel operations and antitrust policy.

Michael D. Whinston is the Sloan Fellows Professor of Management and Professor of Economics at the Massachusetts Institute of Technology. He has written extensively on issues in antitrust, including horizontal and vertical mergers, exclusive dealing, tying, and collusion. He is also co-author of a leading graduate textbook on microeconomic theory.

Lawrence J. White is the Robert Kavesh Professor of Economics at the Stern School of Business, New York University. He was the Chief Economist of the Antitrust Division of the U.S. Department of Justice, 1982-83; a Senior Staff Economist on the President's Council of Economic Advisers, 1978-79; and a Board Member on the Federal Home Loan Bank Board, 1986-89. He is the General Editor of the Review of Industrial Organization and is the co-editor of a series of seven books that involve economists' participations in major antitrust cases. He has written widely on antitrust, regulation, and other microeconomics topics. Abraham L. Wickelgren, the Bernard J. Ward Professor of Law at the University of Texas at Austin School of Law. He earned his JD and Ph.D. in economics from Harvard. He is a former staff economist at the Federal Trade Commission and is the former editor of the American Law and Economics Review. Professor Wickelgren has published numerous scholarly articles on law and economics and antitrust.

Ralph A. Winter is a Professor of Business Economics and Public Policy in the Sauder School of Business at the University of British Columbia. He has published widely in antitrust economics, especially in the areas of vertical restraints and exclusionary conduct and has provided economic expertise in numerous antitrust cases.