

University of Pennsylvania Carey Law School

Penn Carey Law: Legal Scholarship Repository

All Faculty Scholarship

Faculty Works

2020

The Post-Chicago Antitrust Revolution: A Retrospective

Christopher S. Yoo

University of Pennsylvania Law School

Author ORCID Identifier:

 Christopher S. Yoo 0000-0003-2980-9420

Follow this and additional works at: https://scholarship.law.upenn.edu/faculty_scholarship



Part of the Antitrust and Trade Regulation Commons, Economic Policy Commons, Economic Theory Commons, Industrial Organization Commons, Law and Economics Commons, Law and Politics Commons, Legal History Commons, Legal Theory Commons, Policy Design, Analysis, and Evaluation Commons, Policy History, Theory, and Methods Commons, Political Economy Commons, and the Public Law and Legal Theory Commons

Repository Citation

Yoo, Christopher S., "The Post-Chicago Antitrust Revolution: A Retrospective" (2020). *All Faculty Scholarship*. 2237.

https://scholarship.law.upenn.edu/faculty_scholarship/2237

This Article is brought to you for free and open access by the Faculty Works at Penn Carey Law: Legal Scholarship Repository. It has been accepted for inclusion in All Faculty Scholarship by an authorized administrator of Penn Carey Law: Legal Scholarship Repository. For more information, please contact PennlawIR@law.upenn.edu.

ARTICLE

THE POST-CHICAGO ANTITRUST REVOLUTION: A
RETROSPECTIVE

CHRISTOPHER S. YOO[†]

A symposium examining the contributions of the post-Chicago School provides an appropriate opportunity to offer some thoughts on both the past and the future of antitrust. This afterword reviews the excellent papers presented with an eye toward appreciating the contributions and limitations of both the Chicago School, in terms of promoting the consumer welfare standard and embracing price theory as the preferred mode of economic analysis, and the post-Chicago School, with its emphasis on game theory and firm-level strategic conduct. It then explores two emerging trends, specifically neo-Brandeisian advocacy for abandoning consumer welfare as the sole goal of antitrust and the increasing emphasis on empirical analyses.

INTRODUCTION	2146
I. THE CHICAGO REVOLUTION	2146
A. <i>Consumer Welfare/Economic Efficiency as the Goal of Antitrust</i>	2147
B. <i>Price Theory</i>	2153
II. THE POST-CHICAGO REVOLUTION	2160
A. <i>The Conceptual Limits of Game Theory</i>	2162
B. <i>The Need for More Empirical Validation</i>	2163
C. <i>Post-Chicago's Impact on the Law</i>	2165
III. BEYOND POST-CHICAGO?.....	2166
A. <i>The Emerging Debate Over Neo-Brandeisian/Hipster Antitrust</i>	2166
B. <i>The Growing Emphasis on Empiricism</i>	2168
CONCLUSION	2168

[†] John H. Chestnut Professor of Law, Communication, and Computer & Information Science and Founding Director, Center for Technology, Innovation and Competition, University of Pennsylvania.

INTRODUCTION

I would like to thank the Law Review staff for inviting me to write the afterword to what was a terrific symposium. Milestone conferences like this provide a welcome opportunity to look both backward to see how far the law has come and forward to project how emerging trends might affect future developments.

In particular, a conference on “The Post-Chicago Antitrust Revolution” provides an opportunity to look not only at the post-Chicago School, but also the Chicago School, which motivated its genesis. In addition, this afterword is also an apt occasion to speculate about the potential impact of approaches that have gained increasing attention in recent years, such as neo-Brandeisianism and empirical antitrust.

I. THE CHICAGO REVOLUTION

In many ways, the natural place to begin an afterword for a symposium on “The Post-Chicago Antitrust Revolution” is by looking at the school of thought that gave this movement its name: the Chicago School. Post-Chicago scholars often use the Chicago School as the foil for their analyses.¹ For example, this symposium’s opening presentation on “Framing the Chicago School of Antitrust Analysis” used the Chicago School’s position as the starting point for its critical analysis.² Other symposium contributors took similar approaches.³

Scholars differ in their assessment of the Chicago School’s impact. Many Chicago School supporters have claimed that their arguments have swept the field.⁴ Others assert that the Harvard School has proven more influential than

¹ For a prominent recent example, see HOW THE CHICAGO SCHOOL OVERSHOT THE MARK: THE EFFECT OF CONSERVATIVE ECONOMIC ANALYSIS ON U.S. ANTITRUST (Robert Pitofsky ed., 2008), which collected essays largely positioned as critiques of the Chicago School.

² Herbert Hovenkamp & Fiona Scott Morton, *Framing the Chicago School of Antitrust Analysis*, 168 U. PA. L. REV. 1841, 1844 (2020).

³ See Jonathan B. Baker & Joseph Farrell, *Oligopoly Coordination, Economic Analysis, and the Prophylactic Role of Horizontal Merger Enforcement*, 168 U. PA. L. REV. 1985, 2002-07, (2020) (contrasting the authors’ argument with the Chicago School’s views of oligopolies); Andrew I. Gavil & Steven C. Salop, *Probability, Presumptions and Evidentiary Burdens in Antitrust Analysis: Revitalizing the Rule of Reason for Exclusionary Conduct*, 168 U. PA. L. REV. 2109, 2119-24 (2020) (arguing that the Chicago School’s teachings produced presumptions and burdens of proof that need to be updated).

⁴ For a classic example see Edmund W. Kitch, *The Fire of Truth: A Remembrance of Law and Economics at Chicago, 1932-1970*, 26 J.L. & ECON. 163 (1983). See also, e.g., Daniel A. Crane, *Chicago, Post-Chicago, and Neo-Chicago*, 76 U. CHI. L. REV. 1911, 1911, 1913 (2009) (reviewing HOW THE CHICAGO SCHOOL OVERSHOT THE MARK, *supra* note 1) (discussing the Chicago School’s “complete and resounding victory” and the “tidal wave of pro-Chicago sentiment” that “continued to wreak its vengeance” in the 2000s); Bruce H. Kobayashi & Timothy J. Muris, *Chicago, Post-*

the Chicago School in shaping antitrust doctrine.⁵ Still others have tried to strike a middle ground, arguing that both schools have played a critical role.⁶

Differentiating between two separate threads of the Chicago School's argument can help reconcile these disparate assessments. The first contends that consumer welfare/economic efficiency represents the sole focus of antitrust. With respect to this claim, the Chicago School position prevailed, with the Harvard School's support. The second thread involves the Chicago School's preferred approach to applying economic analysis principles to antitrust: price theory. The Chicago School's success with respect to this latter aspect is more mixed.

A. Consumer Welfare/Economic Efficiency as the Goal of Antitrust

Although modern antitrust law typically views the Chicago and post-Chicago Schools as the dominant opposing viewpoints, the Chicago School initially arose as a reaction to a different movement: the Populist School that dominated antitrust thinking prior to the 1970s.⁷ Echoing Louis Brandeis's concerns about the "curse of bigness,"⁸ the Populist School rejected economic

Chicago, and Beyond: Time to Let Go of the 20th Century, 78 ANTITRUST L.J. 147, 167, 171 (2012) (concluding that "[t]here was a revolution in antitrust: Chicago prevailed" and that "[t]he Revolution succeeded; one only has to read the numerous Supreme Court decisions rejecting the *ancien régime* to understand the triumph of Chicago").

⁵ See Hovenkamp & Scott Morton, *supra* note 2, at 1870 ("The Chicago School's influence on antitrust decision making in the federal courts has been more ideological than technical. In choosing technical rules, the Supreme Court has almost always looked to the Harvard School."); see also, e.g., Einer Elhauge, *Harvard, Not Chicago: Which Antitrust School Drives Recent U.S. Supreme Court Decisions?*, COMPETITION POL'Y INT'L, Autumn 2007, at 59, 60 (concluding that Supreme Court decisions "indicate an embrace of the moderate Harvard School approach . . . rather than an embrace of Chicago school principles"); Herbert Hovenkamp, *The Harvard and Chicago Schools and the Dominant Firm*, in HOW THE CHICAGO SCHOOL OVERSHOT THE MARK, *supra* note 1, at 109, 112 ("[A]ntitrust law as produced by the courts today comes much closer to representing the ideas of a somewhat chastised Harvard School than of any traditional version of the Chicago School.").

⁶ See, e.g., Thomas E. Kauper, *Influence of Conservative Economic Analysis on the Development of the Law of Antitrust*, in HOW THE CHICAGO SCHOOL OVERSHOT THE MARK, *supra* note 1, at 40, 42 (attributing modern doctrine to a collective "Chicago-Harvard Grinch and perhaps a good Grinch besides"); William E. Kovacic, *The Intellectual DNA of Modern U.S. Competition Law for Dominant Firm Conduct: The Chicago/Harvard Double Helix*, 2007 COLUM. BUS. L. REV. 1, 13-14 (2007) (concluding that antitrust law on single-firm conduct reflects a "combination of Chicago School and Harvard School perspectives"); William H. Page, *Areeda, Chicago, and Antitrust Injury: Economic Efficiency and Legal Process*, 41 ANTITRUST BULL. 909, 910 (1996) (calling Harvard School leader Phillip Areeda and the Chicago School "the twin pillars of contemporary antitrust").

⁷ For a useful overview of this conflict, see Michael S. Jacobs, *An Essay on the Normative Foundations of Antitrust Economics*, 74 N.C. L. REV. 219, 234-40 (1995).

⁸ Louis D. Brandeis, *A Curse of Bigness*, HARPER'S WKLY., Jan. 10, 1914, at 18. This theme is so influential in Brandeis's work that an editor chose to use it as the title for a collection of Brandeis's papers. THE CURSE OF BIGNESS: MISCELLANEOUS PAPERS OF LOUIS D. BRANDEIS (Osmond K. Fraenkel ed., 1935).

welfare as the sole focus of antitrust and instead embraced a plural approach that included a wide range of noneconomic concerns, reflected in previous antitrust symposia published in this journal in 1977 and 1979.⁹ These scholars embraced a Jeffersonian conception of an economy comprised of small firms,¹⁰ complete freedom of choice by sellers and buyers,¹¹ and the promotion of wealth redistribution,¹² along with expanding purely economic considerations to include political concerns¹³ and a preference for per se rules.¹⁴

The Supreme Court decisions of the era largely reflected the views of the Populist School, striking down mergers by firms controlling as little as five percent of the market¹⁵ and declaring a wide range of business practices illegal

⁹ *Antitrust Jurisprudence: A Symposium on the Economic, Political and Social Goals of Antitrust Policy*, 125 U. PA. L. REV. 1182 (1977); *Symposium on Antitrust Law and Economics*, 127 U. PA. L. REV. 918 (1979).

¹⁰ See Kenneth G. Elzinga, *The Goals of Antitrust: Other than Competition and Efficiency, What Else Counts?*, 125 U. PA. L. REV. 1191, 1196 (1977) ("The preference for small rather than large business units would appear to be an ideal candidate for an antitrust equity goal and one readily achieved through a strict policy against mergers and the more frequent use of dissolution decrees."); see also, e.g., Eleanor M. Fox, *The Modernization of Antitrust: A New Equilibrium*, 66 CORNELL L. REV. 1140, 1150-51 (1981) (noting how the authors of a 1950 amendment of the antitrust laws "wished to preserve a society of small, independent, decentralized businesses").

¹¹ See Elzinga, *supra* note 10, at 1200 (identifying individual liberty as an important equity objective of antitrust enforcement); see also Fox, *supra* note 10, at 1151-52 (noting that Supreme Court decisions in the 1960s and 1970s "protected the freedom of the independent trader to sell where and to whom the seller pleased"); Thomas E. Kauper, *The "Warren Court" and the Antitrust Laws: Of Economics, Populism, and Cynicism*, 67 MICH. L. REV. 325, 332 (1968) ("[T]he Court has proceeded with a method of analysis placing primary emphasis on equality of opportunity, free access to markets by competing sellers, and complete freedom of choice by buyers.").

¹² See Elzinga, *supra* note 10, at 1194-96 (advocating for including the redistribution of income as a goal of antitrust); see also, e.g., Eleanor M. Fox, *Consumer Beware Chicago*, 84 MICH. L. REV. 1714, 1714-15, 1714 n.3 (1986) (arguing that the goals of antitrust should include the redistribution of wealth in addition to economic efficiency).

¹³ See John J. Flynn, *Introduction: Antitrust Jurisprudence: A Symposium on the Economic, Political and Social Goals of Antitrust Policy*, 125 U. PA. L. REV. 1182, 1186-90 (acknowledging arguments that antitrust should include political and social goals as well as the goal of economic efficiency); Robert Pitofsky, *The Political Content of Antitrust*, 127 U. PA. L. REV. 1051, 1051 (1979) (arguing for a consideration of political values when interpreting antitrust law); Louis B. Schwartz, *"Justice" and Other Non-Economic Goals of Antitrust*, 127 U. PA. L. REV. 1076, 1078, 1080 (1979) (agreeing with Pitofsky that political considerations should represent a central consideration of antitrust and not just a "tie-breaker in individual cases").

¹⁴ Pitofsky, *supra* note 13, at 1058 (noting with approval that antitrust "occasionally disregards claims of efficiency, as in the imposition of per se rules against certain kinds of horizontal cartels"); Schwartz, *supra* note 13, at 1081 (arguing that "proper deference to the non-economic goals of antitrust" involved receptivity to per se rules); see also Fox, *supra* note 10, at 1183-85 (advocating for the retention of a number of per se rules for reasons aside from economic efficiency).

¹⁵ See, e.g., *Ford Motor Co. v. United States*, 405 U.S. 562, 568, 578 (1972) (condemning vertical merger that would have resulted in 10% market share); *United States v. Von's Grocery Co.*, 384 U.S. 270, 271-72, 279 (1966) (condemning horizontal merger that would have resulted in 7.5% market share); *Brown Shoe Co. v. United States*, 370 U.S. 294, 343-44, 346 (1962) (condemning horizontal merger that would have resulted in 5% market share); *Standard Oil Co. of Cal. v. United States*, 337 U.S. 293, 295, 314 (1949) (condemning exclusive dealing contract that would have foreclosed 16% of the market).

per se without any inquiry into market power.¹⁶ In addition, the initial 1968 Merger Guidelines promulgated by the Department of Justice under the leadership of Harvard School scholar Donald Turner were skeptical about horizontal mergers in concentrated markets that would create firms with as little as eight percent market share and disfavored any vertical merger involving firms holding as little as six to ten percent of the market.¹⁷

The Chicago School challenged each of these commitments. In particular, it rejected populists' advocacy for continuing to base antitrust on a plurality of considerations in favor of making economic efficiency and consumer welfare the sole guide to antitrust law.¹⁸ This early Chicago work was backed by empirical scholarship,¹⁹ a fact noted even by notable Chicago School critics.²⁰ Not all Chicago School supporters agreed: some have called for even more empiricism,²¹ while others have seen Chicago School scholars (and indeed the entire field of industrial organization) turning away from empiricism in the 1980s.²²

¹⁶ See, e.g., *Albrecht v. Herald Co.*, 390 U.S. 145, 153 (1968) (holding maximum retail price maintenance illegal per se); *United States v. Arnold, Schwinn & Co.*, 388 U.S. 365, 382 (1967) (holding nonprice vertical restraints illegal per se); *Klor's, Inc. v. Broadway-Hale Stores, Inc.*, 359 U.S. 207, 212 (1959) (holding group boycotts illegal per se); *N. Pac. Ry. Co. v. United States*, 356 U.S. 1, 5, 7-8 (1958) (holding tying illegal per se); *Dr. Miles Med. Co. v. John D. Park & Sons Co.*, 220 U.S. 373, 394, 408-09 (1911) (holding minimum retail price maintenance illegal per se).

¹⁷ U.S. DEP'T OF JUSTICE, MERGER GUIDELINES §§ 5, 12 (1968), <https://www.justice.gov/sites/default/files/atr/legacy/2007/07/11/11247.pdf> [<https://perma.cc/ES5W-Q26B>].

¹⁸ See, e.g., ROBERT H. BORK, *THE ANTITRUST PARADOX* 79-89 (1978) (concluding that "the case is overwhelming for judicial adherence to the single goal of consumer welfare in the interpretation of the antitrust laws" and advocating for "[e]xclusive adherence to a consumer welfare standard"); RICHARD A. POSNER, *ANTITRUST LAW* 18-20 (1976) (entertaining and rejecting "[s]ociopolitical [o]bjections" to monopolies including "promot[ing] economic efficiency . . . to promote small business").

¹⁹ See, e.g., Frank H. Easterbrook, *Vertical Arrangements and the Rule of Reason*, 53 *ANTITRUST L.J.* 135, 151 n.31 (1984) (noting the existence of an empirical literature testing the structure-conduct-performance paradigm and whether certain practices constitute barriers to entry, and citing multiple examples); Joshua D. Wright, *Abandoning Antitrust's Chicago Obsession: The Case for Evidence-Based Antitrust*, 78 *ANTITRUST L.J.* 241, 246-47, 247 nn.22-27 (2012) (calling empiricism "[t]he second defining feature of the Chicago School of antitrust" (after price theory), and citing multiple sources).

²⁰ See F.M. Scherer, *Some Principles for Post-Chicago Antitrust Analysis*, 52 *CASE W. RES. L. REV.* 5, 7 (2001) ("One of the great Chicago traditions for students seeking the Ph.D. in industrial organization was to carry out careful, price theory-based empirical studies of specific real-world industries and institutions.").

²¹ See Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 *U. PA. L. REV.* 925, 931 n.13 (1979) ("It is a curiosity, and a source of regret, that to this day very few of [Chicago School scholar Aaron] Director's ideas have been subjected to systematic empirical examination.").

²² See E. Glen Weyl, *Price Theory*, 57 *J. ECON. LITERATURE* 329, 354 (2019) ("Price theory also receded from applied work for the twenty years starting in the 1980's . . ."); Crane, *supra* note 4, at 1931-32 (calling for the neo-Chicago School to put greater emphasis on empirical work). The retreat from empiricism was part of a discipline-wide trend that was not unique to the Chicago School. See Timothy J. Muris, *Improving the Economic Foundations of Competition Policy*, 12 *GEO. MASON L. REV.* 1, 7 (2003) ("Although IO [industrial organization] was once a largely empirical

The Chicago School scored some important victories over the Populist School in the Supreme Court, which increasingly framed antitrust law in terms of consumer welfare²³ and economic efficiency.²⁴ Consistent with this emphasis on economic effects, the Supreme Court gradually overruled the cases holding vertical contractual restraints per se illegal,²⁵ a development that participants in this symposium applauded as wise.²⁶

Even Populist School supporters came to acknowledge that economic efficiency had become the central concern of antitrust.²⁷ In the words of one

discipline, in recent decades empirical research has lost much of its market share. The lure of IO for most young economists was to apply modern mathematical economics to the relatively undeveloped turf of industrial organization.”).

²³ See *Ohio v. Am. Express Co.*, 138 S. Ct. 2274, 2290 (2018) (citing with approval precedent recognizing that the legality of a vertical restraint turned on whether it would enhance both “competition and consumer welfare”); *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 902, 906 (2007) (overruling antitrust precedent because failure to do so would “hinder[] competition and consumer welfare” and rejecting rationales that are “[d]ivorced from competition and consumer welfare”); *Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co.*, 549 U.S. 312, 324 (2007) (citing with approval precedent permitting practices under which “consumer welfare is enhanced”); *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 221, 224 (1993) (noting criticism of precedent that is “at odds with the antitrust laws’ traditional concern for consumer welfare and price competition” and supporting a recoupment prerequisite in predatory pricing because without it, “consumer welfare is enhanced” by the practice); *Nat’l Collegiate Athletic Ass’n v. Bd. of Regents of the Univ. of Okla.*, 468 U.S. 85, 107 (1984) (noting that “Congress designed the Sherman Act as a ‘consumer welfare prescription’” (quoting *Reiter v. Sonotone Corp.*, 442 U.S. 330, 343 (1979))).

²⁴ See *United States v. U.S. Gypsum Co.*, 438 U.S. 422, 441 n.16 (1978) (making the appropriateness of a per se rule turn on whether the practice in question tends to “increase economic efficiency and render markets more, rather than less, competitive”); see also *Broad. Music, Inc. v. Columbia Broad. Sys., Inc.*, 441 U.S. 1, 19-20 (1979) (quoting language from *U.S. Gypsum Co.* with approval); *Nw. Wholesale Stationers, Inc. v. Pac. Stationery & Printing Co.*, 472 U.S. 284, 289-90, 295 (1985) (quoting language from *U.S. Gypsum Co.* and *Broadcast Music, Inc.* with approval).

²⁵ See *Leegin*, 551 U.S. at 882, 887-907 (overruling the per se rule banning minimum retail price maintenance); *State Oil Co. v. Khan*, 522 U.S. 3, 7, 10-22 (1997) (overruling the per se rule banning maximum retail price maintenance); *Continental T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 47-59 (1977) (overruling the per se rule banning nonprice vertical restraints).

²⁶ See Hovenkamp & Scott Morton, *supra* note 2, at 1871 (noting that “the Supreme Court wisely overruled the per se rules against” vertical contractual restraints); see also *id.* at 1848 (noting that Chicago School advocacy for overruling precedents prohibiting “competitively harmless vertical contracting . . . very likely increased consumer welfare and efficiency”); Gavil & Salop, *supra* note 3, at 2123 (observing that the abandonment of per se illegality for vertical restraints reflects the influence of the Chicago School).

²⁷ See, e.g., Fox, *supra* note 10, at 1140 (“Regard for efficiency is in the ascendancy”); Henry S. Gerla, *A Micro-Microeconomic Approach to Antitrust Law: Games Managers Play*, 86 MICH. L. REV. 892, 892 (1988) (“Classical microeconomic theory . . . has become the dominant tool for contemporary antitrust analysis.”); Robert H. Lande, *Implications of Professor Scherer’s Research for the Future of Antitrust*, 29 WASHBURN L.J. 256, 258 (1990) (“[T]he dominant paradigm today is that the only goal of the existing antitrust laws is to increase economic efficiency”); Lawrence A. Sullivan, *Antitrust, Microeconomics, and Politics: Reflections on Some Recent Relationships*, 68 CALIF. L. REV. 1, 2 (1980) (“The Supreme Court is increasingly committed to a conception of competition that emphasizes efficiency as a dominant social value.”); see also, e.g., Christopher S. Yoo, *Beyond Network Neutrality*, 19 HARV. J.L. & TECH. 1, 55 (2005) (“By the end of the 1980s, even those

commentator, by the mid-1990s, “the debate about the organizing values of antitrust ha[d] lost its drama,” and “[t]he victory of a purely economic analysis over . . . the Modern Populist School could hardly seem more complete.”²⁸ Still, as we shall see in Part III.A, the issue has arisen once again in the debate over neo-Brandeisian/hipster antitrust.

It would be a mistake, however, to attribute the emergence of economic considerations as the exclusive touchstone of antitrust law solely to the Chicago School. Strikingly, the consumer welfare standard also drew support from the Harvard School, which “underwent a significant transformation in the late 1970s” from the interventionist position it took in the 1930s to 1960s.²⁹ This new Harvard School agreed with the Chicago School’s rejection of populist considerations as motivating concerns for antitrust law,³⁰ as symposium participants have recognized,³¹ although the Harvard School was influenced more by institutional competence and other process-based considerations than the broad conceptual economic framework that motivated

sympathetic to the Populist School were forced to concede that the economic approach to antitrust had prevailed.”).

²⁸ Jacobs, *supra* note 7, at 238, 239.

²⁹ HERBERT HOVENKAMP, *THE ANTITRUST ENTERPRISE* 37 (2005). A key factor in this “metamorphosis was the unacknowledged conversion experience of Donald F. Turner.” *Id.*

³⁰ See, e.g., 1 PHILLIP AREEDA & DONALD TURNER, *ANTITRUST LAW* ¶¶ 103-113, at 7, 12-13, 24, 30 (1978) (concluding that the case law “support[s] the priority of competition and its efficiency goals,” that promoting non-efficiency goals would be “[e]xcessively [c]ostly, [f]utile, or unadministrable,” and that “the contribution to populist goals from rules specially created to promote them would be far too small to warrant the inevitable legal difficulties, uncertainties, and enforcement costs they would involve”); Donald F. Turner, *The Durability, Relevance, and Future of American Antitrust Policy*, 75 CALIF. L. REV. 797, 798 (1987) (“[I]t is questionable whether populist goals are appropriate factors to consider when formulating antitrust rules.”); see also Phillip Areeda, *Introduction to Antitrust Economics*, 52 ANTITRUST L.J. 523, 535, 537 (1983) (concluding that when political and social values and efficiency values diverge, “there surely is a strong presumption in favor of preferring customers” and that “[a]ntitrust law has far more to fear from surrendering to vague claims of fairness or socio-political ends than from disinclined inquiry into how challenged arrangements actually serve or impair competition,” while cautioning against drawing broad abstract conclusions); Thomas C. Arthur, *Workable Antitrust Law: The Statutory Approach to Antitrust*, 62 TUL. L. REV. 1163, 1166-67 (1988) (noting that both the Harvard and Chicago Schools agree that the Populist School’s “use of noneconomic factors confuses and distorts antitrust decisionmaking”); Kovacic, *supra* note 6, at 35 (“Although Chicago School and Harvard School scholars do not define efficiency identically, the two schools discourage consideration of non-efficiency objectives such as the dispersion of political power and the preservation of opportunities for smaller enterprises to compete.” (footnote omitted)).

³¹ Hovenkamp & Scott Morton, *supra* note 2, at 1876-77 (noting that the total welfare conception “was historically controlling in both Harvard and Chicago School economics literature, without significant dissent,” with the standard eventually shifting to consumer welfare) (citing Alan J. Meese, *Debunking the Purchaser Welfare Account of Section 2 of the Sherman Act: How Harvard Brought Us a Total Welfare Standard and Why We Should Keep It*, 85 N.Y.U. L. REV. 659, 690 (2010)).

the Chicago School.³² This concurrence was tacit, in that Harvard School scholars did not explicitly connect their positions to the Chicago School's.³³

The Chicago and Harvard Schools' concurrence on the primacy of economic considerations rendered the Populist School's position untenable.³⁴ Once the Chicago and Harvard Schools agreed that economic analysis should be the heart of antitrust, debates over antitrust law became what Michael Jacobs called an "intramural dispute" over the type of economic analysis to apply.³⁵ The commitment to economic analysis over populist considerations is also shared by the post-Chicago School.³⁶

The fact that both of the leading antitrust schools of thought supported treating consumer welfare and economic efficiency as the sole goal of antitrust should not take away from the Chicago School's contribution. It is telling that when endorsing consumer welfare as the antitrust standard, the Supreme Court cited Chicagoan Robert Bork³⁷ and not the Harvard School scholarship adopting the same position.³⁸ Revealingly, both critics and supporters give the Chicago School most of the credit for the Supreme Court's adoption of the consumer welfare standard.³⁹ Robert Pitofsky summed up this consensus nicely

³² Crane, *supra* note 4, at 1919-20; Kovacic, *supra* note 6, at 41 (arguing that the Chicago School was more conceptually based on certain economic models, while the Harvard School emphasized "institutional competence" and "legal process" (quoting Page, *supra* note 6, at 912-13)).

³³ Kovacic, *supra* note 6, at 40 ("In their co-authored works, Areeda and Turner seldom acknowledged intellectual debts to other commentators. Their joint work contains few direct statements or indirect signs (e.g., citation patterns) that indicate significant borrowings from Chicago School scholars or other researchers." (footnote omitted)); Page, *supra* note 6, at 911 (noting that Areeda "did not often cite Chicago scholars, but neither did he disagree with them directly" (footnote omitted)). Chicago Scholars were less hesitant in drawing connections to the Harvard School. See, e.g., Posner, *supra* note 21, at 925 (noting the "growing consensus" between the Chicago and Harvard Schools that focused more on "technical disagreements" than on "disagreement over basic premises, methodology, and ideology").

³⁴ See Thomas E. Kauper, *supra* note 6, at 40, 42 (describing how "Chicago's influence is virtually conceded"); Crane, *supra* note 4, at 1918-20 (describing how the Chicago School and Harvard School have influenced the Court and both "tend toward similar noninterventionist results"); William E. Kovacic, *The Chicago Obsession in the Interpretation of US Antitrust History*, 87 U. CHI. L. REV. 460, 479 (2020) ("Bork inspired the right, and Areeda and Turner brought along centrists and somewhat left-of-center academics, enforcement officials, judges, and practitioners.").

³⁵ Jacobs, *supra* note 7, at 222; accord, e.g., Jonathan B. Baker, *Recent Developments in Economics that Challenge Chicago School Views*, 58 ANTITRUST L.J. 645, 646 (1989) ("[W]e need not reject the value of economic efficiency in order to question the Chicago School. These challenges to Chicago arise from within the efficiency paradigm.").

³⁶ See, e.g., Baker, *supra* note 35, at 646 n.7 ("Some new developments support rather than challenge Chicago positions."); Jacobs, *supra* note 7, at 222, 242 (describing how the post-Chicago school has "eschew[ed] the subjective inquiries" that were common in the "political approaches of the past").

³⁷ *Reiter v. Sonotone Corp.*, 442 U.S. 330, 343 (1979).

³⁸ See *supra* note 30 and accompanying text.

³⁹ See, e.g., Daniel A. Crane, *Antitrust's Unconventional Politics*, 104 VA. L. REV. ONLINE 118, 123 (2018) ("Beginning in 1977-78, the Chicago School achieved an almost complete triumph in the Supreme Court, at least in the limited sense that the Court came to adopt the economic

when he found it “unanimous” that the Chicago School had “demolished some aspects of the antitrust approach of the 1950s and 1960s (Warren Court period) and eventually displaced it with a more rigorous approach” that “emphasized exclusively economic considerations (to the complete exclusion of other social and political values).”⁴⁰

B. Price Theory

While the Chicago School’s advocacy for making economics the sole focus of antitrust law ultimately prevailed, its arguments in support of its preferred mode of economic analysis achieved somewhat more mixed results. The Chicago School was forthright in its preference for neoclassical price theory.⁴¹ Built on the work of such giants as Alfred Marshall and Paul Samuelson, price theory has been defined as “the explanation of how relative prices are determined,” primarily through industry-level analyses of supply and demand, as well as “how prices function to coordinate economic activity.”⁴² Unlike the case study approach of the original Harvard School, which explored the variations in the details of different industries and firms,⁴³ price theory “simplif[ies] a rich (high-dimensional heterogeneity, many agent, dynamics, etc.) and often incompletely specified model for the purposes of answering a simple (scalar or low-dimensional) allocative question.”⁴⁴

Even critics of the Chicago School’s price theoretic approach have generally recognized that it has influenced Supreme Court doctrine. The adoption of pricing below cost as the appropriate test of predatory pricing⁴⁵ was a clear

efficiency/consumer welfare model as the exclusive or near-exclusive goal of antitrust law.”); Kenneth Heyer, *Consumer Welfare and the Legacy of Robert Bork*, 57 J.L. & ECON. (SPECIAL ISSUE) S19, S20, S32 (2014) (noting that “Bork was not the first to propose the total-welfare standard,” but “[h]e was . . . its most influential advocate” and concluding that “Bork not only won the battle, he also won the war”).

⁴⁰ Robert Pitofsky, *Introduction to Conservative Economic Analysis and Its Effects*, in HOW THE CHICAGO SCHOOL OVERSHOT THE MARK, *supra* note 1, at 7, 7.

⁴¹ See BORK, *supra* note 18, at 116-17 (describing the relationship between antitrust and price theory and stating “[t]here is no body of knowledge other than conventional price theory that can serve as a guide to the effects of business behavior upon consumer welfare”); Kobayashi & Muris, *supra* note 4, at 154 (describing the “application of price theory and other economics” as “the hallmark of Chicago School/Aaron Director analysis”); Posner, *supra* note 21, at 928 (“Director’s conclusions resulted simply from viewing antitrust policy through the lens of price theory.”); Wright, *supra* note 19, at 245 (identifying the “rigorous application of price theory” as one of the “defining characteristics of the Chicago School”).

⁴² DAVID D. FRIEDMAN, PRICE THEORY 27 (1986).

⁴³ See generally Hovenkamp & Scott Morton, *supra* note 2; Herbert Hovenkamp *Reimagining Antitrust: The Revisionist Work of Richard S. Markovits*, 94 TEX. L. REV. 1221 (2016) (reviewing RICHARD S. MARKOVITS, ECONOMICS AND THE INTERPRETATION AND APPLICATION OF U.S. AND E.U. ANTITRUST LAW (2014)).

⁴⁴ E. Glen Weyl, *Price Theory*, 57 J. ECON. LIT. 329, 330 (2019).

⁴⁵ See *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 222-27 (1992) (requiring a showing of pricing below a rival’s appropriate costs to recover on a predatory pricing

endorsement of price theory.⁴⁶ With respect to the leverage theory of tying, another Chicago School target,⁴⁷ the Court abandoned the idea that a showing of market power was unnecessary⁴⁸ and returned to subjecting tying claims to a market power requirement.⁴⁹ Participants in this symposium recognized that the leverage theory used to justify treating tying as illegal per se without any showing of foreclosure or exclusion was based on “mistaken arithmetic.”⁵⁰

Price theory is also often credited as playing a role in the Supreme Court’s decisions eliminating the per se rule for retail price maintenance⁵¹ and

complaint); *Cargill, Inc. v. Monfort of Colo., Inc.*, 479 U.S. 104, 117 (1986) (defining predatory pricing as “pricing below an appropriate measure of cost” that eliminates or reduces competition); *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 584 n.8 (1986) (describing predatory pricing as when “a single firm . . . cuts its prices in order to force competitors out of the market”).

⁴⁶ See Patrick Bolton, Joseph F. Brodley & Michael H. Riordan, *Predatory Pricing: Response to Critique and Further Elaboration*, 89 GEO. L.J. 2495, 2506 (2001) (recognizing and criticizing the fact that *Brooke Group* relied on price theory); John J. Flynn, *Antitrust Policy and the Concept of a Competitive Process*, 35 N.Y.L. SCH. L. REV. 893, 895 n.4 (1990) (noting how *Matsushita* reflected “[t]he capture of the Court’s understanding of the facts and law by conclusions of neoclassical price theory”); John J. Flynn, *Antitrust Policy, Innovation Efficiencies, and the Suppression of Technology*, 66 ANTITRUST L.J. 487, 490 n.10 (1998) (noting how *Brooke Group* relied on neoclassical price theory); Thomas E. Kauper, *The Sullivan Approach to Horizontal Restraints*, 75 CALIF. L. REV. 893, 903 (1987) (noting that in *Matsushita*, “the Court relied to an extraordinary degree on neoclassical price theory to resolve ambiguities in evidence concerning alleged predation”).

⁴⁷ Ward S. Bowman, *Tying Arrangements and the Leverage Problem*, 67 YALE L.J. 19 (1957); accord Posner, *supra* note 21, at 926 (noting that one of the Chicago school’s “key ideas” is related to “tie-in[s]”).

⁴⁸ See *N. Pac. Ry. Co. v. United States*, 356 U.S. 1, 11 (1958) (finding that “‘monopoly power’ or ‘dominance’ over the tying product” is not “a necessary precondition for application of the rule of per se unreasonableness to tying arrangements”).

⁴⁹ See *Jefferson Par. Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 18 (1984) (“[W]e must consider whether . . . [petitioners] have used their market power to force their patients to accept the tying arrangement.”); Alan J. Meese, *Tying Meets the New Institutional Economics: Farewell to the Chimera of Forcing*, 146 U. PA. L. REV. 1, 34-35 (1997) (noting that *Jefferson Parish* appeared to hold that “a plaintiff had to prove that the defendant had market power of the sort that is required for liability in other antitrust contexts”). As Gavil and Salop note, the Chicago School had an even bigger impact on Justice O’Connor’s concurrence in *Jefferson Parish*, which embraced the single monopoly rent theorem that motivated much of the Chicago School’s critique. Gavil & Salop, *supra* note 3, at 2124.

⁵⁰ Hovenkamp & Scott Morton, *supra* note 2, at 1867; see also Gavil & Salop, *supra* note 3, at 2123 (noting that “[t]he per se prohibition of tying is teetering” because of the influence of the Chicago School).

⁵¹ Alan Devlin, *On the Ramifications of Leegin Creative Leather Products, Inc. v. PSKS, Inc.: Are Tie-Ins Next?*, 56 CLEV. ST. L. REV. 387, 388, 390 (2008) (characterizing “[t]he Supreme Court’s 2007 decision in *Leegin*. . . [as] a long overdue implementation of ubiquitously accepted principles of price theory” and a “major step toward obeisance to the Chicago School’s focus on price theory”); Norman W. Hawker, *Antitrust Insights from Strategic Management*, 47 N.Y.L. SCH. L. REV. 67, 84 (2003) (“Relying heavily on this hard form of price theory, the Supreme Court struck down the per se rule against territorial restrictions and maximum resale price maintenance”); see also Michael S. Jacobs, *The New Sophistication in Antitrust*, 79 MINN. L. REV. 1, 48 (1994) (“The revitalization of the rule of reason owed much to the Chicago school and its use of price theory to expose the flawed economic premises underlying many of the old per se rules.”). For a classic price theoretic Chicago School argument against per se illegality for resale price maintenance, see Robert H. Bork, *Resale Price Maintenance and Consumer Welfare*, 77 YALE L.J. 950 (1968).

abolishing the presumption that patents create market power.⁵² With respect to oligopoly more generally, *Twombly*'s, *Brooke Group*'s, and *Matsushita*'s skepticism towards oligopoly coordination in the absence of specific agreement⁵³ also arguably reflects the Chicago School's price-theoretically influenced belief that absent collusion, oligopoly would pose a problem only at high levels of concentration.⁵⁴ Symposium participants generally acknowledge that this development reflects the influence of the Chicago School.⁵⁵

Regarding mergers, the 1984 revision to the Department of Justice Merger Guidelines raised the relevant concentration thresholds above those contained in the 1968 Guidelines,⁵⁶ as favored by the Populist School.⁵⁷ Commentators have noted the close connection between the revisions to the Merger

⁵² Devlin, *supra* note 51, at 391, 391 n.28 (noting how "Chicago-driven principles of price theory" led the Supreme Court to eliminate "the presumption that patents confer market power" in *Illinois Tool*). For the classic Chicago School statement that "a patent is not usually a monopoly in the sense of price theory", see Edmund W. Kitch, *Patents*, in 3 THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW 13, 14 (1998).

⁵³ See *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 556 (2007) (holding that "stating [a Sherman Act § 1] claim requires a complaint with enough factual matter (taken as true) to suggest that an agreement was made" and "an allegation of parallel conduct and a bare assertion of conspiracy will not suffice"); *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 223 (1993) ("As a general rule, the exclusionary effect of prices above a relevant measure of cost . . . represents competition on the merits, or is beyond the practical ability of a judicial tribunal to control without courting intolerable risks of chilling legitimate price cutting."); *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 585-88 (1986) ("To survive a motion for summary judgment or for a directed verdict, a plaintiff seeking damages for a violation of § 1 must present evidence 'that tends to exclude the possibility' that the alleged conspirators acted independently.") (quoting *Monsanto Co. v. Spray-Rite Serv. Corp.*, 465 U.S. 752, 764 (1984)).

⁵⁴ Posner, *supra* note 21, at 933 (citing the work of George Stigler); accord Richard S. Markovits, *A Response to Professor Posner*, 28 STAN. L. REV. 919, 920 n.8 (1976) (similarly recognizing Stigler's work as an application of price theory to oligopoly). But see Steven C. Salop, *Understanding Richard Posner on Exclusionary Conduct*, ANTITRUST SOURCE, Oct. 2018, at 1, 8 ("[W]hile [Posner] characterizes Stigler's famous oligopoly collusion model as price theory, that model really is game theoretic." (footnote omitted)).

⁵⁵ See Baker & Farrell, *supra* note 3, at 2006, 2007 n.96 (stating that "[t]he Chicago perspective . . . led the Supreme Court in *Brooke Group* to take the view that oligopoly coordination is hard to achieve and unstable," and that *Matsushita* and *Twombly* have "made it more difficult to use Section 1 of the Sherman Act to challenge coordinated oligopoly outcomes"); Gavil & Salop, *supra* note 3, at 2123-24 (stating that the Chicago School criticisms of antitrust law have "been highly influential" and citing to *Matsushita*, *Twombly*, and *Brooke Group*).

⁵⁶ See U.S. DEP'T OF JUSTICE, MERGER GUIDELINES § 4.2221 (1984), <https://www.justice.gov/sites/default/files/atr/legacy/2007/07/11/11249.pdf> [<http://perma.cc/D24Z-MZBH>] ("The Department is unlikely to challenge a merger on this ground unless . . . overall concentration of the upstream market is above 1800 HHI . . .").

⁵⁷ See Christopher S. Yoo, *Vertical Integration and Media Regulation in the New Economy*, 19 YALE J. ON REG. 171, 187 (2002) ("[T]he Harvard School approach . . . became enshrined in the [1968] Merger Guidelines . . .").

Guidelines and price theory,⁵⁸ and symposium participants explicitly recognized that the revised Guidelines reflected the influence of Chicago views⁵⁹ and that the move away from “condemning very small horizontal mergers . . . very likely increased consumer welfare and efficiency.”⁶⁰

A close examination of antitrust scholarship and judicial decisions reveals that the forces driving these doctrinal changes are more complex than often recognized. On the one hand, the Harvard School exhibited greater openness to price theory following Donald Turner’s “unacknowledged conversion experience” that marks the dividing line between the Harvard School of the 1930s through the 1960s from the “new Harvard” position.⁶¹ In addition, new Harvard School scholars joined in the attack on leverage theory,⁶² a point often lost on Chicagoans.⁶³ Similarly, Areeda and Turner’s endorsement of cost as the test for predation in their landmark article on predatory pricing⁶⁴ was, in Posner’s words, “pure textbook price theory unadorned by any of the concepts of industrial organization,” such as strategic behavior.⁶⁵ That said, their advocacy of average variable cost over marginal cost as the more administrable second-best test for predation represented a fusion of price theory with classic Harvard School institutional concerns.⁶⁶

⁵⁸ Robert G. Harris & Thomas M. Jorde, *Market Definition in the Merger Guidelines: Implications for Antitrust Enforcement*, 71 CALIF. L. REV. 464, 476 (1983) (noting and criticizing the fact that “[t]he Guidelines are founded on neoclassical price theory”).

⁵⁹ Baker & Farrell, *supra* note 3, at 2008 (“The 1982 Merger Guidelines were predicated on a Chicagoan view of oligopolistic coordination.”).

⁶⁰ Hovenkamp & Scott Morton, *supra* note 2, at 1848.

⁶¹ HOVENKAMP, *supra* note 29, at 37 (noting that “the Harvard School underwent a significant transformation in the late 1970s” that “departed significantly from Harvard orthodoxy” developed in the 1930s through the 1960s); Crane, *supra* note 4, at 45 (drawing a similar distinction between “Paleo-Harvard” and “Neo-Harvard”); William E. Kovacic, *The Chicago Obsession in the Interpretation of US Antitrust History*, 87 U. CHI. L. REV. 459, 467-68 (2020) (“The Harvard School . . . encompasses two periods of thought—the intervention-friendly structure-conduct-performance thinking from the 1930s into the 1960s, and a more cautious perspective, anchored in institutional considerations popularized by Phillip Areeda, which emerged from the 1970s onward.”).

⁶² Hovenkamp & Scott Morton, *supra* note 2, at 1867.

⁶³ See Herbert Hovenkamp, *United States Competition Policy in Crisis: 1890-1955*, 94 MINN. L. REV. 311, 365-66 (2009) (noting that the critique of the leverage theory “has been considered a core principle of the Chicago School critique of the Harvard School,” but “the leveraging theory never held a secure place in . . . the writings of Harvard School economists”).

⁶⁴ Hovenkamp & Scott Morton, *supra* note 2, at 1869 (noting that the Supreme Court adopted the Areeda-Turner test); Kovacic, *supra* note 6, at 46 (“[T]he article became the starting point for judicial analysis of below-cost pricing claims.”).

⁶⁵ Posner, *supra* note 2121, at 940; accord Kenneth G. Elzinga & David E. Mills, *Predatory Pricing and Strategic Theory*, 89 GEO. L.J. 2475, 2476 (2001) (noting that Areeda and Turner’s article injected price theory into the analysis of predatory pricing); Nicola Giocoli, *Games Judges Don’t Play: Predatory Pricing and Strategic Reasoning in US Antitrust*, 21 SUP. CT. ECON. REV. 271, 279-280 (2014) (noting that Areeda & Turner’s predatory pricing test “came directly from price theory”).

⁶⁶ Kovacic, *supra* note 6, at 42-50.

Conversely, Chicago School scholarship incorporated forms of economic analysis beyond price theory. For example, some Chicago School arguments invoked transaction cost economics,⁶⁷ which became the basis of the Supreme Court's landmark *Sylvania* decision.⁶⁸ Chicagoans have similarly noted that the Chicago School "leaned heavily on neoclassical price theory, but also relied upon the economics of information, the economics of price discrimination, the theory of the firm, the theory of public goods, the theory of natural monopoly, and even game theory."⁶⁹ And Chicagoans and critics both credit the Chicago School for pioneering modern theories of strategic conduct, such as raising rivals' costs.⁷⁰

Moreover, as the Chicago School's supporters themselves recognized, its victory was far from complete in the Supreme Court.⁷¹ With respect to vertical restraints, rather than follow the Chicago School's call for per se legality,⁷² the Supreme Court instead subjected them to the rule of reason,⁷³ a decision more in line with new Harvard School thinking.⁷⁴ Supreme Court

⁶⁷ Alan J. Meese, *Price Theory and Vertical Restraints: A Misunderstood Relation*, 45 UCLA L. REV. 143, 203 (1997) ("Despite references by Chicagoans to 'price theory,' Chicago's approach to vertical restraints has never rested upon . . . price theory. Instead, the Chicago approach to vertical restraints is an application of [New Institutional Economics] . . .").

⁶⁸ *Continental T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 54-57 (1977).

⁶⁹ Kobayashi & Muris, *supra* note 4, at 152 (footnotes omitted).

⁷⁰ RICHARD A. POSNER, *ANTITRUST LAW* 251 (2d ed. 2001); Steven C. Salop, *Economic Analysis of Exclusionary Vertical Conduct: Where Chicago Has Overshot the Mark*, in HOW THE CHICAGO SCHOOL OVERSHOT THE MARK, *supra* note 1, at 141, 144 ("[I]t is important to recognize that [raising rivals' cost] has its roots in the economic analysis of Chicago School commentators."); Peter C. Carstensen, *Director and Levi After 40 Years: The Anti-Antitrust Agenda Revisited*, 17 MISS. C. L. REV. 37, 40 (1996) (discussing how Director and Levi advanced a "precursor of . . . the raising rivals' costs hypothesis"); Kobayashi & Muris, *supra* note 4, at 161-62 (concluding that Chicago's recognition of a raising rivals' costs theory "clearly exposes the fallacy of those who argue that Chicago conveniently ignored relevant theories on ideological grounds"). For the seminal Chicago School articulation of raising rivals' costs, see Aaron Director & Edward H. Levi, *Law and the Future: Trade Regulation*, 51 NW. U. L. REV. 281, 290, 293 (1956).

⁷¹ See, e.g., Sam Peltzman, *Aaron Director's Influence on Antitrust Policy*, 48 J.L. & ECON. 313, 325-28 (2005) (finding that the Chicago School had effected a major change in predatory pricing, earned a "partial victory" on vertical restraints, and had minimal impact on the leverage theory of tying).

⁷² See BORK, *supra* note 18, at 288 ("Analysis shows that every vertical restraint should be completely lawful."); Richard A. Posner, *The Next Step in the Antitrust Treatment of Restricted Distribution: Per Se Legality*, 48 U. CHI. L. REV. 6, 22-25 (1981) (advocating for "the rule of per se legality" in certain circumstances, including "price as well as nonprice cases").

⁷³ See, e.g., *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 882, 887-907 (2007) (rejecting the rule of per se invalidity and adopting the rule of reason instead); *State Oil Co. v. Khan*, 522 U.S. 3, 7, 22 (1997) (same); *Continental T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 47-59 (1977) (using the rule of reason standard as opposed to any per se prohibition).

⁷⁴ See Hovenkamp & Scott Morton, *supra* note 2, at 1871 ("While the Supreme Court wisely overruled the per se rules against nonprice restraints and [resale price maintenance], it adopted the rule of reason advocated by the Harvard School, rather than the Chicago preference for rules of per se legality."); see also Elhauge, *supra* note 5, at 59 ("[O]n every issue the Court has addressed where

decisions also reflect an embrace of decision theory⁷⁵ that places greater emphasis on the potential adverse impact of false positives than on false negatives.⁷⁶ Although the adoption of an error-cost framework is often regarded as distinctively Chicagoan,⁷⁷ key decisions such as *Trinko* supplemented decision theory with Harvard School concerns about institutional competence.⁷⁸ Subsequent revisions to the Horizontal Merger Guidelines in 1992 and 2010 recognized the importance of potential strategic conduct, both in terms of assessing the competitive impact of a merger (such as asking whether one of the merger partners is a maverick) and in asking whether the merger would facilitate post-merger unilateral anticompetitive conduct,⁷⁹ developments that symposium participants recognize is distinctly anti-Chicagoan.⁸⁰ Moreover, the Supreme Court's conception of entry barriers remains distinctively Harvardian, not Chicagoan.⁸¹

What explains these mixed results? As some participants have noted, the Chicago School overreached in some respects, often offering no more than

[the Harvard School and the Chicago School] are in conflict, the Supreme Court has sided with the Harvard school.”).

⁷⁵ See Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1, 3 (1984) (“[J]udicial errors that tolerate baleful practices are self-correcting, while erroneous condemnations are not.”).

⁷⁶ See *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 414 (2004) (“The cost of false positives counsels against an undue expansion of § 2 liability.”); Matsushita Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. 574, 594 (1986) (finding that “mistaken inferences in cases such as this one are especially costly, because they chill the very conduct the antitrust laws are designed to protect” and balancing this concern against punishing “illegal conspiracies” is “unusually one-sided in cases such as this one”).

⁷⁷ Hovenkamp & Scott Morton, *supra* note 2, at 1869 (“One important element of the Chicago School's ideology was its analysis of error costs that put large weight on type one errors . . .”).

⁷⁸ *Trinko*, 540 U.S. at 414-15 (reasoning that “[e]ven if the problem of false positives did not exist,” courts’ inability to “explain or adequately and reasonably supervise” duties to deal counsels against recognizing liability under the essential facility doctrine (quoting Phillip Areeda, *Essential Facilities: An Epithet in Need of Limiting Principles*, 58 ANTITRUST L.J. 841, 853 (1989))).

⁷⁹ U.S. DEPT. OF JUSTICE & FED. TRADE COMM'N, MERGER GUIDELINES § 2.12 (1992), <https://www.justice.gov/sites/default/files/atr/legacy/2007/07/11/11250.pdf> [<https://perma.cc/3XYF-6Y69>] [hereinafter 1992 MG] (“[An] acquisition of a maverick firm is one way in which a merger may make coordinated interaction more likely, more successful, or more complete.”); U.S. DEPT. OF JUSTICE & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES §§ 2.1.5, 6 (2010), <https://www.justice.gov/sites/default/files/atr/legacy/2010/08/19/hmg-2010.pdf> [<https://perma.cc/4V2K-D3CN>] [hereinafter 2010 HMG] (discussing both whether a firm is a maverick firm and describing certain unilateral effects post-merger that would lessen competition).

⁸⁰ Baker & Farrell, *supra* note 3, at 2008-09 (contrasting the 1982 “Chicagoan” Merger Guidelines with later Merger Guidelines “rooted in the modern economics of coordination through purposive conduct”).

⁸¹ Jonathan B. Baker, *Responding to Developments in Economics and the Courts: Entry in the Merger Guidelines*, 71 ANTITRUST L.J. 189, 193 (2003) (discussing how the FTC's 1985 *Echlin* decision was framed as a conflict between Bainian and Stiglerian conceptions of entry barriers and noting that “if Stigler won the definitional battle in *Echlin*, Bain won the war”); see also Herbert Hovenkamp, *Whatever Did Happen to the Antitrust Movement?*, 94 NOTRE DAME L. REV. 583, 614-15 (2018) (“Today it is clear that the Harvard school has won this battle in both the caselaw and enforcement policy.”).

possibility theorems rather than general proofs.⁸² The explanation for that overreach lies in part in the pro-enforcement context in which the Chicago School arose.⁸³ When confronted with a conventional wisdom, particularly in the form of a per se prohibition, possibility theorems can serve as a useful disproof by counterexample.⁸⁴ However, mere possibility theorems are insufficient to justify a per se rule running in the other direction.⁸⁵ To this extent, the Chicago School's inconsistent track record may reflect the typical situation in which the pendulum begins moving in one direction to return closer to equilibrium, only to swing too far.

In addition, Chicago School scholars were far more unified in their opposition to the existing antitrust jurisprudence of the 1950s and 1960s than they were regarding what should replace it.⁸⁶ As a movement, the Chicago School remains more diverse than is often recognized.⁸⁷

That said, another more fundamental factor underlay the incomplete reception of Chicago School thought, specifically, price theory's goal of creating a simple, static model of competition that cut across market structures and ignored details of different industries and individual firm behavior.⁸⁸ This blind spot paved the way for the post-Chicago School based on the game theory revolution that would soon sweep microeconomics and industrial organization.

These limitations make blanket claims of the prevalence of price theory feel somewhat overblown.⁸⁹ At the same time, criticisms that the Chicago School has not been influential seem equally overstated, as participants in this

⁸² Hovenkamp & Scott Morton, *supra* note 2, at 1870 ("The Chicago School's influence on antitrust decision making in the federal courts has been more ideological than technical.").

⁸³ *Id.* at 1863 (noting that in the 1980s, enforcement policy began to consider additional factors beyond "pure structure").

⁸⁴ See Christopher S. Yoo, *Network Neutrality, Consumers, and Innovation*, 2008 U. CHI. LEGAL F. 179, 183-85 (2008).

⁸⁵ See *id.* (describing the use of exemplifying theory by Chicago School theorists to justify a categorical rule in which vertical restraints would be per se legal).

⁸⁶ Kobayashi & Muris, *supra* note 4, at 171 ("Chicago had not focused on the many details for antitrust policy that would be necessary once the old order was overthrown. There was simply no shared, agreed-upon view regarding the myriad aspects of appropriate doctrine.").

⁸⁷ See F.M. Scherer, *Conservative Economics and Antitrust: A Variety of Influences*, in HOW THE CHICAGO SCHOOL OVERSHOT THE MARK, *supra* note 1, at 30, 32-36 (giving examples to illustrate how the Chicago School was "far from monolithic in advocating a retrenchment of antitrust enforcement programs"); Wright, *supra* note 19, at 244-45 (stating that the Chicago School does not "represent a monolithic entity"); see also Kovacic, *supra* note 34, at 468 (noting how the Chicago school is not "single-minded"); Daniel A. Crane, *A Neo-Chicago Perspective on Antitrust Institutions*, 78 ANTITRUST L.J. 43, 44 (2012) ("It is difficult enough to draw the lines around the Chicago School . . .").

⁸⁸ Hovenkamp & Scott Morton, *supra* note 2, at 1854.

⁸⁹ See, e.g., Posner, *supra* note 21, at 932 (claiming that price theory "has largely prevailed").

symposium readily acknowledged.⁹⁰ Indeed, the fact that the Chicago School remains a magnet for so much criticism attests to its enduring importance.⁹¹

II. THE POST-CHICAGO REVOLUTION

The Chicago School spawned a new school whose name, post-Chicago, was inspired by Herbert Hovenkamp.⁹² One surprise is that none of the articles included in a symposium on “The Post Chicago Antitrust Revolution” uses the term, let alone identifies the defining characteristics of the School.

Fortunately, other scholarship defines the outlines of the movement clearly enough. As an initial matter, the post-Chicago School joins the Chicago School in rejecting populist considerations and in accepting the maximization of economic welfare as the sole focus of antitrust.⁹³ In the words of Carl Shapiro, “[I]f ‘Post-Chicago Economics’ stands for the notion that . . . antitrust should move away from promoting efficiency and consumer welfare, count me out.”⁹⁴

What separates the two schools is not their goals, but their vision of the relevant mechanisms through which economics acts. While the Chicago School placed little emphasis on the game theory revolution that swept

⁹⁰ See, e.g., Baker & Farrell, *supra* note 3, at 2005-06 (describing the influence of the Chicago School view of oligopolies on antitrust enforcement); Gavil & Salop, *supra* note 3, at 2123-24; Hovenkamp & Scott Morton, *supra* note 2, at 1870.

⁹¹ See, e.g., Kobayashi & Muris, *supra* note 4, at 169-70 (arguing that the recent book *How the Chicago School Overshot the Mark* “use[s] . . . the term Chicago as a political football” by ignoring Chicago’s commitment to “a bottom-up approach based primarily on fact-intensive, case-by-case analysis” and instead oversimplifying it as “a universal conservative ideology of antitrust minimalism with a preference for ‘economic models over facts’” (citing Robert Pitofsky, *Introduction: Setting the Stage*, in *HOW CHICAGO OVERSHOT THE MARK*, *supra* note 1)); Kovacic, *supra* note 34, at 484-86 (examining “the breadth and power of the Chicago Obsession”); Wright, *supra* note 19, at 318-19 (describing antitrust analyses framed as critiques of the Chicago School and noting that “misuses of the term ‘Chicago School’ . . . come at the expense of serious scientific analysis”).

⁹² See Herbert Hovenkamp, *Antitrust After Chicago*, 84 MICH. L. REV. 213, 225 (1985) (“[A]ntitrust policy is coming increasingly under the influence of a ‘post-Chicago’ economics . . .”).

⁹³ See, e.g., Baker, *supra* note 35, at 646 (differentiating Post-Chicago from the Populist School and noting that the latter’s “challenges to Chicago arise from within the efficiency paradigm”); Jacobs, *supra* note 7, at 242 (noting that post-Chicago and Chicago scholars “share a common metric” in that “[t]hey eschew the multivalent inquiries informing the Modern Populists’ approach in favor of the single-minded pursuit of allocative efficiency” and “agree that wealth maximization should be the exclusive goal of antitrust policy”).

⁹⁴ Carl Shapiro, *Aftermarkets and Consumer Welfare: Making Sense of Kodak*, 63 ANTITRUST L.J. 483, 484 (1995) (footnote omitted).

through industrial organization and microeconomics during the beginning in the 1970s,⁹⁵ the post-Chicago School embraced it.⁹⁶

Although the post-Chicago School is often characterized as the inheritor of the legacy of the Harvard School, an examination of its premises reveals some stark differences. Unlike the Harvard School, which focused almost entirely on market structure without paying any attention to conduct, the game theory embraced by the post-Chicago School places strategic behavior at the center of the analysis.⁹⁷ In addition, although post-Chicago analyses are able to take into account more complex dynamics than those permitted by the price-theoretic approach of the Chicago School, the game-theoretic approach by post-Chicago studies lacks the industry specificity inherent in the case study-based approach of the Harvard School. Instead, post-Chicago models tend to be quite abstract.

Consider two prominent examples of post-Chicago scholarship. Michael Whinston's famous article showing how tying can lead to exclusion is based on the relative sizes of the outside demand for a complementary good and the minimum efficient scale needed to produce it efficiently.⁹⁸ Whinston's result turns on the relationship between these two numbers without taking into account any unique aspects of any particular industry. Thomas Krattenmaker and Steven Salop's now classic article on raising rivals' costs similarly frames the issues in non-industry-specific terms by exploring how a firm can use exclusionary rights contracts to restrict the competitors' ability to obtain access to a key input.⁹⁹ The results turn on a general principle: the presence of an upstream-downstream relationship. The details of the specific industry in question play little to no role.

⁹⁵ See Hovenkamp & Scott Morton, *supra* note 2, at 1849-50, 1855 (noting that Robert Bork's influential Chicago School treatise did not use game theory and that the Chicago School "fir[mly] reject[ed]" game theory). *But see* Kobayashi & Muris, *supra* note 4, at 152, 159 (claiming that some Chicago School analyses relied on game theory) (citing George J. Stigler, *A Theory of Oligopoly*, 72 J. POL. ECON. 44 (1964)).

⁹⁶ Hovenkamp & Scott Morton, *supra* note 2, at 1856 (noting that the game theory revolution of the 1970s and 1980s was an "important advance in oligopoly theory"); accord HOVENKAMP, *supra* note 29, at 38 ("[P]ost-Chicago theory typically models strategic behavior by use of game theory . . ."); Ian Ayres, *Playing Games with the Law*, 42 STAN. L. REV. 1291, 1315 (1990) ("[T]he new game theory is the core methodology of the new 'new learning' in industrial organization . . ."); Jacobs, *supra* note 7, at 240-45 (tracing the role of game theory in post-Chicago analysis).

⁹⁷ HOVENKAMP, *supra* note 29, at 37-38 (identifying the pre-1970 Harvard School idea of empowering the government to "break up durable monopolists even if they had not engaged in any unlawful conduct" and contrasting it with the post-Chicago School, which "typically models strategic behavior by use of game theory").

⁹⁸ Michael D. Whinston, *Tying, Foreclosure, and Exclusion*, 80 AM. ECON. REV. 837 (1990).

⁹⁹ Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 YALE L.J. 209, 224-27 (1986).

The result is a mathematically driven approach that is quite different from the bottom-up empiricism that characterized the Harvard School. Rather than being the inheritor of the Harvard School tradition, the post-Chicago School represents something quite different that reflects the times during which it arose.

While the game-theoretic framework that characterizes post-Chicago scholarship yields substantial insights, it carries with it a number of limitations, both theoretically and empirically.¹⁰⁰ In addition, many commentators have questioned how much impact post-Chicago economics has had on Supreme Court doctrine.¹⁰¹

A. *The Conceptual Limits of Game Theory*

By their nature, the results of post-Chicago models typically derive from the assumption that particular decisions must be made in a particular order.¹⁰² This results in models that are quite stylized. Moreover, scholars have long recognized that the Nash equilibrium-inspired solution concepts that form the basis of game theory often yield no equilibria or multiple equilibria unless the model makes highly restrictive assumptions.¹⁰³ When this is the case, the details of those assumptions drive the results.

The dependence of these models on these restrictive assumptions often makes them susceptible to large, discontinuous changes in response to small changes to the underlying parameters.¹⁰⁴ The violation of the Einsteinian admonition that

¹⁰⁰ For an earlier discussion of these limitations in the context of vertical integration, see Christopher S. Yoo, *Vertical Integration and Media Regulation in the New Economy* 19 YALE J. ON REG. 171, 295 (2002).

¹⁰¹ See, e.g., Christopher J. Sprigman, *Monopolization Remedies and Antitrust After the Fall*, 76 ANTITRUST L.J. 5, 9 (2009) (“[P]ost-Chicago insights have had little apparent impact in litigation . . .”).

¹⁰² See Malcolm B. Coate & Jeffrey H. Fischer, *Can Post-Chicago Economics Survive Daubert?*, 34 AKRON L. REV. 795, 797 (2001) (“[T]he outcome of a [post-Chicago economics] model often depends on whether customers or competitors can undertake strategies to counter the alleged anticompetitive behavior. In other cases, the order in which the parties execute strategies is important.” (footnote omitted)).

¹⁰³ See Ayres, *supra* note 96, at 1310-11 (noting the role that restrictive assumptions play in preventing game-theoretic models from yielding no equilibria or multiple equilibria); *Interview with Dennis A. Yao, Former FTC Commissioner*, ANTITRUST, Fall 1994, at 12, 16 (“Game-theoretic models generally become unwieldy unless they adopt restrictive assumptions”); Michael A. Salinger, Dir., Bureau of Econ., Fed. Trade Comm’n, *Is It Live or Is It Memorex? Models of Vertical Mergers and Antitrust Enforcement*, Speech at Association of Competition Economics Seminar on Non-Horizontal Mergers 3-4 (Sept. 7-8, 2005), https://www.ftc.gov/sites/default/files/documents/public_statements/it-live-or-it-memorex-models-vertical-mergers-and-antitrust-enforcement/050927isitlive.pdf [<http://perma.cc/TP68-4AKQ>] (noting that Post-Chicago theories rely on highly stylized assumptions to make the models tractable).

¹⁰⁴ See Ayres, *supra* note 96, at 1313-14 (“Calculating the comparative statics in game theory models, however, is often much more difficult than simply taking derivatives. Moreover, many games

“nature does not jump” raises questions about the accuracy with which these models describe actual competitive processes as well as their robustness.¹⁰⁵

Furthermore, post-Chicago models typically do not attempt to formalize the impact of the practices in question on welfare.¹⁰⁶ A good example is, again, Michael Whinston’s seminal article on tying, which explicitly acknowledges that the model does not consider potential beneficial motivations for the practice and thus that its welfare implications are ambiguous.¹⁰⁷ This is particularly important because post-Chicago models typically rely on the type of concentrated market structures in which vertical coordination is most likely to yield efficiencies.¹⁰⁸

B. *The Need for More Empirical Validation*

Skeptics have consistently criticized the post-Chicago School for its lack of empiricism.¹⁰⁹ Although some post-Chicago scholars have asserted that

exhibit discontinuous changes when the underlying structure is changed slightly.”); *see also* Coate & Fischer, *supra* note 102, at 823 (“[Post-Chicago] theories are highly sensitive to the assumptions used.”).

¹⁰⁵ *See* Ayres, *supra* note 96, at 1314.

¹⁰⁶ An exception is Michael A. Salinger, *Vertical Mergers and Market Foreclosure*, 103 Q.J. ECON. 345, 346 (1988).

¹⁰⁷ *See* Whinston, *supra* note 98, at 855-56 (“Even in the simple models . . . which ignore a number of other possible motivations for the practice, the impact of this exclusion on welfare is uncertain.”).

¹⁰⁸ Keith N. Hylton & Michael Salinger, *Tying Law and Policy: A Decision-Theoretic Approach*, 69 ANTITRUST L.J. 469, 471 (2001) (“[T]he most plausible post-Chicago theory of anticompetitive tying is based on the assumption that the tying and tied goods are complementary and that they are both susceptible to market power and, indeed, monopoly. It is a long-established principle of economics, however, that integrated complementary monopoly results in lower prices than distinct complementary monopolies. A public policy that imparts a bias toward interdependent complementary monopolies instead of integrated complementary monopolies has the predictable consequence of raising prices and reducing consumer welfare.”); Edward A. Snyder & Thomas E. Kauper, *Misuse of the Antitrust Laws: The Competitor Plaintiff*, 90 MICH. L. REV. 551, 589-91 (1991) (tracing the potential efficiency benefits and noting that “meeting the necessary conditions for anticompetitive exclusion is likely to ensure that some efficiency benefits are realized from the business practices in question”).

¹⁰⁹ *See* Crane, *supra* note 4, at 1924-27 (criticizing post-Chicago (as well as Chicago) for its lack of empiricism); David S. Evans & Michael Salinger, *Competition Thinking at the European Commission: Lessons from the Aborted GE/Honeywell Merger*, 10 GEO. MASON L. REV. 489, 515 (2002) (“[E]mpirical analysis is precisely the big step that has been missing in translating post-Chicago analysis into a practical policy tool.”); David S. Evans & A. Jorge Padilla, *Designing Antitrust Rules for Assessing Unilateral Practices: A Neo-Chicago Approach*, 72 U. CHI. L. REV. 73, 80, 98 (2005) (criticizing Post-Chicago for its lack of reliance on data and expressing a need for empirical study of the cost of errors in enforcement); Kobayashi & Muris, *supra* note 4, at 148 (“[T]he lack of empirical verification . . . likely has limited the impact of Post-Chicago School economics on U.S. antitrust law”); *id.* at 159 (arguing that the emphasis on game theory has led “the Post-Chicago School [to] largely eschew[] generation of specific testable hypotheses and empirical testing of these models”); Bruce H. Kobayashi, *Game Theory and Antitrust: A Post Mortem*, 5 GEO. MASON L. REV. 411, 412 (1997) (“[G]ame theoretic models of IO have not been empirically verified in a meaningful sense.”); Joshua D. Wright, *Overshot the Mark? A Simple Explanation of the Chicago School’s Influence on Antitrust*,

empiricism represents a key aspect of their methodology,¹¹⁰ others have acknowledged that “[p]ost-Chicago scholars readily admit” that “[m]ore theoretical and empirical economic work . . . needs to be done.”¹¹¹

Why has so little empirical validation of post-Chicago models been done? Sometimes post-Chicago models are based on the presumed order of decisions or other inherently unobservable characteristics that cannot easily be verified.¹¹² Even when the facts can be verified, the stylized nature of post-Chicago models further means that even when they are valid, they will apply only when the full set of restrictive criteria are met.¹¹³

COMPETITION POL’Y INT’L, Spring 2009, at 189, 189-90 (reviewing HOW THE CHICAGO SCHOOL OVERSHOT THE MARK, *supra* note 1) (criticizing the book for its lack of empiricism); Paul Yde, *Non-Horizontal Merger Guidelines: A Solution in Search of a Problem?*, ANTITRUST, Fall 2007, at 74, 76 (“[Post-Chicago] theories of anticompetitive effects from vertical integration are not supported by any systematic empirical analysis.”).

¹¹⁰ See Jonathan B. Baker, *Competition Policy as a Political Bargain*, 73 ANTITRUST L.J. 483, 512 n.109 (2006) (“Post-Chicago criticisms . . . call for modifications to existing rules based upon the application of game theoretic tools and new empirical economic methods.”); Timothy F. Bresnahan & Richard Schmalensee, *The Empirical Renaissance in Industrial Economics: An Overview*, 35 J. INDUS. ECON. 371, 374 (1987) (calling empirical work motivated by structural models of imperfect competition “a growth area”); Michael S. Jacobs, *The New Sophistication in Antitrust*, 79 MINN. L. REV. 1, 38 (1994) (“Post-Chicago theory . . . contemplates rigorous empirical analysis . . .”); Lawrence A. Sullivan, *Post-Chicago Economics: Economists, Lawyers, Judges and Enforcement Officials in a Less Determinate Theoretical World*, 63 ANTITRUST L.J. 669, 670 (1995) (“Post-Chicago antitrust . . . digs into empirical material in an effort to fathom the significance of observed distinctions between classic models and the configuration of the particular market under examination.”).

¹¹¹ Reza Dibadj, *Saving Antitrust*, 75 U. COLO. L. REV. 745, 811 n.306 (2004); accord Marina Lao, *Reclaiming a Role for Intent Evidence in Monopolization Analysis*, 54 AM. U. L. REV. 151, 179 (2004) (“[P]ost-Chicago economic analysis is far from determinate, and empirical work is insufficiently developed to answer critical questions bearing on antitrust liability.”). Many post-Chicago scholars have written specific statements to this effect. See, e.g., Stephen Calkins, *Wrong Turns in Exclusive Dealing Law*, in HOW THE CHICAGO SCHOOL OVERSHOT THE MARK, *supra* note 1, 156, 167 (“There is a lot of speculating about the effects of exclusive dealing but not nearly enough empirical research.”); Carl Shapiro, *Theories of Oligopoly Behavior*, in 1 HANDBOOK OF INDUSTRIAL ORGANIZATION 330, 409 (Richard Schmalensee & Robert D. Willig eds., 1989) (using game theory to identify “quite a large number of strategic considerations that come into play” and determining that “[w]hat we are most in need of now are further tests of the empirical validity of these various theories of strategic behavior”); David T. Scheffman & Richard S. Higgins, *Twenty Years of Raising Rivals’ Costs: History, Assessment, and Future*, 12 GEO. MASON. L. REV. 371, 380 (2003) (assessing the empirical support for raising rivals’ costs and concluding that “a fair assessment of the debate has been that . . . most of the cases [Krattenmaker and Salop] discuss . . . are not proved”).

¹¹² See Coate & Fischer, *supra* note 102, at 832 (noting that post-Chicago models are often “based on virtual facts that cannot be revealed in a court hearing . . . because the facts in question exist primarily as theoretical constructs to aid the modeling process”); accord *id.* at 797, 816 (hypothesizing that post-Chicago theories cannot find empirical support); Jacobs, *supra* note 7, at 254 (“[S]ome post-Chicago models depend on speculation about the reputational effects of apparently irrational strategic behavior . . . making empirical validation impossible.”).

¹¹³ See Ayres, *supra* note 96, at 1317 (“[P]articuliarized games are not neatly applicable to a broad spectrum of markets . . . [A] number of ‘possibility’ theorems . . . force both sides toward empirical analysis.”); Coate & Fischer, *supra* note 102, at 832 (“[Post-Chicago models] offer[] little if any empirical fruitfulness because the mathematical result of the model applies only when the

Absent empirical validation, post-Chicago models represent possibility theorems that tell us what *can* happen rather than “what *must* happen.”¹¹⁴ As was the case with respect to the Chicago School, these theorems are more useful for rebutting a conventional wisdom or for countering calls for categorical rules than they are in providing insight into how to strike the proper balance. It is noteworthy that Robert Pitofsky criticized the Chicago School for relying more on theory than on facts.¹¹⁵ Absent empirical validation, the same can be said of post-Chicago.¹¹⁶

C. Post-Chicago’s Impact on the Law

The other key question is how influential the post-Chicago School has been on the law. Critics often claim that *Eastman Kodak Co. v. Image Technical Services, Inc.*¹¹⁷ represents the only post-Chicago decision rendered by the Supreme Court.¹¹⁸ Moreover, *Kodak* has not proven to be generative. The plaintiff abandoned its post-Chicago theory on remand,¹¹⁹ and “lower courts have bent over backwards to construe *Kodak* as narrowly as possible,”¹²⁰ as even supporters have been forced to concede.¹²¹

assumptions are met . . . Thus [they] simply will not apply to many, if any, factual situations.”); Hylton & Salinger, *supra* note 108, at 470 (“[T]he game theory underpinning the literature rests on highly stylized assumptions that are difficult to apply to the factual settings courts confront.”); Jacobs, *supra* note 7, at 254 (“[M]any post-Chicago theories are constructed so restrictively . . . that testing them is unproductive.”).

¹¹⁴ Franklin M. Fisher, *Games Economists Play: A Noncooperative View*, 20 RAND J. ECON. 113, 118 (1989).

¹¹⁵ See Robert Pitofsky, *Introduction: Setting the Stage*, in HOW THE CHICAGO SCHOOL OVERSHOT THE MARK, *supra* note 1, at 5 (critiquing the “current preferences for economic models over facts”).

¹¹⁶ See HOVENKAMP, *supra* note 29, at 39 (“Just as Chicago School antitrust policy became oversold, post-Chicago antitrust has been oversold as well.”).

¹¹⁷ 504 U.S. 451 (1992).

¹¹⁸ See Crane, *supra* note 4, at 1922 (“[I]t is conventional wisdom that there has been one—and only one—‘post-Chicago’ antitrust decision in the Supreme Court.”); Hylton & Salinger, *supra* note 108, at 481 (“Of the Supreme Court’s cases, only one, *Eastman Kodak v. Image Technical Services, Inc.*, arguably falls into . . . the post-Chicago category.” (footnote omitted)); Fred S. McChesney, *Talking ‘Bout My Antitrust Generation: Competition for and in the Field of Competition Law*, 52 EMORY L.J. 1401, 1414 (2003) (“[P]ost-Chicago’ economic approaches to antitrust have had no important impact in the courts.”); Wright, *supra* note 19, at 249-50 (“While the Post-Chicago School has enjoyed meteoric success via several meaningful scholarly benchmarks, . . . it has had only modest impact in American courts, especially the Supreme Court.”).

¹¹⁹ See *Image Tech. Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195 (9th Cir. 1997); see also Abbott B. Lipsky, Jr., *Antitrust Economics—Making Progress, Avoiding Regression*, 12 GEO. MASON L. REV. 163, 168-69 (2003) (“[T]he ‘post-Chicago’ theory found in *Image Technical* was abandoned on remand . . .”).

¹²⁰ Herbert Hovenkamp, *Post-Chicago Antitrust: A Review and Critique*, 2001 COLUM. BUS. L. REV. 257, 286.

¹²¹ Warren S. Grimes, *The Future of Distribution Restraints Law: Will the New Learning Take Hold?*, 2006 UTAH L. REV. 885, 910 (2006) (“[*Kodak*], a powerfully written post-Chicago opinion, has so far found only isolated support in the lower courts and federal agencies . . .” (footnote omitted)).

But signs of broader acceptance of post-Chicago thinking become more apparent once one looks beyond the Supreme Court. Herbert Hovenkamp has noted that notwithstanding *Kodak's* limited influence, post-Chicago's contributions to raising rivals' costs and the unilateral effects of horizontal mergers "are likely to endure," although "they . . . pose a significant risk of being overused if their limitations are not kept in mind."¹²² For example, the post-1984 Merger Guidelines exhibit a greater willingness to recognize that unilateral strategic behavior can have anticompetitive effects.¹²³ In addition, lower court decisions have shown greater willingness to adopt post-Chicago precepts.¹²⁴

III. BEYOND POST-CHICAGO?

This milestone conference provides the opportunity not just to recognize the place that the Chicago and the post-Chicago Schools have carved for themselves in the history of antitrust. It also provides the occasion to speculate on the prospects of nascent movements that may influence the directions that competition law will take in the future.

A. *The Emerging Debate Over Neo-Brandeisian/Hipster Antitrust*

A surprising aspect of the symposium was the lack of any extensive discussion of the growing call for a return to populist principles that is emerging in antitrust circles.¹²⁵ Called neo-Brandeisian antitrust by its supporters¹²⁶ and hipster antitrust by skeptics,¹²⁷ and popularized by Lina

¹²² Hovenkamp, *supra* note 120, at 337.

¹²³ See generally 1992 MG, *supra* note 79, § 2.2; 2010 HMG, *supra* note 79, § 6; U.S. DEPT. OF JUSTICE & FED. TRADE COMM'N, VERTICAL MERGER GUIDELINES § 4, https://www.ftc.gov/system/files/documents/reports/us-department-justice-federal-trade-commission-vertical-merger-guidelines/vertical_merger_guidelines_6-30-20.pdf [<https://perma.cc/6Y6B-26V7>].

¹²⁴ United States v. Visa U.S.A., Inc., 344 F.3d 229 (2d Cir. 2003); LePage's, Inc. v. 3M, 324 F.3d 141 (3d Cir. 2003); Conwood Co. v. U.S. Tobacco Co., 290 F.3d 768 (6th Cir. 2002); C.R. Bard, Inc v. M3 Sys., 157 F.3d 1340 (Fed. Cir. 1998); Crane, *supra* note 4, at 1930 n.73 (citing United States v. Dentsply Int'l, Inc., 399 F.3d 181 (3d Cir. 2005) as an example).

¹²⁵ For my initial reaction, see Christopher S. Yoo, *Hipster Antitrust: New Bottles, Same Old W(h)ine?*, ANTITRUST CHRON., Spring 2018, at 52.

¹²⁶ David Dayen, *This Budding Movement Wants to Smash Monopolies*, THE NATION (Apr. 4, 2017), <https://www.thenation.com/article/archive/this-budding-movement-wants-to-smash-monopolies> [<http://perma.cc/NL98-WJ5L>] ("A new group of scholars and activists has rebelled against Chicago-school dictates. You can call them the 'New Brandeis movement.'").

¹²⁷ The term was coined by Kostya Medvedovsky. @kmedved, TWITTER (June 19, 2017, 2:28 PM), <https://twitter.com/kmedved/status/876869328934711296> [<https://perma.cc/4G3X-HX6L>]. The term was popularized by Joshua Wright. Robert Levine, *Antitrust Law Never Envisioned Massive Tech Companies Like Google*, BOS. GLOBE (June 13, 2018), <https://www3.bostonglobe.com/ideas/2018/06/13/google-hugely-powerful-antitrust-law-job/E1eqrlQo1g11DRM8l9FwxO/story.html> [<https://perma.cc/X3QS-KZP2>].

Khan¹²⁸ and Barry Lynn,¹²⁹ these advocates are calling for a return to a more structure-oriented conception of competition policy that also accounts for the interests of other economic stakeholders as well as political considerations. This movement has garnered support from both ends of the political spectrum, being endorsed by multiple Democratic presidential candidates during the 2020 campaign¹³⁰ as well as conservative pundits such as Steve Bannon.¹³¹

To date, the revival of populism has not gained much traction in mainstream antitrust circles. Noninterventionist antitrust scholars were predictably dubious.¹³² Enforcement-oriented scholars and advocates were similarly skeptical.¹³³ Scholars attempting to position themselves between these two approaches also sounded notes of caution.¹³⁴

Any major shifts in antitrust law that may occur will not happen quickly. The hierarchical nature of the courts and the manner in which federal judges are appointed make antitrust doctrine slow to change. Major reform

¹²⁸ See generally Lina M. Khan, Note, *Amazon's Antitrust Paradox*, 126 YALE L.J. 710, 710 (2017) (recommending “restoring traditional antitrust and competition policy principles” to address the power of certain twenty-first century commercial giants like Amazon).

¹²⁹ *The Consumer Welfare Standard in Antitrust: Outdated or a Harbor in a Sea of Doubt?: Hearing Before the Subcomm. on Antitrust, Competition, and Consumer Rights & S. Comm. on the Judiciary*, 115th Cong. 7, 9, 15 (2017) (testimony of Barry C. Lynn, Executive Director, Open Markets Institute), <https://www.judiciary.senate.gov/imo/media/doc/12-13-17%20Lynn%20Testimony.pdf> [<https://perma.cc/QXH3-2JJB>].

¹³⁰ Kirin Stacey & Kadhim Shubber, *Democratic Calls to Break Up Big Tech Raise Fears in Silicon Valley*, FIN. TIMES (Feb. 17, 2020), <https://www.ft.com/content/acfceb66-4695-11ea-ae22-gddbdc86190d> [<https://perma.cc/6YT4-29J2>].

¹³¹ Robinson Meyer, *What Steve Bannon Wants to Do to Google*, ATLANTIC (Aug. 1, 2017), <https://www.theatlantic.com/technology/archive/2017/08/steve-bannon-google-facebook/535473> [<http://perma.cc/VC6T-UM97>] (“Steve Bannon, the chief strategist to President Donald Trump, believes Facebook and Google should be regulated as public utilities.”).

¹³² See Daniel A. Crane, *Four Questions for the Neo-Brandeisians*, ANTITRUST CHRON., Spring 2018, at 63, 64 (posing four questions regarding the Neo-Brandeisians attack on the consumer welfare standard and appearing to poke some holes in the new “consensus”). See generally Joshua D. Wright, Elyse Dorsey, Jonathan Klick & Jan M. Rybnicek, *Requiem for a Paradox: The Dubious Rise and Inevitable Fall of Hipster Antitrust*, 51 ARIZ. ST. L.J. 293 (2019).

¹³³ *The Consumer Welfare Standard in Antitrust: Outdated or a Harbor in a Sea of Doubt?: Hearing Before the S. Comm. on Antitrust of the S. Comm. on the Judiciary*, 115th Cong. 5–6, 8, 9 (2017) (statement of Diana Moss, President, American Antitrust Institute), <https://www.judiciary.senate.gov/download/12-13-17-moss-testimony> [<http://perma.cc/YB4T-NWQM>] (“[T]he issue of consumer welfare has been the subject of much confusion . . .”); *id.* at 3–4 (statement of Carl Shapiro, Transamerica Professor of Business Strategy, Walter A. Haas School of Business, University of California at Berkeley), <https://www.judiciary.senate.gov/download/12-13-17-shapiro-testimony> [<http://perma.cc/3CRZ-N4AR>] (“I have seen no evidence whatsoever that the ‘consumer welfare’ standard is somehow outdated . . .”); Marina Lao, *Strengthening Antitrust Enforcement Within the Consumer Welfare Rubric*, CPI ANTITRUST CHRON., Nov. 2019, at 1, 3 (discussing “New Brandeisians”); Carl Shapiro, *Antitrust in a Time of Populism*, 61 INT’L J. INDUS. ORG. 714, 745–46 (2018) (discussing “[e]conomic populism as an opportunity and a threat”).

¹³⁴ Herbert Hovenkamp, *Is Antitrust’s Consumer Welfare Principle Imperiled?*, 45 J. CORP. L. 101, 117–28 (2019).

legislation also takes time and is likely to be hard to enact in the current political environment. Only time will tell what the ultimate impact of this movement will be.

B. *The Growing Emphasis on Empiricism*

The development that seems almost certain to have a major impact on antitrust law is the growing emphasis on empirical analysis. The change is perhaps most evident in the 2010 Horizontal Merger Guidelines, which subordinated structural issues, such as market definition and market shares/concentration, that used to be the first considerations mentioned in previous versions of the Guidelines and instead emphasized evidence of adverse competitive effects.¹³⁵ Indeed, the Guidelines explicitly state that “[t]he Agencies’ analysis need not start with market definition” when they can assess potential competitive harms using analytical tools that do not rely on market definition.¹³⁶ The growing emphasis was also apparent in the decision rejecting the U.S. government’s attempt to block AT&T from acquiring Time Warner, which discounted a parameterized post-Chicago style bargaining model and instead credited an econometric regression analysis of prior instances of vertical integration in the market for multichannel television.¹³⁷

The move towards empiricism may be regarded as the logical next step in antitrust analysis. As the history of the structure-conduct-performance paradigm reveals, antitrust’s concern has always been on market performance and turned to structural inferences because direct data on market performance was generally unavailable. When direct evidence of performance became available, relying on it became preferable, particularly when there were multiple forces pushing in different directions and the net effect depends on which effects dominate. Indeed, this empiricism may be the more appropriate inheritor of the Harvard School tradition than the post-Chicago School.

CONCLUSION

In some ways, framing antitrust debates as a fundamental conflict between Chicago and New Harvard or post-Chicago seems somewhat overdrawn. All of these Schools concur in rejecting the pluralist approach advocated by the Populist School and embrace economic welfare as the exclusive focus of antitrust law. The key differences lie in the types of economic analysis favored

¹³⁵ See 2010 HMG, *supra* note 79 (listing the section discussing adverse competitive effects (section 2) well before the section on market concentration (section 5)).

¹³⁶ *Id.* § 4.

¹³⁷ *United States v. AT&T, Inc.*, 916 F.3d 1029, 1036-42, 1045-47 (D.C. Cir. 2019).

by each School: price theory for Chicago, institutional considerations for New Harvard, and game theory for post-Chicago. To some extent, these variations reflect shifts in the current state of the art in economic scholarship. From a broader perspective, casting them as mutually exclusive options seems unduly restrictive, since all three approaches would seem to have important roles to play in analyzing competition and markets.

Strikingly, both Chicago and post-Chicago admonish the other side for relying on abstract economic models that are largely conceptual and insufficiently empirical. In this regard, both critiques appear to have merit. Absent empirical validation, both sides are effectively reduced to offering possibility theorems that are well suited to debunking sweeping economic claims but offer less in terms of specific guidance on how to strike particular balances in real-world markets.

Questions about the goals of antitrust and the role of empiricism are emerging as important forces in the current debate over the future of antitrust law. To date, neo-Brandeisian attempts to revive the Populist School's embrace of a pluralist vision of antitrust that takes more than just economic considerations into account has gained little traction. Only time will tell if that remains true in the future. At the same time, empiricism has become increasingly influential in antitrust analysis. It is possible that the emerging importance of empirical analysis may permanently shift focus away from structure, and even conduct, and towards more direct measures of market performance. Although neither trend was given much consideration during this symposium, I have little doubt that both will be given a thorough exploration at an event organized by this *Law Review* sometime in the future.

* * * * *