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Article

The Hidden Rules of a Modest Antitrust

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INTRODUCTION

The reduced vigor of antitrust enforcement in the United States today, relative to the period before 1980, is bound up with the concept of error costs.[1] When the Supreme Court abandoned its longstanding

1. *See* Jonathan B. Baker, *Taking the Error Out of "Error Cost" Analysis: What's Wrong with Antitrust's Right*, 80 ANTITRUST L.J. 1, 1–7 (2015) (discussing the significance of error cost analysis in antitrust and noting that it has led to the "circumscribing or abandoning" of "antitrust's concern with" a number of potentially anticompetitive practices); Jonathan B. Baker, *Economics and Politics: Perspectives on the Goals and Future of Antitrust*, 81 FORDHAM L. REV. 2175, 2186–89 (2013) ("After more than three decades during which antitrust rules were reworked to prevent them from chilling the pursuit of production efficiencies, the risk that the antitrust rules will permit large firms to exploit their market power to such a great extent that those rules will lose the support of the consumer coalition has increased.").

There is some evidence that this reduced vigor has led to increased market concentration across the economy and may be responsible for recent declines in the share of GDP going to labor. *See* David Autor, David Dorn, Lawrence F. Katz, Christina Patterson & John Van Reenen, *The Fall of the Labor Share and the Rise of Superstar Firms*, 135 Q.J. ECON. 645, 648–49 (2020) (reviewing evidence for the decline in labor's share of GDP and arguing that the decline is due to the rise of "superstar firms"); José Azar, Ioana Marinescu & Marshall Steinbaum, *Labor Market Concentration*, J. HUM. RES. 19–21 (2020), http://jhr.uwpress.org/content/early/2020/05/04/jhr.monopsony.1218-9914R1.short?ssource=mfr&rss=1 [https://perma.cc/G3SW-YNDM] (demonstrating a link between increasing market concentration and declining wages and suggesting antitrust reforms to address the problem); Gustavo Grullon, Yelena Larkin & Roni Michaely, *Are US Industries Becoming More Concentrated?*, 23 REV. FIN. 697, 700 (2019) ("[O]ur findings demonstrate that industry concentration over the last two decades has markedly increased."). *But see* Gregory J. Werden & Luke M. Froeb, *Don't Panic: A Guide to Claims of Increasing Concentration*, 33 ANTITRUST 74, 74–77 (2018) (arguing that increases in market concentration in census data do not reflect increases in concentration in actual, properly-defined markets); Thomas A. Lambert, *The Case Against Legislative Reform of U.S. Antitrust Doctrine* 6–11 (Univ. of Mo. Sch. of L., Research Paper No. 2020-13, 2020) (reviewing studies suggesting that literature identifying a number of indicia of rising market power across the economy, including rising markups, is inaccurate); THOMAS PIKETTY, CAPITAL IN THE TWENTY-FIRST CENTURY 41–43, 232–33, 573 (Arthur Goldhammer trans., 2017) (arguing that the cause of labor's declining share of income is not market imperfections but declining economic growth).

per se rule against below-cost pricing by requiring that a plaintiff show that the defendant could have recouped it losses, the justification the Court gave was fear of the consequences of erroneously condemning some benign price cutting.[2] When the Court tossed the one-hundred-year-old per se rule against manufacturer imposition of minimum resale prices on retailers, the reason the Court gave was the danger of erroneously condemning "procompetitive conduct."[3] When the Court refused to ban reverse payment patent settlements, in which branded drug makers pay generic drug makers to stay out of drug markets, the reason was the possibility of erroneously condemning some welfare-enhancing settlements.[4] And when the Court all but did away with liability for refusals to grant access to an essential facility, the ground was again the possibility of error.[5]

Error costs are of two kinds, those associated with the mistaken condemnation of good conduct, which are known as over-enforcement, false positive, or Type I error costs, and those associated with the mistaken failure to condemn bad conduct, which are known as under-enforcement, false negative, or Type II error costs. The "type" language comes from the theory of statistical hypothesis testing. *See, e.g.*, IRWIN MILLER & MARYLEES MILLER, JOHN E. FREUND'S MATHEMATICAL STATISTICS WITH APPLICATIONS 377 (7th ed. 2011). The null hypothesis is that the effect of interest to the researcher does not exist. In antitrust adjudication, the hypothesis is that conduct is procompetitive and therefore no violation of the antitrust laws. Type I error exists when the null is rejected despite being true. In antitrust adjudication, this means that the conduct is in fact procompetitive, but this conclusion is incorrectly rejected and the conduct is condemned as anticompetitive. If a "positive" is a finding of anticompetitive behavior, then it is a false positive. Type II error exists when the null is accepted despite being false. In antitrust, this means that the conduct is in fact anticompetitive, but the conclusion that it is procompetitive is accepted. If a "negative" is a finding that behavior is not anticompetitive—that is, it is procompetitive—then a Type II error is a false negative. *See* Alan Devlin & Michael Jacobs, *Antitrust Error*, 52 WM. & MARY L. REV. 75, 79–81 (2010) (applying the terms to antitrust in this way); Baker, *Taking the Error Out of "Error Cost" Analysis*, *supra*, at 5 (doing the same); Fred S. McChesney, *Easterbrook on Errors*, 6 J. COMPETITION L. & ECON. 11, 15 (2010) (doing the same).

2. *See* Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 224, 226 (1993) ("[P]redatory pricing schemes are rarely tried, and even more rarely successful, . . . and the costs of an erroneous finding of liability are high.").

3. *See* Leegin Creative Leather Prods. v. PSKS, Inc., 551 U.S. 877, 894–95, 907 (2007) (refusing to impose a per se rule of illegality because doing so would preclude a "significant amount of procompetitive conduct" and stating that per se rules of illegality "can be counterproductive. They can increase the total cost of the antitrust system by prohibiting procompetitive conduct the antitrust laws should encourage.").

4. *See* Fed. Trade Comm'n v. Actavis, Inc., 570 U.S. 136, 159 (2013) ("The existence and degree of any anticompetitive consequence may . . . vary . . . . These complexities lead us to conclude that the FTC must prove its case as in other rule-of-reason cases.").

5. *See* Verizon Commc'ns Inc. v. Law Offs. of Curtis V. Trinko, 540 U.S. 398, 407 (2004) ("To safeguard the incentive to innovate, the possession of monopoly power

These cases, each representing a major defeat for antitrust enforcement delivered at least in part on error cost grounds, are the product of an intellectual stalemate between two opposing schools of antitrust thought, the Chicago School, which views erroneous over-enforcement of the antitrust laws as a major threat to the economy, and the rather unimaginatively named Post-Chicago School, which views erroneous under-enforcement as a greater threat to the economy.[6] As

will not be found unlawful unless it is accompanied by an element of anticompetitive conduct.").

6. *See* Baker, *Taking the Error Out of "Error Cost" Analysis*, *supra* note 1, at 6–7 (discussing error costs and conservative antitrust); George L. Priest, *Bork's Strategy and the Influence of the Chicago School on Modern Antitrust Law*, 57 J.L. & ECON. S1, S14–16 (2014) (discussing the influence of the Chicago School on antitrust).

Why do the Chicago and Post-Chicago schools differ so dramatically on the nature of antitrust error? Chicago believes that over-enforcement of the antitrust laws is dangerous because innovative behavior tends to look like anticompetitive behavior and erroneous condemnation of innovative behavior could destroy economic growth. *See* Geoffrey A. Manne & Joshua D. Wright, *Innovation and the Limits of Antitrust*, 6 J. COMPETITION L. & ECON. 153, 167 (2010). According to Chicago, innovation can falsely appear to be anticompetitive because innovation destroys competitors who fail to keep up. *See id.* at 176–77. But unlike truly anticompetitive conduct, argues Chicago, innovation is actually good for consumers, delivering them better products at lower prices, and should not be a target of the antitrust laws. *See id.* at 168. The innovator who succeeds at reducing costs, and drops prices accordingly, to the great benefit of consumers, looks like a predatory pricer. *See* Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. at 226–27; Harold Demsetz, *Barriers to Entry*, 72 AM. ECON. REV. 47, 54 (1982). The manufacturer who insists that stores adhere to standard sales practices in order to improve consumers' shopping experience looks like an oppressor of retailers. *See* Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. at 890; Manne & Wright, *supra*, at 190–91. The drug company that innovates in settling wasteful patent litigation, by paying generic drug companies to renounce their claims and thereby creating savings that may be reinvested in improving drug effectiveness, looks like a divider of markets with generic drug makers. *See* Robert D. Willig & John P. Bigelow, *Antitrust Policy Toward Agreements That Settle Patent Litigation*, 49 ANTITRUST BULL. 655, 656–57, 656 n.3 (2004). The firm that refuses to share a technological advance that has made consumers prefer the firm's products over those of competitors looks like a denier of access to an essential facility. *See Trinko*, 540 U.S. at 407–08. In all these cases, argues Chicago, condemning the conduct would be error, because the conduct is innovative and good for consumers. *See* Demsetz, *supra*, at 54; Manne & Wright, *supra*, at 190–91, 201; Willig & Bigelow, *supra*, at 656–57, 656 n.3.

For Chicago, the scary thing about the superficial resemblance between innovation and anticompetitive behavior is that innovation is not just good for consumers, but is in fact the most important driver of consumer welfare and indeed of all economic growth. *See* Manne & Wright, *supra*, at 168. This view appears to be quite general in the economics profession as a whole. *See* William D. Nordhaus, *Schumpeterian Profits in the American Economy: Theory and Measurement* 26–27 (Nat'l Bureau of Econ. Rsch., Working Paper No. 10433, 2004); Robert M. Solow, *Technical Change and the Aggregate Production Function*, 39 REV. ECON. & STAT. 312, 320 (1957); Moses Abramovitz, *Resource and Output Trends in the United States Since 1870*, 46 AM. ECON. REV. 5, 13–14

(1956). Banning conduct that appears anticompetitive but turns out to be innovative would therefore have very high error costs. *See* Manne & Wright, *supra*, at 167.

By contrast, according to Chicago, letting a few bad actors get away with monopolizing markets likely would cause much less harm to consumers, because history has shown that even the most entrenched monopoly position eventually erodes under the force of new technologies and changing tastes. *See* Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1, 15 (1984). According to this argument, antitrust must therefore never ban a practice outright, and indeed should, given the risks, shut down as an enterprise and simply let the miracle of the market do its work. *See, e.g.*, Novell, Inc. v. Microsoft Corp., 731 F.3d 1064, 1076 (10th Cir. 2013) (Gorsuch, J.) ("If the [monopolization] doctrine [of no duty to deal] fails to capture every nuance, if it must err still to some slight degree, perhaps it is better that it should err on the side of firm independence—given its demonstrated value to the competitive process and consumer welfare—than on the other side where we face the risk of inducing collusion and inviting judicial central planning."); *Dialogue*, *in* INDUSTRIAL CONCENTRATION: THE NEW LEARNING 233, 235 (Harvey J. Goldschmid et al. eds., 1974) ("Phil Neal: Just to complete the record, I want to ask Professor Demsetz whether he would also repeal the Sherman Act. [Harold] Demsetz: The answer is: as it is presently being carried out, yes."). If the price of having the iPhone is to allow Apple so much market power that Apple can amass $268 billion in uncommitted cash, so much the better, given that the alternative would be never to exit the flip phone age. *See* APPLE INC., FORM 10-K, at 21 (2017). Furthermore, the argument goes, Apple's power will eventually disappear anyway, when the next revolutionary communications technology comes along, rendering the smartphone obsolete. *See* JOSEPH A. SCHUMPETER, CAPITALISM, SOCIALISM AND DEMOCRACY 83–85 (Harper Torchbooks, 1976) (1942).

The Post-Chicago School has countered, however, that failing to condemn a bad firm can take an even greater toll on innovation, by creating an economy of large firms with little incentive to undermine their market positions by innovating. *See* Jonathan B. Baker & Steven C. Salop, *Antitrust, Competition Policy, and Inequality*, 104 GEO. L.J. ONLINE 1, 21 (2015) ("While raising concerns about false positives, the Court has not analyzed the incidence and consequences of false positives, nor compared the resulting costs with the social benefits of antitrust enforcement or the incidence and consequences of false negatives and under-deterrence."); Maurice E. Stucke, *Does the Rule of Reason Violate the Rule of Law?*, 42 U.C. DAVIS L. REV. 1375, 1386 (2009) ("Because a rule-of-reason case is so costly to try, it is likely that fewer antitrust violations will be challenged."). Monopolies like Google and Facebook, argues this school of thought, can stave off the competitive threat of new technologies by buying up nascent innovative competitors like Nest and WhatsApp, eliminating the incentive of these companies to continue to innovate, and insulating their new parents from any threat to their dominance. *See* Russell Brandom, *The Monopoly-Busting Case Against Google, Amazon, Uber, and Facebook*, VERGE (Sept. 5, 2018, 8:14 AM), https://www.theverge.com/2018/9/5/17805162/monopoly-antitrust-regulation-google-amazon-uber-facebook [https://perma.cc/C7F3-6R3Y].

By contrast, according to this argument, inadvertently condemning good firms of course has a cost, but so long as markets remain competitive, markets will continue to generate innovative firms, and not all of these innovative firms will fall to antitrust's scythe. *See* Jonathan B. Baker, *Exclusionary Conduct of Dominant Firms, R&D Competition, and Innovation*, 48 REV. INDUS. ORG. 269, 270 (2016) (arguing that antitrust enforcement promotes innovation); Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, *in* THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS 609, 619–22 (Richard R. Nelson ed., 1962) (arguing that

a result of this stalemate, the Court has resolved neither to roll back antitrust enforcement, as Chicago would like, nor to ramp it up, as Post-Chicago would like, but rather to tread carefully, by subjecting virtually all antitrust-relevant conduct to what antitrust calls the rule of reason.[7] The rule stops a court from condemning conduct that would otherwise violate the antitrust laws until the court is satisfied that the challenged conduct harms consumers in the particular case at issue.[8] The rule of reason, in other words, is a license to engage in case-by-case adjudication.[9]

The rule of reason appears at first glance to provide a middle road between strict enforcement of the antitrust laws and repeal.[10] A case-by-case inquiry into consumer harm would seem to sidestep the entire question of error, and the attendant difficulty of determining whether erroneous over-enforcement or erroneous under-enforcement is most harmful to consumers, by ensuring that errors simply do not occur.[11] In applying the rule of reason, courts take the time to

competitive markets create greater incentives for innovation). If the flip phone market had not been competitive to begin with, the argument goes, there might not have been an iPhone at all. A dominant firm like Nokia would have gobbled Apple up while the iPhone was still a gleam in Steve Jobs's eye. Inadvertently condemning a few other smartphone innovators would not have been too high a price to pay for making the iPhone possible.

7. *See* Timothy J. Muris, *The New Rule of Reason*, 57 ANTITRUST L.J. 859, 859 (1988) (arguing that the only rule in antitrust is now the rule of reason); Nat'l Collegiate Athletic Ass'n v. Bd. of Regents of Univ. of Okla., 468 U.S. 85, 103–04 (1984) (suggesting that the rule of reason is to be applied in all cases other than the special case in which the "likelihood of anticompetitive conduct [is] so great as to render unjustified further examination of the challenged conduct").

8. *See* Cal. Dental Ass'n v. FTC, 526 U.S. 756, 779 (1999) (describing rule of reason analysis as requiring "plenary market examination"); *id.* at 781 ("What is required . . . is an enquiry meet for the case, looking to the circumstances, details, and logic of a restraint.").

9. *See* Stucke, *supra* note 6, at 1379.

10. *See Nat'l Collegiate Athletic Ass'n*, 468 U.S. at 103–04; Muris, *supra* note 7, at 859–61. For the proposition that it is effects on consumers that matter to antitrust, see Steven C. Salop, *Question: What Is the Real and Proper Antitrust Welfare Standard? Answer: The True Consumer Welfare Standard*, 22 LOY. CONSUMER L. REV. 336 (2010); and John B. Kirkwood & Robert H. Lande, *The Fundamental Goal of Antitrust: Protecting Consumers, Not Increasing Efficiency*, 84 NOTRE DAME L. REV. 191 (2008).

11. *See* Easterbrook, *supra* note 6, at 10, 15–16 ("We cannot condemn so quickly anymore. What we do not condemn, we must study. The approved method of study is the Rule of Reason."); Manne & Wright, *supra* note 6, at 195 (describing replacement of per se rules with rules of reason as "all to the good").

verify the existence of harm, ensuring, it would appear, that no mistakes are ever made.[12]

Embrace of the rule of reason has paradoxically led to the policy of reduced enforcement advocated by Chicago, however, rather than to the compromise in favor of greater accuracy in adjudication that the Court seems to have intended, because case-by-case adjudication is too expensive for enforcers fully to pursue.[13] Thus every time the Court considers some practice that would normally violate the antitrust laws in itself, and decrees that henceforth the effect of the practice on consumers must be considered in every case before liability can attach, the Court has not improved the accuracy of adjudication but rather effectively repealed the rule of illegality for that practice. For enforcers lack the resources to investigate effects in each individual case and so they respond to the imposition of rules of reason by bringing fewer cases.[14]

The effect of this budget constraint is written in the steep decline in antitrust enforcement since the 1970s, when the Court started to draw the rule of reason's veil across the antitrust landscape.[15] After the Court added the recoupment requirement to predatory pricing claims, which requires courts to take into account the long-term consequences for consumers of below-cost pricing, enforcers all but stopped bringing cases.[16] Ditto for monopolization claims under Section 2 of the Sherman Act, which were once decided under the de facto per se rule that was the essential facilities doctrine.[17]

12. *See generally* Orson, Inc. v. Miramax Film Corp., 79 F.3d 1358, 1367 (3d Cir. 1996) ("Whether a business arrangement unreasonably restrains trade is determined by the courts, on a case-by-case basis, using a rule of reason which considers all relevant factors in examining a defendant's purpose in implementing the restraint and the restraint's effect on competition.").

13. *See infra* Part I.

14. *See infra* Part I. The connection between rules of reason and enforcement declines has long been a concern of antitrust proponents. *See* HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE 80 (5th ed. 2016) ("[M]any Progressive Era liberals believed that the rule of reason would greatly weaken the Sherman Act . . . .").

15. *See infra* Part IV.

16. *See* Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 243 (1993); C. Scott Hemphill, *The Role of Recoupment in Predatory Pricing Analyses*, 53 STAN. L. REV. 1581, 1585 (2001) ("Probably due to the difficulty of winning a case, the U.S. government seldom brings predatory pricing claims.").

17. In 1972, for example, the Antitrust Division of the U.S. Department of Justice conducted twenty investigations for violations of section 2 of the Sherman Act and filed thirteen cases, whereas in 1981 the agency conducted eight investigations and filed one case, and, in the five years ending in 2019, the agency conducted an average of two investigations per year and brought no cases over that period. *See* U.S. DEP'T OF JUST.,

Post-Chicago scholars have rightly identified the rule of reason as the cause of antitrust's forty-year enforcement winter. But they have placed far too much emphasis on how costly the rule makes it to *win* cases and none on the equally important problem of how costly the rule makes it to *bring* cases in the first place.[18] As a result, Post-Chicago scholars have argued that the Court should adopt burden-shifting frameworks that force defendants to prove the absence of harm to consumers, thereby delivering enforcers of the burden of proving the presence of harm themselves.[19] But that would do little to bring antitrust enforcement back from the dead if enforcers still bear the burden of sifting through the manifold of business experience to identify consumer harm in order to find cases to bring. For even under a burden-shifting approach to the rule of reason, enforcers would still ultimately lose a case if defendants could prove the absence of consumer harm, and so enforcers would continue to bear the cost of having initially to identify case-specific consumer harm in order to find winning

ANTITRUST DIVISION WORKLOAD STATISTICS FY 1970-1979 (2015), https://www.justice.gov/atr/antitrust-division-workload-statistics-fy-1970-1979 [https://perma.cc/62SV-95A2]; U.S. DEP'T OF JUST., ANTITRUST DIVISION WORKLOAD STATISTICS FY 1980-1989 (2015), https://www.justice.gov/atr/antitrust-division-workload-statistics-fy-1980-1989 [https://perma.cc/3U3F-6BZ7]; U.S. DEP'T OF JUST., ANTITRUST DIVISION WORKLOAD STATISTICS FY 1990-1999, at 16, https://www.justice.gov/sites/default/files/atr/legacy/2009/06/09/246419.pdf [https://perma.cc/6PGF-TQN5]; U.S. DEP'T OF JUST., ANTITRUST DIVISION WORKLOAD STATISTICS FY 2000-2009, at 17 (2012), https://www.justice.gov/sites/default/files/atr/legacy/2012/04/04/281484.pdf [https://perma.cc/3BYY-JZSB]; U.S. DEP'T OF JUST., ANTITRUST DIVISION WORKLOAD STATISTICS FY 2010-2019, at 15, https://www.justice.gov/atr/file/788426/download [https://perma.cc/2YE5-NDM9]. For the de facto per se rule that once applied to monopolization cases, see *infra* Part V. For skepticism regarding the use of case counts to measure enforcement quality, see William E. Kovacic, *Rating the Competition Agencies: What Constitutes Good Performance?*, 16 GEO. MASON L. REV. 903, 908–09 (2009).

18. *See* Stucke, *supra* note 6, at 1386; Peter Nealis, Note, *Per Se Legality: A New Standard in Antitrust Adjudication under the Rule of Reason*, 61 OHIO ST. L.J. 347, 370 (2000).

19. *See* Stucke, *supra* note 6, at 1483–87; Herbert Hovenkamp, *The Rule of Reason and the Scope of the Patent*, 52 SAN DIEGO L. REV. 515, 549 (2015) ("Rather than placing antitrust analysis into three silos dominated [sic] 'per se,' 'quick look,' and 'rule of reason,' it is better to think of the problem as setting proof requirements that vary with the circumstances."); AM. ANTITRUST INST., *Restoring Monopolization and Exclusion as Core Competition Concerns*, *in* TRANSITION REPORT TO THE 45TH PRESIDENT OF THE UNITED STATES 10 n.40 (2016), https://www.antitrustinstitute.org/wp-content/uploads/2018/12/Monopolizationfinal_0-1.pdf [https://perma.cc/5WM7-9D3H] ("[D]ifferent tests may be appropriate for different categories of conduct, depending in part on the potential costs of false positives and false negatives associated with the type of conduct." (citing sources)). *But see* Nealis, *supra* note 18, at 380 (arguing in favor of applying the *per se* legality standard for section 1 antitrust cases); Devlin & Jacobs, *supra* note 1, at 103.

cases to bring. Every lost case is a waste of resources for enforcers and, for government enforcers in particular, imposes prestige costs that can lead even to the defunding of an agency.[20] So the problem of picking cases cannot be solved by bringing every case and letting the cost of identifying consumer harm be shared through in-court burden shifting. Enforcers must expend resources to find cases, and if they lack the resources to do so, they will stop bringing them, whether good cases, if brought, would be easy to win or not. The enforcement budget constraint cannot be avoided through burden shifting.

Antitrust enforcement budgets, understood to include both the budgets of government agencies such as the Federal Trade Commission and the budgets of private antitrust plaintiffs, have been declining, once adjusted for growth in the size of the markets that enforcers police, since World War Two.[21] But rules of reason, even after their costs are reduced by burden-shifting reforms, will always be the most expensive rules to enforce because rules of reason require enforcers to identify consumer harm in addition to prohibited conduct when choosing cases to bring.[22] By contrast, the enforcement of conventional rules that prohibit conduct regardless of effects—called per se rules in antitrust—requires only the identification of prohibited conduct. The Court's conversion of many per se rules of illegality to rules of reason starting in the 1970s has therefore driven up the costs of enforcing the antitrust laws at a time when the enforcement budget constraint has been tightening.[23]

By embracing rules of reason that enforcers cannot afford, and consequently bringing about reductions in enforcement, the Court has in effect committed itself to the Chicago view that it is better to let a bad firm go free than to condemn a good one.[24] But the Court does not appear to have done this consciously. The Court has, at any rate, never explicitly embraced such a position. If the Court would, when forced consciously to pick a side in the stalemate, embrace the alternative Post-Chicago view that the greater danger to consumers is to let a bad firm go free, then the Court should not be leaving it to enforcers to balance the enforcement budget by bringing fewer cases. Instead, the

20. *See* William E. Kovacic, *Creating a Respected Brand: How Regulatory Agencies Signal Quality*, 22 GEO. MASON L. REV. 237, 246, 253–54 (2015) (discussing the importance, to the building of an effective administrative "brand," of "quality control" in case selection by administrative agencies).

21. *See infra* Part II.

22. *See* Nealis, *supra* note 18, at 375.

23. *See supra* notes 2–5 and accompanying text; *see also infra* Part IV.

24. *See* Manne & Wright, *supra* note 6, at 161.

Court should balance the enforcement budget for each new expensive rule of reason the Court adopts by substituting inexpensive per se rules of illegality for expensive rules of reason in other areas of antitrust.[25] That is, if the Court believes that under-enforcement is worse than over-enforcement, then the Court should pay for any new rule of reason the Court imposes on one area of conduct by making per se illegal another area of conduct once subject to a rule of reason, rather than by allowing enforcers simply to stop enforcing the antitrust laws in other areas in order to set aside the funds needed to enforce the new rule of reason. If the Court wants to subject predatory pricing to a rule of reason, then the Court should, for example, ban reverse payment patent settlements.[26] If the Court wants to subject minimum resale price maintenance to rule of reason treatment, then the Court should, for example, eliminate rule of reason treatment for horizontal mergers.[27] If the Court wants to subject refusals to deal in essential facilities to rule of reason treatment, then the Court should, for example, ban exclusive dealing contracts.[28] And so on.

Of course, in consciously picking a side, the Court might well pick the Chicago view, in which case the Court should adhere to the status quo. But the Court must decide one way or another, and do so explicitly. The Court today presides over an antitrust regime that purports to subject all suspect conduct to a meticulous, tailored examination for harm that in practice looks more like desuetude, the Court all the while seemingly ignorant of the striking divergence it has created between the law on the books and the law in action.[29] This state of affairs is untenable. The Court must either consciously embrace the Chicago view that competition is the enemy of growth, or reject it, and start ruling conduct per se illegal again.

Part I shows how the Court's embrace of rules of reason is based on a misunderstanding of decision theory because it fails to take the cost of enforcing rules of reason into account. Part II uses historical

25. *See* Jonathan B. Baker, *Evaluating Appropriability Defenses for the Exclusionary Conduct of Dominant Firms in Innovative Industries*, 80 ANTITRUST L.J. 431, 435 (2016) (arguing that failing to promote competition may harm innovation).

26. *See* Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 243 (1993) (imposing recoupment requirement); Ramsi A. Woodcock, *Uncertainty and Reverse Payments*, 84 TENN. L. REV. 99, 103 (2016) (calling for a rule of per se illegality for reverse payment patent settlements).

27. *See* HOVENKAMP, *supra* note 14, at 632–35, 675–80 (discussing antitrust approaches to resale price maintenance and horizontal mergers).

28. *See id.* at 410–16, 587–99 (discussing essential facilities and exclusive dealing law).

29. For more on this revolution in the law, see *infra* Parts IV–V.

data on the budgets of antitrust's two main enforcers, the Federal Trade Commission and the Department of Justice's Antitrust Division, to show that enforcement budgets are not only constrained, but have effectively been falling for decades, making the Court's failure to take budgets into account important. Part III argues that because the Court does not distinguish the relative harmfulness of many categories of antitrust-relevant conduct, such as price fixing and resale price maintenance, the Court must treat all such categories of conduct as equally harmful to consumers. That in turn makes it possible to characterize the Court's embrace of rules of reason, and the resulting drop in antitrust enforcement by budget-constrained enforcers, as either good for consumers, if the Court believes these categories of antitrust-relevant conduct to be mostly good, or bad for consumers, if the Court believes these categories of antitrust-relevant conduct to be mostly bad for consumers.

Parts IV and V look in detail at the actual changes to the antitrust laws brought about by the Court over the past forty years and argue that the Court made these changes out of a naïve desire to increase accuracy in adjudication, rather than because the Court believes that antitrust-relevant conduct is mostly good for consumers and therefore enforcement should be reined in. Part VI argues that the Court's embrace of rules of reason amounts to the favoring of standards over rules and shows how unusual the Court's embrace of standards in the antitrust context is in comparison to the approach taken by courts in other areas of law. Part VII describes in detail the model of error costs subject to an enforcement budget constraint that powers the arguments in this Article, discusses some assumptions of the model, uses the model to map out the error cost effects of all possible rule changes, and uses that map to show that in a recent case the Court may have increased error costs in counterintuitive fashion. Part VIII argues that even if the rule of reason is reformed to solve the problem of pro-defendant bias identified by other scholars, the error costs created by the enforcement budget constraint will persist and can only be addressed through the application of per se rules. Part IX, the Appendix, presents the error cost model that serves as the basis for this Article in mathematical and graphical terms.

I. THE RULE OF REASON PRESUMPTION

The Court today adheres to a powerful presumption in favor of the rule of reason approach to anticompetitive conduct: the Court will impose a per se rule of illegality on conduct only when there is no chance of error, meaning that the Court will impose a per se rule of

illegality only when the conduct is so obviously harmful to consumers that the rule of reason's case-by-case analysis would end in the proscription of all, or nearly all, of the conduct anyway.[30] As Justice White put it in *Broadcast Music v. Columbia Broadcasting System*, a 1979 case that, more than any other, heralded the triumph of the rule of reason presumption, only a practice that "facially appears to be one that would always or almost always tend to restrict competition" should be per se illegal.[31] This extraordinary requirement of near-complete evil before the Court will impose a rule of per se illegality on conduct is responsible for the spread of the rule of reason across the antitrust landscape, because all conduct is fundamentally ambiguous in effect, capable of good as well as ill, and therefore incapable of meeting the very high bar set by the Court for prohibition.[32]

It should be no surprise, then, that only one per se rule of illegality in antitrust has survived the introduction of the rule of reason presumption, or that its survival is due more to a willingness in the Court to dodge the presumption rather than to apply it faithfully. The Court has preserved the per se rule against price-fixing only because the Court has been willing to pretend, in the teeth of the facts, that a prohibition on price-fixing is error cost free.[33] In fact, economists have long acknowledged that price fixing can be good for consumers when it staves off ruinous competition, such as price wars that drive prices below costs.[34] So it is difficult to view as anything but make-believe

30. *See, e.g.*, Nat'l Collegiate Athletic Ass'n v. Bd. of Regents of Univ. of Okla., 468 U.S. 85, 103–04 (1984) ("Per se rules are invoked when surrounding circumstances make the likelihood of anticompetitive conduct so great as to render unjustified further examination of the challenged conduct. But whether the ultimate finding is the product of a presumption or actual market analysis, the essential inquiry remains the same—whether or not the challenged restraint enhances competition."); Bus. Elecs. Corp. v. Sharp Elecs. Corp., 485 U.S. 717, 726 (1988) ("[T]here is a presumption in favor of a rule-of-reason standard . . . ."); Muris, *supra* note 7, at 859–60 (marking the rise of this approach); RICHARD A. POSNER, ANTITRUST LAW 39–40 (2d ed. 2001).

31. *See* Broad. Music, Inc. v. Columbia Broad. Sys., Inc., 441 U.S. 1, 19–20 (1979); Muris, *supra* note 7, at 859–60 (arguing that *BMI* heralded the demise of the per se approach to antitrust). For a collection of Supreme Court pronouncements to similar effect, see the Court's discussion in *Business Electronics Corp. v. Sharp Electronics Corp.*, 485 U.S. at 723–24.

32. For the extent of that spread, see *infra* Parts IV–V.

33. *See* United States v. Socony-Vacuum Oil Co., 310 U.S. 150, 218–28 (1940) (making price fixing per se illegal); Arizona v. Maricopa Cnty. Med. Soc'y, 457 U.S. 332, 362 (1982) (limiting the ban on price fixing to naked restraints). Related practices, such as market division, also remain per se illegal. *See* United States v. Topco Assocs., Inc., 405 U.S. 596, 605, 608 (1972).

34. *See* MICHAEL D. WHINSTON, LECTURES ON ANTITRUST ECONOMICS 16–17, 38 (2008); HOVENKAMP, *supra* note 14, at 255.

the Court's statement in *Arizona v. Maricopa County Medical Society*, the 1982 case that saved the per se rule against price fixing from the error cost onslaught, that "claims of enhanced competition are . . . unlikely to prove significant in any particular" price-fixing case.[35] The real reason for which the Court retains the per se rule against price-fixing is likely the Court's unwillingness to deprive antitrust entirely of the semblance of law by adopting the policy-like case-by-case analysis of the rule of reason across the board.[36]

The world of the rule of reason presumption is very different from the one that prevailed before the rise of the presumption in the 1970s. Back then, the Court was quite comfortable with the notion that a per se rule against a particular category of conduct might incidentally proscribe a substantial amount of virtuous conduct. In *United States v. Socony Vacuum*, the case credited with establishing the per se rule of illegality for price fixing in its modern form, Justice Douglas wrote that price fixing is illegal per se "whether or not particular price-fixing schemes are wise or unwise, healthy or destructive."[37] Moreover, the Court during that period appeared to understand that the purpose of imposing per se rules of illegality is to manage enforcement costs, the burgeoning of which under rules of reason is a cause of antitrust's contemporary decline.[38] In *Northern Pacific Railway Co. v. United States*, for example, the Court observed that making conduct per se illegal "avoids the necessity for an incredibly complicated and prolonged economic investigation" as part of the rule of reason.[39] Indeed, at the same time that the Court in *Maricopa* sought to fit per se treatment for price fixing into the straitjacket of always-harmful conduct, the Court cited cases from this earlier era in acknowledging that the "costs of judging business practices under the rule of reason . . . have been reduced by the recognition of *per se* rules."[40]

The rule of reason presumption is the product of an appeal by the Court to an approach to adjudication associated with the field of decision theory.[41] The work of economists, psychologists, and

35. Arizona v. Maricopa Cnty. Med. Soc'y, 457 U.S. at 351. For the significance of *Maricopa*, see ANDREW I. GAVIL, WILLIAM E. KOVACIC, JONATHAN B. BAKER & JOSHUA D. WRIGHT, ANTITRUST LAW IN PERSPECTIVE: CASES, CONCEPTS, AND PROBLEMS IN COMPETITION POLICY 147–53 (3d ed. 2017).

36. *See* Baker, *Taking the Error Out of "Error Cost" Analysis*, *supra* note 1, at 3–4; Nealis, *supra* note 18, at 374–75.

37. United States v. Socony-Vacuum Oil Co., 310 U.S. at 221.

38. *See infra* Parts II, V.

39. *See* N. Pac. Ry. Co. v. United States, 356 U.S. 1, 5–6 (1958).

40. Arizona v. Maricopa Cnty. Med. Soc'y, 457 U.S. at 343–44.

41. For background on the movement of decision theory into the law, see Baker,

philosophers interested in identifying conditions for rational decisionmaking, decision theory requires that decisionmakers alter their decision rules based on the amount of available information in order to optimize the use of limited decisional resources.[42] According to decision theory, if courts know that the conduct at issue is almost always harmful, courts should make the conduct per se illegal, or give the defendant only a very limited opportunity to rebut a presumption of illegality, thereby freeing up enforcement resources to direct to hard cases.[43] If, however, courts have little information regarding the harmfulness of the conduct, then decision theory requires that courts allow plaintiff and defendant to litigate the harmfulness of the conduct in depth.[44] According to decision theory, the amount of scrutiny to be applied to a given case should be determined by balancing the costs of additional scrutiny against the potential benefits to consumers associated with more accurately determining the existence or non-existence of harmful conduct.[45]

In *National Collegiate Athletic Ass'n v. Board of Regents of University of Oklahoma*, the Court translated this decision-theoretic perspective into law by arguing that there is no such thing as a per se rule—whether of illegality or legality—in antitrust.[46] Instead, argued the Court, there is only a rule of reason that embodies decision-theoretic principles, authorizing more searching scrutiny in ambiguous cases and less-searching scrutiny in clearer cases.[47] Per se rules, argued the Court, are an illusion created when the rule of reason encounters a particularly clear-cut case.[48] When conduct is unambiguously harmful, the rule of reason requires that the conduct be condemned without further inquiry, and that creates the impression that the conduct is subject to a per se rule of illegality.[49] Similarly, when conduct is

Taking the Error Out of "Error Cost" Analysis, *supra* note 1, at 4, which cites sources.

42. *See* MARTIN PETERSON, AN INTRODUCTION TO DECISION THEORY 3, 5–6 (2009).

43. *See* Devlin & Jacobs, *supra* note 1, at 110.

44. *See* C. Frederick Beckner III & Steven C. Salop, *Decision Theory and Antitrust Rules*, 67 ANTITRUST L.J. 41, 45–47 (1999).

45. *See id.*

46. *See* Nat'l Collegiate Athletic Ass'n v. Bd. of Regents of Univ. of Okla., 468 U.S. 85, 103–04 (1984); Spencer Weber Waller, *Justice Stevens and the Rule of Reason*, 61 SMU L. REV. 693, 703–16 (2009) (tracing doctrinal origin of this "unitary" rule of reason theory to the work of Justice Stevens).

47. *See* Nat'l Collegiate Athletic Ass'n v. Bd. of Regents of Univ. of Okla., 468 U.S. at 103–04; Waller, *supra* note 46, at 700–01, 704–07.

48. *See* Nat'l Collegiate Athletic Ass'n v. Bd. of Regents of Univ. of Okla., 468 U.S. at 103–04; Waller, *supra* note 46, at 700–01, 704–07.

49. *See* Nat'l Collegiate Athletic Ass'n v. Bd. of Regents of Univ. of Okla., 468 U.S. at 103–04.

unambiguously good for consumers, the rule of reason requires that the Court desist from condemning the conduct, without further inquiry, and that creates the impression that the conduct is per se legal. But the Court can act decisively, without further inquiry in both cases, only because the conduct is known to the Court to be either always harmful to consumers, in the case of conduct that the Court condemns, or always good for consumers, in the case of conduct that the Court does not condemn.[50] When conduct is unambiguous in either of these ways, no prolonged inquiry into effects takes place because the rule of reason, operating according to decision-theoretic principles, requires that none take place, not because the conduct is subject to some separate rule of per se legality or illegality.[51]

The Court got decision theory only half right. While the Court correctly suggested that decision theory requires that courts should sometimes engage in a more searching investigation of conduct and at other times should engage in a less searching investigation, the Court left out consideration of the factor that in decision theory determines when more investigation is warranted and when it is not: the costs of the additional investigation in relation to the benefits, in terms of greater accuracy in adjudication, of the additional investigation. Missing from the Court's application of decision theory to antitrust law is attention to the problem of how optimally to allocate decisional resources that is the whole point of the decision-theoretic project.[52] That lacuna allowed the Court to make the unwarranted step from recognizing that courts should summarily dispose of unambiguous conduct to concluding that courts should subject *all* ambiguous conduct to more searching scrutiny.[53] The careful decision theorist, by contrast, recognizes that searching scrutiny of ambiguous conduct is costly, and therefore budget constraints may sometimes force use of a per se rule of illegality, or a per se rule of legality, as a low-cost alternative to a rule of reason. The use of per se rules in such a situation may, despite the rules' imprecision, still result in lower error costs than would the other alternative of searching rule of reason review of the conduct for actual harm.[54]

50. *See id.*

51. *See id.*; Waller, *supra* note 46, at 700–01, 704–07.

52. *See* Beckner & Salop, *supra* note 44, at 44 ("[T]he court must be mindful of the financial, time, and management costs that it is inflicting on the parties [including third parties] and itself."); Devlin & Jacobs, *supra* note 1, at 103.

53. *See* Nat'l Collegiate Athletic Ass'n v. Bd. of Regents of Univ. of Okla., 468 U.S. at 103–04.

54. *See* Beckner & Salop, *supra* note 44, at 47.

The proper decision theoretic approach to ambiguous conduct—conduct that is not known to the Court from the outset of a case to be always good or always bad—is a multi-step process.[55] First, the Court must understand the costs associated with the various levels of scrutiny of the challenged conduct that the Court has available to use.[56] In particular, the Court must recognize that the highest level of scrutiny—the rule of reason—is also the most costly.[57] Rules of reason are more expensive than per se rules of legality, of course, because rules of per se legality require enforcers only to identify the conduct subject to the rule and then do nothing.[58] Rules of per se illegality are more costly to enforce than rules of per se legality, because, in addition to identifying the conduct, enforcers must then bring a case and obtain a remedy.[59] But the rule of reason is more costly to enforce than rules of per se illegality, because the rule of reason puts enforcers in the position of having both to identify the conduct subject to the rule (e.g., minimum resale price maintenance) and to determine whether the conduct harms consumers.[60]

The second step in the decision process is for the Court to determine how the cost of each possible level of scrutiny will be covered.[61] Assuming a fixed enforcement budget constraint, employing a rule of reason to evaluate conduct formerly subject to a rule of per se illegality or legality, both of which are less expensive than a rule of reason, will require a change in approach to other conduct to free up room in the budget for the rule of reason. If, for example, the Court wishes to apply the rule of reason to conduct formerly subject to a per se rule of illegality, the Court must convert rule of reason treatment of some other conduct to a per se rule of some kind, or convert a per se rule of illegality to a per se rule of legality, or engage in some combination of these two types of rule conversions, in order to free up enforcement resources to pay for the new rule of reason.

Finally, the Court must consider whether any increase in error costs arising from the compensating rule change required to pay for the new rule—the loss of accuracy in prohibiting harmful conduct associated with converting a rule of reason to a per se rule of legality, for example—are offset by the reduction in error costs associated with

55. *See id.* at 43–61.
56. *See id.* at 55–57.
57. *See* Stucke, *supra* note 6, at 1460–65; Nealis, *supra* note 18, at 367–70.
58. *Cf.* Nealis, *supra* note 18, at 367–70.
59. *Cf.* Stucke, *supra* note 6, at 1466.
60. *Cf. id.* at 1460–65.
61. *See* Beckner & Salop, *supra* note 44, at 55–57.

the Court's adoption of the new rule for the conduct at issue. If the rule changes required to pay for a new rule create more error costs than the new rule eliminates, then of course the Court should not adopt the new rule.[62]

The failure of the Court to take enforcement costs into account has led to perhaps the most overlooked consequence of the error cost revolution in antitrust: that it has fallen to enforcers to balance budgets swelled to bursting by all the new rules of reason forged by the Court out of old per se rules of illegality.[63] Unlike the Court, which can demote a rule of reason to a per se rule of illegality to reduce enforcement costs, enforcers can only reduce their costs in one way: by reducing enforcement, which is to say, by creating de facto rules of per se legality.[64] In failing to make budget balancing rule changes to compensate for the rules of reason that it has imposed in recent decades, the Court has therefore ensured that only de facto rules of per se legality have been used to pay for those rules of reason, because enforcers cannot unilaterally impose the other low-cost approach to adjudication—rules of per se illegality—unilaterally. The Court has thereby injected a stark bias in favor of non-enforcement and de facto per se legality into antitrust through its half-baked embrace of the rule of reason presumption. The Court's conversion of the per se rule against resale price maintenance to a rule of reason, for example, imposed a burden on enforcers who, if they took their jobs seriously, were henceforth forced to scrutinize all individual instances of resale price maintenance for harm to consumers in order to find resale price maintenance cases to bring.[65] In order for cash-strapped enforcers actually to carry out that task, they necessarily had to reduce the care with which they would otherwise troll the seas of antitrust-relevant conduct for cases, either with respect to the conduct subject to the rule of reason, other conduct, or some of both.[66] Enforcers might, for

62. *Id.* at 47.

63. For example, there is no discussion of balancing enforcement budgets in Devlin & Jacobs, *supra* note 1.

64. *See* Nealis, *supra* note 18, at 369–70.

65. *See* Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877, 907 (2007).

66. Baker & Salop, *supra* note 6, at 18 ("Because every enforcement action has an opportunity cost, the agencies limit the intensity of their enforcement efforts and have to pick and choose which matters to pursue. They similarly are constrained in their ability to litigate multiple cases against deep-pocketed defendants, which may lead them to accept weaker settlements. Private plaintiffs add additional enforcement capacity, but they cannot employ the investigative tools available to the government, so they have less ability to uncover and challenge many types of anticompetitive conduct."); William F. Baxter, *Separation of Powers, Prosecutorial Discretion, and the Common Law Nature of Antitrust Law*, 60 TEX. L. REV. 661, 661 (1981) (then-head of the

example, have relied on their prosecutorial discretion to quit enforcing the Robinson-Patman Act (which, perhaps not coincidentally, enforcers actually have quit enforcing in recent decades).[67] The resulting tradeoff—more careful scrutiny of resale price maintenance for the de facto repeal of the Robinson-Patman Act—would have been good for consumers, however, only if the harm to consumers of no longer condemning the supply-price discrimination prohibited by the Robinson-Patman Act were offset by the benefits to consumers of more accurate enforcement against firms engaged in resale price maintenance.[68]

It will become clear in Part III that it might well be optimal for the Court to pay for all the new rules of reason it has created in recent decades exclusively by converting preexisting rules of reason to per se rules of illegality—something that enforcers cannot do alone because they lack authority to change the law—and never to create rules of per se legality, either formally or by putting cash-strapped enforcers in the position of having to reduce enforcement. In that case, the Court's adoption of rules of reason without making compensating budget-balancing rule changes, and the consequent increase in nonenforcement, have harmed consumers.

II. THE BUDGET CONSTRAINT

The Court's naiveté regarding enforcement costs is a problem because enforcement budgets have failed to keep up with economic activity for a long time.[69] Enforcement budgets of the U.S. Department of Justice and the Federal Trade Commission have increased in both absolute and inflation-adjusted terms since the 1970s, when error cost thinking stormed antitrust.[70] That tells little about whether enforcers have actually had the funds to apply the new rules of reason imposed

Antitrust Division of the Department of Justice arguing that fully enforcing the antitrust laws "would require the Division to shoulder obligations that, given its limited resources, it could not possibly discharge in an effective manner").

67. *See* HOVENKAMP, *supra* note 14, at 775 (noting that the Department of Justice "has not enforced the Act since 1977, and the Federal Trade Commission largely ignores it as well").

68. *See* Beckner & Salop, *supra* note 44, at 45–46.

69. The remarks that follow are based on budget data compiled by the author from the following sources: *FTC Appropriation and Full-Time Equivalent (FTE) History*, FTC, https://www.ftc.gov/about-ftc/bureaus-offices/office-executive-director/financial-management-office/ftc-appropriation [https://perma.cc/WQL9-T78E]; *Appropriation Figures for the Antitrust Division*, U.S. DEP'T JUST., https://www.justice.gov/atr/appropriation-figures-antitrust-division [https://perma.cc/FF4H-3M5V]; *Budget of the United States Government*, FED. RSRV. BANK ST. LOUIS: FRASER, https://fraser.stlouisfed.org/title/54 [https://perma.cc/V89U-6P4B].

70. *See* Baker, *Taking the Error Out of "Error Cost" Analysis*, *supra* note 1, at 2–4.

by the Court since that time, however, because the economy also grew over that period.[71] As the economy grows, the amount of conduct that falls within the ambit of any given antitrust rule must grow as well. A larger economy means more transactions the prices of which may be fixed, more business that may be foreclosed through exclusive dealing, and more markets that may be dominated through merger, for example. Enforcement budgets must therefore expand with the economy to permit policing of the additional conduct created by economic growth.[72] To accommodate all of the shifts from less expensive rules of per se illegality to more expensive rules of reason adopted by the Court since the 1970s, enforcement budgets would have needed not only to match economic growth, but to outpace economic growth since that time.[73]

Enforcement budgets have not only failed to outstrip economic growth since the 1970s, however, but have, with brief exceptions, in fact failed to grow with the economy since World War Two. Figure 1 shows that, after adjustment for GDP growth, antitrust enforcement budgets are currently lower as a share of GDP than they have been since 1908, and one seventh of what they were at their peak in 1942. Growth in the productivity of enforcers, which would allow them to monitor more conduct and construct cases at lower cost, does not explain this trend. The economic growth numbers used to construct Figure 1 have been deflated by the growth in total factor productivity of federal government administration from 1960 to the present, the period over which the information revolution might have been most likely to strengthen the enforcement powers of the antitrust agencies. The effect of growth in government productivity is minimal, however, and the decline in the effective budget shown in Figure 1 remains pronounced.[74] If enforcement budgets have failed to keep up with costs,

71. *See Measuring Worth GDP Result*, MEASURING WORTH, https://www.measuringworth.com/datasets/usgdp [https://perma.cc/C3VR-J9DW].

72. Professor Kwoka also worries that enforcement budgets lag economic growth. John E. Kwoka, Jr., *Commitment to Competition: An Assessment of Antitrust Agency Budgets Since 1970*, 14 REV. INDUS. ORG. 295, 296 (1999) ("[T]he increase in antitrust enforcement resources over the past thirty years has been far more modest than most measures of economic activity or of events such as mergers that are reviewed by the agencies.").

73. For more detail on these rule changes, see *infra* Parts IV–V.

74. *See* Dale W. Jorgenson, Mun S. Ho & Jon D. Samuels, *Information Technology and U.S. Productivity Growth: Evidence from a Prototype Industry Production Account*, 36 J. PRODUCTIVITY ANALYSIS 159, 163–64, 168, 170 (2011) (discussing information technology innovation since 1960, characterizing federal government administration as an IT-using industry, and providing an average annual productivity growth rate for said industry). Professor Kwoka considers whether enforcement productivity

then enforcers must have been forced by adoption of all the new rules of reason to reduce the amount of antitrust-relevant conduct that they actually monitor. That in turn means that there has been a growth over this period in the amount of conduct subject to a de facto rule of per se legality.

Aggregate DOJ and FTC Antitrust Enforcement Budget Adjusted for Inflation, GDP, and Federal Government Productivity Growth, 1908-2015
(in billions of 2009 U.S. dollars)

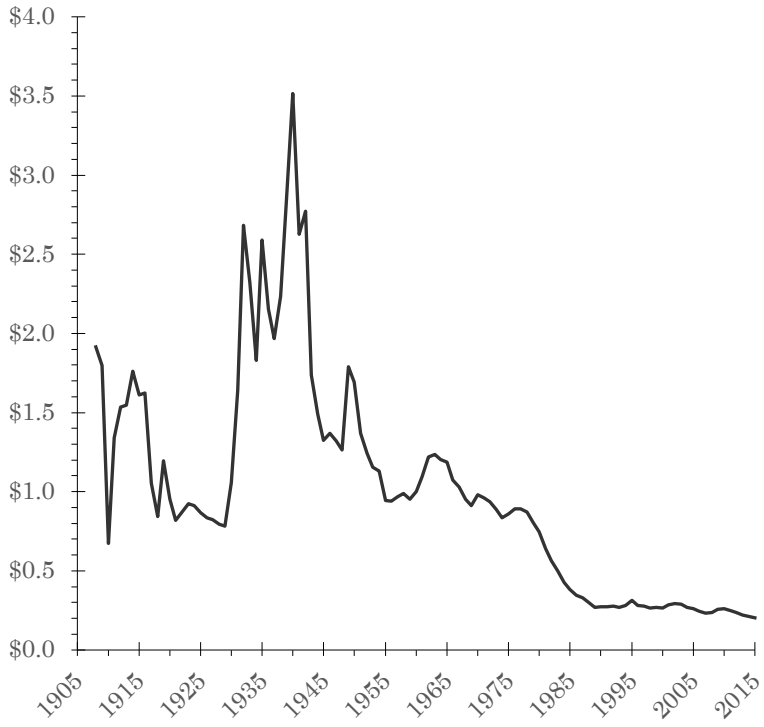

Figure 1

increases account for the failure of budgets to keep up with growth in economic activity and concludes that they do not. Kwoka, *supra* note 72, at 296–97 (suggesting that "more talented staff, superior computing technologies, and procedures such as the Merger Guidelines that systematize analysis" might have increased enforcement productivity).

The value for each year represents the budget that would be required to purchase an equivalent amount of enforcement in 2009 given the change in the size of the economy and taking into account changes in federal government productivity since 1960 due to progress in information technology.

The ebb and flow of effective, GDP-adjusted, enforcement budgets tracks the intellectual history of antitrust with remarkable precision. Effective budgets were high in the second decade of the twentieth century when antitrust was a major issue in a presidential election and the FTC came into being.[75] Budgets then fell to a trough in the early 1930s, when it was thought for a time that concentration is efficient and antitrust enforcement was out of favor.[76] This policy reversed in the 1930s with the appointment of Thurman Arnold to head the Antitrust Division, and by the 1940s budgets reflected the renewed interest in enforcement.[77] Budgets remained stable from the 1950s to the 1970s, during antitrust's golden age, even spiking briefly in the late 1950s, a moment that many would date as the apex of postwar antitrust enthusiasm.[78] Then, in the 1970s, the Chicago School succeeded at convincing Congress, though not the Court, that a substantial amount of conduct that was then treated as per se illegal was actually good.[79] (The Court preferred to remain agnostic by subjecting the conduct to rules of reason—an approach that, as this Article relates, turned out not to be as neutral as it seems—but Congress went further, slashing enforcement budgets on the assumption that much antitrust-relevant conduct does not actually harm consumers.[80])

75. *See* HOVENKAMP, *supra* note 14, at 80 (stating that there was "great interest in antitrust during the 1912 Presidential election" and that the Wilson administration created the FTC).

76. *See id.* at 81 (observing that this view "temporarily won out during the New Deal" and "Roosevelt's 'Codes of Fair Competition' virtually legalized various forms of collusion").

77. *See id.* (stating that "Roosevelt changed course" with the appointment of Thurman Arnold).

78. *See* Herbert Hovenkamp, *United States Competition Policy in Crisis: 1890–1955*, 94 MINN. L. REV. 311, 354–59 (2009) (describing the sometimes "harsh" antitrust rules of this period). Effective budgets appear to have been lower in the postwar period than they were during and immediately before the war because postwar budgets failed to keep up with surging economic growth.

79. *See id.* at 360–63.

80. *See* Jonathan B. Baker, *Competition Policy as a Political Bargain*, 73 ANTITRUST L.J. 483, 506 (2006) ("Budgets at the federal antitrust agencies declined substantially during the 1980s, and staffing fell by nearly half.").

Effective enforcement budgets plunged accordingly to the current trough.[81]

Private enforcement budgets are not included in Figure 1, but private enforcement budget data would likely tell a similar story. Private enforcement budgets, which are the funds that plaintiff attorneys generate through the contingency fees they extract from damages awards in antitrust cases, increase when new categories of once-per-se-legal conduct are brought under antitrust scrutiny, giving plaintiffs damages remedies for conduct for which no remedies were available before.[82] Thus private enforcement budgets would have increased during and after World War Two when the Court expanded the scope of many antitrust rules.[83] Private enforcement budgets do not increase, however, when the Court converts rules of per se illegality to rules of reason, because the remedy is not affected by such rule changes.[84] A firm found liable for minimum resale price maintenance in a private action when minimum resale price maintenance was per se illegal faced the same remedy—including, for example, trebled damages—as would a firm held liable today under the current rule of reason standard for resale price maintenance.[85] As a result, when conduct once subject to a per se rule of illegality becomes subject to a rule of reason, plaintiff lawyers have nothing more to gain from bringing a case than they did before, even though the cost of identifying a winning case to bring has gone up. So there is no reason to suppose that the conversion of per se rules of illegality to rules of reason since the 1970s has been accompanied by an increase in private enforcement budgets. Indeed, there is reason to suppose that private enforcement budgets

81. *See* Figure 1.

82. *See* 15 U.S.C. § 15 (authorizing private antitrust suits for treble damages); HOVENKAMP, *supra* note 14, at 804–06; Thomas E. Kauper & Edward A. Snyder, *An Inquiry into the Efficiency of Private Antitrust Enforcement: Follow-on and Independently Initiated Cases Compared*, 74 GEO. L.J. 1163, 1220 (1986) ("[T]he rationale for a treble damages remedy encompasses not only the policies of compensation and deterrence, but also the need to provide incentives to private parties to encourage litigation to detect and prevent continuing violations."); Warren F. Schwartz, *An Overview of the Economics of Antitrust Enforcement*, 68 GEO. L.J. 1075, 1092 (1980) (recognizing that the level of private damages determines the intensity of private enforcement); Spencer Weber Waller, *The Incoherence of Punishment in Antitrust*, 78 CHI.-KENT L. REV. 207, 210–11 (2003) (noting use of contingency fee structure in private antitrust actions).

83. *See* Sandeep Vaheesan, *The Evolving Populisms of Antitrust*, 93 NEB. L. REV. 370, 383–95 (2014).

84. A proposal to do that failed. *See* HOVENKAMP, *supra* note 14, at 887–88 & n.47 (noting that a Reagan administration proposal to limit treble damages to violations of per se rules was never implemented and arguing that defeat was the right result).

85. *See id.* at 886–88.

have fallen, because during this period the Court has explicitly created a number of rules of per se legality, effectively withdrawing some conduct from antitrust scrutiny and therefore reducing the terrain over which plaintiff lawyers can bring and win cases and thereby generate the funds to bring more cases.[86] Any budget decline must have been exacerbated by a fall, since the 1970s, in the amount of damages courts have been willing to award to successful plaintiffs, and by the Court's imposition of scope of liability rules that have made it harder for plaintiffs to get into court to enforce antitrust rules under any standard.[87]

Of course, it is possible that enforcement budgets have always been large enough to absorb the cost of the application of rules of reason, even across the board. But believing that would require adherence to the belief that the effective enforcement budget near the dawn of the antitrust laws in 1908, which was higher than the effective enforcement budget today, was already more than sufficient to police all antitrust-relevant conduct in the U.S. economy.[88] That is unlikely.

III. HOW THE RULE OF REASON PRESUMPTION MAY HAVE INCREASED ERROR COSTS: THE BASIC THEORY AND SOME IMPLICATIONS

A. THE PERCEIVED UNIFORMITY OF AMBIGUOUS CONDUCT AND ITS CONSEQUENCES

We have seen that, by requiring that all ambiguous conduct—all conduct not obviously good for consumers or obviously bad for consumers—be subject to rules of reason, but providing no way for budget-constrained enforcers to pay for the rules of reason, the Court in effect established a de facto judicial policy of dividing ambiguous conduct between rules of reason and per se rules of legality, because

86. For a description of this conduct, see *infra* Parts IV–V. *Cf.* ANDREW I. GAVIL, WILLIAM E. KOVACIC, JONATHAN B. BAKER & JOSHUA D. WRIGHT, ANTITRUST LAW IN PERSPECTIVE: CASES, CONCEPTS AND PROBLEMS IN COMPETITION POLICY 1134 (2d ed. 2008) ("If government enforcers devote fewer resources to investigating antitrust violations . . . those acts will reduce the likelihood that any particular violator will be detected and convicted. Unless the damages multiple [in private enforcement cases] is increased under such circumstances, the level of deterrence will be reduced.").

87. In recent years, courts have taken a harder line on the measurement of damages. *See* GAVIL ET AL., *supra* note 86, at 1139 ("[R]ecently, plaintiffs have faced increasingly skeptical courts in presenting their cases for damages."). For the tightening of scope of liability rules, see William H. Page, *The Scope of Liability for Antitrust Violations*, 37 STAN. L. REV. 1445, 1445 (1985).

88. *See supra* Figure 1.

enforcers must introduce gaps into enforcement in order to pay for the rules of reason.[89] Dividing ambiguous conduct between rules of reason and rules of per se legality might not be a great departure from proper decision-theoretic practice, however, if the Court were to believe that ambiguous conduct can be grouped into categories of conduct that are mostly good for consumers and categories of conduct that are mostly bad for consumers. In that case, the per se rules of legality might be applied to the mostly good conduct and the rules of reason to the mostly bad conduct, and the results might reduce error costs relative to a regime in which the Court were to make all of the conduct, including the mostly good conduct, per se illegal.

But the Court does not appear to believe that ambiguous conduct is neatly divisible into portions that are mostly good and portions that are mostly bad. Instead, the Court appears to view all ambiguous conduct as undifferentiated—as all having the same probability of being good or of being bad—with a few small exceptions. As a result, it is possible that each and every de facto per se rule of legality imposed by the Court through a failure to attend to the enforcement budget constraint has made consumers worse off under the Court's own estimation of the character of antitrust-relevant conduct. The Court has made clear that the Court believes that price fixing is unambiguously bad, which is why the Court continues to make price-fixing per se illegal.[90] But the Court has never suggested that the conduct the Court considers ambiguous in character, and to which the Court therefore applies the rule of reason today, can be neatly divided into categories of conduct that are mostly good and other categories that are mostly bad. The Court has, for example, never suggested that the Court thinks predatory pricing to be more or less likely to harm consumers than resale price maintenance, refusals to deal, vertical nonprice restraints, or a host of other categories of conduct upon which the Court has imposed the rule of reason.[91] Judges appear to believe that all of this conduct has the same risk profile.[92] It follows that, if the Court believes

89. *See supra* Part I; Nat'l Collegiate Athletic Ass'n v. Bd. of Regents of Univ. of Okla., 468 U.S. 85, 103–04 (1984).

90. *See supra* Part I; Arizona v. Maricopa Cnty. Med. Soc'y, 457 U.S. 332, 349–51 (1982).

91. *See* United States v. Socony-Vacuum Oil Co., 310 U.S. 150, 219–23 (1940) (decrying price fixing under any circumstance); Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 226 (1993) (observing that "predatory pricing schemes are rarely tried, and even more rarely successful" (internal quotation marks omitted)). For rule of reason treatment of resale price maintenance, refusals to deal, vertical nonprice restraints, and other categories, see *infra* Parts IV–V.

92. *See* Devlin & Jacobs, *supra* note 1, at 79–80 ("[T]he law acts as if error is apt

any of this conduct to be mostly bad, then it believes all of this conduct to be mostly bad, in which case the Court's inadvertent creation of rules of per se legality must have allowed mostly bad conduct to go unpunished and therefore to have increased error costs relative to a regime in which all conduct were made per se illegal. It also follows from the fact that the Court does not distinguish between the harmfulness of different categories of ambiguous conduct that the Court must treat all ambiguous conduct that the Court cannot afford to subject to a rule of reason alike, either making it all per se illegal or all per se legal. For if the conduct is all thought to be mostly good, then making part of it per se illegal would increase error costs relative to making it all per se legal, and, if the conduct is all thought to be mostly bad, then making part of it per se legal would increase error costs relative to making it all per se illegal. This point bears repeating: *If the Court believes ambiguous conduct to be mostly good—in the sense of mostly beneficial for consumers—then the Court should make per se legal any conduct that enforcers cannot afford to subject to the rule of reason, and, if the Court believes ambiguous conduct to be mostly bad—in the sense of mostly harmful to consumers—then the Court should make per se illegal any conduct that enforcers cannot afford to subject to the rule of reason.*[93] This means that getting the rule wrong—making conduct per se legal when all conduct should be per se illegal in order to minimize error costs or making conduct per se illegal when conduct should be per se legal in order to minimize error costs—through a failure deliberately to choose which rule to apply would lead not only to increased error costs but to greatly increased error costs because the rule would increase error costs for not just some, but all ambiguous conduct.

I have been careful to write only of the Court's beliefs regarding whether conduct is good or bad, rather than the factual question whether conduct actually is good or bad. The reason the Court's *perception* regarding the character of ambiguous conduct matters, rather than the actual character of the conduct, is that decision theory is the science of decision-making under limited knowledge.[94] Decision theory teaches how to minimize the probability of error given the level of information currently held by the decisionmaker, which is to say,

to arise to the same extent for all offenses, other than for those condemned as per se illegal.").

93. A mathematical description of this rule is given as Proposition 1 in the Appendix.

94. *See* PETERSON, *supra* note 42, at 5–6; Beckner & Salop, *supra* note 44, at 43.

given the decisionmaker's perceptions.[95] If the Court lacks any information that would allow it to distinguish between the probability that predatory pricing will harm consumers and the probability that resale price maintenance will harm consumers, for example, then decision theory dictates that, given this perception of homogeneity, the Court must treat these categories of conduct in like manner.[96] Of course, the two kinds of conduct may in fact have very different effects on consumers, but decision theory requires that the Court treat both kinds of conduct as equally likely to harm until such time as new information provides the Court with a basis for distinguishing between them.[97]

Intermediate levels of analysis, sometimes called "structured rule of reason" analysis, sometimes "quick look" analysis, and sometimes "ancillary restraints" analysis, which reduce the burden on plaintiff to prove harm under the rule of reason, but do not go so far as to make conduct per se illegal, are exceptions to the general rule that the Court views all ambiguous conduct as uniform in character.[98] The Court applies intermediate analysis when the Court believes that the challenged conduct is more likely to be harmful than the sort of conduct the Court subjects to full-blown rule of reason analysis.[99] But the fact that the Court believes that a small subset of ambiguous conduct is particularly likely to harm consumers does not imply that the Court believes that the rest is particularly unlikely to harm consumers and is therefore best made per se legal through neglect by cash-strapped enforcers.[100] For this reason, there will be no further discussion of conduct subject to intermediate analysis in this Article. For purposes of this Article, conduct subject to intermediate analysis can be treated,

95. *See* PETERSON, *supra* note 42, at 143–61; Beckner & Salop, *supra* note 44, at 43.

96. *See* PETERSON, *supra* note 42, at 143–61.

97. *See id.* at 53–55 (discussing the principle of insufficient reason).

98. *See* HOVENKAMP, *supra* note 14, at 347–51.

99. *See* California Dental Ass'n v. FTC, 526 U.S. 756, 757 (1999) ("'[Q]uick-look' analysis is appropriate when an observer with even a rudimentary understanding of economics could conclude that the arrangements in question have an anticompetitive effect on customers and markets." (citing Nat'l Collegiate Athletic Ass'n v. Bd. of Regents of Univ. of Okla., 468 U.S. 85 (1984))).

100. Indeed, to the extent that the intermediate analysis rule of reason is more expensive to enforce than per se rules, which is quite possible given that it requires an inquiry into effects, even if not one as extreme or expensive as the inquiry associated with the full-blown rule of reason, and enforcers consequently fail to intermediate analysis rules of reason due to budget limitations, intermediate analysis rules of reason very likely increase error costs, for nonenforcement of them renders legal per se conduct that the Court clearly believes to be harmful to consumers relative to run-of-the-mill ambiguous conduct, otherwise the Court would not have selected the conduct for intermediate analysis.

along with conduct currently believed by the Court to be unambiguously bad or unambiguously good, and therefore expressly subject to rules of per se illegality or legality respectively, as fully outside of the realm of ambiguous conduct.

By leaving it to enforcers to use enforcement reductions that are tantamount to per se rules of legality to finance rules of reason, the Court has acted as if the Court believes that ambiguous conduct is likely to be mostly good, making per se rules of legality the right choice for conduct that cannot be subjected to the rule of reason. But the Court has taken this approach without ever considering whether the Court really believes ambiguous conduct to in fact be mostly good.[101] Instead, the Court has taken this step apparently innocent of the enforcement budget constraint and of the fact that by adopting unaffordable rules of reason throughout antitrust the Court has been creating de facto rules of per se legality throughout antitrust as well. If it turns out that upon reflection the Court would conclude that ambiguous conduct is mostly bad, then the Court's unintentional embrace of per se rules of legality in recent decades would be inconsistent with its expectations regarding error costs, and may, indeed, have increased error costs. In that case, the Court should instead be subjecting all ambiguous conduct that it cannot subject to rules of reason to rules of per se illegality.

The per se rules of illegality that the Court should, in that case, be imposing would, however, be quite unlike those called for under current law because they would apply to ambiguous conduct rather than to conduct believed by the Court to be unambiguously bad.[102] There would be over-enforcement under these per se rules of illegality—if the Court's views are right, the conduct would be mostly, but not completely, bad, and so some good conduct would be condemned—but the resulting error costs would be the lowest possible given that the enforcement budget does not support application of rules of reason to all ambiguous conduct and so either rules of per se illegality or rules of per se legality would need to be applied to some of the conduct.[103]

101. For a discussion of cases in which courts have made these rule changes without considering enforcement budget constraints, see *infra* Parts IV–V.

102. *Cf.* Cont'l T.V., Inc. v. GTE Sylvania Inc., 433 U.S. 36, 49–50 (1977); Broad. Music, Inc. v. Columbia Broad. Sys., Inc., 441 U.S. 1, 9–10 (1979); Arizona v. Maricopa Cnty. Med. Soc'y, 457 U.S. 332, 343–44 (1982).

103. *Cf.* Nealis, *supra* note 18, at 380–82.

B. When Abolishing the Rule of Reason Would Minimize Error Costs

So far the argument has been that if the Court were to believe conduct to be mostly bad, then the Court should make per se illegal any conduct not subject to a rule of reason. If the Court were to believe conduct to be not just mostly bad, but very bad (though the Court need not believe conduct to be completely bad), then it might even be appropriate for the Court to forego the rule of reason entirely, even when enforcers can afford to apply it to some conduct, and instead to make all ambiguous conduct per se illegal.[104]

Despite the overall greater accuracy of the rule of reason at identifying bad conduct, relative to the accuracy of per se rules of illegality, the rule of reason will still tend to let some bad conduct escape detection, whereas a per se rule of illegality sweeps in all bad conduct, without error or exception, because a per se rule of illegality proscribes all conduct that falls within its ambit, bad or good.[105] Now, if by mostly bad conduct we mean conduct that does more harm to consumers than it does good, and by very bad conduct we mean conduct that does much more harm to consumers than it does good, then the small amount of bad conduct that the rule of reason lets slip may, if bad enough, do more harm than the good done by all the good conduct the rule of reason accurately identifies and correctly avoids condemning.[106] But in that case harm to consumers (that is, error costs) would be reduced by making the conduct per se illegal, for that would eliminate the bad conduct not precluded by the rule of reason at the cost only of condemning the less beneficial good conduct preserved by the rule of reason.[107]

In other words, sometimes a per se rule against all conduct is better for consumers even when rule of reason treatment for at least some of the conduct is affordable, and even when the conduct is known to have sufficient consumer-beneficial elements that a per se rule of illegality under current law, which allows such a rule only when the conduct always harms consumers, would be inappropriate.[108] This peculiar result depends both on the probability that the conduct will harm consumers and the extent to which the rule of reason tends

104. *Cf. id.*

105. *See* Beckner & Salop, *supra* note 44, at 64 (stating that the additional information generated by the rule of reason "is unlikely to eliminate all errors").

106. For a more precise definition of "mostly bad" conduct, see *infra* Part VII.

107. *Cf. id.* at 63–64.

108. *See* Cont'l T.V., Inc. v. GTE Sylvania Inc., 433 U.S. at 49–50.

erroneously to fail to preclude bad conduct.[109] As the rule of reason becomes better at precluding bad conduct, however, a per se rule against all conduct becomes less and less likely to make consumers better off relative to a rule of reason.

C. THE NECESSITY OF ARBITRARY ACTION

Conduct it perceives to be very bad aside, the Court must use rules of reason to the extent permitted by the enforcement budget in order to minimize error costs.[110] In this more general context, when the enforcement budget is insufficient to enable application of rules of reason to all ambiguous conduct, the choice of which *part* of the conduct to subject to the rule of reason, and which to bring under per se rules of illegality or legality, has, surprisingly, no effect on error costs.[111] Because all of the conduct is of the same perceived character, the conduct can arbitrarily be divided into conduct subject to the appropriate per se rule and conduct subject to the rule of reason, without regard to traditional categorizations of the conduct as predatory pricing, resale price maintenance, refusal to deal, and so on.[112] All that matters is that no more conduct than enforcers can afford to police (in the sense of no more conduct than can be accommodated by enforcers without forcing them to start reducing enforcement in order to balance their budgets) be placed in the rule of reason category. If, for example, the enforcement cost of applying the rule of reason to minimum resale price maintenance were the same as the enforcement cost

109. A mathematical description of this rule is given as Proposition 4 in the Appendix. This rule has already been recognized by a number of scholars. *See* Yannis Katsoulacos & David Ulph, *On Optimal Legal Standards for Competition Policy: A General Welfare-Based Analysis*, 57 J. INDUS. ECON. 410, 424–45 (2009); Juwon Kwak, *Optimal Antitrust Enforcement: Information Cost and Deterrent Effect*, 41 EUR. J.L. & ECON. 371, 383–84 (2016). *But see* Jacob Seifert, *Optimal Legal Standards for Competition Policy Revisited*, 194 ECON. LETTERS 109359 (2020); Yannis Katsoulacos & David Ulph, *Optimal Legal Standards for Competition Policy Further Re-Visited*, 196 ECON. LETTERS 109578 (2020).

110. If it is possible to vary the level of accuracy of the rule of reason, by changing the cost of applying it, and hence the cost of enforcing it, then it might be optimal to invest some of the budget in greater rule of reason accuracy, rather than in applying the rule of reason to the greatest possible amount of conduct. For more on this, see *infra* Part VIII and Proposition 5 in the Appendix.

111. *Cf.* Devlin & Jacobs, *supra* note 1, at 103 ("[T]he likelihood, magnitude, and presence of error are far from homogeneous across case types and business behaviors. Different forms of conduct are likely to give rise to distinct risks of error, even if those risks cannot be precisely quantified. As a result, there is good reason for antitrust law to develop unique standards or rules for each.").

112. *See id.* at 79–80 ("[T]he law acts as if error is apt to arise to the same extent for all offenses, other than for those condemned as per se illegal.").

of applying the rule of reason to one third of all predatory pricing and minimum resale price maintenance cases combined, then making predatory pricing per se illegal and subjecting resale price maintenance to the rule of reason would have the same error costs as subjecting both categories of conduct to the rule that every third case of either kind of conduct should fall under the rule of reason.[113]

Arbitrary treatment of ambiguous conduct may seem to be the kind of absurd academic result for which economic analysis of law has justly gained a bad reputation, but it is in fact directly relevant to one of the major cases in which the Court converted a rule of per se illegality to a rule of reason.[114] In *Continental T.V., Inc. v. GTE Sylvania Inc.*, the Court converted, to a rule of reason, the rule of per se illegality for non-price vertical restraints on goods for which the manufacturer relinquishes title; the ground the Court gave was that it was arbitrary to make restraints on goods for which the manufacturer relinquishes title per se illegal when restraints for which the manufacturer retains title are subject to the rule of reason.[115] The Court said nothing to suggest that the Court thought either kind of conduct to be worse than the other, however, which means that the Court could have divided the conduct up between rules of reason and rules of per se illegality however the Court wished—so long as enforcers could afford the rules of reason—without increasing error costs. The Court's reluctance arbitrarily to subject one part of the conduct to a per se rule of illegality and the other to a rule of reason was quite unfounded.[116]

The Court's decision to subject both categories of conduct to a rule of reason might well have pushed enforcers up against their budget constraint and forced them to respond by imposing a de facto per se rule on some of the conduct through reduced enforcement.[117] If that is true, then, unless the Court believes that non-price vertical restraints are mostly good for consumers, error costs increased as a result of the Court's move. If the Court believes that non-price restraints

113. *Cf.* David Rosenberg & Steven Shavell, *A Simple Proposal To Halve Litigation Costs*, 91 VA. L. REV. 1721, 1721 (2005) (arguing that randomly halving the number of tort cases and doubling damages would not "compromis[e] the functioning of our liability system in a significant way").

114. *See* ANTHONY T. KRONMAN, THE LOST LAWYER: FAILING IDEALS OF THE LEGAL PROFESSION 231–34 (1993).

115. *See* Cont'l T.V., Inc. v. GTE Sylvania Inc., 433 U.S. 36, 45–48, 52–55, 57–59 (1977).

116. *See id.* at 54 (arguing that there is no evidence that "the competitive impact of vertical restrictions is significantly affected by the form of the transaction").

117. *See id.* at 45–48, 52–55. For the behavior of enforcers under a budget constraint, see *supra* Part I.

are instead mostly bad for consumers, it would have been better if the Court had continued to subject a portion of the conduct to a per se rule of illegality. Assuming that the Court views all non-price vertical restraints as equivalent in harmfulness, the Court's arbitrary decision to make restraints for which the manufacturer relinquishes title per se illegal could not have been expected to harm consumers so long as enforcers' budgets were exhausted in the enforcement of rules of reason in other areas of conduct. The maxim that like conduct should be treated alike simply cannot be followed under a budget constraint in conjunction with a perception of the conduct as uniform in harmfulness.[118]

IV. THE COURT HAS NOT SAID WHETHER IT THINKS AMBIGUOUS CONDUCT IS MOSTLY GOOD OR MOSTLY BAD

Is it really the case that the Court has expressed no view regarding the harmfulness of ambiguous conduct? In truth, the U.S. Reports are littered with declarations of the virtue of much conduct in which antitrust once took an interest.[119] "[P]redatory pricing schemes are rarely tried, and even more rarely successful," declared the Court, for example, not long before it limited predatory pricing liability only to cases in which the plaintiff can show a dangerous probability of recoupment.[120] This might suggest that the Court actually believes ambiguous conduct to be mostly good, and, if that is the case, then the Court's embrace of rules of reason, and the resulting imposition of de facto rules of per se legality by budget-constrained enforcers, might be error-cost minimizing.

The Court's many declarations of the virtue of once-suspect conduct do not, however, apply to conduct that the Court believes to be ambiguous in character and so do not undermine the conclusion that the Court has expressed no view regarding the character of ambiguous

118. *See* Andrei Marmor, *Should Like Cases Be Treated Alike?*, 11 LEGAL THEORY 27, 27 (2005); Kenneth I. Winston, *On Treating Like Cases Alike*, 62 CALIF. L. REV. 1, 2–3 (1974).

119. *See* Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877, 889–92, 907–08 (2007) (reviewing evidence that resale price maintenance is good for competition and eliminating the Court's former per se rule of illegality for the practice); Verizon Commc'ns Inc. v. Law Offs. of Curtis V. Trinko, 540 U.S. 398, 407 (2004) ("The mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system."); Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 224–27 (1993) (arguing that below-cost pricing, absent evidence of a dangerous probability of recoupment, is good for consumers).

120. Matsushita Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. 574, 589 (1986).

conduct. The Court's declarations of virtue apply instead to conduct that the Court has made per se legal in recent years, and reflects the view of the Court that this conduct is not merely ambiguous conduct that is likely to be good, but conduct the Court considers unambiguously good.[121] Of course, just as in the case of conduct that the Court has continued to subject to per se rules of illegality, the Court is engaging in wishful thinking when the Court pronounces a practice unambiguously good.[122] All conduct is ambiguous in character.[123] The passion of the Court for deluding itself primarily into seeing conduct as unambiguously good rather than unambiguously bad reflects the success of the Chicago School in calling the antitrust project into question.[124]

The Court's passion for deluding itself into seeing conduct as unambiguously good does not, however, suggest that the Court believes ambiguous conduct to be mostly good. The Court really does believe that the conduct that it has made per se legal in recent decades is unambiguous in character, rather than ambiguous but mostly good, and so these new per se rules of legality, like the Court's declarations of virtue regarding the conduct to which the new rules apply, tell us nothing about the Court's views regarding the harmfulness of ambiguous conduct. When the Court in *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.* ultimately limited predatory pricing claims to cases in which the plaintiff can show recoupment, for example, the Court effectively replaced what once amounted to a per se rule against below-cost pricing with a per se rule of legality for the entire category of cases of below-cost pricing without recoupment.[125] In making per se legal conduct that includes no recoupment, the Court excised from legal scrutiny conduct—below-cost pricing without a dangerous probability of recouping the resulting losses through future high prices—that the Court declared to be "rarely successful" at harming

121. *See, e.g.*, Jefferson Par. Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 35–42 (1984) (O'Connor, J., concurring) (describing tying as harmful to consumers only in "rare cases"); Verizon Commc'ns Inc. v. Law Offs. of Curtis V. Trinko, 540 U.S. at 407 ("The mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system."); Matsushita Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. at 589 (describing predatory pricing as "rarely successful").

122. *See supra* text accompanying note 35.

123. *See* DUNCAN KENNEDY, A CRITIQUE OF ADJUDICATION: FIN DE SIÈCLE 157–79 (1997).

124. *See* Priest, *supra* note 6, at S5–7.

125. *See* Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 224–28 (1993).

consumers.[126] That phrase echoes the "almost always" language the Court uses to describe conduct that the Court subjects to per se rules today.[127] The language suggests that the Court thought the conduct to be unambiguously good—"rarely successful" at being bad means "almost always" good—and that in turn explains why the Court made the conduct per se legal. The Court subjected the remaining conduct, which the Court thought ambiguous in character—namely, below-cost pricing in the presence of a dangerous probability of recoupment—to rule of reason scrutiny, without saying anything about whether the Court thought that conduct to be likely to be mostly good or mostly bad.[128]

Declarations of virtue regarding once-suspect conduct are often found in cases in which the Court used increases in the minimum market share required for liability to effectively make per se legal the conduct of firms with market shares that fall below the minimum.[129] In these cases, the Court also converts a rule of per se illegality for the challenged conduct to a rule of reason.[130] The net effect is to convert conduct by firms that meet the old lower share requirement but not the new higher share requirement from per se illegality to per se legality, and to convert conduct by firms that had always met the new higher share requirement from per se illegality to scrutiny under a rule of reason. The Court's declarations of virtue in connection with these rule changes apply to the conduct that goes from per se illegality to per se legality, not to the conduct that goes from per se illegality to scrutiny under a rule of reason.[131] That is, the declarations apply only

126. *See id.*

127. *See* Broad. Music, Inc. v. Columbia Broad. Sys., Inc., 441 U.S. 1, 19–20 (1979).

128. *See* Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. at 222–27 (identifying below-cost pricing and recoupment as "prerequisites" for liability, not guarantees of liability); GAVIL ET AL., *supra* note 35, at 596–600 (treating the predatory pricing test as one of several possible rule-of-reason-style approaches to non-per se treatment of single-firm exclusionary conduct).

129. *See* GAVIL ET AL., *supra* note 35, at 697–99 (discussing increase in de facto share requirements for scrutiny of horizontal mergers); HOVENKAMP, *supra* note 14, at 538–40, 594–97 (discussing increases in de facto share requirements for tying and exclusive dealing).

130. *See* Brown Shoe Co. v. United States, 370 U.S. 294, 345–46 (1962); United States v. Phila. Nat'l Bank, 374 U.S. 321, 364–66 (1963); Int'l Salt Co. v. United States, 332 U.S. 392, 395–96 (1947); Standard Oil Co. of Cal. v. United States, 337 U.S. 293, 295, 299, 314 (1949); Jefferson Par. Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 35–42, 45 (1984) (O'Connor, J., concurring); GAVIL ET AL., *supra* note 35, at 679–80 (discussing move in merger law toward analysis of effects).

131. *See* Jefferson Par. Hosp. Dist. No. 2 v. Hyde, 466 U.S. at 35–42, 45 (O'Connor, J., concurring); United States v. Baker Hughes Inc., 908 F.2d 981, 984–87 (D.C. Cir. 1990).

to conduct that the Court makes per se legal, and which the Court must therefore believe to be unambiguously good, not to conduct that the Court believes to be ambiguous in character and which the Court therefore subjects to rule of reason treatment.

Perhaps the most important example of this type is the horizontal merger. In 1962, the Court famously upheld the blocking of a merger between competitors in the shoe retail market that would have resulted in a combined market share of 5%, and, in a pair of 1966 cases, the Court blocked a supermarket merger accounting for a 7.5% market share and a beer merger accounting for a 4.5% market share.[132] The rationale for these rulings, articulated in *Brown Shoe Co. v. United States*, was the slippery slope.[133] Even if a particular merger did not appear objectionable, argued the Court, approving one small merger would force the Court to approve all small mergers, with the result that there would eventually be no small firms left in the industry and consumers would be harmed.[134] The implication was that the Court had no choice but effectively to prohibit all horizontal mergers.[135] "The Government," declared Justice Stewart in surveying the cases, "always wins."[136] The Justice Department's 1982 merger guidelines killed this de facto per se rule against horizontal mergers and inaugurated a period of lax merger enforcement, continuing to this day, in which only mergers to three or fewer firms in the market are challenged by enforcers.[137] Moreover, the mere fact of a challenge, rare as it is today, is no longer the kiss of death observed by Justice Stewart.[138] Although the "structural presumption" of the mid-century cases, which the Court relied upon in treating all horizontal mergers as almost automatically unlawful, is still on the books, the Court now

132. *See* Brown Shoe Co. v. United States, 370 U.S. at 343–44, 346; United States v. Von's Grocery Co., 384 U.S. 270, 272, 278 (1966); United States v. Pabst Brewing Co., 384 U.S. 546, 550, 552–53 (1966).

133. *See* 370 U.S. at 343–44 ("If a merger achieving 5% control were now approved, we might be required to approve future merger efforts . . . . The oligopoly Congress sought to avoid would then be furthered . . . .").

134. *Id.*

135. *See* DANIEL J. GIFFORD & ROBERT T. KUDRLE, THE ATLANTIC DIVIDE IN ANTITRUST: AN EXAMINATION OF US AND EU COMPETITION POLICY 6 (2015) (stating that in the 1960s the Supreme Court "virtually barred all horizontal mergers by companies of any significant size"); HOVENKAMP, *supra* note 14, at 668 (observing that under the old approach to merger law, it was thought that "high concentration *entailed* poor performance" whereas "the new approach tends to view high concentration as merely a *prerequisite* for . . . poor performance").

136. *Von's Grocery*, 384 U.S. at 301 (Stewart, J., dissenting).

137. *See* GAVIL ET AL., *supra* note 35, at 696–700.

138. *See Von's Grocery*, 384 U.S. at 301 (Stewart, J., dissenting).

allows defendants to rebut the presumption with evidence that consumers will benefit from the merger. So mergers today are effectively subject to a rule of searching review for consumer harm, which is to say, to a rule of reason.[139] The net result of these two changes, the limitation of enforcement to large mergers and the de facto application of a rule of reason standard to those large mergers, has been to replace the de facto per se rule of illegality for mergers to small market shares with a per se rule of legality and to replace the de facto rule of per se illegality for mergers to large market shares with a rule of reason.[140] The terms under which enforcers and the lower courts have undertaken this change, and in which the Court has acquiesced, could not be clearer.[141] Courts and enforcers view low-market-share mergers as unambiguously good for consumers.[142] Whereas courts and enforcers view high-market-share mergers as ambiguous in harmfulness, and for this reason courts now subject high-market-share mergers to rule of reason analysis.[143] Courts and enforcers have been entirely silent, however, about whether they believe high-market-share mergers likely to be mostly good for consumers or mostly bad for them.

As in the case of mergers, the Court has used increases in market share thresholds to create rules of per se legality with respect to exclusive dealing. But here the Court has increased the minimum share of an upstream or downstream market that the defendant must foreclose in order for liability to exist rather than, as the Court has allowed the lower courts to do in the merger context, increasing the minimum market share of the defendant required for liability to exist. In the

139. *See* United States v. Phila. Nat'l Bank, 374 U.S. 321, 364–65 (1963) (creating the structural presumption); United States v. Baker Hughes Inc., 908 F.2d 981, 990–92 (D.C. Cir. 1990) (rebutting structural presumption); United States v. Gen. Dynamics Corp., 415 U.S. 486, 503–04 (1974) (rebutting structural presumption); Andrew I. Gavil, *Moving Beyond Caricature and Characterization: The Modern Rule of Reason in Practice*, 85 S. CAL. L. REV. 733, 762, 762 n.144 (2012) (suggesting that merger law applies a rule of reason); GAVIL ET AL., *supra* note 35, at 692–708 (tracking the decline of the structural presumption); Decision and Order at 168–69, State of New York v. Deutsche Telekom AG, No. 19-cv-05434 (S.D.N.Y. Feb. 11, 2020) (declining to block merger on ground that the merger would benefit consumers). That said, most merger challenges today are rejected because the merger is thought to have no anticompetitive effects (e.g., because it is too small) rather than because the merger is thought to benefit consumers notwithstanding anticompetitive effects.

140. *See* GAVIL ET AL., *supra* note 35, at 692–708.

141. *See id.* at 697–700 (observing that although the Court has not decided a merger case since the 1970s, the Court has acquiesced in the major changes in merger law brought about by enforcers and the lower courts since that time).

142. *See id.* at 699; U.S. DEP'T OF JUST. & FTC, HORIZONTAL MERGER GUIDELINES § 5.3 (2010).

143. *See* GAVIL ET AL., *supra* note 35, at 699.

1949 case known as *Standard Stations*, the Court effectively made illegal per se exclusive dealing contracts that lock up more than 7% of a market from competing sellers.[144] In 1961, the Court in *Tampa Electric Co. v. Nashville Coal Co.* seemed to go the other way, suggesting rule of reason treatment for contracts that satisfy this foreclosure requirement.[145] But the Court in effect reimposed the per se rule of illegality for such contracts the following year in *Federal Trade Commission v. Brown Shoe Co.*, a case that also drove the foreclosure threshold to less than 1%, making virtually all exclusive dealing contracts per se illegal.[146] Over subsequent decades, however, the foreclosure threshold inched up and treatment of suspect conduct became increasingly careful, until *Jefferson Parish Hospital District No. 2 v. Hyde* in 1984 created the current state of affairs in which exclusive dealing that fails to foreclose more than 30% of the market is so unlikely to be condemned by the Court that it is functionally per se legal and exclusive dealing that forecloses more than 30% of the market is subject to rule of reason treatment on the model of *Tampa Electric*.[147] Justice O'Connor's observation in her celebrated *Jefferson Parish* concurrence that exclusive dealing contracts "of narrow scope pose no threat of adverse economic consequences" and "may be substantially procompetitive" referred to the character of those contracts that foreclose up to 30% of the market and are effectively per se legal today.[148] Of the ambiguous conduct that forecloses more than that amount, Justice O'Connor expressed no opinion regarding the likelihood of harm.[149]

A similar transition has taken place for tying, which is the conditioning of the sale of one product on purchase of another product also offered by the seller.[150] The Court made the practice per se illegal in a 1947 case in which the defendant required that buyers of its industrial salting machines purchase all of the salt to be used with the machines from the defendant.[151] The Court later limited the per se rule of illegality to cases in which the defendant has market power in one of the

144. *See* Standard Oil Co. of Cal. v. United States, 337 U.S. 293, 295, 299, 314 (1949).

145. *See* 365 U.S. 320, 327–29 (1961).

146. *See id.*; FTC v. Brown Shoe Co., 384 U.S. 316, 320–21 (1966); GAVIL ET AL., *supra* note 35, at 974.

147. *See* HOVENKAMP, *supra* note 14, at 596; Jefferson Par. Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 44–46 (1984) (O'Connor, J., concurring); Tampa Elec. Co. v. Nashville Coal Co., 365 U.S. at 327–29.

148. Jefferson Par. Hosp. Dist. No. 2 v. Hyde, 466 U.S. at 45 (O'Connor, J., concurring).

149. *See id.* at 44–46.

150. *See* HOVENKAMP, *supra* note 14, at 534.

151. *See* Int'l Salt Co. v. United States, 332 U.S. 392, 394, 396 (1947).

two products, on the theory that the tie cannot force consumers to buy an unwanted product unless one of the products is to some extent indispensable to consumers.[152] Since about 1984, however, this per se rule of illegality has only really existed on paper.[153] In some circuits, plaintiffs who have established power now still must establish "anticompetitive effects," just as in rule of reason analysis.[154] And even when courts do not require such a showing, courts permit defendants to offer a slew of defenses that transform the analysis into an open-ended inquiry into consumer welfare, including the defense that the tie was needed to introduce consumers to the tied product, and the defense that consumers actually prefer the product bundle.[155] Justice O'Connor's concurrence in *Jefferson Parish*, which also outlined what a rule of reason style approach to tying might resemble, has, in effect, if not as a matter of explicit judicial command, become the actual test for tying.[156] The net result is that the original per se rule of illegality for tying has become a per se rule of legality for tying cases that fail to meet the loose market power requirement and, since about 1984, a rule of reason for all other tying cases. Justice O'Connor's observation that "[t]ying may be economically harmful primarily in the rare cases where power in the market for the tying product is used to create *additional* market power in the market for the *tied* product" spoke to her view that tying without market power almost never results in consumer harm, not to any view that when there is market power, and the character of the conduct is therefore ambiguous, tying is mostly bad for consumers.[157]

Each of these examples has involved dividing conduct once subject to a rule of per se illegality into a part that is subject to a rule of per se legality and a second part that is subject to a rule of reason (although it should be noted that for tying the imposition of the per se rule of legality on the first part took place long before the moment during the error cost revolution when the Court converted the second part to a rule of reason). The Court's treatment of vertical mergers has been less complicated. The Court has simply flipped from a per se rule

152. *See* Fortner Enters., Inc. v. U.S. Steel Corp., 394 U.S. 495, 505 (1969).

153. *See* Jefferson Par. Hosp. Dist. No. 2 v. Hyde, 466 U.S. at 34–35 (O'Connor, J., concurring); HOVENKAMP, *supra* note 14, at 550.

154. *See* HOVENKAMP, *supra* note 14, at 535.

155. *See id.* at 580–81.

156. *See* Jefferson Par. Hosp. Dist. No. 2 v. Hyde, 466 U.S. at 32–35 (O'Connor, J., concurring); HOVENKAMP, *supra* note 14, at 584.

157. *See* Jefferson Par. Hosp. Dist. No. 2 v. Hyde, 466 U.S. at 36–37 (O'Connor, J., concurring).

of illegality for vertical mergers to a de facto per se rule of legality.[158] Up until the mid-1970s, the Court prohibited all vertical mergers that foreclose more than 15% of the market, and probably prohibited mergers that foreclose as little as 1%.[159] A rule of reason applied to the few vertical mergers that did not satisfy this very low threshold.[160] But by the mid-1980s, lower courts were rejecting cases involving any amount of foreclosure, with one declaring that vertical mergers are no longer even a "suspect category."[161] Vertical mergers had, in the eyes of the courts, become unambiguously good, and the Court acquiesced in this change.[162]

V. APPLICATION TO RECENT RULE CHANGES

In many of the areas of antitrust law described in Part IV, the Court (or the lower courts in merger cases) started with conduct subject to a rule of per se illegality and divided the conduct in two, making one portion per se legal and subjecting the other to the rule of reason, using a market share screen applied to the defendant to draw the line. Assuming that enforcers did not have any slack in their budgets when these changes were put into law—and in Part III argued that they did not—enforcers would only have been able to enforce the new rules of reason if the Court had changed the rules to be applied to some other category of antitrust-relevant conduct in a way that reduced enforcement costs or if enforcers had reduced the vigor with which they enforced the antitrust laws. This Article argues that enforcers balanced their budgets by reducing the vigor with which they enforced the antitrust laws, and indeed that enforcers continue to balance their budgets by enforcing the antitrust laws with less vigor than they would have had the antitrust laws remained primarily a collection of per se rules rather than rules of reason. But this argument follows only if all

158. *See* GAVIL ET AL., *supra* note 35, at 880–82; HOVENKAMP, *supra* note 14, at 522, 532; Brown Shoe Co. v. United States, 370 U.S. 294, 334 (1962); Reazin v. Blue Cross & Blue Shield of Kan., Inc., 663 F. Supp. 1360, 1489 (D. Kan. 1987).

159. *See* Brown Shoe Co. v. United States, 370 U.S. at 369, 373 (condemning a vertical merger that foreclosed 1% of the market); Ford Motor Co. v. United States, 405 U.S. 562, 568, 575 (1972); Ash Grove Cement Co. v. FTC, 577 F.2d 1368, 1371–72, 1380 (9th Cir. 1978); GAVIL ET AL., *supra* note 35, at 876–77.

160. *See* HOVENKAMP, *supra* note 14, at 528 (noting the requirement of proof of anticompetitive effect).

161. *See id.* at 529; Reazin v. Blue Cross & Blue Shield of Kan., Inc., 663 F. Supp. at 1489.

162. *See* GAVIL ET AL., *supra* note 35, at 880. The lower courts recently affirmed their hostility to vertical merger cases in rejecting the government's case against the AT&T/TimeWarner merger. *See* United States v. AT&T, Inc., 916 F.3d 1029 (D.C. Cir. 2019); United States v. AT&T, Inc., 310 F. Supp. 3d 161 (D.D.C. 2018).

the new rules of per se legality also created by the Court at the same time that the Court adopted all the new rules of reason did not already balance enforcement budgets.

The new per se rules of legality created by the Court cannot be expected to have paid for the rules of reason, however, because most of those per se rules of legality replaced per se rules of illegality, which are cheap to enforce relative to rules of reason, so the savings generated by the rules of per se legality were likely lower than the enforcement cost increases created by the new rules of reason and therefore are unlikely to have fully offset the cost increases.[163] Indeed, unless the enforcement cost of per se rules of illegality is closer to the enforcement cost of rules of reason than it is to the enforcement cost of per se rules of legality, which seems unlikely in light of anecdotal evidence regarding the enforcement cost of rules of reason, the savings from the conversion of per se rules of illegality to per se rules of legality with respect to a given amount of conduct cannot equal the enforcement cost created by the conversion of rules of per se illegality to rules of reason for an equal amount of conduct.[164] If—to choose a few figures at random—the rule of reason costs $11 to enforce with respect to a particular amount of conduct, and the rule of per se legality costs $1 to enforce with respect to that amount of conduct, then converting a rule of per se illegality to a rule of per se legality with respect to a given amount of conduct will create enough enforcement cost savings to offset the cost of converting a rule of per se illegality to a rule of reason for an equal amount of conduct only if the rule of per se illegality costs $6 or more to enforce. It is likely, however, that a rule of per se illegality would cost $3 or $4—an amount much closer to the $1 cost of enforcing a per se rule of legality, because neither rule requires a costly inquiry into consumer harm.

One caveat is that if the amount of conduct converted from per se illegality to per se legality is larger than the amount of conduct converted from per se illegality to rules of reason, then the savings from the former change could offset the enforcement cost of the latter because enforcement costs increase per unit of conduct to which a rule is applied. If enforcers save $2 or $3 per unit of conduct on the conversion from per se illegality to per se legality, but incur a cost increase of $5 per unit of conduct on the conversion from per se illegality to rules of reason, then, although, unit for unit, costs rise as a result

163. *See* Stucke, *supra* note 6, at 1460–65.

164. *See id.*; Nealis, *supra* note 18, at 367–70; Herbert Hovenkamp, *The Rule of Reason*, 70 FLA. L. REV. 81, 98–136 (2018) (addressing the costs associated with the burden of proof and evidentiary requirements of the rule of reason).

of these rule changes, if the conversion from per se illegality to per se legality affects three units of conduct and the conversion from per se illegality to rules of reason affects only one unit of conduct, then the savings will be $6 to $9, which does offset the $5 increase in costs for the one unit of conduct affected by the conversion of rules of per se illegality to rules of reason.

The conduct the Court converted from per se illegality to per se legality was, however, often lesser in amount than the conduct the Court converted from per se illegality to the rule of reason, and in any case unlikely to be so much larger in amount as to compensate for the vastly greater enforcement cost of rule of reason cases. Market share thresholds in merger and exclusive dealing cases remain at about 30%, meaning that 70% of conduct was likely converted from per se illegality to rule of reason treatment.[165] Even if conduct is not uniformly distributed in the market or foreclosure shares of the firms engaging in the conduct, mergers and exclusive dealing would need to be badly skewed in incidence towards small-share contexts for the top 70% of conduct by share to be smaller in amount than the bottom 30%, and would need to be smaller still to offset high rule of reason enforcement costs.

Predatory pricing and vertical mergers are the only exception. The courts now treat vertical mergers as per se legal (a few exceptional cases aside), so no enforcement cost increases associated with the embrace of rules of reason happened in the vertical merger area, and so enforcers have saved money from this change.[166] It is also likely that there are very few predatory pricing cases involving recoupment, and so the cost of the embrace of a rule of reason for recoupment cases was likely small relative to the savings from making below-cost pricing without recoupment legal per se. The savings enjoyed by enforcers in those areas certainly help enforcers cover the costs of rules of reason but are unlikely fully to offset them given the great expense of rules of reason.

The unlikelihood that the new per se rules of legality offset the cost of the new rules of reason is reinforced by the fact that the Court also replaced several per se rules of illegality over this period with rules of reason, without creating any potentially compensating rules of per se legality at the same time, likely more than offsetting any savings from converting rules of per se illegality to rule of per se legality

165. *See* United States v. Phila. Nat'l Bank, 374 U.S. at 364–65; Jefferson Par. Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 44–46 (1984) (O'Connor, J., concurring).

166. *See* GAVIL ET AL., *supra* note 35, at 880–82; HOVENKAMP, *supra* note 14, at 527–30.

in the areas of predatory pricing and vertical mergers. Tying, discussed in Part IV, is one example: courts effectively converted tying in the presence of market power from per se illegality to rule of reason treatment in the early 1980s. Intrabrand vertical restraints are another. These are restrictions imposed by manufacturers on the behavior of retailers with respect to the sale of the manufacturer's goods.[167] In the late 1960s, all such restraints, whether they involved imposition of a minimum or maximum price at which the retailer could sell the good or restricted the manner of sale, were per se unlawful.[168] By 2007, however, the Court had subjected all intrabrand restraints to the rule of reason, the Court's opinion in *Leegin Creative Leather Products v. PSKS, Inc.* putting the final nail in the coffin of per se treatment for intrabrand restraints by overturning the 97-year-old rule against resale price maintenance.[169] The Court did not make any intrabrand vertical restraints per se legal. Needless to say, in the cases that converted the per se rule against intrabrand vertical restraints to a rule of reason, the Court made no effort to ensure that prevailing enforcement budgets could handle the added enforcement cost.[170]

By converting the rule of per se illegality for intrabrand vertical restraints to a rule of reason, the Court signaled that it considers intrabrand vertical restraints to be ambiguous conduct. It is worth noting, in connection with the argument of Part IV, that the Court said nothing in *Leegin*, however, to suggest whether the Court believes intrabrand vertical restraints to be mostly good or mostly bad.[171] What the Court emphasized instead was the conduct's ambiguity: "Though each side of the debate can find sources to support its position, it suffices to say here that economics literature is replete with procompetitive justifications for a manufacturer's use of resale price maintenance."[172] The Court's emphasis on procompetitive justifications here does not express a belief that resale price maintenance is mostly good,

167. *See* GAVIL ET AL., *supra* note 35, at 898; HOVENKAMP, *supra* note 14, at 602.

168. *See* Dr. Miles Med. Co. v. John D. Park & Sons Co., 220 U.S. 373, 407–09 (1911); United States v. Arnold, Schwinn & Co., 388 U.S. 365, 379 (1967); Albrecht v. Herald Co., 390 U.S. 145, 147, 154 (1968). For the discussion of arbitrary conduct, see *supra* Part III.B.3.

169. 551 U.S. 877, 889–92, 907–08 (2007); Dr. Miles Med. Co. v. John D. Park & Sons Co., 220 U.S. at 407–09; Cont'l T.V., Inc. v. GTE Sylvania Inc., 433 U.S. 36, 59 (1977); State Oil Co. v. Khan, 522 U.S. 3, 22 (1997).

170. For the reaction of enforcers to the budget constraint, see *supra* Part I.

171. *See* Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. at 889–99; Cont'l T.V., Inc. v. GTE Sylvania Inc., 433 U.S. at 51–59; State Oil Co. v. Khan, 522 U.S. at 14–21.

172. Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. at 889.

but rather the Court's rejection of the Court's former position that resale price maintenance is exclusively anticompetitive.

The Court also replaced per se rules of illegality (here de facto rather than formal) with rules of reason in the area of refusals to deal.[173] The claim that a firm has acted to exclude a competitor from the market in violation of section 2 of the Sherman Act by denying the competitor access to an essential input has always been accorded rule of reason treatment in name.[174] But in the 1960s and 1970s the lower courts developed a general test for such claims, known as the essential facilities doctrine, that has little rule of reason flavor.[175] The doctrine provided for liability under section 2's prohibition on monopolization if the following four bright-line requirements were met: (1) the defendant controls an essential facility; (2) competitors cannot reasonably duplicate the facility; (3) the defendant denies access to a competitor; and (4) the defendant could feasibly provide access.[176] The extraordinary thing about this test is that it did not require a showing of anticompetitive effect, much less consumer harm, as required under rule of reason review.[177] The essential facilities doctrine was in fact a per se rule against all conduct falling within the ambit of its four requirements.

In 2007, however, the Court in *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko* expressed deep skepticism about the essential facilities doctrine, and no court has since applied the doctrine to decide a case.[178] Instead, the courts now handle refusal to deal cases using full-blown rule of reason analysis.[179] The only semblance of a formal rule that is left in refusal to deal doctrine today is the requirement that the refusal constitute termination of a prior profitable course of dealing, a requirement that has never squarely been endorsed by the Court and remains controversial.[180] Thus what was

173. *See* HOVENKAMP, *supra* note 14, at 387–416.

174. *See* 15 U.S.C. § 2; HOVENKAMP, *supra* note 14, at 387–416.

175. *See* Robert Pitofsky, Donna Patterson & Jonathan Hooks, *The Essential Facilities Doctrine Under U.S. Antitrust Law*, 70 ANTITRUST L.J. 443, 445–49 (2002); MCI Commc'ns v. Am. Tel. & Tel. Co., 708 F.2d 1081, 1132–33 (7th Cir. 1983).

176. *See* Pitofsky et al., *supra* note 175, at 445–49; MCI Commc'ns v. Am. Tel. & Tel. Co., 708 F.2d at 1132–33.

177. *See* United States v. Microsoft Corp., 253 F.3d 34, 58 (D.C. Cir. 2001); Muris, *supra* note 7, at 861; HOVENKAMP, *supra* note 14, at 341.

178. 540 U.S. 398, 410–11 (2004).

179. *See, e.g.*, United States v. Microsoft Corp., 253 F.3d at 58.

180. *See* Verizon Commc'ns Inc. v. Law Offs. of Curtis V. Trinko, 540 U.S. at 409–10; United States v. Microsoft Corp., 253 F.3d at 58 (applying rule of reason analysis); Howard A. Shelanski, *Unilateral Refusals To Deal in Intellectual and Other Property*, 76

once a per se rule against refusals to deal in essential inputs has today become a costly rule of reason.

In connection with the argument of Part IV, it is worth noting here as well that the Court's comments in *Trinko* about the character of refusals to deal showed that the Court views monopolizing conduct as ambiguous, and did not suggest that the Court believes the conduct to be more or less harmful to consumers than any other kind of ambiguous conduct.[181] The Court observed that "we have been very cautious in recognizing" refusals to deal as antitrust violations "because of the uncertain virtue of forced sharing and the difficulty of identifying . . . anticompetitive conduct by a single firm."[182] It was the remedy, and the ambiguity of the conduct, that the Court emphasized, not a belief that the conduct is mostly good for consumers.[183]

The Court's conversion of per se rules of legality in the areas of tying, intrabrand vertical restraints, and monopolization—all of which comprise conduct that is of great value to consumers—to rules of reason likely more than offset any enforcement cost savings associated with the Court's adoption of rules of per se legality for predatory pricing and vertical mergers.

VI. ANTITRUST'S RULES VS. STANDARDS EXCEPTIONALISM

In the rule-change cases discussed in Part IV and Part V, the Court rejected rules of per se illegality for conduct that the Court had come to view as ambiguous in harmfulness to consumers, preferring instead to apply rules of reason. The Court's rejection of per se rules of illegality for ambiguous conduct in antitrust contrasts greatly with the approach of courts to ambiguity in all other areas of the law.

First-year law students inevitably encounter, perhaps in a course on contract law, a lesson on the importance of rules over standards.[184] The substance of this lesson is that the sympathetic defendant, no matter how destitute, must still be made to pay up under the terms of the contract, even to a wealthy defendant who does not really need the money, even if the defendant's children may starve, and even if according to every social or moral metric the contract should not be performed because the cost of filtering every individual contract case for

ANTITRUST L.J. 369, 372–73 (2009); Frank X. Schoen, Note, *Exclusionary Conduct After* Trinko, 80 N.Y.U. L. REV. 1625, 1631 (2005).

181. *See* Verizon Commc'ns Inc. v. Law Offs. of Curtis V. Trinko, 540 U.S. at 408.

182. *See id.*

183. *See id.*

184. *See* Douglas G. Baird & Robert Weisberg, *Rules, Standards, and the Battle of the Forms: A Reassessment of § 2-207*, 68 VA. L. REV. 1217, 1227–28 (1982).

unfair consequences is simply too high.[185] If asked in every case to prove that enforcement of contract terms is good for society, the lesson continues, plaintiffs would find it cost effective only to bring many fewer cases and might desist even from bringing cases in which the enforcement of harsh terms would actually be fair.[186] To make the enforcement of contracts practicable, students learn, the law of contracts must be a law of bright-line rules, not of standards.[187] Breach must always give rise to a remedy, and justice cannot be meted out on a case-by-case basis, however regrettable that may be for widows and orphans, and however desirable case-by-case adjudication of social consequences might be in a world of unlimited resources.[188] It is in the nature of law—indeed, law's defining feature—to outrage morality in the interests of expediency, to sacrifice some innocents on the altar of pursuit of the great mass of the guilty.[189] Absent that cold stare, the lesson concludes, the law becomes no different from justice.

Treating all deviations from the letter of contract terms as breach is tantamount to imposing a per se rule of illegality on conduct that is ambiguous in terms of the harm it inflicts on society because some breaches of contract are probably good for the public while others of course are not.[190] But to impose per se rules of illegality on ambiguous conduct is just what antitrust used to do before the Court embraced the rule of reason presumption.[191] The Court's old view that per se rules are necessary given enforcement budget constraints is the normal way of things everywhere else in the law: most other areas of law are in fact just collections of per se rules applied to ambiguous conduct.[192] In the criminal law, the killer with intent goes to prison even

185. *See* Duncan Kennedy, *Form and Substance in Private Law Adjudication*, 89 HARV. L. REV. 1685, 1692, 1708 (1976); Baird & Weisberg, *supra* note 184, at 1229–30.

186. Kennedy, *supra* note 185, at 1692, 1708; Baird & Weisberg, *supra* note 184, at 1229–30.

187. *See* Baird & Weisberg, *supra* note 184, at 1231 ("Although formal rules may ignore the bargain-in-fact in particular cases, adherence to such rules furthers the goal of promoting mutually beneficial transactions . . . .").

188. *See id.* at 1229–31.

189. *See* James Barr Ames, *Law and Morals*, 22 HARV. L. REV. 97, 110 (1908) ("The law is utilitarian. It exists for the realization of the reasonable needs of the community. If the interest of an individual runs counter to this chief object of the law, it must be sacrificed. That is why . . . the innocent suffer and the wicked go unpunished.").

190. *See* Melvin A. Eisenberg, *Actual and Virtual Specific Performance, the Theory of Efficient Breach, and the Indifference Principle in Contract Law*, 93 CALIF. L. REV. 975, 997–1013 (2005) (discussing the theory of efficient breach in contract law).

191. *See supra* Part I.

192. *See* N. Pac. Ry. Co. v. United States, 356 U.S. 1, 5–6 (1958); United States v. Socony-Vacuum Oil Co., 310 U.S. 150, 221–22 (1940).

if the loosening of the homicide victim's mortal coil has made the world a better place.[193] The violator of the duty of care in tort and the trespasser in property both pay because they have crossed bright lines, regardless whether their behavior created a net gain for society or not.[194] So, too, in the intellectual property arena, the unauthorized copier of textbooks pays, or even serves time in prison, regardless whether the copies helped the disadvantaged to learn or not.[195] Only in antitrust today does one find what Max Weber denigrated as premodern "kadi justice:" a free-wheeling and case-specific inquiry into the harmfulness to society of the challenged conduct (with society proxied in antitrust by harm to consumers).[196]

It is hard not to see in this antitrust exceptionalism the hand of wealthy defendants, who have pushed, through a Chicago School movement lavishly funded by defendant money, to buy for themselves that rarest of things in the law: a law of justice, rather than a law of rules; a law oriented to getting every case right at all costs, not most cases right under budget.[197] That is, money seems to have bought antitrust defendants something enjoyed not even by that most needy of defendants, the capital defendant, who dies for violating per se rules against killing with malice aforethought regardless of the overall social value of his deed.[198]

193. *See* SANFORD H. KADISH & STEPHEN J. SCHULHOFER, CRIMINAL LAW AND ITS PROCESSES: CASES AND MATERIALS 387–89 (7th ed. 2001) (describing the intent requirement for murder); Joshua Dressler, *Rethinking Heat of Passion: A Defense in Search of a Rationale*, 73 J. CRIM. L. & CRIMINOLOGY 421, 456–58 (1982) ("[O]ne must remember that the basis for adjudging harm is not supposed to be Victim's character or personality.").

194. *See, e.g.*, Charles O. Gregory, *Trespass to Negligence to Absolute Liability*, 37 VA. L. REV. 359, 361 (1951) ("[W]here X deliberately trespasses on the land of another, he is held liable for any harm incidental to such trespass, no matter how unforeseeable it was or how little he had any intention of causing damage at all."); Henry T. Terry, *Negligence*, 29 HARV. L. REV. 40, 40–41 (1915).

195. *See, e.g.*, Cambridge Univ. Press v. Albert, 906 F.3d 1290, 1302 (11th Cir. 2018) (siding with publishers in an action for copyright infringement against a university serving disadvantaged students that had allowed faculty to share copies of expensive textbooks with their students); 1 MARK D. JANIS, HERBERT HOVENKAMP & MARK A. LEMLEY, IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW 751 (1st ed. 2002) (discussing criminal penalties for copyright infringement); 17 U.S.C. § 506; 18 U.S.C. § 2319.

196. *See* 2 MAX WEBER, ECONOMY AND SOCIETY: AN OUTLINE OF INTERPRETIVE SOCIOLOGY 758–60 (Guenther Roth & Claus Wittich eds., 1968).

197. *See* Elliott Ash, Daniel L. Chen & Suresh Naidu, Ideas Have Consequences: The Effect of Law and Economics on American Justice 2–6 (March 20, 2019) (unpublished manuscript), https://ssrn.com/abstract=2992782 [https://perma.cc/FEX7-V2WL].

198. *See* KADISH & SCHULHOFER, *supra* note 193, at 387–89, 483–84.

But the money story is perhaps not so clear cut as appears at first glance. For the orientation of antitrust toward doing justice in the individual case has, if anything, roots in the progressive movement, which can hardly be described as prioritizing the interests of large antitrust defendants.[199] It was Justice Brandeis, for example, author of "The Curse of Bigness," who wrote the majority opinion in *Board of Trade of Chicago v. United States*, the 1918 case that first gave flesh to the rule of reason.[200]

To understand antitrust's rules-vs.-standards exceptionalism, it is necessary to understand antitrust's intellectual origins. Progressives of the late nineteenth and early twentieth centuries revolted against a legal landscape that, in their view, was asphyxiating government policymaking with inflexible rules left over from earlier ages that had faced very different problems from those faced by the modern world.[201] Some progressives tried to respond to the straightjacket of old laws by encouraging judges to reinterpret rules to achieve better policy outcomes.[202] Imposing this "legal realist" approach on judges deciding cases in established areas of the law turned out to be difficult, however, because reinterpreting rules in light of policy goals smacks of lawlessness and political agency.[203] A realist judge must ignore the plain meaning of legacy legal doctrine in favor of the judge's own outcome-oriented reinterpretations. Although the realist judge is supposed to choose those reinterpretations with the good of society in mind, the reinterpretations could look to others, and even to the realist judge himself, uncomfortably like instantiations of the judge's own personal political preferences.[204]

In creating the antitrust laws in 1890, progressives sought to overcome the natural judicial reluctance to reinterpret rules by building reinterpretation into the antitrust system and, they hoped,

199. *See* Bd. of Trade of Chi. v. United States, 246 U.S. 231, 238 (1918); RICHARD HOFSTADTER, THE AGE OF REFORM 215–271 (1961).

200. *See* LOUIS D. BRANDEIS, OTHER PEOPLE'S MONEY AND HOW THE BANKERS USE IT (1914); Bd. of Trade of Chi. v. United States, 246 U.S. at 235–41; GAVIL ET AL., *supra* note 35, at 104.

201. *See* MORTON J. HORWITZ, THE TRANSFORMATION OF AMERICAN LAW, 1870–1960, at 169–70, 189–92 (1992).

202. *See id.* at 187–92.

203. *See id.* at 191 (noting Justice Cardozo's concerns about the "danger of discretion"); KENNEDY, *supra* note 123, at 180 (arguing that judges deny that they are influenced by ideology in order to avoid "confront[ing] the contradictory character of the role constraints under which [they] operate").

204. *See* KENNEDY, *supra* note 123, at 180.

thereby ensuring that the law would evolve as society changed.[205] To prevent judges from feeling embarrassed to reinterpret an old rule of antitrust law, progressives made the texts of the antitrust laws brief, cryptic, and indeed constitutional in character.[206] The law prohibited agreements "in restraint of trade" and conduct that tends to "monopolize"; and that was it.[207] More importantly, progressives injected the legal realist spirit into antitrust adjudication from the very beginning, ensuring that courts explicitly accepted that the interpretation of the antitrust laws would be a common-law-like process according to which the courts would periodically reinterpret the rules to better conform them to a changing economy.[208] Antitrust is, as a result, probably the greatest triumph of legal realism.

Antitrust reflects not only the progressives' legal realism, however, but also their wariness of law itself.[209] Frustrated with the unwillingness or inability of the courts to make good policy on their own, whether due to the courts' fear of reinterpretation or for some other reason, progressives went beyond advocating law reform through legal realism to call for the wholesale replacement of courts with administrative agencies staffed with people who would be willing to make policy rather than just to apply the law: with social scientists rather than lawyers.[210] Thus when courts applying the antitrust laws failed, in the law's first two decades, to bring down the large firms that progressives intended to be antitrust's targets, progressives created the Federal Trade Commission in 1914 as America's first independent administrative agency, staffed it with economists, and even gave the agency its own courts—"Article II" courts based in the executive branch rather than "Article III" courts belonging to the judicial branch—dedicated to the adjudication of antitrust cases.[211] The goal

205. *See* HOVENKAMP, *supra* note 14, at 75 ("[T]he Sherman Act can be regarded as 'enabling' legislation—an invitation to the federal courts to learn how businesses and markets work and formulate a set of rules that will make them work in socially efficient ways. The standards to be applied always have and probably always will shift as ideology, technology and the American economy changes.").

206. *See* Baxter, *supra* note 66, at 662–66.

207. *See* 15 U.S.C. §§ 1–2.

208. *See* Baxter, *supra* note 66, at 662–66; Standard Oil Co. of N.J. v. United States, 221 U.S. 1, 60 (1911); N. Pac. Ry. Co. v. United States, 356 U.S. 1, 5–6 (1958).

209. *See, e.g.*, BARBARA H. FRIED, THE PROGRESSIVE ASSAULT ON LAISSEZ FAIRE: ROBERT HALE AND THE FIRST LAW AND ECONOMICS MOVEMENT 162 (1998) (noting Robert Hale's "intellectual distaste for the inept flounderings of the courts").

210. *See* HORWITZ, *supra* note 201, at 214–16; FRIED, *supra* note 209, at 162–63.

211. *See* HOVENKAMP, *supra* note 14, at 80; Herbert Hovenkamp, *The Federal Trade Commission and the Sherman Act*, 62 FLA. L. REV. 871, 871–72 (2010); U.S. CONST. arts. II–III.

was to extract antitrust policy from the judiciary entirely and to put it into the hands of specialist policymakers.[212] Neither the administrative nor the legal realist tendencies of progressivism ultimately won out in antitrust, and so antitrust to this day has two principal enforcers, the Department of Justice's Antitrust Division, which enforces the antitrust laws through the courts and invites the courts to update and adapt antitrust doctrine in light of the evolving needs of a modern economy, and the FTC, which enforcers the antitrust laws through its own internal judicial processes as well as through the courts.[213]

The rule of reason is the product both of progressives' legal realism and their distrust of the law. Justice Brandeis sought in *Chicago Board of Trade* to advance the progressives' realist project by emphasizing the power of courts applying the antitrust laws to decide antitrust cases on policy grounds, through a consideration of the consequences of laws, not just of the letter of the law.[214] In his opinion in *Chicago Board of Trade*, Justice Brandeis wished to argue that the effects of rules matter in antitrust. Accordingly, he declared that "[t]he true test of legality is whether the restraint imposed is such as merely regulates and perhaps thereby promotes competition or whether it is such as may suppress or even destroy competition."[215] Effects, not legal language, should determine legality. But then Justice Brandeis went further, and sowed the seed of antitrust's present predicament.[216]

In the struggle to continuously reinvent the law through judicial reinterpretation, there is a temptation to stress the importance of the facts of the individual case. The per se rule laid down by Henry IV

212. *See* HORWITZ, *supra* note 201, at 213–16; FRIED, *supra* note 209, at 162–63.

213. *See* HORWITZ, *supra* note 201, at 215; Darren Bush, *Out of the DOJ Ashes Rises the FTC Phoenix: How to Enhance Antitrust Enforcement by Eliminating an Antitrust Enforcement Agency*, 53 WILLAMETTE L. REV. 33, 35–38 (2016). The administrative tendency in antitrust has been decidedly less successful than the realist tendency, for the FTC's administrative enforcement powers remain subject to judicial review that has in recent years been quite harsh. *See* Kovacic, *supra* note 20, at 240–41. The heavy hand taken by the courts with the FTC contrasts with the extraordinary deference they accord the decisions of the Federal Reserve Board, which can raise rates and throw millions out of work without fear of judicial review. *See* Richard J. Pierce, Jr., *Separation of Powers and the Limits of Independence*, 30 WM. & MARY L. REV. 365, 370 n.34 (1989). That heavy hand also contrasts with the culture in Europe of judicial deference to the E.U.'s competition authority. *See* Angela Huyue Zhang, Jingchen Liu & Nuno Garoupa, *Judging in Europe: Do Legal Traditions Matter?*, 14 J. COMPETITION L. & ECON. 144, 144–47 (2018).

214. *See* Bd. of Trade of Chi. v. United States, 246 U.S. 231, 238 (1918).

215. *Id.*

216. *See* LOUIS D. BRANDEIS, THE CURSE OF BIGNESS (Osmond K. Fraenkel ed., 1934).

looks no less legitimate than when the rule is shown to harm a particular widow or orphan today under the particular facts of a particular case.[217] But that stressing of facts in particular cases, to the end of reinventing the law, is not the same thing as a call to do away with per se rules. Rather, when the goal is to update the law, the facts inform the crafting of a new per se rule, one that does more justice, but which is still a rigid rule, and will continue to do some injustice in some cases. Justice Brandeis started with a compelling set of facts in *Chicago Board of Trade*—antitrust's rule against price fixing threatened in that case to undermine an agreement between commodities traders that helped make prices transparent and thereby protected unsophisticated traders from sharp dealing—but rather than fashion an updated per se rule against price fixing that would exempt agreements that encourage price transparency from condemnation, Justice Brandeis unfortunately resolved the case by doing away with per se rules entirely, declaring, as a general matter, that to determine whether a challenged practice is harmful, "the court must ordinarily consider the facts peculiar to the business to which the restraint is applied; its condition before and after the restraint was imposed; the nature of the restraint and its effect, actual or probable."[218] He thereby slipped from seeking out rhetorical advantage in the process of revising per se rules through an appeal to the justice of the individual case before him to taking the position that there should be no per se rules and the law should instead always seek to do justice in the individual case.

To see that this was a mistake, even for a progressive, it is necessary only to realize that governance, whether through the law or through policymaking and politics, is never case-based, but is instead always a process of choosing per se rules. Deconcentrating American industry, raising the minimum wage, or cutting interest rates: these are policy proposals that all amount to per se rules that would certainly cause harm to sympathetic victims in some individual cases in addition to doing good in many other cases.[219] Precisely because policymaking is outcome oriented, practical, and aware of the real world, policymakers recognize that resource constraints often preclude the

217. *See* Oliver Wendell Holmes, *The Path of the Law*, 110 HARV. L. REV. 991, 1001 (1997).

218. Bd. of Trade of Chi. v. United States, 246 U.S. at 238.

219. Indeed, a major debate within the field of macroeconomics regarding the exercise of the Federal Reserve Board's discretionary authority under the law to set monetary policy is whether to set that policy on an ad hoc basis or on the basis of voluntarily declared rules. *See, e.g.*, John B. Taylor, *Monetary Policy Rules Work and Discretion Doesn't: A Tale of Two Eras*, 44 J. MONEY CREDIT & BANKING 1017 (2012).

doing of justice in each individual case.[220] It was Justice Brandeis's unfortunate attempt in *Chicago Board of Trade* to demonstrate realism's results orientation by resolving a particular case on its facts, rather than by articulating a new results-oriented per se rule, that opened the door to the case-based unrealism of antitrust today.

VII. MORE ON THE THEORY, ITS ASSUMPTIONS, AND IMPLICATIONS

A. THE IMPORTANCE OF ASSUMING AN UNBIASED AND REASONABLY ACCURATE RULE OF REASON

So far the argument in this Article has been that the Court's failure to take the enforcement budget constraint into account in crafting the rule of reason presumption has necessarily caused enforcers to try to use nonenforcement—the de facto application of rules of per se legality to antitrust-relevant conduct—to pay for all the new rules of reason created by the presumption.[221] Further, the argument has been that this presents a problem for the Court because the Court has expressed no opinion regarding the nature of antitrust-relevant conduct apart from the conduct that the Court already explicitly subjects to per se rules. It is therefore possible that the conduct that the Court has inadvertently subjected to per se legality is actually conduct that the Court believes to be mostly harmful, in which case making the conduct per se legal, rather than per se illegal—the other way to save money on enforcement—has actually increased error costs in antitrust adjudication.[222]

The argument rests on the rather intuitive claim that making conduct that is mostly bad per se legal will increase error costs. This assumption cannot, however, safely be made without appeal to some additional assumptions about how the rule of reason operates. Certainly, converting per se rules of illegality to per se rules of legality must increase error costs if the underlying conduct is mostly bad: it is better for consumers not to be subject to mostly bad conduct than to be subject to it. But what if enforcers balance their budgets by reducing enforcement of rules of reason, rather than rules of per se illegality? If rules of reason are highly accurate at sorting bad from good conduct,

220. *See* Ramsi A. Woodcock, Response, *Legal Realism: Unfinished Business*, 107 KY. L.J. ONLINE 1, 4–7 (Feb. 14, 2019), https://www.kentuckylawjournal.org/online-originals/index.php/2019/02/14/legal-realism-unfinished-business [https://perma.cc/95RM-W2LY].

221. These rule changes are discussed *supra* Parts IV–V.

222. *See supra* Parts IV–V.

in the sense that they allow only a small amount of bad conduct to escape condemnation and only mistakenly condemn a small amount of good conduct, then it follows immediately that converting a rule of reason to a rule of per se illegality increases error costs, so long as the underlying conduct is mostly bad. Such a highly accurate rule of reason necessarily does a much better job of catching bad conduct than does a rule that does not prohibit bad conduct at all. And, on the other side of the ledger, the per se rule of legality imposed by enforcers eliminates very little error associated with mistaken condemnation of good conduct because the rule of reason makes very few such errors to begin with. So the conversion of rules of reason to per se rules of legality allows a lot more bad conduct to go free than it saves good conduct from erroneous condemnation. If conduct is mostly bad, then error costs must rise.

But what if the rule of reason were only accurate in the sense that it did a good job of identifying good conduct, and therefore of avoiding mistakenly condemning it, but the rule of reason were to do a very bad job of identifying bad conduct, allowing a lot of bad conduct to go unpunished? In this case, the extra error costs associated with converting the rule to a rule of per se legality and hence moving to condemn no bad conduct would be very small—even if the conduct were mostly bad. For the margin between allowing a lot of bad conduct to go unpunished and allowing all bad conduct to go unpunished is small. It is therefore possible that the benefits associated with eliminating erroneous condemnation of good conduct—benefits that necessarily result from converting a rule of reason to a rule of per se legality when the rule of reason erroneously condemns at least a small amount of good conduct—might outweigh that small margin.

Consider the following example illustrating the contrast between the error cost effects of converting rules of reason that are equally good at identifying both good and bad conduct to rules of per se legality and the error costs of converting rules of reason that are better at identifying one type of conduct than the other to per se rules of legality. Suppose, first, that the rule of reason is equally accurate at identifying both types of conduct: it fails to identify only 20% of bad conduct and fails to identify only 20% of good conduct. Converting this rule of reason to a per se rule of legality would cause an additional 80% of bad conduct not to be identified and an additional 20% of good conduct to be identified because a per se rule of legality allows all bad conduct to go free but also condemns no good conduct. Whether the reduction in accuracy of 80% with respect to bad conduct combined with the increase in accuracy of 20% with respect to good conduct

ultimately harms consumers (i.e., increases error costs) depends on the character of the underlying conduct. If the conduct is mostly bad—let us say that it contains 10 units of bad conduct and 5 units of good conduct—then 8 additional units of bad conduct will go uncondemned, whereas only one additional unit of good conduct will be spared erroneous condemnation. And so, if units of conduct are chosen to be of equal value to consumers (an important assumption in its own right that applies throughout this Article), consumers will be much worse off—that is, error costs will rise. Rules of reason are assumed to be of this kind in this Article.

But now consider a rule of reason that is more accurate at identifying one kind of conduct than the other: let us say that the rule fails to identify 90% of bad conduct and 40% of good conduct. In this case, moving to a per se rule of legality reduces error costs. Now only 10% more bad conduct—one unit total—escapes condemnation but 40% more good conduct—two units total—escape erroneous condemnation. In general, if the rule of reason is unbiased in the sense that it is equally good at identifying good and bad conduct, and if the rule of reason identifies more than 50% of each, then converting a rule of reason to a per se rule will increase error costs when conduct is mostly bad. Whether the rule of reason is in fact biased is a matter of some debate.[223] This Article's adherence to the somewhat idealized picture of the rule of reason as having low rates of error in identifying both good and bad conduct, and as having equal rates of error across good and bad conduct, makes it possible for this Article to argue that even were any problems with accuracy or bias in the rule of reason to be resolved, inattention to the enforcement budget constraint would mean that the conversion of rules of per se illegality to rules of reason would still have increased error costs.[224]

223. *See infra* Part VIII.

224. *See infra* Part VIII. The assumption that the rule of reason is unbiased and accurate also serves as the basis for the assumption made throughout this Article that converting rules of per se illegality to rules of reason reduces error costs. That assumption has, in turn, been used to explain why the Court has turned to rules of reason to address error cost concerns. *See supra* Introduction. If the rule of reason were to fail to identify bad conduct 40% of the time and to fail to identify good conduct 80% of the time—making it a biased rule—then converting a rule of per se illegality to a rule of reason would increase the amount of bad conduct that enforcers fail to identify by only 40 percentage points, since rules of per se illegality allow 0% of bad conduct to go free, whereas converting a rule of per se illegality to a rule of reason would reduce the amount of conduct erroneously condemned by 20 percentage points, since rules of per se illegality erroneously condemn 100% of good conduct. Assuming, as before, that there are 10 units of bad conduct and 5 units of good conduct—making conduct mostly bad—then the 40 percentage point increase in bad conduct that enforcers fail to

B. DOES THE DE FACTO ADOPTION OF PER SE RULES OF LEGALITY BY ENFORCERS REALLY INCREASE ERROR COSTS?

The argument in this Article has also so far glossed over another important question: how do we know that the use of per se rules of legality by enforcers to cover the enforcement costs associated with converting rules of per se illegality to rules of reason actually does increase error costs after taking the reduction in error costs brought about by the conversion of per se rules of illegality to rules of reason into account? The argument so far has emphasized that converting rules of reason to rules of per se legality increases error costs when conduct is mostly bad. But the overall effect on error costs depends on the magnitude of the error costs created by converting rules of per se illegality to rules of reason. If converting per se rules of illegality to rules of reason greatly reduces error costs, then the reductions may fully offset any error cost increases associated with the adoption of per se rules of legality.

I touched on the broader issue of the relative error cost effects of different kinds of rule conversions briefly in Part V, in which I argued that the Court's conversion of rules of reason to rules of per se legality would not offset the increase in error costs associated with converting rules of per se illegality to rules of reason combined with the adoption of per se rules of legality that enforcers would have undertaken in order to balance their enforcement budgets. But there, too, I assumed that the conversion of rules of per se illegality to rules of reason, combined with the use of rules of per se legality to balance the budget, increase error costs. But do they?

The answer is yes, if the assumption that the rule of reason is unbiased and accurate continues to hold and if the underlying conduct is sufficiently bad.[225] I provide a mathematical explanation in the Appendix; here is the explanation in words.

identify would allow 4 units of bad conduct to go uncondemned, and the 20 percentage point reduction in good conduct that enforcers fail to identify would cause only 2 fewer units of good conduct to be erroneously condemned. Error costs would, therefore, actually rise. By contrast, if the rule of reason were to fail to identify bad conduct 20% of the time and to fail to identify good conduct 20% of the time—making it an unbiased and reasonably accurate rule—then converting a rule of per se illegality to a rule of reason would increase the amount of bad conduct that escapes condemnation by 20 percentage points—2 units of conduct—but reduce the amount of good conduct that is erroneously condemned by 80 percentage points—4 units of conduct—so the benefits would outweigh the costs and, overall, error costs would fall, just as we have assumed throughout this Article.

225. For that assumption, see *supra* Section VII.A.

1. The Error Costs of Balancing the Budget by Converting Rules of Reason to Rules of Per Se Legality

When enforcers go to adopt per se rules of legality to balance their budgets, they have two options: they can convert rules of reason into per se rules of legality or they can convert per se rules of illegality into per se rules of legality (or they can do some of both). Let us start with rules of reason and assume that, to balance their enforcement budgets, enforcers wish to convert to rules of per se legality the same conduct converted by the Court from rules of per se illegality to rules of reason (recall that the reason for which enforcers are seeking to balance their budgets is that the Court has converted rules of per se illegality to rules of reason). In this case, the net effect of the two rule changes—the Court's conversion of rules of per se illegality to rules of reason and enforcers' conversion of those rules of reason to rules of per se legality with respect to the same conduct—will be to convert rules of per se illegality for a given set of conduct to rules of per se legality for the same conduct, with rules of reason as the intermediate step in the process. This will not balance the budget, however, because converting rules of per se illegality to rules of per se legality, which amounts to stopping enforcement of any kind with respect to the conduct at issue, necessarily *reduces* enforcement costs. Because enforcement costs vary with the amount of conduct to which a rule applies, enforcers must therefore convert less conduct from rules of reason to rules of per se legality than the Court converts from rules of per se illegality to rules of reason in order to balance the budget. That will shrink the enforcement cost savings from converting per se rules of illegality to per se rules of legality until those savings just offset the enforcement cost increases associated with converting per se rules of illegality to rules of reason. To determine the net error cost effects of this approach, we must, therefore, consider the error cost effects of two different rule conversions: the conversion of rules of per se illegality to rules of per se legality for part of the conduct, and the conversion of rules of per se illegality to rules of reason for the remaining part, which enforcers do not convert to per se rules of legality because they do not wish to run a net savings in enforcement costs.

The net error costs of these two rule conversions are these. Converting per se rules of illegality to per se rules of legality obviously increases error costs if conduct is mostly bad: consumers are better off if conduct that is mostly bad is illegal as opposed to legal. And we have already seen that converting per se rules of illegality to rules of reason increases error costs if our assumptions about how rules of

reason function in fact hold.[226] So error costs go up for both rule conversions and therefore the conversion of rules of per se illegality to rules of reason, combined with the conversion of rules of reason to per se rules of legality by enforcers seeking to balance their enforcement budgets, results in error cost increases.

This result holds even if, contrary to our assumption, the conduct that enforcers convert to per se rules of legality is not the same as the conduct the Court converts to rules of reason. Recall the argument in Part III that the Court views all ambiguous conduct as having the same character. It follows that we can always think of any two rule changes as applying to the same conduct even when they do not because the underlying conduct is undifferentiated in character: all that is needed to determine the net effect of any two rule changes is the nature of the changes and the amount of conduct they affect. The particular conduct they affect does not matter.

2. The Error Costs of Balancing the Budget by Converting Rules of Per Se Illegality to Rules of Per Se Legality

Let us now see what happens when enforcers convert rules of per se illegality, rather than rules of reason, into rules of per se legality in order to balance their enforcement budgets. The argument is best made in reference to our earlier example, in which an unbiased and reasonably accurate rule of reason fails to identify 20% of good conduct and 20% of bad conduct. In that case, the Court's conversion of a per se rule of illegality to the rule of reason would increase the percent of bad conduct that escapes condemnation by 20 percentage points and reduce the amount of good conduct that is erroneously condemned by 80 percentage points. The switch from a per se rule of illegality to a per se rule of legality to balance enforcement budgets would, then, increase the percent of bad conduct that escapes condemnation by 100 percentage points and reduce the amount of good conduct erroneously condemned by 100 percentage points. Because the amounts and character of the conduct subject to the two rule conversions are the same, we can sum the percentage point changes associated with each of them to conclude that, altogether, we have an increase in bad conduct that escapes condemnation of 120 percentage points and an increase in good conduct that is no longer erroneously condemned of 180 percentage points.

If converting equal amounts of conduct from per se rules of illegality to per se rules of legality were sufficient to offset the

226. *See supra* Section VII.A.

enforcement cost of converting per se rules of illegality to rules of reason, then conduct would need to be very bad, not just mostly bad, before error costs would increase, since, as we have just seen, the reductions in erroneous condemnation of good conduct that result from these rule changes are much larger than the increases in bad conduct that goes uncondemned that result from these rule changes. For example, if there were 6 units of bad conduct and 5 units of good conduct in the conduct converted from per se rules of illegality to rules of reason, and the same amounts again in the conduct converted from per se rules of illegality to per se rules of legality (because we assume that all conduct is uniform in harmfulness), then 7.2 more units of bad conduct would go free as a result of these rules changes, whereas 9 more units of good conduct would escape condemnation as a result of these rule changes. The benefits would, therefore, exceed the costs, and overall error costs would fall even though the underlying conduct is more than half bad (6 units of bad to 5 units of good). For error costs to rise there would need to be much more bad conduct relative to good: error costs would rise, for example, were there to be 10 units of bad conduct and 5 units of good conduct, as we assumed at the start of this Part.

But that is not the end of the story, because converting equal amounts of conduct from per se rules of illegality to per se rules of legality does not fully offset enforcement costs. Rules of reason are likely to be much more expensive to enforce than per se rules of illegality, so the savings associated with avoiding the enforcement costs of per se rules of illegality for a particular amount of conduct will not cover the cost of converting per se rules of illegality to rules of reason for an equal amount of conduct. It follows that more conduct must be converted from per se rules of illegality to per se rules of legality than is converted from per se rules of illegality to rules of reason in order for enforcement budgets fully to balance.

The greater the amount of conduct that must be converted from per se rules of illegality to per se rules of legality, however, the more equal the error rates for bad and good conduct must become. Conversions of rules of per se illegality to rules of per se legality increase error with respect to bad conduct by 100% and reduce error with respect to good conduct by 100%, which means that if conduct is mostly bad, these conversions increase error costs. As more conduct is converted from per se rules of illegality to per se rules of legality, the error cost effects of these conversions will increasingly dominate the error effects of the conversion of per se rules of illegality to rules of reason, reducing the amount of bad conduct relative to good conduct required

for overall error costs to increase. Thus if, in our example, an additional amount of conduct equal to the amount originally converted from per se rules of illegality to rules of reason is converted from per se rules of illegality to per se rules of legality to balance the budget, then error identifying bad conduct must rise from 120 percentage points to 220 percentage points and error identifying good conduct must rise from 180 percentage points to 280 percentage points, increasing the ratio of these error rates from 0.67 to nearly 0.8, and hence reducing the ratio of bad to good conduct needed for error costs to rise.[227] As more conduct is converted from rules of per se illegality to rules of per se legality, that latter ratio will approach one, which means that conduct need only be slightly more bad than good for error costs to increase.

How close that latter ratio will come to one depends ultimately on the relative enforcement costs of rules of reason and per se rules of illegality. If rules of reason were infinitely costly to enforce, then the ratio would go to one in the limit, because enforcers would need to convert an infinite amount of conduct from per se rules of illegality to per se rules of legality in order to pay for converting some conduct from inexpensive per se rules of illegality to infinitely expensive rules of reason. Because rules of reason are not infinitely more expensive to enforce than are per se rules of illegality, however, the ratio will end up being close to but still somewhat greater than one, and so, by "mostly bad" conduct, I have meant, throughout this paper, not conduct that is just slightly more than half bad but conduct that is sufficiently more than half bad to make error costs increase when per se rules of illegality are converted to rules of reason and enforcers balance their enforcement budgets by converting per se rules of illegality to per se rules of legality.

Of course, enforcers will not necessarily convert per se rules of illegality to per se rules of legality in attempting to balance their budgets. They may convert rules of reason to per se rules of legality instead, or convert a combination of both. The overall error cost effects will, however, just be the sum of the error cost effects of each type of budget-balancing conversion. As we have seen, both types of budget-balancing conversion—from rules of reason to per se rules of legality and from per se rules of illegality to per se rules of legality—result in increases in error costs when considered together with the conversion of per se rules of illegality to rules of reason that they are meant

227. The ratio of bad to good conduct required for error costs to rise is the reciprocal of the ratio of the error percentage for bad conduct to the error percentage for good conduct.

to offset. So their sum will reflect an increase in error costs as well. It follows that the adoption of per se rules of legality by enforcers seeking to pay for the Court's conversion of rules of per se illegality to rules of reason really does increase error costs—so long, of course, as the underlying conduct is mostly bad.

C. APPLYING THE ANALYSIS TO OTHER POSSIBLE RULE CHANGES

Reasoning along the foregoing lines makes it possible to map out the error cost effects, subject to an enforcement budget constraint, of all possible rule changes, not just the conversion of rules of per se illegality to rules of reason. The results are summarized in Table 1. One lesson the table teaches is that rolling back the rule of reason presumption in future will require special care.[228] In *Federal Trade Commission v. Actavis, Inc.*, for example, the Court overturned a per se rule of legality for reverse payment patent settlements—settlements of patent litigation between branded and generic drug makers pursuant to which the branded drug maker pays the generic maker to stay out of the market—in favor of a rule of reason approach.[229] Advocates of antitrust condemnation of these settlements, which seem rather transparently to constitute market division, celebrated the new approach as good for consumers because these advocates believed the conduct to be mostly bad for consumers and imposition of rule of reason treatment therefore to be an improvement upon the former policy of doing nothing about the conduct.[230]

228. This and the other results described in this Part are also described mathematically in Proposition 2 in the Appendix.

229. 133 S. Ct. 2223, 2230, 2237–38 (2013).

230. *See* Aaron Edlin, Scott Hemphill, Herbert Hovenkamp & Carl Shapiro, *The* Actavis *Inference: Theory and Practice*, 67 RUTGERS L. REV. 585, 620 (2015); Aaron Edlin, Scott Hemphill, Herbert Hovenkamp & Carl Shapiro, Actavis *and Error Costs: A Reply to Critics*, 14 ANTITRUST SOURCE 1, 7 (2014). The settlements divide markets because they effectively keep the generic drug makers out of the branded drug market before expiration of the branded drug company's contested patent. *See* Ramsi A. Woodcock, *Innovation and Reverse Payments*, 44 FLA. ST. U. L. REV. 773, 782–89 (2017) (explaining how reverse payment patent settlements work). Thus, the agreements divide access to the market over time. *See* United States v. Topco Assocs., 405 U.S. 596, 601, 608 (1972) (treating territorial divisions as so bad for consumers as to merit per se condemnation).

The Changes in Error Costs Brought About by Rule Changes Subject to an Enforcement Budget Constraint				
		To		
		Per Se Rule of Legality	Per Se Rule of Illegality	Rule of Reason
From	Per Se Rule of Legality	No change.	Error costs decrease.	When only enforcement reductions are available to balance the budget: error costs increase. When conversions of rules of reason to per se rules of illegality are available: error costs may decrease.
	Per Se Rule of Illegality	Error costs increase.	No change.	Error costs increase.
	Rule of Reason	When only enforcement increases are available to balance the budget: error costs decrease. When conversions of per se rules of illegality to rules of reason are available: error costs may increase.	Error costs decrease.	No change.

Table 1

The table gives the effect on error costs (i.e., harm to consumers) of rule changes subject to an enforcement budget constraint, assuming that the underlying conduct is "mostly bad" (in the sense of Proposition 1 in the Appendix that $\frac{V_b}{V_g} > \frac{C_a - C_R R^2}{(R-1)C_a - C_R R^2}$*). All listed rule changes can also cause no change in error costs if courts or enforcers balance budgets by employing rule changes in the opposite direction from that listed, such as by responding to conversion of a per se rule of illegality to a rule of reason by converting a rule of reason to a per se rule of illegality.*

The table teaches, however, that the only way this rule change could have helped consumers is if the Court had undertaken to pay for it by explicitly converting some rules of reason to rules of per se illegality to cover for the cost of converting the old rule of per se legality for reverse payment patent settlements to a rule of reason. The Court did not, however, do that. Absent that change, enforcers must have responded to the conversion of the per se rule of legality to the rule of reason by reducing enforcement of rules of reason, rules of per se illegality, or both (they could not have responded by converting rules of

reason to rules of per se illegality themselves because they cannot change the law). As the table reports, the result was to increase error costs.

D. CAN ENFORCERS EFFECTIVELY CHANGE LEGAL RULES?

The inability of enforcers to use conversions between rules of reason and per se rules of illegality to balance enforcement budgets has figured prominently in the account of error costs in this Article, both in the conclusion that the Court's conversion of rules of per se legality to rules of reason in recent decades has tended to cause enforcers to create de facto rules of per se legality, and in the conclusion that the Court's *Actavis* decision did not reduce error costs because enforcers could not have funded enforcement of the decision by converting rules of reason to rules of per se illegality.[231]

The careful reader may object, however, to the assumption that enforcers cannot convert between rules of reason and rules of per se illegality, on the ground that any enforcer can make such a rule change in two steps using rules of per se legality—which enforcers do have the power either to create, through non-enforcement, or to eliminate, by ramping up enforcement—as the middle term. To convert from rules of reason to rules of per se illegality, for example, enforcers need only, first, to reduce enforcement of rules of reason with respect to one category of conduct, and, second, to use the cost savings generated thereby in part to fund the ramping up of enforcement of rules of per se illegality for another category of conduct. The net result is to substitute rules of per se illegality for rules of reason. Because rules of reason are more expensive than rules of per se illegality, enforcers will experience a net reduction in costs, but the amount will be identical to the reduction in costs associated with any direct conversion of rules of reason to rules of per se illegality. Because all ambiguous conduct is assumed to be undifferentiated in terms of harmfulness to consumers, the net result of the two-step process is to produce the same change in error costs as would be produced by direct conversion of rules of reason to rules of per se illegality.[232] Thus enforcers can produce the same error cost effects as could the Court, despite lacking the Court's legal power to change rules of reason to rules of per se illegality, simply by exercising the enforcer's power to expand or contract enforcement of any rules.[233]

231. *See supra* Sections I, VII.C.

232. For the undifferentiated character of conduct, see *supra* Parts III–IV.

233. Enforcers are not, however, always at liberty to expand the enforcement of rules, and this restricts the freedom of enforcers to convert between rules of reason

This argument is sound as an analytic matter, but the argument has practical effect only if enforcers in fact use this two-step process as a budget-balancing device, something that seems unlikely. Enforcers can be expected to ramp up enforcement in the face of budget surpluses and to roll enforcement back in the face of budget shortfalls, but not to ramp enforcement up during shortfalls, as they would need to do in part in order to produce conversions between rules of reason and rules of per se illegality for purposes of balancing enforcement budgets.

VIII. MODIFYING THE RULE OF REASON IS NOT ENOUGH

The growing number of voices calling for a solution to the antitrust enforcement drought have so far called only for reform of the rule of reason, rather than for the rule's demise and a return to the rules of per se illegality that characterized mid-twentieth century antitrust.[234] The case for reform is premised on the very real connection between the costliness of proving or disproving harm under rules of reason and the bias of rules of reason against plaintiffs.[235] As the burden that must be met to prove or disprove harm under the rule of reason becomes costlier to meet, plaintiffs, who traditionally have the burden of proof, find it harder and harder to win cases even when the defendant has engaged in bad conduct. Because the difficulty of proving harm also implies that few instances of good conduct will be erroneously condemned by the courts, the result is that, contrary to the assumption generally employed in this Article, the rule of reason will

and rules of per se illegality. If enforcers are already fully enforcing existing rules of per se illegality, for example, then there is no way for enforcers effectively to convert per se rules of legality into per se rules of illegality by starting to enforce per se rules of illegality more vigorously than before. It follows that the extent to which enforcers are already fully enforcing existing laws determines the extent to which enforcers can use per se rules of legality as the middle term in converting between rules of reason and rules of per se illegality.

234. *See* Sandeep Vaheesan, *Resurrecting "A Comprehensive Charter of Economic Liberty": The Latent Power of the Federal Trade Commission*, 19 U. PA. J. BUS. L. 645, 676–78 (2017) (calling for "presumptions of illegality" but not "categorical prohibitions"); Stucke, *supra* note 6, at 1483–87; Baker, *Economics and Politics*, *supra* note 1, at 2186 (arguing that antitrust balancing should be adjusted to favor consumers more than it does at present); Daniel A. Crane, *Rules Versus Standards in Antitrust Adjudication*, 64 WASH. & LEE L. REV. 49, 110 (2007); 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. 2107, 2131–42 (2020); Erik Hovenkamp & Steven C. Salop, *Asymmetric Stakes in Antitrust Litigation* 3 (Univ. of S. Cal. Ctr. for L. & Soc. Sci. Rsch. Papers Series, No. CLASS20-12, 2020), https://ssrn.com/abstract=3563843 [https://perma.cc/2AMH-GSCT].

235. *See* Nealis, *supra* note 18, at 366–70.

tend to allow more bad conduct to escape condemnation than it causes good conduct to be erroneously condemned.[236] Taken to an extreme, this burden on plaintiffs will cause plaintiffs (meaning enforcers) to stop bringing cases and rules of reason to become de facto rules of per se legality.[237] At the other extreme, if the Court responds to the high cost of proving harm by shifting the burden of proof to the defendant, then plaintiffs will always win and the rule of reason will become a rule of per se illegality.[238]

Reform of the rule of reason, through a shifting of part of the burden of proof to the defendant, can eliminate this bias.[239] But rule of reason reform cannot eliminate the separate problem that lies at the heart of this Article: the enforcement costs that the rule of reason adds to the process of identifying which cases to bring, as opposed to the litigation costs of winning cases once they are brought.[240] Enforcement costs would remain even were the entire burden of proof to be placed on defendants and litigation costs for plaintiffs consequently to go to zero: enforcers would still need to worry about the serious reputational harms associated with losing cases and so they would still need to invest in deciding which cases to bring.[241] Moreover, the rule of reason would still be costlier to enforce than per se rules. Enforcers would still need to know enough about consumer harm in any potential rule of reason case to determine whether defendants would be able to meet their burden of disproving the existence of consumer harm, and so enforcers would still need to investigate consumer harm in rule of reason cases. But enforcers would not need to do so for cases involving per se rules, which have no harm requirement. The conversion of rules of per se illegality to rules of reason would therefore still drive up enforcement costs. And so, as this Article has shown, enforcers would still be forced to reduce enforcement and potentially to increase error costs.[242] A fortiori, the enforcement cost problem would also not go away were the rule of reason to be reformed to place the

236. *See id.*; Stucke, *supra* note 6, at 1460–65. For the assumption of an unbiased rule of reason made by this Article, see *supra* Section VII.A.

237. *See* Nealis, *supra* note 18, at 366–70.

238. *See* Katsoulacos & Ulph, *On Optimal Legal Standards for Competition Policy*, *supra* note 109, at 420.

239. *See* Devlin & Jacobs, *supra* note 1, at 103 (calling for "appropriately biased" presumptions); Stucke, *supra* note 6, at 1483–87.

240. *See supra* Parts I–III.

241. *See* Kovacic, *supra* note 20, at 246, 253–54 (discussing the importance, to the building an effective administrative "brand," of "quality control" in case selection by administrative agencies).

242. *See supra* Part VII.

burden of proof equally on plaintiffs and defendants; the continued existence of litigation costs for plaintiffs in this case would just make the enforcement budget constraint even tighter. Indeed, this entire Article has been built around demonstrating the enforcement cost problem in precisely this case. When burdens of proof are shared equally, the rule of reason should be unbiased: it should be just as good at identifying good conduct as it is at identifying bad conduct. But we saw in Part VII that converting rules of per se illegality to rules of reason increases error costs under an enforcement budget constraint when the rule of reason is unbiased.[243] Thus enforcement costs will continue to pose a problem even after rule of reason reform is complete and regardless of the form that rule of reason reform takes.[244]

In reducing litigation costs, rule of reason reform would loosen enforcers' budget constraints to some extent, since enforcers do not only scout cases, they also go to court and try to win them. But that would not mean that rule of reason reform would allow the Court to ignore enforcement budgets, even were the litigation cost savings so vast as to enable enforcers fully to enforce the rule of reason on all ambiguous conduct. That is because at the same time that the Court embraces rule of reason reform by reallocating the burden of proof between plaintiffs and defendants, the Court might also choose to increase the burden of proof for all parties. The increase in the burden of proof may not sop up all of the litigation cost savings plaintiffs might enjoy thanks to the reallocation of burdens between plaintiffs and defendants. But the increase in the burden will also increase enforcement costs, because enforcers will, in anticipation of needing to meet the higher evidentiary burden once cases begin, need to be more careful in identifying consumer harm before bringing cases. And the increase in enforcement costs may exhaust any remaining litigation cost savings associated with the reallocation of proof burdens, restoring the enforcement budget constraint.

The Court might want to increase proof burdens at the same time that the Court reallocates them between plaintiffs and defendants because a more accurate rule of reason can be good for consumers even if the additional enforcement costs the rule creates make it necessary to reintroduce some per se rules.[245] The reduction in error costs associated with the increase in accuracy of the rules of reason may well exceed the increase in error costs associated with subjecting some

243. *See supra* Sections VII.A–B.

244. *But see* Devlin & Jacobs, *supra* note 1, at 102 ("[F]ull-blown rule-of-reason analysis must be preferable to categorical presumptions.").

245. This novel result is proven mathematically in Proposition 5 in the Appendix.

conduct to per se treatment in order to pay for the more accurate rules of reason. But this will be true only if the per se rules that are actually applied are properly tailored to the character of the underlying conduct. If the conduct is mostly bad, then the per se rules must be per se rules of illegality in order for error costs to fall, or to fall as much as possible. Thus even were rule of reason reform to eliminate the enforcement budget constraint, the Court might want to reimpose it by increasing proof burdens and hence enforcement costs, and indeed might want to divide conduct between rules of reason and per se rules. But this will work, and consumers will benefit—other than by accident—only if the Court takes the budget constraint that the Court reimposes into account in choosing which per se rules to apply, rather than ignoring the problem and leaving it to enforcers always to apply per se rules of legality by default.

CONCLUSION

Antitrust is unique in the kid-glove attention to justice that it provides to defendants through the rule of reason, a level of care so costly that antitrust must in many cases simply accord defendants the even greater luxury of not being defendants at all, to the great distress of consumers if antitrust-relevant conduct is thought on balance to be harmful to them.[246] But for all its faults, is not this kid-glove treatment a rational response to the fact that the stakes in antitrust cases are usually much higher than the stakes in other areas of the law?[247] In contract law cases, for example, the fate of only one firm—one that may have only a small role in any given market—normally hangs in the balance.[248] But because of antitrust's orientation toward policing market power, the fate of the largest firms or groups of firms in the economy often hangs in the balance in antitrust cases, and so it would seem to make sense that antitrust should exercise particular care in adjudication relative to other fields of law.

This argument places dollars over lives, of course. The criminal law is more per-se-rule-bound than perhaps any other area of the law, and liberty, not just property, hangs in the balance in criminal cases.[249]

246. *See, e.g.*, Grullon et al., *supra* note 1, at 700, 702 fig.1 (showing that U.S. industries are becoming more concentrated).

247. I thank Andreas Engert for bringing this argument to my attention.

248. *See* CHARLES L. KNAPP, NATHAN M. CRYSTAL & HARRY G. PRINCE, PROBLEMS IN CONTRACT LAW: CASES AND MATERIALS 1093–95 (9th ed. 2019) (pointing out that as a general matter contract law implicates only the rights of the parties to a contract).

249. *See, e.g.*, Eric Colvin, *Exculpatory Defences in Criminal Law*, 10 OXFORD J. LEGAL STUD. 381, 388 (1990) ("Only a few, particularly powerful contextual excuses, such as

But there is no rule of reason in criminal law: those who kill with malice aforethought are condemned, regardless the social value of the killing—whether people were happier with the victim gone or not. If the life of an individual human defendant—who may be subject to capital punishment—is as important as the profits of any corporation, then we would expect similar kid glove treatment of defendants in criminal cases. But we do not. But perhaps this just means that the criminal law needs its own antitrust revolution, to become more oriented toward doing justice in the individual case and less obsessed with per se rules, such as the rule prohibiting all killing with malice aforethought.[250]

The real problem with the argument that the higher the stakes the more careful should be the adjudication is that the argument focuses exclusively on the costs associated with erroneously condemning good conduct and leaves out of the balance the costs of failing to condemn bad conduct. The bigger the firm, the greater the harm of unjustly destroying it, but also the greater the harm the firm can do to consumers if the firm turns out in fact to be rotten. It is never the size of the stakes alone that matters in deciding how much care to exercise in adjudication, but the relative stakes associated with failing to condemn bad conduct and erroneously condemning good conduct. If the harm a big firm can do far exceeds the good a big firm can do, regardless how great that good may be in absolute terms, then it may well be appropriate for budget-constrained enforcers to condemn the firm's bad actions without checking to make sure that they really have bad effects in the particular case at hand. The reason is that enforcers operating under a budget constraint can afford more careful scrutiny only by reducing enforcement—monitoring the big firm less often. The harm from allowing the firm to slip through the enforcement net may vastly exceed the gain from checking to make sure that firms really are engaged in bad conduct when cases are in fact brought. That is the lesson taught by attention to the enforcement budget constraint.

The rebirth of American antitrust can take place only once the lesson is learned.

duress, are recognized in criminal law.").

250. *See* KADISH & SCHULHOFER, *supra* note 193, at 387–89.

IX. APPENDIX

A. ASSUMPTIONS AND BASIC SETUP OF THE MODEL

The arguments in this Article are based on the following mathematical model. In studying the model, the reader may wish to refer to Section IX.C below, which contains a graphical introduction to the model.

I divide the universe of conduct for which the Supreme Court is interested in choosing the error-cost-minimizing rule—which is the universe of all conduct that the Court perceives to be ambiguous in harmfulness to consumers[251]—into good conduct, which benefits consumers, and bad conduct, which harms consumers. Call the total value to consumers of all good conduct V_g and that of avoiding all bad conduct V_b (the a is chosen because bad conduct is anticompetitive). I partition the universe of conduct into I mutually exclusive subsets, each associated with an antitrust rule, indexed by i, corresponding to value $V_i \leq V_g + V_b$ and share $n_i = \frac{V_i}{V_g+V_b}$ of total value $V_g + V_b$. $\sum_i V_i = V_g + V_b$ and $\Sigma_i n_i = 1$. Any particular subset of conduct may be subjected to any of the following rules: a rule of per se illegality, a rule of per se legality, or a rule of reason.

Let p_I be the share of the value of good conduct that the prevailing rules destroy and p_{II} be the share of the value of bad conduct that the prevailing rules fail to condemn. Then p_I is "Type I error" and p_{II} is "Type II error."[252] Total error costs are therefore $p_I V_g + p_{II} V_b$. The goal of policy is to minimize this expression subject to an enforcement budget constraint to be defined below.

I make the following assumptions.

Assumption 1: The value covered by rule i is divided between good and bad conduct in fixed proportions equal to the overall shares of good and bad conduct in the universe of conduct. Thus $V_i = n_i V_g + n_i V_b$, the share of value covered by the rule that is value from good conduct is $\frac{n_i V_g}{n_i(V_b+V_g)} = \frac{V_g}{V_b+V_g}$, meaning that it is the same as the overall share of good conduct in the universe of conduct, and the share of value that is value from bad conduct is, similarly, $\frac{V_b}{V_b+V_g}$, the same as the overall share of bad conduct in the universe of conduct. This is the assumption, described in Parts III and IV of this Article, that the Court perceives all conduct to be uniform in harmfulness. □

251. *See supra* Part III.

252. *See supra* note 1.

Assumption 2: The error costs associated with antitrust rules are these. If rule i is a per se rule of illegality, the rule wipes out all of the good conduct associated with the rule. Rule i in this case eliminates value $n_i V_g$. If rule i is a per se rule of legality, the rule allows all bad conduct associated with the rule to take place, and therefore inflicts error cost $n_i V_b$ on consumers. If rule i is a rule of reason, then it may have any kind of error cost effect, depending on how the rule of reason is structured. The rule might, for example, preclude some good conduct and allow some bad, or the rule might have an identical effect to that of a per se rule of illegality or a per se rule of legality. I will impose restrictions on the behavior of rules of reason shortly. □

Assumption 1 and Assumption 2 permit a more detailed characterization of total error costs. Define $\Sigma_{illegality}$, $\Sigma_{legality}$, and Σ_{reason} to mean summation over all i for which the rule is a per se rule of illegality, per se rule of legality, or rule of reason, respectively, and r_i^I and r_i^{II} to be the share of the value of good or bad conduct, respectively, destroyed or realized by a rule of reason with respect to the conduct to which the rule is applied. It follows that $p_I = \Sigma_{illegality} n_i + \Sigma_{reason} r_i^I$ and $p_{II} = \Sigma_{legality} n_i + \Sigma_{reason} r_i^{II}$. Substituting into $p_I V_g + p_{II} V_b$, total error costs are therefore $\left(\Sigma_{illegality} n_i + \Sigma_{reason} r_i^I\right) V_R + (\Sigma_{\text{legality}} n_i + \Sigma_{reason} r_i^{II}) V_b$.

Let R index the "intensity" of the rule of reason, meaning the ability of the rule of reason to distinguish good from bad conduct.

Assumption 3: For a given R, the shares of good and bad conduct destroyed by a rule of reason are constant, regardless of the subset of conduct to which the rule is applied. Furthermore, the error costs of the rule of reason are declining in rule of reason intensity. □

It follows from the uniformity of the rule of reason described by Assumption 3 that there need be no subscript on R and that the subscripts on r_i^I and r_i^{II} may be dropped. Let $n_I = \Sigma_{illegality} n_i$ and $n_{II} = \Sigma_{legality} n_i$. Because there are only three types of rules, $\Sigma_{reason} n_i$ must be $1 - n_I - n_{II}$. It follows by Assumption 3 that $\Sigma_{reason} r_i^I = (1 - n_I - n_{II}) r^I$ and $\Sigma_{reason} r_i^{II} = (1 - n_I - n_{II}) r^{II}$. Total error costs then become $[(1 - n_I - n_{II}) r^I + n_I] V_g + [(1 - n_I - n_{II}) r^{II} + n_{II}] V_b$, in which the bracketed coefficient of V_b is again p_{II} and that of V_g is again p_I.

Assumption 4: The marginal enforcement cost of a rule is constant in the share of total value that is subject to the rule. Per se rules of legality have no enforcement cost and the marginal cost of enforcing a per se rule of illegality is less than that of enforcing a rule of reason. The marginal enforcement cost of a rule of reason is increasing in rule of reason intensity, which means that the greater the care that

goes into applying a rule of reason, the greater the cost of applying the rule. □

The general form of a budget constraint that meets the Assumption 4 requirement that marginal cost be constant over all conduct covered by a rule is $B = C_a n_I + C(R)(1 - n_I - n_{II})$, where B is the total enforcement budget, C_a is the constant marginal cost of a per se rule of illegality, and $C(R) > 0$ is the marginal cost of the rule of reason, and is a function of rule of reason intensity R (which does not vary with respect to the value of conduct to which the rule of reason is applied, per Assumption 3). Also, by Assumption 4, $C'(R) > 0$.

Assumption 5: The rule of reason is not biased. That is, the rule precludes a share of good conduct that equals the share of bad conduct that the rule allows to occur. □

Assumption 6: Take $C_R R$, where C_R is a positive constant, as the functional form of the marginal cost of a rule of reason. That is: $C(R) = C_R R$. And take rule of reason error cost to be $\frac{n_i}{R}\left(V_g + V_b\right)$. □

$\frac{n_i}{R}\left(V_g + V_b\right)$ describes an unbiased rule, as required by Assumption 5. The proportions of total good or bad value within the rule's coverage area that the rule precludes are equal. Thus the rule precludes $\frac{\frac{n_i}{R}V_g}{n_i V_g} = \frac{\frac{n_i}{R}V_b}{n_i V_b} = \frac{1}{R}$ of the value of good or bad conduct within its coverage area.

Taking $C_R R$ as the functional form of the marginal cost of a rule of reason, as required by Assumption 6, satisfies the requirement of Assumption 4 that $C'(R) > 0$. To further comply with Assumption 4, which requires that rules of reason be more expensive than rules of per se illegality, set $C_R R > C_a$. The budget constraint is therefore $B = C_a n_I + C_R R(1 - n_I - n_{II})$.

Assumption 7: The rule of reason is more accurate than either per se rules of illegality or per se rules of legality in the sense that the rule of reason cannot cause more harm to consumers than would a per se rule of illegality or a per se rule of legality applied to the same conduct. □

Imposing the requirement $R > 2$ brings the model into agreement with Assumption 7. The total of the shares of good and bad value destroyed by the rule of reason is $\frac{2}{R}$. If $R > 2$, this total can never equal or exceed 1. The share of the value of good conduct destroyed by a per se rule of illegality is $\frac{n_i V_g}{n_i V_g} = 1$ and the same for the share of the value of bad conduct allowed by a per se rule of legality. If $R > 2$, a rule of reason therefore results in error less than that created by either per

se rule, as we would expect of a rule that is meant to be more accurate than per se rules.

From Assumption 3, $\Sigma_{reason} \frac{n_i}{R} = \frac{1-n_I-n_{II}}{R}$. So $p_I = \frac{1}{R}[n_I(R-1) + 1 - n_{II}]$ and $p_{II} = \frac{1}{R}[n_{II}(R-1) + 1 - n_I]$. It is also useful to solve this system for n_I and n_{II}. The results are that $n_I = \frac{1}{R-2}[p_I(R-1) + p_{II} - 1]$ and $n_{II} = \frac{1}{R-2}[p_{II}(R-1) + p_I - 1]$.

The set of attainable combinations of p_I and p_{II} is limited. Each choice of rules involves a tradeoff. Switching from a per se rule of legality to a per se rule of illegality drives p_{II} down but p_I up. Switching from a per se rule of illegality to a rule of reason drives p_I down but p_{II} up. And so on. The lowest p_{II} attainable for a given p_I occurs when n_{II}, which contributes to p_{II} at the high rate of $R-1$, is zero.

Setting n_{II} to zero in the expression for n_{II} above and solving for p_{II} yields $p_{II} = \frac{1-p_I}{R-1}$, which gives the lower bound on p_{II}. Observing that the lowest p_I obtainable comes when n_I is zero, it is clear that $p_I = \frac{1-p_{II}}{R-1}$ is the lower bound on p_I. Because $R > 2$, p_I and p_{II} cannot sum to more than 1. The line $p_I + p_{II} = 1$ therefore defines maximum values for p_I and p_{II}, which occur when there is no rule of reason. Taken together with the lower bounds on p_I and p_{II}, this defines a closed feasible set. It is the triangle dBb in Figure 2.

B. Fixed Rule of Reason Intensity and Unaffordable Full Coverage

Proposition 1: When the enforcement budget is too small to permit application of the rule of reason to all conduct, either a regime in which there are no per se rules of legality is optimal or a regime in which there are no per se rules of illegality is optimal, except in a special case.

Discussion: I wish to choose p_I and p_{II} to minimize error costs $p_I V_g + p_{II} V_b$ over the feasible set, subject to the constraint that cost is fixed at some budget level B that is too small to meet full rule of reason coverage cost $C_R R$. Implicitly differentiating error cost, I obtain $\frac{dp_I}{dp_{II}} = -\frac{V_b}{V_g}$. The budget-neutral rate of substitution of p_I for p_{II} may be determined by substituting the expressions for p_I and p_{II} derived above into the cost function (the budget constraint) and implicitly differentiating to obtain $\frac{dp_I}{dp_{II}} = -\frac{C_a - C_R R^2}{(R-1)C_a - C_R R^2}$. Because the rates of substitution of p_I for p_{II} in the objective function (error cost) and the constraint are both constant, there is a "corner solution" unless the rates

are equal. If they are equal, all points on the budget constraint lying within the feasible set are optimal. If they are not equal, then the optimal point is the intersection of $p_I = \frac{1-p_{II}}{R-1}$ and the budget constraint when $\frac{1}{R-1} < \frac{V_b}{V_g} < \frac{C_a - C_R R^2}{(R-1)C_a - C_R R^2}$ and $p_I = 0$ and $p_{II} = 1$ when $\frac{V_b}{V_g} < \frac{1}{R-1}$. This is the case in which an antitrust regime incorporating no per se rules of illegality is optimal. The optimal point will be the intersection of $p_{II} = \frac{1-p_I}{R-1}$ and the budget constraint when $R - 1 > \frac{V_b}{V_g} > \frac{C_a - C_R R^2}{(R-1)C_a - C_R R^2}$ and $p_I = 1$ and $p_{II} = 0$ when $\frac{V_b}{V_g} > R - 1$. This is the case in which an antitrust regime incorporating no per se rules of legality is optimal. I note that when $\frac{V_b}{V_g} < \frac{1}{R-1}$ or $\frac{V_b}{V_g} > R - 1$ the optimal rule is independent of the size of the budget. The reader may wish to consult Section IX.D below and Figure 2 for a graphical explanation of this result. □

Proposition 2: The relative rates of substitution of p_I for p_{II} for each possible rule change, as well as budget-neutral combinations of rule changes, which are reflected in the slopes of the solid lines in Figure 2, are, in absolute value: rule of reason to per se rule of legality < per se rule of illegality to per se rule of legality < budget-neutral rule changes that increase p_{II} and reduce p_I < per se rule of illegality to rule of reason. The foregoing assumes a fixed rule of reason intensity $R >$ 2. The error cost effects of all possible rule changes, assuming a fixed budget constraint insufficient to cover the cost of applying the rule of reason to all conduct, and incorporating all possible rule changes needed to balance the budget in response to the given rule change, can be inferred from these relative rates of substitution. Error cost effects under the assumption that conduct is "mostly bad" in the sense that $\frac{V_b}{V_g} > \frac{C_a - C_R R^2}{(R-1)C_a - C_R R^2}$, are reported in Table 1.

Discussion: Let us choose the rule of reason intensity index, R, to be small enough as to make $(R-1)C_a - C_R R^2$, the denominator in $-\frac{C_a - C_R R^2}{(R-1)C_a - C_R R^2}$, which is the slope of the budget constraint in p_{II} that we identified in the discussion of Proposition 1, negative. Then, using Assumption 7, we have $2 < R < \frac{C_R R^2}{C_a} + 1$. Recalling from Assumption 4 that $C_a > C_R R$, we have $C_a - C_R R < 0$, and, from our bounds on R, $(R-1)C_a - C_R R^2 < 0$ and $|(R-1)C_a - C_R R^2| < |C_a - C_R R^2|$, from which it follows that $\frac{C_a - C_R R^2}{(R-1)C_a - C_R R^2} > 1$. It can easily be shown that

under these conditions, $R-1>\frac{C_a-C_RR^2}{(R-1)C_a-C_RR^2}>\frac{1}{R-1}$. From our lower bounds on p_I and p_{II}, which are $p_I=\frac{1-p_{II}}{R-1}$ and $p_{II}=\frac{1-p_I}{R-1}$, respectively, it is clear that $R-1$ is the absolute value of the slope of the lower bound of p_{II} as a function of p_{II}, and $\frac{1}{R-1}$ is the absolute value of the slope of the lower bound of p_I as a function of p_{II}. Given that $R>2$, we have that $R-1>\frac{C_a-C_RR^2}{(R-1)C_a-C_RR^2}>1>\frac{1}{R-1}$. Now, the slope of the lower bound of p_{II} is just the rate of substitution of p_I for p_{II} when converting rules of per se illegality to rules of reason, unity is the rate of substitution of p_I for p_{II} when converting per se rules of illegality to per se rules of legality, and $\frac{1}{R-1}$ is the rate of substitution of p_I for p_{II} when converting rules of reason to per se rules of legality, from which the first part of the proposition follows immediately. All entries in Table 1 may be inferred by using the effect of the given rule change on p_I and p_{II} to define a vector and then summing that vector up with the vectors created by the compensating rule changes required to return the economy to the budget constraint. Comparing the location of the economy on the budget constraint after the compensating rule changes have been applied with the starting location of the economy on the budget constraint, and then determining the value—$p_IV_g+p_{II}V_b$—of the new location of the economy and comparing it with the starting value gives the changes in error costs described in the table. □

C. VARYING RULE OF REASON INTENSITY

So far rule of reason intensity R has been fixed. Now consider the case in which R may vary to minimize error costs. This case played a role in the argument at the end of Part VIII of this Article. The question to be answered is whether, in the presence of a budget constraint, a mix of per se rules of illegality and rules of reason ever reduces error costs relative to subjecting all conduct to rules of reason. The answer is that subjecting some conduct to per se rules of illegality can reduce error costs in this situation.

For simplicity of exposition, and because the focus here is on per se rules of illegality and rules of reason, not per se rules of legality, it will be assumed that no conduct is subject to per se rules of legality ($n_{II}=0$). In other words, the ensuing discussion will find conditions not for achieving the globally optimal mix of rules but only for achieving the optimal mix conditional on the absence of per se rules of legality.

The discussion that follows does not initially specify the functional forms of rule of reason error and enforcement costs. Thus Assumption 6 is not initially applied to what follows. This gives the results greater generality than those for the fixed intensity case above. Once the more general results are presented, the discussion will then shift, for purposes of reinforcement, to showing that the results hold under Assumption 6 as well.

With no conduct subject to per se rules of legality, total error costs become those when conduct is divided exclusively between rules of reason and per se rules of illegality in amount n_I. Total error costs are therefore $[(1-n_I)r^I + n_I]V_g + (1-n_I)r^{II}V_b$, which simplifies to $(1-n_I)\left[r^{II}V_b + r^I V_g\right] + n_I V_g$. The budget constraint is $B = C_a n_I + C(R)(1-n_I)$. From the budget constraint, it is clear that the funds available to purchase rules of reason, $C(R)(1-n_I)$, are what remains after the cost of per se rules of illegality is deducted from the budget, $B - C_a n_I$. These funds purchase rules of reason with a level of intensity R that determines the size of the rule of reason error shares, r^I and r^{II}. But for a fixed budget and fixed marginal cost of per se rules of illegality, the amount of these funds is entirely determined by the amount of conduct subject to per se rules of illegality, n_I. It follows that $V_b r^{II} + V_g r^I$ is a function of n_I, operating indirectly through the determination of R.

Define $f(n_I) = V_b r^{II} + V_g r^I$ and, to further simplify notation, $\rho = V_R$. I therefore have for total error costs when conduct is divided between rules of reason and per se rules of illegality:

$$(1-n_I)f(n_I) + \rho n_I. \qquad (1)$$

$f(n_I)$ is the error cost that prevails if no conduct is subject to per se rules of illegality and rules of reason are applied to all conduct. ρ is the total over-enforcement harm that is realized if all conduct is per se illegal.

In more formal terms, $f(n_I)$ is the composition of $f(R)$, which is rule of reason error cost as a function of rule of reason intensity, and $R = g(n_I, B)$, the budget constraint that gives rule of reason intensity R as a function of the amount of conduct subject to per se rules of illegality and a fixed enforcement budget B. $f(n_I) = f(g(n_I))$. Thus the amount of conduct subject to per se rules of illegality determines the intensity of application of rules of reason and therefore the size of the error costs that rules of reason are capable of inflicting if applied to all conduct. For clarity, $f(R)$ will be referred to here as f_R, and $f(n_I)$ as f, from now on.

Proposition 3: The general condition for a per se rule of illegality to achieve lower error cost than a rule of reason is that (1) have a minimum in $n_I \in (0,1]$. Sufficient conditions for this to hold are that $f(0) > \rho$, or that both $f(0) < \rho$ and $f'(0) < -[\rho - f(0)]$.

Discussion: When $f(0) > \rho$, subjecting all conduct to per se rules of illegality ($n_I = 1$) results in lower error costs than subjecting all conduct to rules of reason. Subjecting only some conduct to per se rules of illegality ($n_I \in (0,1)$) may give rise to even lower error costs, depending on the nature of $f(n_I)$. Regardless, it is clear that, when $f(0) > \rho$, applying per se rules of illegality to some amount of conduct reduces error costs relative to applying rules of reason to all conduct in this case.

When $f(0) < \rho$, the question becomes whether $f(0)$ is an error cost minimum relative to subjecting any amount of conduct to a per se rule of illegality (i.e., relative to any $n_I > 0$). If $f(0)$ is a minimum, then subjecting any amount of conduct to a per se rule of illegality cannot achieve lower error costs than a rule of reason. (1) is falling when $f'(n_I) < -\left[\frac{\rho - f(n_I)}{1-n_I}\right]$. If this holds at $n_I = 0$, which is to say, if $f'(0) < -[\rho - f(0)]$, then there exists an $n_I \in (0,1]$ for which error cost is less than that at $n_I = 0$. Under this condition, subjecting some non-zero amount of conduct to per se rules of illegality reduces error costs. □

Proposition 4: $f'(0) < 0$.

Discussion: $f'(n_I) = f'_R(R)g'(n_I) = f'_R(R)\frac{dR}{dn_I}$. Implicitly differentiating the budget constraint with respect to n_I yields $\frac{dR}{dn_I} = -\frac{C_a - C(R)}{(1-n_I)C'(R)}$, which is positive when $C(R) > C_a$. This establishes formally that an increase in the amount of conduct subject to per se rules of illegality converts the conduct brought under per se rules of illegality from higher cost rules of reason to lower cost per se rules of illegality, freeing up resources that can be used to purchase greater levels of intensity for the coverage areas still subject to rules of reason. By Assumption 2, the error cost of subjecting all conduct to rules of reason as a function of rule of reason intensity, $f_R(R)$, is falling in rule of reason intensity. So $f'_R(R) < 0$. Because $f'_R(R) < 0$ and $\frac{dR}{dn_I} > 0$, $f'_R(R)\frac{dR}{dn_I} < 0$, and $f(n_I)$ is therefore falling in n_I. □

The lower error cost of subjecting all conduct to per se rules of illegality in the case in which $f(0) > \rho$ has been recognized

elsewhere.[253] The focus here is on finding the conditions that create the less intuitive result that subjecting only part of conduct to per se rules of illegality is appropriate even when the enforcement budget is large enough to make subjecting all conduct to rules of reason preferable to subjecting all conduct to per se rules of illegality. I believe that the results for the case $f(0) < \rho$ that follows have not been recognized elsewhere.

Proposition 5: A per se rule of illegality for at least some conduct is appropriate if (1) error cost reductions associated with small increases in rule of reason intensity are large or (2) if rules of reason are very expensive relative to per se rules of illegality.

Discussion: Whether $f'(0)$ is sufficiently negative to satisfy $f'(0) < -[\rho - f(0)]$ depends on the magnitudes of $f_R'(R)$ and $\frac{dR}{dn_I}$. If $f_R'(R)$ is very negative, which means that small changes in rule of reason intensity greatly reduce error costs, then $f'(0) < -[\rho - f(0)]$ and subjecting some amount of conduct to per se rules of illegality is appropriate. If $\frac{dR}{dn_I}$ is very positive, which means that small increases in the amount of conduct subject to per se rules of illegality greatly increase the amount of rule of reason intensity that may be purchased, then $f'(0) < -[\rho - f(0)]$ and subjecting some amount of conduct to per se rules of illegality is appropriate. Because $\frac{dR}{dn_I} = -\frac{C_a - C(R)}{(1-n_I)C'(R)}, \frac{dR}{dn_I}$ is very positive if C_a is much smaller than $C(R)$. □

Note that the case $f(0) < \rho$ and $f'(0) < -[\rho - f(0)]$ can include the case in which a rule of reason is "fully biased" in favor of over-enforcement harm and creates no under-enforcement harm (i.e., the case in which $r^I > 0, r^{II} = 0$). In such a case, if the rule of reason is more accurate than a per se rule of illegality, then it must inflict less over-enforcement harm than a per se rule of illegality. It might appear that a rule of reason is therefore always to be preferred to a per se rule of illegality. Proposition 5 shows that this is not the case. It shows, for example, that if the marginal reduction in over-enforcement harm that may be purchased with the cost savings from adding per se rules of illegality is large, then it is optimal to divide conduct between per se rules of illegality and rules of reason.

Proposition 6: The case $f(0) < \rho$ and $f'(0) < -[\rho - f(0)]$ holds only if B is neither too small nor too large. If B is too small, then $f(0) > \rho$, and, if it is too large, then $f'(0) > -[\rho - f(0)]$ and, in this latter case, per se rules of illegality cannot minimize error costs.

253. *See* Katsoulacos & Ulph, *On Optimal Legal Standards for Competition Policy*, *supra* note 109, at 424–45; Kwak, *supra* note 109, at 383–84.

Discussion: $\frac{df(n_I)}{dB} = f_R'(R)\frac{dR}{dB}$. From the general form of the budget constraint, $\frac{dR}{dB} = \frac{1}{C'(R)(1-n_I)} > 0$. For constant rule coverage, an increasing budget always allows more funding to be plowed into increasing rule of reason intensity. First it is necessary to show that a small B may cause $f(0) < \rho$ to fail. Because $f_R'(R) < 0$ and $\frac{dR}{dB} > 0$, $f(n_I)$ is falling in B. This means that it may be the case that for sufficiently small B, $f(0) > \rho$. The idea here is that when the enforcement budget is very small, the budget may be insufficient to purchase enough rule of reason intensity to make a rule of reason achieve lower error costs than would subjecting all conduct to per se rules of illegality. It is now necessary to show that a large B may cause $f'(0) < -[\rho - f(0)]$ to fail. It was observed above that $f(n_I)$ is falling in B. As a result, $-[\rho - f(0)]$ becomes more negative as B increases, and may cause a violation of the condition $f'(0) < -[\rho - f(0)]$. The idea here is that when the enforcement budget is very large, a high intensity may be purchased even when all conduct is subject to rules of reason. As a result, the increase in error costs associated with reducing the amount of conduct subject to rules of reason to make way for a marginal increase in the amount of conduct subject to per se rules of illegality is large, and the reduction in error costs from purchasing additional intensity with the cost savings associated with the marginal increase in the amount of conduct subject to per se rules of illegality must be high indeed in order to offset them. □

There will indeed be both a floor and a ceiling required for B in order for $f(0) < \rho$ and $f'(0) < -[\rho - f(0)]$ to hold in the case of the two functional forms of $f(n_I)$ considered below. If B satisfies these conditions, then subjecting at least some conduct to per se rules of illegality is appropriate.

Consider now the particular functional forms for rule of reason error costs and enforcement costs described in Assumption 6. The forms are $C(R) = C_R R$ and $f(n_I) = \frac{(1-n_I)C_R}{B - C_a n_I}(V_g + V_b)$. The conditions $f(0) < \rho$ and $f'(0) < -[\rho - f(0)]$ are satisfied for $\frac{C_R(V_g+V_b)}{V_g} < B < \frac{V_g+V_b}{V_g}\left[C_R + \sqrt{C_R^2 - \frac{V_g}{V_g+V_b}C_a C_R}\right]$. Indeed, because $f'(n_I) < 0$ over $n_I \in [0,1]$ for this functional form, the n_I^* that globally minimizes error cost can be found. It is $n^* = \frac{B - \sqrt{-\frac{C_R(B-C_a)^2}{PC_a - C_R}}}{C_a}$, for $P = \frac{V_g}{V_g+V_b}$. And it is greater than zero. Note that n^* is always defined for $P < \frac{1}{2}$ because $C_R R > C_a$

and $R > 2$. However, C_R can be larger than its minimum, in which case n^* is defined for larger P. Increases in P reduce the ceiling on B because as V_g gets large the error cost of per se rules of illegality increases, requiring bigger gains from rule of reason intensity in order to be justified.

Note that under Assumption 6, $f(0) > \rho$ implies that $\frac{V_b}{V_g} > R - 1$, which is the condition for subjecting all conduct to per se rules of illegality to be optimal given the cost functions described by Assumption 6.

D. GRAPHICAL EXPOSITION OF THE MODEL

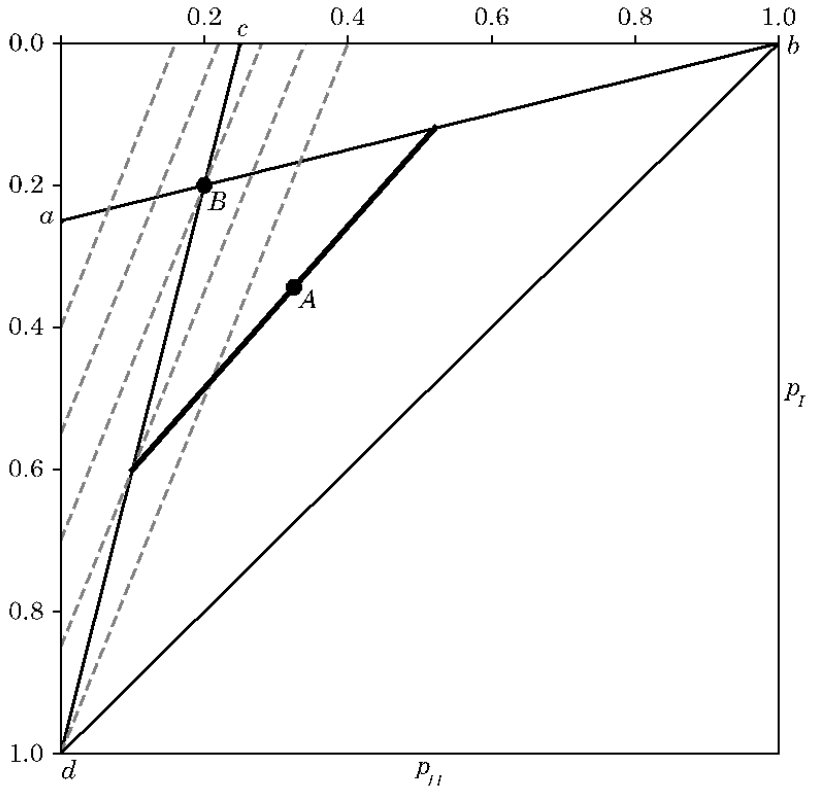

Figure 2

The fundamental elements of the model can be understood through Figure 2. The figure shows the lower bounds of p_I and p_{II}—the share of the value of good conduct erroneously condemned and the share of the value of bad conduct that escapes condemnation,

respectively—along with the budget constraint in p_{II}, p_I space, with the origin chosen, in nonstandard fashion, to occupy the upper left corner of the graph. As I do throughout this Article, I will refer to p_I loosely as the *amount*, rather than the share of the value, of good conduct erroneously condemned and to p_{II} loosely as the *amount*, rather than the share of the value, of bad conduct that escapes condemndation.

If the economy is at the origin, then the antitrust laws operate perfectly with respect to the conduct at issue (namely, conduct that the Court believe to be ambiguous in character, as described in Part III): the antitrust laws neither err in condemning good conduct nor in allowing bad conduct to go unpunished. *ab* gives the lower bound on p_{II}; it represents the combinations of over-enforcement (p_I) and under-enforcement (p_{II}) error when the antitrust laws applicable to the conduct at issue contain no per se rules of illegality, just rules of reason and per se rules of legality. Moving from right to left, the line veers toward p_{II} because, as rules of per se legality are converted to rules of reason, the amount of bad conduct that escapes condemnation falls but the amount of good conduct erroneously condemned increases. This tradeoff between under-enforcement error and over-enforcement error exists because rules of reason are not perfect and will err to some extent with respect to both good conduct and bad conduct.

One cannot, however, travel all the way along that line. The segment *aB* is unattainable because rules of reason are assumed to fail to identify equal amounts of good conduct and bad conduct. As we move along *ab* starting from point *b*, which is the point at which all bad conduct escapes condemnation and so is the point at which the antitrust laws contain only rules of per se legality, per se rules convert to rules of reason until a point—*B*—is reached at which the antitrust laws contain only rules of reason. The amounts of good conduct erroneously condemned and bad conduct uncondemned are equal at point *B*, because, as just mentioned, rules of reason, by assumption, have the same level of error with respect to bad conduct and good conduct.

B lies at the intersection of *ab* with *dc* because *dc* gives the lower bounds of p_I—the combinations of over-enforcement and under-enforcement error attainable when there are no per se rules of legality—and so *dc* must also contain a point, corresponding to an antitrust regime with only rules of reason, at which over-enforcement and under-enforcement error are equal. It follows, further, that the best possible position attainable by the economy—that with the lowest possible error costs thanks to pervasive employment of rules of reason—must be the point, *B*, at which *dc* and *ab* intersect. It follows that the segments

aB and *cB*, which represent the continuation of the trips along *ab* and *dc*, respectively, past point *B*, are not attainable. Those segments represent points that could only be attained were rules of reason to exhibit only one kind of error—only to erroneously condemn good conduct in the case of segment *aB* and only to allow bad conduct to escape condemnation in the case of segment *cB*.

The 45-degree line, *db*, gives the points attainable when no rules of reason are employed and only rules of per se legality or illegality are employed. Moving from left to right, the slopes of lines *dc*, *ad*, and *db* give the direction in which the economy will move in response to a particular rule conversion, regardless of the initial mix of antitrust rules employed (regardless, that is, of the starting point of the economy). *dc* shows the direction in which the economy will move if a per se rule of illegality is converted to a rule of reason. *ab* shows the direction in which the economy will move if a rule of reason is converted to a per se rule of legality. And *db* shows the direction in which the economy will move if a per se rule of illegality is converted to a per se of legality. Thus if the economy were to start at point *A* and a per se rule of illegality were converted to a rule of reason, the economy would move in an upper-rightward direction at a slope equal to the slope of line *dc* (this movement from point *A* is not pictured). By following these slopes in the opposite direction, from right to left, one can trace the movement of the economy in response to the reverse of these rule changes. Thus, if a rule of reason were converted to a per se rule of illegality, the movement from point *A* would be opposite, in a lower-lefthand direction, again at a slope equal to the slope of *dc* (also not pictured).

So far the discussion has been limited to theoretically attainable points, without consideration of the budgets of enforcers, which limit the mix of rules that can effectively be employed by antitrust and therefore limits the set of points that the economy can actually attain. The bold line containing point *A* gives the points closest to point (0,0) attainable for the particular budget level used for this figure. The slope of the line is determined by the relative costs of rules of reason, per se rules of illegality, and per se rules of legality.

The point where the budget line intersects *dc* corresponds to a mix of per se rules of illegality and rules of reason (but not per se rules of legality), because *dc* gives points attainable without use of that rule. The location of that intersection point on *dc* is determined by the budget. A larger budget allows "purchase" of more rules of reason and an intersection point that is closer to point *B*, the point at which all conduct is subject to rules of reason alone.

The point where the budget line intersects ab corresponds to a mix of rules of reason and per se rules of legality, but not per se rules of illegality, because ab gives points attainable without use of per se rules of illegality. The precise mix is here again determined by the size of the budget, with larger budgets enabling the imposition of more rules of reason and the attainment of a point along ab that is closer to point B, the point at which all ambiguous conduct is subject to the rule of reason.

Because per se rules of illegality are more costly than per se rules of legality, it follows that a given budget will be able to afford fewer rules of reason when per se rules of illegality are used than when per se rules of illegality are not used and so the intersection of the budget line with ab, the line that shows points attainable without use of rules of per se illegality, will be closer to the origin than the intersection of the budget line with dc. As a result, the intersection points of the budget line with dc and ab will not be symmetrical, and so the budget line will not lie at a 45-degree angle to the axes. (This is a bit difficult to see in the figure as drawn.)

Putting all this together, the set of attainable points are all those falling on or within the trapezoid formed by db, the line containing point A (the budget line), and the sections of dc and ab connecting the two. The regions bounded by dB, Bb, and the axes are not attainable at any budget level.

Increases in rule of reason intensity change this picture. An increase in rule of reason intensity makes the rule of reason more accurate, and so it allows less bad conduct to go uncondemned and erroneously condemns less good conduct. That brings lines dc and ab closer to the p_I and p_{II} axes respectively, and brings their intersection point, point B, closer to point (0,0), the point of perfect enforcement at which all bad conduct is condemned and no good conduct is erroneously condemned. Increases in rule of reason intensity are costly, and so they will also affect the location of the budget line.

What is the point, out of the set of attainable points, that would maximize error costs (i.e., minimize harm to consumers)? To answer that question, it is necessary to consider the relative magnitudes of the harm inflicted on consumers by bad conduct and the benefits conferred on consumers by good conduct, V_b and V_g, respectively. The dotted grey lines represent points of equal consumer harm after taking these relative magnitudes into account. Harm, and hence error cost, falls as the economy moves from line to line in the direction of point (0,0). As the magnitude of the harm inflicted by bad conduct increases, these lines become steeper. The slope pictured here is large enough to

support a no-per-se-rules-of-legality optimum, because the lowest harm attainable on the budget line (the line containing point *A*) is that at which the budget line intersects line *dc*, which is the no-per-se-rules-of-legality line.

If there were no budget constraint, but rule of reason intensity were fixed, preventing the Court from using per se rules to finance greater rule of reason intensity in the way described in Section IX.C, then the Court could apply the rule of reason to all conduct, confident that enforcers would be able fully to enforce the rule. The economy would, then, be at point *B*. Even then, however, point *B* would minimize error costs only if the slope of the dotted harm lines, which represent points of equal harm, were not to exceed the slope of *dc*. If they were to do that, which would happen if bad conduct were very, very harmful to the economy, relative to the benefits of good conduct, then point *d*, which represents the application of per se rules of illegality to all conduct, would be optimal.[254] That is not, however, pictured in Figure 2. In the figure, the dotted lines are not terribly steep, and it is clear that point *B*, if attainable, would correspond to a dotted error cost line that is closer to point (0,0) than is the dotted line that crosses point *d*.

254. For a discussion of this result, see *supra* Section III.B.