

University of Pennsylvania Law Review

FOUNDED 1852

Formerly
American Law Register

VOL. 158

JANUARY 2010

No. 2

ARTICLE

RATIONALITY ANALYSIS IN ANTITRUST

CHRISTOPHER R. LESLIE[†]

INTRODUCTION.....	263
I. ANTITRUST LAW'S ASSUMPTION OF RATIONALITY	265
A. <i>Rationality and Antitrust Conspiracies</i>	267
B. <i>Rationality and Predation</i>	269
C. <i>Rationality in Other Aspects of Antitrust Law</i>	273
II. QUESTIONING THE RATIONALITY ASSUMPTION	273
A. <i>Loss-Inducing Business Behavior</i>	274

[†] Professor of Law, University of California, Irvine School of Law. The author thanks Jill Fisch, Valerie Hans, Herb Hovenkamp, Louis Kaplow, Mark Lemley, Tony Reese, Steven Shavell, Kathy Zeiler, participants in Harvard Law School's Law and Economics Colloquium, and participants in faculty workshops at the University of Southern California School of Law, the University of Illinois College of Law, the University of California, Irvine School of Law, and Cardozo Law School for comments on earlier versions of this Article. Amy Beard and Karin Hessler provided excellent research assistance.

- B. *Distinguishing Unprofitable Conduct from Irrational Conduct*.....277
- C. *Antitrust Conspiracies Often Entail Conduct That Appears Irrational*.....280
- D. *Even Absent an Antitrust Conspiracy, “Irrational” Conduct Can Be a Rational Predatory Business Move*.....284
- III. THE JUDICIARY’S INABILITY TO EVALUATE BUSINESS RATIONALITY.....285
 - A. *Most Judges Lack Relevant Business Experience*.....286
 - B. *Judges’ Absorption of Pertinent Scholarship*.....288
 - C. *Judges Do Not Appreciate Business Objectives*.....293
 - D. *Judges Fail to Appreciate How Behaving Irrationally Can Be Rational*.....295
 - 1. *Creating Credibility Through Facially Irrational Conduct*.....297
 - 2. *Facially Irrational Conduct Can Deter Funding for Rivals*.....300
 - 3. *Facially Irrational Behavior as a Barrier to Entry*.....301
 - 4. *Successful Predation and Other Credible, “Irrational” Threats*.....302
 - 5. *Summary*.....305
 - E. *Judges May Not Appreciate Business Constraints*.....305
 - 1. *Uncertainty*.....305
 - 2. *Business Confidence*.....307
 - F. *The Risk of Judicial Cognitive Bias*.....308
 - 1. *Hindsight Bias*.....309
 - 2. *Confirmation Bias*.....314
- IV. “IMPLAUSIBLE” ANTITRUST VIOLATIONS.....318
 - A. *Predatory Pricing*.....319
 - B. *Price-Fixing Conspiracies*.....324
 - 1. *Tobacco*.....325
 - 2. *Citric Acid*.....328
 - 3. *Potash*.....332
 - C. *Group Boycotts of Suppliers*.....334
 - D. *Conspiracy to Conceal an Invalid Patent*.....336
- V. RECONSIDERING THE ROLE OF RATIONALITY ANALYSIS IN ANTITRUST LITIGATION.....338
 - A. *Rationality and Implausibility Analysis—Procedural or Substantive Rules?*.....338

B. *Antitrust Litigation and the Focus on Facts*.....341

 1. Distinguishing Between Irrational and Strategic Behavior.....342

 2. The Evidentiary Burden for Facially Irrational or Implausible Claims344

C. *The Proper Role of Juries*.....348

CONCLUSION.....352

INTRODUCTION

In the game of Chicken, two drivers at opposite ends of a stretch of road face their cars toward each other and accelerate. The rules are simple: the first driver to swerve in order to avoid a head-on collision loses. Game theory teaches that a winning strategy for Chicken requires one driver to convince the other driver that she absolutely will not swerve. Perhaps the clearest way to do this is for one driver to remove her car’s steering wheel and disconnect her brakes; thus, once that driver accelerates her car, she can neither swerve nor stop.¹ Short of such mechanical adjustments, a winning strategy for the game of Chicken is to convince the other driver that you are irrational—that you will not swerve, even if it means your death.² Because swerving to avoid an oncoming car is rational, the first driver to convince her opponent that she is irrational and will not swerve is most likely to win.

Analyzing the game of Chicken can provide insights into the rationality of apparently irrational behavior. In particular, the game of Chicken can teach a useful lesson about the plausibility of antitrust claims. Antitrust law sets out the rules for competition in the American marketplace. It proscribes certain agreements among competitors and certain anticompetitive conduct by dominant firms. As legal scholars associated with the law and economics movement have achieved significant influence, the concept of business rationality has gained greater traction in antitrust case law. Federal judges are more frequently concluding that some types of anticompetitive conduct are

¹ Of course, this strategy requires the driver to perform these tasks in full view of the other driver. The point is not merely to preclude swerving; rather, it is to convince the other driver that she will not—because she cannot—swerve. The worst outcome occurs if both drivers throw out their steering wheels, and neither driver knows about the other’s conduct. This guarantees a crash, and both parties will be worse off as a result.

² See THOMAS C. SCHELLING, *THE STRATEGY OF CONFLICT* 143 (1960) (stating that, in certain game situations, it can be beneficial to act irrationally in order to make a credible threat that might not otherwise be heeded).

facially irrational or implausible and, therefore, could not have occurred as a matter of law (because it is implausible that a business would act irrationally). This Article challenges the current judicial use of rationality theory and argues that in many cases judges are employing an overly narrow conception of rationality. This conception eliminates potentially valid antitrust claims by elevating theory over fact and by failing to appreciate that behavior that appears irrational can be rational in some circumstances.

Part I describes how the law and economics movement assumes that businesses act as rational profit maximizers and how this assumption now permeates antitrust law. Part II challenges the rationality assumption by discussing examples of apparently irrational business behavior that, upon closer inspection, is rational, even if ultimately not profit maximizing. Part II also examines how facially irrational conduct is often part and parcel of anticompetitive conspiracies and predatory schemes.

Part III argues that federal courts are generally not effective arbiters of whether alleged business conduct is implausible. This Part explains how most federal judges have no relevant business experience, do not keep abreast of the pertinent economics and historical scholarship, do not appreciate the full range of business objectives or how businesses operate, and are subject to cognitive biases. As a result, courts often label plaintiffs' allegations of anticompetitive conduct as implausible because the plaintiffs' theory of the case does not comport with judges' constrained conception of business rationality.

Part IV examines specific antitrust cases in which federal courts improperly granted defendants' motions for summary judgment or overturned jury verdicts based on judges' assertions that the plaintiffs' theory of the case entailed irrational or implausible conduct by the defendant. These cases—which examine predatory pricing, price-fixing cartels, group boycotts, and other antitrust conspiracies—illustrate the various judicial shortcomings and biases presented in Part III. In many of these cases, the conduct labeled implausible by the court undoubtedly occurred. In each of them, the court discounted robust fact patterns that indicated either an antitrust conspiracy or illegal predatory conduct. This is disquieting given the procedural posture of the cases—namely that the court should have viewed the evidence in the light most favorable to the antitrust plaintiff.

Finally, Part V advocates a more limited role for rationality theory in antitrust litigation. Over time, a procedural rule regarding evidentiary burdens has evolved into a substantive rule of antitrust law whe-

reby valid claims are improperly rejected. Judges should focus more on the facts presented by the plaintiff than on any economic theory championed by the defendant or held by the judge. While this may result in more jury trials in antitrust cases, jurors may be less likely to make the mistakes—detailed in Parts III and IV—that judges are currently committing.

I. ANTITRUST LAW'S ASSUMPTION OF RATIONALITY

The law and economics movement has firmly taken root in antitrust jurisprudence. The debate today is no longer about whether the law and economics approach should affect antitrust law but only about how it should do so.³ The movement deserves much praise for introducing greater precision and philosophical clarity into antitrust thinking, but its influence has also created problems.

As a result of the dominating influence of law and economics scholars, antitrust law now worships at the shrine of rationality. Rationality serves as the foundation for most model building and policy prescriptions within the law and economics school, as evidenced by such concepts as the rational actor theory and rational choice theory. Professor Herbert Hovenkamp has opined that “[t]he entire antitrust enterprise is dedicated to the proposition that business firms behave rationally.”⁴ Prominent scholars defend this rationality assumption as “an accurate description of firms.”⁵ Rational choice theory does allow for some irrational behavior, so long as it is randomly distributed.⁶ Subject to this caveat, however, “rational-choice theory has become a routine and almost unexamined part of every economist’s intellectual tool kit.”⁷

The term “rationality” itself, however, is ambiguous and loaded, subject to different interpretations.⁸ To date, scholars have advanced

³ See, e.g., RICHARD A. POSNER, *ANTITRUST LAW*, at vii-x (2d ed. 2001) (highlighting widespread agreement among those “professionally involved in antitrust” that economic theory should be utilized in formulating antitrust law, but noting disagreement within the community “over specific practices, cases, and rules”).

⁴ HERBERT HOVENKAMP, *THE ANTITRUST ENTERPRISE* 134 (2005).

⁵ KEITH N. HYLTON, *ANTITRUST LAW* 226 (2003).

⁶ See Samuel Issacharoff, *Can There Be a Behavioral Law and Economics?*, 51 *VAND. L. REV.* 1729, 1730 (1998) (stating that departures from the rationality model would have to be random so as not to weaken the power of the analysis).

⁷ Thomas S. Ulen, *Rational Choice and the Economic Analysis of Law*, 19 *LAW & SOC. INQUIRY* 487, 488 (1994) (book review).

⁸ See, e.g., Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 *CAL. L. REV.* 1051, 1055

over seventy varying definitions, though few are actually used in practice.⁹ Because rationality is taken as a given, “there is rarely a discussion in the legal literature about what, exactly, constitutes rational behavior.”¹⁰ But the most prominent concepts of rationality focus on the internal consistency of the actor’s conduct, including whether the actor chooses appropriate means through which to pursue her self-interest.¹¹

In the context of business decisionmaking, law and economics scholars define rationality as acting to maximize profits.¹² For theorists associated with the Chicago School, this assumption of profit-maximizing behavior is “crucial” to their rational choice theories and subsequent policy prescriptions.¹³ The logic of the assumption lies in the argument that firms must maximize profits or else they will be driven from the market.¹⁴ As courts have imported the profit-maximizing rationality assumption into substantive antitrust law, the assumption

(2000) (“There is considerable debate within both the economics and law-and-economics communities about precisely what rational choice theory is and is not.”).

⁹ See Amitai Etzioni, *How Rational We?*, 2 SOC. F. 1, 2 (1987) (“While over seventy different definitions [of rationality] have been advanced, only very few are widely used.”).

¹⁰ Korobkin & Ulen, *supra* note 8, at 1060.

¹¹ See Etzioni, *supra* note 9, at 2 (“Dominant among [the various definitions of rationality] is the core proposition that rational individuals act consistently, choose the means most suitable to their goals, and act on behalf of their self-interest.”); see also Christine Jolls, Cass R. Sunstein & Richard Thaler, *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471, 1488 (1998) (“Indeed, the term ‘rationality’ is highly ambiguous and can be used to mean many things. A person might be deemed rational if her behavior (1) conforms to the axioms of expected utility theory; (2) is responsive to incentives, that is, if the actor changes her behavior when the costs and benefits are altered; (3) is internally consistent; (4) promotes her own welfare; or (5) is effective in achieving her goals, whatever the relationship between those goals and her actual welfare.”).

¹² See PHILLIP E. AREEDA & HERBERT HOVENKAMP, 1 ANTITRUST LAW ¶ 113, at 140 (3d ed. 2006) (“[B]usiness firms are (or must be assumed to be) profit maximizers . . .”); Korobkin & Ulen, *supra* note 8, at 1066 (“Nearly all law-and-economics literature on business organizations, following the neoclassical economic theory of firms, is built on the explicit or implicit assumption that firms seek to maximize profits.” (footnote omitted)).

¹³ See Maurice E. Stucke, *Behavioral Economists at the Gate: Antitrust in the Twenty-First Century*, 38 LOY. U. CHI. L.J. 513, 514 (2007) (“One uniformly accepted tenet, according to Posner, is that business firms are profit-maximizers, so that ‘the issue in evaluating the antitrust significance of a particular business practice should be whether it is a means by which a rational profit maximizer can increase its profits at the expense of efficiency.’” (quoting POSNER, *supra* note 3, at ix)); *id.* at 521 (“Thus, for Robert Bork and others, the profit-maximization assumption was ‘crucial’ to the Chicago School’s rational choice theories.” (citing ROBERT H. BORK, THE ANTITRUST PARADOX 119 (1978))).

¹⁴ See Korobkin & Ulen, *supra* note 8, at 1070 (“Organizations will seek to maximize profits, and those that fail to do so will be put out of business by a lack of customers, capital, or both.”).

has fundamentally reshaped antitrust doctrine as well as the course of antitrust litigation.

A. *Rationality and Antitrust Conspiracies*

Section 1 of the Sherman Act condemns agreements that unreasonably restrain trade.¹⁵ Several categories of agreements—such as price-fixing conspiracies, agreements among competitors to allocate markets, and some group boycotts—are per se illegal, which means that the agreements are unreasonable as a matter of law.¹⁶ Other restraints of trade are evaluated under the rule of reason, in which the factfinder balances the anticompetitive and procompetitive effects of the challenged agreements.¹⁷ Concerted action with a net anticompetitive effect is held to be unreasonable.¹⁸ Regardless of the method of determining the reasonableness of a trade restraint, the plaintiff must prove the *existence* of an agreement. The rationality assumption has played a critical role in this element of section 1 litigation.

Courts employ rationality analysis to determine whether antitrust plaintiffs alleging anticompetitive conspiracies are entitled to have a jury decide their case. In *Matsushita Electric Industrial Co. v. Zenith Radio Corp.*, the plaintiffs, manufacturers of consumer electronics sold in the United States, alleged that a group of Japanese electronics manufacturers had conspired to dominate the American market by engaging in below-cost pricing, which would drive the American manufacturers from the U.S. market and subsequently allow the Japanese firms to operate as a cartel.¹⁹ According to the plaintiffs, the Japanese conspirators funded their predatory pricing with the supracompetitive profits secured in the already-cartelized Japanese market.²⁰

The Supreme Court majority found the plaintiffs' theory implausible. The Court strongly doubted that a firm would attempt predatory pricing and reasoned that predatory *conspiracies* were even less likely than predatory pricing by a single predator.²¹ The majority further reasoned that because below-cost pricing forces the predator to forego profits, "[f]or that investment to be rational, the conspirators must

¹⁵ Sherman Act § 1, 15 U.S.C. § 1 (2006).

¹⁶ *State Oil Co. v. Khan*, 522 U.S. 3, 10 (1997).

¹⁷ *Arizona v. Maricopa County Med. Soc.*, 457 U.S. 332, 342-43, 343 n.13 (1982).

¹⁸ *Id.*

¹⁹ 475 U.S. 574, 577-78 (1986).

²⁰ *Id.* at 578.

²¹ *Id.* at 588-90.

have a reasonable expectation of recovering, in the form of later monopoly profits, more than the losses suffered.”²² Relying on the arguments of Chicago School theorists, the Court argued that there could be no such reasonable expectation of recoupment because, even if predation succeeded in driving competitors from the market, subsequent price increases would invite into the market new (or former) rivals that would drive the price down to competitive levels.²³ Given these hurdles, the Court asserted that “there is a consensus among commentators that predatory pricing schemes are rarely tried, and even more rarely successful.”²⁴ In short, predatory pricing was perceived as irrational in theory and thus not attempted in practice. Reasoning that postpredation recoupment would be more difficult for a cartel than a single monopolist, the Court concluded that predatory pricing conspiracies are even more irrational.²⁵

After finding predatory pricing conspiracies to be generally implausible, the Court then fashioned a summary judgment rule based on its belief that rational firms have no desire to price predatorily. The majority held that “if [defendants] had no rational economic motive to conspire, and if their conduct is consistent with other, equally plausible explanations, the conduct does not give rise to an inference of conspiracy.”²⁶ Thus, if a federal judge believes that a plaintiff’s theory of conspiracy entails irrational conduct—and if the judge can posit a benign explanation for any ambiguous evidence—then the defendants are entitled to summary judgment. Applying its rationality standard to the case before it, the *Matsushita* Court concluded that the alleged

predatory pricing scheme . . . makes no practical sense: it calls for petitioners to destroy companies larger and better established than themselves, a goal that remains far distant more than two decades after the conspiracy’s birth. Even had they succeeded in obtaining their monopoly, there is nothing in the record to suggest that they could recover the losses they would need to sustain along the way. In sum, in light of the absence of any rational motive to conspire, neither petitioners’ pricing practices, nor their conduct in the Japanese market, nor their agree-

²² *Id.* at 588-89.

²³ *See id.* at 589 (“[I]t is not enough simply to achieve monopoly power, as monopoly pricing may breed quick entry by new competitors eager to share in the excess profits.”). Also, any monopoly profits must be discounted to present value, as they occur in the future. *Id.*

²⁴ *Id.*

²⁵ *See id.* at 590 (asserting that a predatory pricing conspiracy would be “incalculably more difficult to execute than an analogous plan undertaken by a single predator” and thus is irrational).

²⁶ *Id.* at 596-97.

ments respecting prices and distribution in the American market, suffice to create a “genuine issue for trial.”²⁷

According to the letter of *Matsushita*, if the judge concludes that a plaintiff’s theory of the case entails irrational conduct by the defendants, then the evidentiary burden on the plaintiff to survive summary judgment increases. Subsequent courts, however, have applied an even more stringent version of this standard: if a plaintiff’s complaint describes a conspiracy that the judge concludes is irrational, then the court rules that the conspiracy must not have happened as a matter of law, regardless of the evidence presented by the plaintiff to support its claim.²⁸ As the Supreme Court later construed its holding in *Matsushita*, “If the plaintiff’s theory is economically senseless, no reasonable jury could find in its favor, and summary judgment should be granted.”²⁹

In a similar vein, the Supreme Court has also made it more difficult for section 1 plaintiffs to survive a motion to dismiss. In *Bell Atlantic Corp. v. Twombly*,³⁰ the Court held that antitrust claims warrant dismissal if a plaintiff’s theory of conspiracy is not “plausible” in the court’s view.³¹ To the extent that judges will treat so-called “irrational” conspiracy claims as inherently implausible, the concepts of irrationality and implausibility can work in tandem against antitrust plaintiffs. Because a dismissal prevents the antitrust plaintiff from conducting discovery, the *Twombly* decision makes the rationality assumption even more important. If an antitrust defendant can convince the court that the alleged conspiracy is implausible, then the plaintiff will be denied discovery that might prove that the conspiracy actually took place despite its facial implausibility or irrationality.

B. Rationality and Predation

Whereas section 1 of the Sherman Act focuses on concerted action, section 2 condemns certain unilateral conduct, namely illegal monopolization and attempted monopolization.³² Antitrust law does not prohibit the possession of monopoly power; it merely proscribes the acquisition and maintenance of that power through anticompeti-

²⁷ *Id.* at 597 (quoting FED. R. CIV. P. 56(e)(2)).

²⁸ *See infra* Sections IV.B-C.

²⁹ *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 468-69 (1992).
³⁰ 550 U.S. 544 (2007).

³¹ *Id.* at 556-58.

³² *See* Sherman Act § 2, 15 U.S.C. § 2 (2006).

tive or predatory means.³³ Once the defendant's monopoly power is established, section 2 claims generally focus on whether the monopolist engaged in a course of predation or earned its market share through competition on the merits.

Courts utilize the rationality assumption to determine when predation claims can reach the jury. Whereas *Matsushita* dealt with predatory pricing conspiracies, the Supreme Court addressed the rationality of unilateral predatory pricing in *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*³⁴ The *Brooke Group* Court based much of its reasoning on *Matsushita*, but the later case had different legal implications. American tobacco markets had long been supplied by an oligopoly of six firms.³⁵ As one firm, Liggett, witnessed its market share decrease, it sought to bolster its fortunes by shifting emphasis from making branded cigarettes to marketing generic cigarettes, which were priced significantly lower than their branded counterparts.³⁶ Liggett found success with price-conscious smokers, and the generic-cigarette market grew at the expense of the branded-cigarette market.³⁷ Liggett's development of the economy-cigarette market reduced the ability of the major tobacco firms to raise the prices of traditional cigarettes because price-sensitive consumers could now shift to Liggett's lower-priced cigarettes.³⁸ In response, another one of the six tobacco companies, Brown & Williamson (B&W), entered the generic-cigarette market and initiated a price war against Liggett.³⁹

Liggett brought suit against B&W, claiming that its larger rival was pricing below cost.⁴⁰ Liggett's theory was not that B&W was attempting to drive Liggett from the generic-cigarette market entirely. Rather, Liggett claimed that B&W's predatory pricing was

intended to pressure it to raise its list prices on generic cigarettes, so that the percentage price difference between generic and branded cigarettes would narrow. . . . The resulting reduction in the list price gap . . . would restrain the growth of the economy segment and preserve [B&W]'s supra-competitive profits on its branded cigarettes.⁴¹

³³ See *United States v. Grinnell Corp.*, 384 U.S. 563, 570-71 (1966).

³⁴ 509 U.S. 209 (1993).

³⁵ *Id.* at 213.

³⁶ *Id.* at 214.

³⁷ *Id.*

³⁸ *Id.*

³⁹ *Id.* at 215-16.

⁴⁰ *Id.* at 216-17.

⁴¹ *Id.* at 217.

Thus, Liggett argued that B&W did not intend to recoup its investment in the market segment where the predatory pricing actually occurred—generic cigarettes—but rather through oligopoly pricing⁴² in the branded-cigarette market, which would experience a price hike after a properly punished Liggett raised its prices for generic cigarettes.⁴³

While jurors found Liggett's theory persuasive and supported by the nearly 3,000 exhibits and numerous witnesses presented at a 115-day trial, federal judges did not.⁴⁴ Following a jury verdict in Liggett's favor, the district court granted B&W judgment as a matter of law.⁴⁵ The Fourth Circuit affirmed, reasoning that "[t]o rely on the characteristics of an oligopoly to assure recoupment of losses from a predatory pricing scheme after one oligopolist has made a competitive move is . . . economically irrational."⁴⁶

The Supreme Court affirmed, questioning the economic plausibility of Liggett's theory. The majority began with the premises that predatory pricing does not inflict antitrust injury absent recoupment and that recoupment cannot occur unless the predator can successfully drive the targeted rivals from the market or "caus[e] them to raise their prices to supracompetitive levels within a disciplined oligopoly."⁴⁷ The Court then concluded that because signaling is ambiguous and subject to misinterpretation, "tacit cooperation among oligopolists must be considered the least likely means of recouping predatory losses."⁴⁸ Despite finding that the trial record contained sufficient evidence for a reasonable jury to conclude that B&W engaged in below-cost pricing for eighteen months with the anticompetitive intent of forcing Liggett to raise prices for generic cigarettes in order to facilitate price increases of branded cigarettes,⁴⁹ the Court concluded that it was implausible that B&W would be able to recoup because "relying on tacit coordination among oligopolists as a means of recouping

⁴² Oligopoly pricing is tacit price coordination among competitors in a concentrated market. Price rises above competitive levels because all firms are aware that they can increase profits by not undercutting each other, but the firms do not explicitly fix price and therefore do not violate section 1 of the Sherman Act.

⁴³ 509 U.S. at 216-17.

⁴⁴ *Id.* at 218-19.

⁴⁵ *Id.*

⁴⁶ *Liggett Group, Inc. v. Brown & Williamson Tobacco Corp.*, 964 F.2d 335, 342 (4th Cir. 1992).

⁴⁷ *Brooke Group*, 509 U.S. at 225.

⁴⁸ *Id.* at 228.

⁴⁹ *Id.* at 231.

losses from predatory pricing is highly speculative.”⁵⁰ In particular, the majority asserted that any tacit coordination among tobacco firms would have been “unmanageable.”⁵¹ Because B&W “had no reasonable prospect of recouping its predatory losses,” it was entitled to judgment as a matter of law.⁵²

Following the Supreme Court’s decision in *Brooke Group*, lower courts have reasoned that predatory pricing schemes are “unlikely to be attempted by rational businessmen.”⁵³ Because courts view such predation as irrational and thus extremely unlikely, they are quick to grant summary judgment to predatory pricing defendants.⁵⁴

Beyond predatory pricing litigation, courts have imposed “rationality burdens” on section 2 plaintiffs more generally. On the one hand, some courts suggest that a plaintiff must prove the rationality of a monopolist’s alleged anticompetitive conduct. For example, in the wake of *Matsushita* and *Brooke Group*, one district court held that “[t]he only way for a plaintiff to show willful acquisition or maintenance of monopoly power is to provide evidence that the business accused of violating anti-trust laws had an economically viable scheme in place.”⁵⁵ On the other hand, the Fifth Circuit has opined that “a finding of exclusionary conduct requires some sign that the monopolist engaged in behavior that—examined without reference to its effects on competitors—is economically irrational.”⁵⁶ In tandem, such holdings create a two-step rationality burden: first, antitrust plaintiffs must prove that the defendant’s alleged anticompetitive conduct is economically rational, and second, they must prove that the alleged conduct would be irrational unless it was part of a rational scheme to monopolize a market.

⁵⁰ *Id.* at 232 (internal quotation marks omitted).

⁵¹ *Id.* at 238.

⁵² *Id.* at 243.

⁵³ *Stearns Airport Equip. Co. v. FMC Corp.*, 170 F.3d 518, 528 (5th Cir. 1999).

⁵⁴ *See, e.g.*, *Nat’l Parcel Servs., Inc. v. J.B. Hunt Logistics, Inc.*, 150 F.3d 970, 971 (8th Cir. 1998) (“NPS cannot show a dangerous probability of recoupment The district court properly dismissed this claim.”); *C.B. Trucking, Inc. v. Waste Mgmt., Inc.*, 944 F. Supp. 66, 69 (D. Mass. 1996) (“[I]t is nevertheless economically implausible to conclude that Waste Management had a ‘dangerous probability’ of recouping its investment in below-cost prices Waste Management is entitled to summary judgment”), *aff’d*, 137 F.3d 41 (1st Cir. 1998).

⁵⁵ *Clark v. Flow Measurement, Inc.*, 948 F. Supp. 519, 526 (D.S.C. 1996).

⁵⁶ *Stearns*, 170 F.3d at 523.

C. Rationality in Other Aspects of Antitrust Law

Although both *Matsushita* and *Brooke Group* involved predatory pricing claims, the Court's rationality analysis in those cases extends to other areas of antitrust doctrine. For example, the Supreme Court has also invoked the rationality assumption in determining which standard of analysis to apply in section 1 cases. For decades, maximum-resale-price maintenance was condemned as per se illegal. In *Albrecht v. Herald Co.*, the Court justified the per se rule in part because the maximum price might be set too low for dealers to offer essential services to consumers.⁵⁷ Nearly thirty years later, in *State Oil Co. v. Khan*, the Court overruled *Albrecht*, reasoning that a manufacturer would be irrational to set a maximum price that was too low because manufacturers want customers to be satisfied with the service.⁵⁸ The Court held that a per se rule against vertical maximum price fixing was thus unnecessary because firms would not set an irrationally low maximum price.⁵⁹ Thus, maximum-resale-price maintenance is now judged under the rule of reason, not the per se standard.⁶⁰ Other areas of antitrust law in which the rationality assumption has proved decisive include price fixing, group boycotts, and conspiracies to conceal invalid patents. These cases are discussed in Part IV.

II. QUESTIONING THE RATIONALITY ASSUMPTION

The assumption that firms behave rationally sounds perfectly sensible. The pursuit of profits explains most business decisions. But firms have at times engaged in a wide variety of conduct that apparently deviates from profit maximization. First, firms sometimes pursue policies that generate losses that seem to have been foreseeable ex ante. Second, firms engage in conduct that generates losses, but the conduct is nonetheless rational when one considers the constraints under which decisions are made. Finally, some business behavior that seems irrational is in fact profit maximizing because it is part of a larger anticompetitive scheme. This Part examines these behaviors.

⁵⁷ 390 U.S. 145, 152-53 (1968), *overruled by* *State Oil Co. v. Khan*, 522 U.S. 3 (1997).

⁵⁸ 522 U.S. at 17.

⁵⁹ *Id.* at 18.

⁶⁰ *Id.* at 22.

A. Loss-Inducing Business Behavior

American business history is rife with examples of businesses undertaking conduct that appears inconsistent with profit maximization. Coca-Cola's decision to change the recipe of the world's top-selling soft drink with its disastrous introduction of New Coke is a fabled example of how not to maximize profits.⁶¹ But it is far from an isolated case. In 2004, General Motors (GM) launched a test-drive program in which it paid consumers \$250 if they bought a competitor's vehicle, not the GM car that they test drove.⁶² One commentator christened GM's scheme "a customer disloyalty program."⁶³ John DeLorean lost over \$100 million of investors' money—leaving \$50 million in unpaid debt—by making a "sports car" out of stainless steel that was so heavy that the car had a top speed of seventy-five miles per hour and rocketed from zero to sixty in ten seconds.⁶⁴ In short, firms appear to engage in conduct that seems at odds with the pursuit of profit maximization.

Because firms sometimes engage in conduct that is not profit maximizing, many scholars—including psychologists, game theorists, and legal academics working in behavioral law and economics—have sought to explain these apparent deviations from rationality. The root of some irrational behavior by firms probably lies in individual irrationality. The experimental work in behavioral law and economics shows that individuals engage in various kinds of conduct inconsistent with the predictions made using the rationality assumption of traditional law and economics models.⁶⁵ Examples include broad categories of conduct encompassing "altruism, self-sacrifice, ideological commitment, and cooperation,"⁶⁶ as well as common specific instances such as individuals providing interest-free loans to the government by

⁶¹ See Timothy K. Smith, *More Coke Sellers Consider a Return to Original Drink*, WALL ST. J., Apr. 11, 1986, at 13 ("Howls of protest from loyal Coke drinkers induced the company to bring back the original-formula drink . . .").

⁶² Rich Smith, *GM's Dumbest Move Yet*, MOTLEY FOOL, June 9, 2004, <http://www.fool.com/investing/general/2004/06/09/gms-dumbest-move-yet.aspx>.

⁶³ *Id.* Of course, if GM believed that the twenty-four-hour test drive would convince people to buy the GM car, then this seems like a reasonable approach: people accept the offer planning to collect the money but end up liking and buying the GM car, and GM makes a sale that it otherwise would not have made and saves \$250.

⁶⁴ ADAM HOROWITZ ET AL., *THE DUMBEST MOMENTS IN BUSINESS HISTORY* 38-39 (2004).

⁶⁵ See Korobkin & Ulen, *supra* note 8, at 1055 ("There is simply too much credible experimental evidence that individuals frequently act in ways that are incompatible with the assumptions of rational choice theory.")

⁶⁶ Edward L. Rubin, *Putting Rational Actors in Their Place: Economics and Phenomenology*, 51 VAND. L. REV. 1705, 1706 (1998).

overwithholding taxes from their wages.⁶⁷ Some commentators have suggested that the findings of experiments showing irrational behavior by individuals cannot be used to suggest that groups would engage in similar irrational conduct.⁶⁸ But corporate decisions are made by individuals. As Professor Maurice Stucke asks, “If many individuals systemically deviate from rational choice theory’s predicted outcomes under certain scenarios, why shouldn’t corporate behavior deviate under similar scenarios?”⁶⁹ Indeed, Professor Jennifer Arlen has suggested that the group context may make it more difficult for people to learn from experience.⁷⁰

Two examples of business behavior that seems inconsistent with perfect rationality are failing to ignore sunk costs and overconfidence. One of the most basic concepts of microeconomic theory and investment strategy is that sunk costs should be ignored. For example, “a supplier, in making a decision about whether or not to expand production today, should focus solely on the profit potential less the variable costs of that expansion and ignore any fixed costs previously incurred.”⁷¹ The failure to ignore sunk costs would seem like quintessentially irrational behavior. Despite this, evidence abounds that both individuals and firms make economic decisions by factoring in sunk costs.⁷²

Overconfidence also explains why firms pursue business strategies that appear foolhardy in retrospect. Research shows that individuals are often overconfident in that they “overestimate their positive traits, abilities, skills, and likelihood of experiencing positive events, while they underestimate their vulnerability to certain risks.”⁷³ Perhaps surprisingly, this overconfidence bias persists even when the decision-maker knows the actual probabilities of particular events occurring.⁷⁴

⁶⁷ See Stucke, *supra* note 13, at 528-29 (describing such behavior as “contrary to the tenets of wealth-maximization”).

⁶⁸ See, e.g., Gregory Mitchell, *Taking Behavioralism Too Seriously? The Unwarranted Pessimism of the New Behavioral Analysis of Law*, 43 WM. & MARY L. REV. 1907, 2003 (2002) (“[I]ndividual-level research findings cannot simply be assumed to apply to group-type decisions.”).

⁶⁹ Stucke, *supra* note 13, at 515.

⁷⁰ Jennifer Arlen, *Comment: The Future of Behavioral Economic Analysis of Law*, 52 VAND. L. REV. 1765, 1783 (1998).

⁷¹ Korobkin & Ulen, *supra* note 8, at 1124.

⁷² See *id.* (“Notwithstanding economic wisdom to the contrary, people routinely cite sunk costs as a reason for pursuing a particular course of action.”).

⁷³ Avshalom Tor, *The Fable of Entry: Bounded Rationality, Market Discipline, and Legal Policy*, 101 MICH. L. REV. 482, 505 (2002).

⁷⁴ Korobkin & Ulen, *supra* note 8, at 1091 (citing Christine Jolls, *Behavioral Economics Analysis of Redistributive Legal Rules*, 51 VAND. L. REV. 1653, 1659 & n.22 (1998)).

Importantly for our purposes, much empirical data demonstrates that the overconfidence bias thrives in the business community, including among investors⁷⁵ and corporate managers.⁷⁶ In one experiment with MBA students, participants were not only overconfident about their future performance, but they also overestimated the value of their past performance.⁷⁷

Businesses often exhibit overconfidence when introducing new products. For example, during the 1964–1965 World’s Fair, DuPont launched its new synthetic leather, Corfam, to much fanfare.⁷⁸ Shoes made from Corfam were durable, water repellent, and never needed shining.⁷⁹ DuPont boldly predicted that Corfam sales would soon represent a quarter of the footwear market, and the firm invested accordingly.⁸⁰ But the public did not take to Corfam shoes because their durability meant that they could never be broken in, and DuPont had to abandon the project, losing approximately \$100 million in the process.⁸¹ DuPont’s confidence in Corfam would have seemed shrewd had the gamble paid off, but when losses reach nine digits, yesterday’s enthusiasm becomes today’s overconfidence.⁸²

An important element of overconfidence includes underestimating the risk of failure.⁸³ Individuals in their daily lives often underestimate their risks of common injuries, such as being hurt in a car accident.⁸⁴ Such underestimation is particularly pronounced when the individual perceives that she has some level of control over the situa-

⁷⁵ See Tor, *supra* note 73, at 506 & n.94.

⁷⁶ See Korobkin & Ulen, *supra* note 8, at 1095.

⁷⁷ See Tor, *supra* note 73, at 506-07 (noting that participants believed that their performance in an investment game had equaled market performance even though, on average, they had performed significantly worse than the market).

⁷⁸ HOROWITZ ET AL., *supra* note 64, at 2.

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² This is not to say that DuPont necessarily behaved irrationally; it may simply have made a reasonable, but incorrect, prediction. In any case, the example shows that successful firms sometimes pursue business strategies that result in significant losses.

⁸³ For example, Avshalom Tor has noted that

[n]umerous studies show that people exhibit biased predictions of external events that are not under their control When manifesting such biased predictions regarding desirable outcomes, entrants may not only overestimate the profitability of successful entry, but also underestimate the investments and the time necessary for the venture to become viable.

Tor, *supra* note 73, at 508-09.

⁸⁴ See Arlen, *supra* note 70, at 1773.

tion.⁸⁵ This may be a reflection of individuals' overestimation of their own abilities. For example, one-third of Silicon Valley engineers surveyed rated their performance as within the top 5% of their cohort, and 90% placed themselves in the top quartile; only 1% rated themselves below average.⁸⁶ In the context of business decisionmaking, managers may underestimate the risk of failure because their own internal estimates focus primarily on the variables within their control instead of the factors outside of their control.⁸⁷

In short, firms may pursue a course that inflicts losses because the decisionmakers overestimate the probability that a high-cost strategy will ultimately succeed.

B. *Distinguishing Unprofitable Conduct from Irrational Conduct*

A business decision that causes a firm to lose a significant amount of money may seem inherently irrational because it does not maximize profits. However, the fact that a chosen course of action hurts the bottom line—even when it is clear, in hindsight, that an alternative course of action would have been far preferable—does not mean that the initial decision was irrational.

Scholars working within the field of behavioral law and economics have sought to explain why individuals engage in conduct that seems to violate the assumption of rationality. Their work illustrates several interrelated explanations. First, many business mistakes may be a function of limited information. Business decisions that are based on limited information and that subsequently lose substantial amounts of money are not necessarily irrational. Most decisions, whether personal or professional, must be made on the basis of incomplete information. While greater information could possibly increase the probability of correctly predicting whether a particular decision will maximize profits,⁸⁸ information gathering is itself costly.⁸⁹ In addition to the monetary

⁸⁵ See Tor, *supra* note 73, at 512.

⁸⁶ Todd R. Zenger & Sergio G. Lazzarini, *Compensating for Innovation: Do Small Firms Offer High-Powered Incentives That Lure Talent and Motivate Effort?*, 25 *MANAGERIAL & DECISION ECON.* 329, 335 (2004).

⁸⁷ See Tor, *supra* note 73, at 516 (identifying this approach as the “inside view” and noting that it “is especially likely to make entrants insensitive to background market predictors”).

⁸⁸ See *id.* at 524-25 (“If all relevant information were known with certainty, there would be no bias Importantly, however, an increase in the *amount* of information alone may not decrease entrants’ bias, as the psychological literature shows that additional information rarely changes people’s preexisting attitudes.”).

cost of acquiring additional information, time constraints usually necessitate action in the absence of omniscience. As Robert Frank has observed, "Anyone who tried to make fully-informed, rational choices would make only a handful of decisions each week, leaving hundreds of important matters unattended."⁹⁰ Given these constraints, Judge Posner has noted that "it would be profoundly irrational to spend all one's time in the acquisition of information,"⁹¹ and thus, "[l]imited information must not be confused with irrationality."⁹²

In the face of imperfect information, individuals and firms may employ heuristics, or shortcuts, including rules of thumb. While using shortcuts in business decisionmaking may sometimes create losses, the use of heuristics generally is completely rational. As Robert Frank has explained, "Our cognitive capabilities, although vast, are limited. Reliance on habit and rules of thumb, while perhaps irrational in specific instances, is a quintessentially rational response to this limitation."⁹³

However, limited cognitive abilities may prevent individuals from making decisions that maximize profits. Herbert Simon⁹⁴ coined the phrase "bounded rationality," which describes how decisionmaking takes place in light of human cognitive limitations.⁹⁵ Even people who want to maximize their own utility or corporate profits may be hampered by their flawed memories and imperfect computational skills as well as by structural limitations of the organization within which they are operating.⁹⁶ A person's ultimate decision, whether made in an individual or corporate capacity, may not be the objectively best one, but it may nevertheless be the best decision that the person could make given her cognitive constraints.

Furthermore, risk taking should not be confused with irrationality. Much business decisionmaking is about taking risks. Whether a firm

⁸⁹ Even after spending vast sums to acquire information, businesses will rarely have complete and perfect information, thus leaving some level of uncertainty.

⁹⁰ Robert H. Frank, *Shrewdly Irrational*, 2 SOC. F. 21, 23 (1987).

⁹¹ Richard A. Posner, *Rational Choice, Behavioral Economics, and the Law*, 50 STAN. L. REV. 1551, 1553 (1998); see also Frank, *supra* note 90, at 23 ("To gather the information and do the calculations implicit in naive descriptions of the rational choice model would consume more time and energy than anyone has. More important, by the strict terms of the very same model, it would not be rational!" (emphasis omitted)).

⁹² Posner, *supra* note 91, at 1573.

⁹³ Frank, *supra* note 90, at 38.

⁹⁴ See generally HERBERT A. SIMON, ADMINISTRATIVE BEHAVIOR (4th ed. 1997).

⁹⁵ See Rubin, *supra* note 66, at 1714-15 ("The extent to which such bounded rationality approaches optimality depends upon the operation of external forces.")

⁹⁶ *Id.*; see also Jolls, Sunstein & Thaler, *supra* note 11, at 1477 (suggesting that flaws in human memory limit the ability of people to mimic utilitarian models of action).

is deciding to enter a new market, to launch a corporate takeover, or even simply to modify the packaging of a consumer product, most business decisions create the possibility of either profits or losses. The amount of risk a firm is willing to accept is generally a function of its executives' and managers' level of risk aversion. A course of action that might be unacceptable for a risk-averse entity may represent a tolerable gamble for a risk-seeking entrepreneur. The fact that the gamble does not pay off does not necessarily render the initial decision irrational. In the stock market, for example, there are winners and losers, but the fact that an investor loses money does not necessarily mean that she invested recklessly. Even a bet-the-farm strategy can be rational if a business fears it would not otherwise survive under projected market conditions. If the strategy works, then the firm thrives and earns profits greater than if it had not attempted the risky venture. If the strategy fails, the business is destroyed; that does not, however, make the strategy irrational, so long as the decisionmakers appropriately considered the relevant variables in adopting the strategy. Rationality should be determined *ex ante* even though the success of many rational decisions can only be judged *ex post*. Independent of the level of foreseeable risk involved, a business decision that is rational when made may turn out to be unprofitable *ex post*.⁹⁷ Consequently, not every rational business decision necessarily increases profits, even when rationality is defined as profit-maximizing behavior.⁹⁸

In sum, even when seeking to maximize profits, rational firms sometimes engage in conduct that ultimately hurts the bottom line. Businesspeople sometimes make bad judgment calls, are overconfident, act on limited information, and take risks that do not pay off. Despite the assumption that firms are rational, profit-maximizing entities, firms—including many successful firms—at times pursue strategies that result in serious losses.

The following two Sections discuss facially irrational decisions that are in fact rational, albeit not in an obvious way.

⁹⁷ See Richard Craswell & Mark R. Fratrik, *Predatory Pricing Theory Applied: The Case of Supermarkets vs. Warehouse Stores*, 36 CASE W. RES. L. REV. 1, 15-16 (1985) (stating that, when warehouse stores enter a market, "even though the initial decision . . . seemed rational, the warehouse store may realize after entry that it made a bad decision").

⁹⁸ See *infra* Section III.C (noting that firms pursue other goals in addition to profit maximization).

C. *Antitrust Conspiracies Often Entail Conduct That Appears Irrational*

Many business decisions that might seem irrational on first observation are rational because they occur in the context of an antitrust conspiracy. In a perfectly competitive market, it might be irrational for a firm to forego sales, to build capacity that it does not intend to use, to decline to enter profitable markets, to share valuable proprietary data with rivals, or to purchase commodities from a competitor when the buyer has inventory on hand. Yet all of these acts occur in markets with multiple suppliers, and the reason for such facially irrational conduct is that it can help create, stabilize, and enforce price-fixing agreements.

First, some facially irrational conduct is designed to force unwilling rivals into a price-fixing conspiracy. For example, while it appears irrational to build productive capacity and not use it, Archer Daniels Midland (ADM) did precisely this when it sought to enter the market for lysine, an amino acid.⁹⁹ Before ADM began producing lysine, the international market was dominated by four Asian firms—two Japanese and two Korean—that operated as a cartel.¹⁰⁰ ADM did not wish to break up the cartel.¹⁰¹ Rather, it sought to join and lead it.¹⁰² ADM correctly predicted that the members of the Asian cartel would be reticent to allow an American firm to join—let alone dominate—their profitable enterprise.¹⁰³ So ADM engaged in predatory pricing to force their hands.¹⁰⁴ And to demonstrate its staying power as a predator, ADM invited its Asian competitors to its Illinois factory in order to show them the enormous productive capacity that ADM was building for lysine.¹⁰⁵ The purpose of the visit was to threaten the Asian firms by suggesting that if they did not divide the world market to ADM's

⁹⁹ See John M. Connor, *Global Cartels Redux: The Lysine Antitrust Litigation (1996)* (explaining that, ultimately, ADM and four other companies “had been illegally colluding on lysine prices around the world for three years”), in *THE ANTITRUST REVOLUTION* 300, 300 (John E. Kwoka, Jr. & Lawrence J. White eds., 5th ed. 2009).

¹⁰⁰ See *id.* at 307-08 (identifying the Japanese companies Ajinomoto and Kwoya Hakko as well as the Korean companies Sewon and Cheil Sugar as the original cartel members).

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ See JAMES B. LIEBER, *RATS IN THE GRAIN: THE DIRTY TRICKS AND TRIALS OF ARCHER DANIELS MIDLAND* 136 (2000) (explaining that ADM's foray “into the world lysine market . . . was a big gamble because of the ‘Asian Cartel,’ which for decades had controlled the manufacture and trade of the amino acid”).

¹⁰⁴ See Connor, *supra* note 99, at 316 (“Had the Asian manufacturers not agreed to join an ADM-dominated cartel, ADM might well have continued predatory pricing beyond June 1992.”).

¹⁰⁵ See LIEBER, *supra* note 103, at 146.

liking, then ADM would flood the market, drive the price down, and potentially drive other lysine producers from the market entirely.¹⁰⁶ With this threat, ADM essentially initiated a game of Chicken—a game it won. The ADM field trip proved successful as ADM took a leadership role in the cartel and allocated itself a substantial share in the recartelized lysine market.¹⁰⁷ Although it had designed a system of punishments for cartel members that sold in excess of their cartel allotment,

it was never necessary to implement the system. ADM, with its new efficient plant and ample excess capacity, frequently reminded the cartel of its willingness to flood the market with lysine; its threats were credible because it had twice driven the world price of lysine to below its own average total cost of production, inflicting the others with operating losses.¹⁰⁸

ADM was not sailing in uncharted waters; Australian producers had employed a similar strategy in the 1970s to force their way into the international uranium cartel.¹⁰⁹ When the members of the uranium cartel were reluctant to admit the Australian producers, the Australian producers threatened to sabotage the cartel because “they would be able to outproduce and undersell everyone else.”¹¹⁰ In short, building and maintaining excess capacity does not maximize short-term profit, but it is rational behavior for a firm seeking to force its way into a cartel.

Second, facially irrational conduct is often employed to maintain friendly relations among cartel participants. It would appear irrational for a firm to decline to make profitable sales if the firm’s goal is to maximize profits, but firms that belong to price-fixing cartels do so as a trust-building measure. Trust is often necessary to create and maintain stable cartels.¹¹¹ In the absence of trust, cartel members are more likely to cheat on the cartel agreement by lowering their price or selling more than their cartel allotment.¹¹² In order to stabilize price-fixing conspiracies, cartel members make trust-building goodwill gestures to each other that would appear irrational to outside observers.

¹⁰⁶ *See id.*

¹⁰⁷ *See* Connor, *supra* note 99, at 310 (“ADM did earn approximately \$200 million in profits from the cartel over three years with its one-third share of sales in the worldwide lysine market.”).

¹⁰⁸ *Id.* at 311.

¹⁰⁹ *See* EARLE GRAY, *THE GREAT URANIUM CARTEL 161-62* (1982) (detailing Australia’s belated entry into the uranium cartel by means of the threat of underpricing).

¹¹⁰ *Id.* (internal quotation marks omitted).

¹¹¹ *See* Christopher R. Leslie, *Trust, Distrust, and Antitrust*, 82 *TEX. L. REV.* 515, 549-51 (2004).

¹¹² *See id.* at 549, 552-57.

For example, cartel members sometimes decline to make profitable sales, as Alcoa's Canadian affiliate once refused to sell alumina to a customer outside the cartel simply because "it would irritate members of the [international aluminum] cartel."¹¹³ More recently, members of the multibillion-dollar vitamins cartel refused to give price quotes to customers who had been assigned to other cartel members.¹¹⁴ Cartel partners may also decline to enter each others' profitable product lines. For example, during the interwar period when many international cartels thrived, Standard Oil and IG Farben jointly participated in several cartels and "sought to stabilize their overall cartel relationships by each ceding a major market to the other, petroleum to Standard and chemicals to Farben."¹¹⁵ Similarly, as part of their larger cartel arrangements, "[i]n 1927 du Pont stopped selling artificial leather cloth (Fabrikoid) and related products in Great Britain, apparently in line with its general policy of avoiding competition with ICI,"¹¹⁶ Britain's major chemical company. Another way that cartel partners try to build trust is through sharing confidential information, as when "ADM shared [with its cartel partners] a wealth of private, proprietary data, including information on its production technologies, manufacturing costs, lysine production capacity, the number of relevant employees, technology and enzyme suppliers, as well as planned products in the pilot programs."¹¹⁷

All of this was part of ADM's effort to build trust among the lysine cartel members.¹¹⁸ None of this conduct—declining to make sales, foregoing profitable product lines, and sharing proprietary informa-

¹¹³ See GEORGE W. STOCKING & MYRON W. WATKINS, *CARTELS IN ACTION* 254 (1946) (internal quotation marks omitted) (quoting testimony of Mr. E.K. Davis, President of Alted, Alcoa's Canadian affiliate).

¹¹⁴ In the 1990s, Hoffmann-La Roche, BASF, and other chemical conglomerates had successfully divided the multibillion-dollar international vitamin market. The cartel was well disciplined, well concealed, and highly profitable. But the cartel unwittingly exposed itself when "[v]itamin buyers reported several instances of inexplicable behavior. Customers who habitually purchased from Roche would not be able to get price quotes from BASF or other suppliers, and vice versa." JOHN M. CONNOR, *GLOBAL PRICE FIXING* 314 (2001). The act of refusing to give price quotes—while helpful in preventing cheating on a price-fixing agreement—was sufficiently irrational to attract attention that led to complete exposure of the cartel, guilty pleas by participants to criminal charges, and significant civil liability.

¹¹⁵ Leslie, *supra* note 111, at 570 (citing STOCKING & WATKINS, *supra* note 113, at 491).

¹¹⁶ STOCKING & WATKINS, *supra* note 113, at 450.

¹¹⁷ Leslie, *supra* note 111, at 572 (citing CONNOR, *supra* note 114, at 223-24).

¹¹⁸ See CONNOR, *supra* note 114, at 225 ("[A]ll the technical data ADM shared with its rivals must have raised the level of trust. At the cartel's first major meeting, ADM attempted to create trust by giving its best estimates of lysine capabilities.").

tion—is profit maximizing, and it thus appears irrational, until one considers how such acts create goodwill among co-conspirators and thus stabilize a cartel.

Finally, some facially irrational conduct may serve as a cartel enforcement or accounting mechanism. Because cheating on a price-fixing conspiracy can maximize short-term profits for the cheater,¹¹⁹ many cartels construct enforcement mechanisms to monitor their members and to punish those that defect. In many cases, this means firms report their sales data to each other at regular intervals.¹²⁰ Many cartels—including those in nitrogen,¹²¹ salt,¹²² steel,¹²³ and coal¹²⁴—have required members who are detected selling more than their cartel allotment to pay a fine. Under the practices of some cartels, such fines were funneled to any firms selling less than their cartel quota, as was done by the aluminum,¹²⁵ cement,¹²⁶ and steel cartels.¹²⁷ In lieu of money transfers, some cartels—including those in dyestuffs, alumi-

¹¹⁹ George J. Stigler, *A Theory of Oligopoly*, 72 J. POL. ECON. 44, 46 (1964) (“It is a well-established proposition that if any member of the [cartel] agreement can secretly violate it, he will gain larger profits than by conforming to it.”).

¹²⁰ See Leslie, *supra* note 111, at 611-13 (noting reporting mechanisms used by the lysine, vitamin, steel, railroad, and citric acid cartels).

¹²¹ See Greta Devos, *International Cartels in Belgium and the Netherlands During the Interwar Period: The Nitrogen Case*, 18 INT’L CONF. ON BUS. HIST. 117, 120 (1992) (noting that members were made to pay fines to a trustee if they exceeded their quotas).

¹²² See JOHN E. STEALEY III, *THE ANTEBELLUM KANAWHA SALT BUSINESS AND WESTERN MARKETS* 35-36 (1993) (describing the somewhat loose system of imposing fines on salt producers who did not adhere to set prices and markets).

¹²³ See STOCKING & WATKINS, *supra* note 113, at 183 (“If any country exceeded its allotted quarterly production, the cartel required that country’s producers to pay into the cartel’s common fund a fine . . .”).

¹²⁴ See JEREMIAH WHIPPLE JENKS & WALTER E. CLARK, *THE TRUST PROBLEM* 106 (4th ed., Doubleday, Page & Co. 1920) (1900) (explaining how oversellers were charged fines, and if they refused to pay, the coal mines would stop supplying them with sufficient coal).

¹²⁵ See STOCKING & WATKINS, *supra* note 113, at 252-53 (“Members were penalized if they exceeded their assigned quotas; they received compensation for underselling their quotas.”).

¹²⁶ See Philip C. Newman, *Key German Cartels Under the Nazi Regime*, 62 Q.J. ECON. 576, 594 (1948) (explaining the agreement among European cement producers to prevent further dips in price by imposing quotas, prices, and payments owed for exceeding quotas).

¹²⁷ See Daniel Barbezat, *Cooperation and Rivalry in the International Steel Cartel, 1926-1933*, 49 J. ECON. HIST. 435, 437 (1989) (“The cartel had penalties for production in excess of the quota. The original penalty was \$4 per ton . . .”); cf. ERVIN HEXNER, *THE INTERNATIONAL STEEL CARTEL* 77 (1943) (discussing the negative effects of failing to set fixed prices and production quantities in the fine and compensation systems); Walter S. Tower, *The New Steel Cartel*, 5 FOREIGN AFF. 249, 258-59 (1927) (listing the provisions of the European steel syndicate’s 1927 agreement).

num, citric acid, and lysine—required members who oversold to purchase the cartelized commodity from another cartel member who had undersold during the relevant sales period.¹²⁸ Giving money to a competitor or buying a rival's competing products in a time of no evident need is not profit-maximizing behavior. However, such conduct is rational within the larger context of an ongoing cartel that needs to balance its books.

In sum, much conduct that at first glance seems irrational makes economic sense in the context of a price-fixing conspiracy.

D. *Even Absent an Antitrust Conspiracy, "Irrational" Conduct
Can Be a Rational Predatory Business Move*

In addition to facilitating price-fixing cartels, economically suspect conduct may be associated with predation by a single firm. This Section discusses how, while it may seem irrational for a firm to drive up the costs of necessary inputs or to overpay for facilities and then destroy them, monopolists have at times employed each of these tactics in order to control markets.

It seems irrational for a business to seek to increase the price of its inputs. Yet firms have done so.¹²⁹ Thomas Krattenmaker and Steven Salop have demonstrated how "[r]aising rivals' costs can be a particularly effective method of anticompetitive exclusion."¹³⁰ While they note that the "strategy need not entail sacrificing one's own profits in the short run," the strategy can entail a dominant firm raising its rivals' costs by increasing the costs for all market participants, including itself.¹³¹ For example, in *Great Western Directories, Inc. v. Southwestern Bell Telephone Co.*,¹³² the defendant convinced a supplier to impose an across-the-board price increase because, while costly to itself, the defendant believed that the price increase would "inflict[] more pain on

¹²⁸ See, e.g., CONNOR, *supra* note 114, at 136 (citric acid); LIEBER, *supra* note 103, at 148 (lysine); STOCKING & WATKINS, *supra* note 113, at 264 (aluminum); *id.* at 405 (dyestuffs).

¹²⁹ See, e.g., *Am. Tobacco Co. v. United States*, 328 U.S. 781, 803-04 (1946) (demonstrating an instance of cartellists purchasing cheap tobacco to drive up lower-priced competitors' costs). Predatory bidding is a species of increasing input prices, but the Supreme Court's decision in *Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co.* casts doubt on the continuing viability of predatory bidding claims. See 127 S. Ct. 1069, 1072, 1077 (2007) (holding that the *Brooke Group* test for predatory pricing claims also applies to predatory bidding claims).

¹³⁰ Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 YALE L.J. 209, 224 (1986).

¹³¹ *Id.*

¹³² 63 F.3d 1378, 1383-84 (5th Cir. 1995), *modified*, 74 F.3d 613 (5th Cir. 1996).

its cash-starved competitor.”¹³³ The economics expert in the case testified that Great Western’s conduct would have been irrational but for the anticompetitive effect on its rivals.¹³⁴

Buying assets at excessive prices and then demolishing them appears irrational, but destroying physical property can create economic power. In *United States v. American Can Co.*, the defendant paid up to twenty-five times the market value for can-making factories and then destroyed two-thirds of its acquisitions, often without even inspecting the plants.¹³⁵ This appears to be irrational and hardly the move of a profit maximizer. But the conduct is rational because American Can was not trying to purchase productive capacity; it was simply trying to remove competitive assets from the marketplace. Its strategy succeeded and it acquired monopoly power over the tin-can market nationwide. In a similar vein, more recently a billboard monopolist in the Northeast threatened to “destroy its billboards rather than sell them,”¹³⁶ a move that seems irrational since most profit-maximizing firms would rather sell an asset than destroy it. But the threat makes sense when one considers the monopolist’s goal of keeping assets out of competitors’ hands.

Such conduct may appear irrational but is in fact profit maximizing when it has the intended effect of forcing competitors to exit the market. Section III.D discusses other examples of successful monopolists making seemingly irrational threats—and executing them when unheeded—as a means of maintaining their dominant market position.

III. THE JUDICIARY’S INABILITY TO EVALUATE BUSINESS RATIONALITY

While judges are generally correct in assuming that firms act rationally, judges may not be well situated to recognize what constitutes rational business behavior. As a result, the rationality assumption can distort antitrust litigation because many courts hold that if the conduct alleged by the plaintiff appears so irrational as to be implausible, then it must not have happened.¹³⁷ Unfortunately, judges are sometimes too quick to label anticompetitive conduct irrational, and hence implausible, despite evidence to the contrary. This Part argues that

¹³³ *Stearns Airport Equip. Co. v. FMC Corp.*, 170 F.3d 518, 524 n.3 (5th Cir. 1999) (discussing *Great Western*).

¹³⁴ 63 F.3d at 1386.

¹³⁵ 230 F. 859, 870-71, 875-76 (D. Md. 1916).

¹³⁶ *RSA Media, Inc. v. AK Media Group, Inc.*, 260 F.3d 10, 13 (1st Cir. 2001).

¹³⁷ See *infra* Part IV.

federal judges may not be the best evaluators of business rationality for several related reasons, including the fact that most judges (1) have no relevant business experience; (2) are unfamiliar with pertinent economics and historical scholarship on anticompetitive conduct; (3) fail to recognize that businesses pursue goals beyond profit maximization; (4) are unable to appreciate how it may be rational for firms to intentionally display apparently irrational behavior; (5) do not consider constraints on business decisionmaking; and (6) are subject to cognitive biases, including hindsight bias and confirmation bias. This Part explores these judicial limitations. The Court's reasoning in *Matsushita* will be used to exemplify the mistakes that courts make when evaluating the rationality and plausibility of antitrust claims. Part IV will then discuss other examples across a range of antitrust violations in order to illustrate the damage that *Matsushita* has done to antitrust doctrine more broadly.

A. Most Judges Lack Relevant Business Experience

Courts are often not well equipped to accurately determine whether an alleged course of business conduct is irrational or implausible. Judges do not necessarily understand how businesses operate, and most judges are unfamiliar with the full sweep of the relevant economics literature, including theory and historical case studies.

Federal judges are very good at many tasks, such as interpreting legislative intent, parsing statutory language, reconciling divergent precedent, and developing common law rules that balance competing interests. But most judges are not businesspeople, and many legal rules reflect this reality. For example, the business judgment rule limits the ability of judges in shareholder litigation to review the substance of corporate decisions.¹³⁸ Courts have justified the business judgment rule on the ground that "businessmen and women are correctly perceived as possessing skills, information and judgment not

¹³⁸ One court has noted that,

generally, the business judgment rule provides that a decision made by an independent board will not give rise to liability (nor will it be the proper subject of equitable remedies) if it is made in good faith and in the exercise of due care. This means that ordinarily the policy of the rule prevents substantive review of the merits of a business decision made in good faith and with due care.

West Point-Pepperell, Inc. v. J.P. Stevens & Co. (*In re* J.P. Stevens & Co. S'holders Litig.), 542 A.2d 770, 780 (Del. Ch. 1988) (footnotes omitted).

possessed by reviewing courts.”¹³⁹ Consequently, “directors are, in most cases, more qualified to make business decisions than are judges.”¹⁴⁰ Based on this recognition, the business judgment rule protects directors and officers from “substantive second guessing by ill-equipped judges or juries, which would, in the long-run, be injurious to investor interests.”¹⁴¹ Given that this critical legal doctrine is founded on the premise that judges cannot appreciate the constraints under which business decisions are made, questioning judges’ aptitude to evaluate the wisdom of business decisions should be seen as neither disrespectful nor controversial.

The deference embodied in the business judgment rule is not present in antitrust law despite the fact that most judges have no relevant experience or insight when it comes to how to monopolize a market or how to orchestrate an antitrust conspiracy. As a law professor, Frank Easterbrook famously wrote about the perils of federal judges who have no business expertise making antitrust law. He observed that “[w]isdom lags far behind the market. . . . [L]awyers . . . know less about the businesses than the people they represent. . . . The judge knows even less about the business than the lawyers.”¹⁴² Easterbrook was confident that judges knew too little about business to understand how markets actually operate—until he became a federal judge, at which point he became quite comfortable announcing legal rules based on his personal conception of how businesses make

¹³⁹ *Solash v. Telex Corp.*, 1988 WL 3587, at *8 (Del. Ch. Jan. 19, 1988); see also FRANK H. EASTERBROOK & DANIEL R. FISCHER, *THE ECONOMIC STRUCTURE OF CORPORATE LAW* 243 (1991) (“One rationale for the business judgment rule is that managers who make errors (and even those who engage in self-dealing) are penalized by market forces while judges who make errors are not.”); Remus D. Valsan & Moin A. Yahya, *Shareholders, Creditors, and Directors’ Fiduciary Duties: A Law and Finance Approach*, 2 VA. L. & BUS. REV. 1, 23 n.65 (2007) (“The rationale of this decision is that the judges are ill-fitted to evaluate managerial decisions, given their lack of business expertise.”).

¹⁴⁰ *Int’l Ins. Co. v. Johns*, 874 F.2d 1447, 1458 n.20 (11th Cir. 1989).

¹⁴¹ *In re Caremark Int’l Inc. Derivative Litig.*, 698 A.2d 959, 967 (Del. Ch. 1996); see also *Auerbach v. Bennett*, 393 N.E.2d 994, 1000 (N.Y. 1979) (“[B]usiness judgment doctrine, at least in part, is grounded in the prudent recognition that courts are ill equipped . . . to evaluate what are and must be essentially business judgments.”); Karl F. Balz, *No-Shop Clauses*, 28 DEL. J. CORP. L. 513, 520-21 (2003) (“Business decisions inherently entail risks and uncertainty, and it is neither from an individual investor’s nor from a social perspective desirable to discourage directors from engaging in reasonably risky and uncertain ventures that have potential for great profit.”).

¹⁴² Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1, 5 (1984).

decisions.¹⁴³ Judge Easterbrook showed no hesitation, despite the fact that he—like most federal judges—had never operated a major business concern or entered a market controlled by a dominant firm.¹⁴⁴ With respect to judicial competence in evaluating the likelihood and rationality of particular business strategies, Professor Easterbrook was more correct than Judge Easterbrook.

B. Judges' Absorption of Pertinent Scholarship

Beyond lacking practical experience, federal judges generally do not keep current with relevant economic, legal, and historical scholarship. Emerging research and game-theoretical models have largely undermined the simple explanations of business rationality associated with the early Chicago School.¹⁴⁵ But this new scholarship is not readily comprehensible to federal judges. Professor Hay notes that “a rich economics literature has developed, the thrust of which is to demonstrate that, as a matter of economic theory, predatory or limit pricing cannot be dismissed as irrational behavior Much of the literature is highly technical and largely inaccessible to the lay reader.”¹⁴⁶ While federal judges are experts on many subjects, with respect to much academic literature on economics and game theory, most judges are lay readers and thus may not necessarily be able to fully understand *why* some conduct that might initially appear irrational is in fact profit maximizing.

Furthermore, while many federal judges are capable of digesting the economics literature, it is clear that they do not do so. For example, courts continue to cite uncritically the *Matsushita* Court's assertion that there is a consensus that predatory pricing is irrational.¹⁴⁷

¹⁴³ See, e.g., *A.A. Poultry Farms, Inc. v. Rose Acre Farms, Inc.*, 881 F.2d 1396, 1401-02 (7th Cir. 1989) (holding that a firm's own perception of its ability to recoup an investment in predatory pricing is irrelevant when judges believe that recoupment is unlikely).

¹⁴⁴ Nor had he performed any relevant empirical research on such issues during his time in academia.

¹⁴⁵ See, e.g., Richard T. Rapp, *Predatory Pricing Analysis: A Practical Synthesis*, 59 ANTI-TRUST L.J. 595, 596 (1991) (“The arguments of McGee and Bork to the effect that predatory pricing never happens except in the singular case of a price-setter acting expensively against his own self-interest have been dissolved by scholarship.” (footnote omitted)).

¹⁴⁶ George A. Hay, *The Economics of Predatory Pricing*, 51 ANTI-TRUST L.J. 361, 364 (1982).

¹⁴⁷ See, e.g., *WorldCom, Inc. v. FCC*, 238 F.3d 449, 463 (D.C. Cir. 2001) (noting that *Matsushita* held that pricing schemes are “rarely successful” (quoting *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 589 (1986))); *Stearns Airport Equip. Co. v. FMC Corp.*, 170 F.3d 518, 523-24, 527 (5th Cir. 1999) (citing *Matsushita* for the proposition that the “Court has expressed extreme skepticism of predatory pricing claims”); *Advo, Inc. v. Phila. Newspapers, Inc.*, 51 F.3d 1191, 1195-97 (3d Cir.

This is specious for two reasons. First, no such uncontested consensus existed at the time of the *Matsushita* and *Brooke Group* opinions.¹⁴⁸ The Chicago School law professors upon whom the majority relied had “ignored studies of strategic behavior in economic markets which demonstrate ‘the learning curve benefits of cumulative production, the attributes of investment, techniques for raising rivals’ costs, strategic reputation effects, and even international strategic features.’”¹⁴⁹ Second, even if the Court’s characterization of economic theory had been true at the time the opinions were announced, “modern economic analysis has developed coherent theories of predation that contravene earlier economic writing claiming that predatory pricing conduct is irrational.”¹⁵⁰ If any consensus on predation currently exists, it

1995) (asserting that empirical studies support the *Matsushita* Court’s analysis with regard to the implausibility of predatory pricing); *Stitt Spark Plug Co. v. Champion Spark Plug Co.*, 840 F.2d 1253, 1255-56 (5th Cir. 1988) (describing *Matsushita* as holding that “the economic disincentives to predatory pricing often will justify a presumption that an allegation of such behavior is implausible”); *Mathias v. Daily News, L.P.*, 152 F. Supp. 2d 465, 473 (S.D.N.Y. 2001) (“Anticompetitive pricing schemes are exceedingly difficult to accomplish: ‘[T]here is a consensus . . . that predatory pricing schemes are rarely tried, and even more rarely successful.’” (alteration in original) (quoting *Matsushita*, 475 U.S. at 589)); *Servicetrends, Inc. v. Siemens Med. Sys., Inc.*, 870 F. Supp. 1042, 1062 (N.D. Ga. 1994) (“[T]he Supreme Court [in *Matsushita*] suggested that predatory pricing schemes are unlikely to succeed . . .”); *Nat’l Benefit Adm’rs, Inc. v. Blue Cross & Blue Shield of Ala., Inc.*, No. 88-H-426-N, 1989 WL 146413, at *7 (M.D. Ala. July 27, 1989) (quoting *Matsushita* to justify holding that the defendant did not engage in predatory pricing), *aff’d*, 907 F.2d 1143 (11th Cir. 1990); *cf. United States v. AMR Corp.*, 335 F.3d 1109, 1114-15 (10th Cir. 2003) (noting that because *Matsushita* held that predatory pricing was implausible, the court would “approach[] the matter [of price predation] with caution” despite recognizing that “[r]ecent scholarship has challenged the notion that predatory pricing schemes are implausible”). While lower courts are, of course, bound by *Matsushita*’s holding, they have no obligation to recite the Court’s false assertion of consensus.

¹⁴⁸ Scholarship available to the Court at the time demonstrated the rationality of predatory pricing. See, e.g., Craswell & Fratrik, *supra* note 97, at 42 (“Nevertheless, the possibility that predatory price cuts might be a rational strategy for the incumbent cannot be ruled out on purely theoretical grounds. Recent theories have shown that even when the entrant is perfectly aware of the conditions under which incumbents would try to disguise market conditions by making otherwise unprofitable price cuts, such price cuts can still be a rational and successful strategy.”); John Roberts, *A Signaling Model of Predatory Pricing*, 38 OXFORD ECON. PAPERS (Supp.) 75, 75-76 (1986) (citing economics scholarship from the early 1980s demonstrating the rationality of predatory pricing).

¹⁴⁹ Steven F. Benz, Note, *Below-Cost Sales and the Buying of Market Share*, 42 STAN. L. REV. 695, 719-20 (1990) (quoting Oliver E. Williamson, *Delimiting Antitrust*, 76 GEO. L.J. 271, 298 (1987)).

¹⁵⁰ Patrick Bolton, Joseph F. Brodley & Michael H. Riordan, *Predatory Pricing: Strategic Theory and Legal Policy*, 88 GEO. L.J. 2239, 2241 (2000).

is arguably the antithesis of the *Matsushita* majority's viewpoint.¹⁵¹ But federal judges—and most lawyers—do not keep abreast of advances in economic theory¹⁵² and thus fail to recognize that what might have seemed irrational to an earlier court espousing outdated theories would be perfectly rational to a modern economist as well as to a dominant firm bent on monopolization.

In addition to economics scholarship addressing collusion and predation, a wealth of business and historical research casts light on how firms have pursued anticompetitive designs in the past. Most federal judges, including Supreme Court Justices, appear to have little grasp of the history of cartels—i.e., how cartels are formed, operated, and perpetuated—or how past monopolists have employed predation to control markets. The conduct that federal courts are now labeling implausible as a matter of law has, in fact, been successfully used by cartels and monopolists. Yet courts fail to appreciate relevant empirical scholarship, including case studies that show purportedly “irrational” business schemes succeeding.

The Supreme Court in *Matsushita* asserted that cartel members would not engage in predatory pricing in order to drive potential competitors out of the market because a predatory pricing conspiracy “makes no practical sense.”¹⁵³ But the Court was apparently ignorant of historical examples of successful predatory pricing conspiracies. Collective predation and recoupment is at least as old as the Sherman Act. Members of the Victorian-era British shipping cartel controlled membership through price predation.¹⁵⁴ Whenever a nonmember tried to enter a route controlled by a current cartel member, desirable shippers (defined as those who would be cooperative cartel members) were granted admission to the cartel, and undesirable shippers (defined as those who would act competitively) were greeted with a price war.¹⁵⁵ The losses incurred during the predatory period were rational-

¹⁵¹ See *id.* (“More than that, it is now the consensus view in modern economics that predatory pricing can be a successful and fully rational business strategy.”).

¹⁵² See *id.* (“The courts, however, have failed to incorporate the modern writing into judicial decisions, relying instead on earlier theory that is no longer generally accepted.”).

¹⁵³ *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 597 (1986).

¹⁵⁴ See Joel M. Podolny & Fiona M. Scott Morton, *Social Status, Entry and Predation: The Case of British Shipping Cartels 1879–1929*, 47 J. INDUS. ECON. 41, 42 (1999) (“A new entrant on the route governed by the cartel presented these prominent individuals with a decision: should this new entrant’s owner be admitted into their ‘club’? Alternatively, should they engage in predatory behavior to exclude the entrant’s owner from their ranks?”).

¹⁵⁵ See Leslie, *supra* note 111, at 599 (linking the desirability of shippers as cartel entrants to their perceived trustworthiness). Whether or not this price was below

ly incurred because the cartel members had more to lose in the long run if an uncooperative shipper got a foothold in the market.¹⁵⁶

Since then, firms in cartels have often collectively used price to drive existing competitors from the market, to bring rogue cartel members into line, and to deter new competitors from entering the market. For example, the steel cartel of the interwar period used price wars to punish firms that charged less than the cartel price.¹⁵⁷ Similarly, when the 1930s tobacco cartel faced competition for lower-priced cigarettes, the cartel partners responded collectively.¹⁵⁸

More recently, corporate leaders of the international vitamins cartel apparently used predatory pricing to force smaller companies to follow the cartel's pricing structure,¹⁵⁹ and members of the school-milk cartel employed "cutthroat pricing" against any firm (cartel member or not) that dared to bid independently in a cartel-rigged auction.¹⁶⁰ In short, the historical record is replete with examples of cartels using price wars to discipline rogue members.¹⁶¹ Cartel members are thus often willing to endure a short-term reduction in price because they believe that it will create a stable cartel in the long run.

Perhaps even more relevant for exposing the problems with the *Matsushita* holding are instances in which Japanese firms have engaged in collective predatory pricing in the American marketplace with success, as seen in the market for digital random access memory (DRAM).

"some appropriate measure of cost" is beside the point; the cartel members forewent profits as a group and recouped them collectively through cartel pricing—precisely the conduct that the *Matsushita* Court asserted was implausible.

¹⁵⁶ See Podolny & Scott Morton, *supra* note 154, at 50 ("The cartel is more willing to wage a price war because it has more to lose if the entrant is uncooperative.").

¹⁵⁷ See FRITZ MACHLUP, THE BASING-POINT SYSTEM: AN ECONOMIC ANALYSIS OF A CONTROVERSIAL PRICING PRACTICE 131 (1949); see also STOCKING & WATKINS, *supra* note 113, at 190 ("To fight outside competition, the committee could authorize sales in any area 'at prices appreciably below normal prices.'"); Jonathan B. Baker, *Identifying Cartel Policing Under Uncertainty: The U.S. Steel Industry, 1933–1939*, 32 J.L. & ECON. S47, S49 (1989) ("Collusive prices punctuated by competitive episodes have been noted . . . in some international cartels during the 1920s and 1930s.").

¹⁵⁸ See *Am. Tobacco Co. v. United States*, 328 U.S. 781, 803-04 (1946) (explaining the government's argument that cartelists purchased cheap tobacco to drive up costs of lower-priced competitors).

¹⁵⁹ See CONNOR, *supra* note 114, at 314.

¹⁶⁰ Robert F. Lanzillotti, *The Great School Milk Conspiracies of the 1980s*, 11 REV. INDUS. ORG. 413, 429 (1996).

¹⁶¹ See Leslie, *supra* note 111, at 548, 552, 559-60, 599 (providing examples from the steel, shipping, and lysine cartels).

In the well-publicized semiconductor trade dispute between Japan and the United States, evidence revealed in the antidumping investigations indicated that the Japanese had conducted campaigns of “regular long-term pricing below the cost of production . . . for [very] extended periods of time. It is doubtful that DRAMs have ever been sold above the cost of production.”¹⁶²

Japanese firms appear more willing to focus on “[s]trategic considerations [that make] the long-term buying of market share economically feasible.”¹⁶³ For example, such transoceanic predatory pricing can be highly rational if the foreign producers are trying to achieve “scale economies in production (which can occur irrespective of comparative advantage), cumulative experience conferred on first movers, and the advantages of innovation. . . . [Certain] industries may generate important spillover effects in the rest of the domestic economy, particularly in the area of improved technology.”¹⁶⁴ For firms organized under the auspices of Japan’s Ministry of International Trade and Industry—as the defendants in *Matsushita* were—these are rational goals, independent of any desire to maximize short-term profits of individual firms on particular products.

The DRAM situation was not an isolated example. In a statement to a congressional committee addressing antitrust issues, the former counselor for Japan Affairs to the Secretary of Commerce testified that

[t]he thrust of Japanese industrial activity in virtually all areas is to build up initially on the home market, keeping the home market closed, and then to go into international markets, usually utilizing some kind of dumping or predatory pricing method and very often the terms of that competition involve collusion which under U.S. law would be illegal.¹⁶⁵

In short, we know that some Japanese firms have in fact engaged in the very conduct that the *Matsushita* Court said they would never agree to engage in because it makes no economic sense. This suggests that federal judges are not particularly adept at assessing the plausibility of potential business ventures.

¹⁶² Benz, *supra* note 149, at 714 (alteration added to correct Benz’s mistake in internal quotation) (quoting A. Paul Victor et al., *The Interface of Trade Competition Law and Policy: Questions and Answers*, 56 ANTITRUST L.J. 457, 458 (1987) (statement of Gilbert B. Kaplan)).

¹⁶³ *Id.*

¹⁶⁴ Harry First, *Structural Antitrust Rules and International Competition: The Case of Distressed Industries*, 62 N.Y.U. L. REV. 1054, 1067 (1987).

¹⁶⁵ *Oversight and Authorization of the Antitrust Division, U.S. Department of Justice: Hearings Before the Subcomm. on Economic and Commercial Law of the H. Comm. on the Judiciary*, 101st Cong. 27 (1989) (statement of Clyde V. Prestowitz, Jr., former Counselor for Japan Affairs to the Secretary of Commerce).

C. *Judges Do Not Appreciate Business Objectives*

Rationality is a function of the actor's goals.¹⁶⁶ Judges may not be able to evaluate the rationality of many business decisions because judges often do not appreciate corporate goals beyond profit maximization. While courts generally assume that firms are interested only in profit maximization,¹⁶⁷ that is not necessarily the case. Corporations and their employees may pursue other objectives as well. When this occurs, observers looking solely for evidence of profit maximization in a firm's behavior may incorrectly conclude that an antitrust plaintiff's allegations of anticompetitive conduct are implausible.

One obstacle to evaluating the rationality of business conduct is that firms have multiple actors, who may be pursuing diverse, and possibly inconsistent, objectives. Much rational actor analysis, including that found in judicial opinions, treats a business entity as a monolith with a single goal. But corporate structures are composed of individuals, some of whom may have goals separate from those of the shareholders.¹⁶⁸ Corporate managers may pursue goals beyond mere profit maximization. Depending on market structure, compensation schemes, and the value of bragging rights, managers may aspire to increase sales and sales revenue even at the expense of the firm's profit-maximizing ability.¹⁶⁹ Managers may even pursue psychological re-

¹⁶⁶ RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* § 1.3, at 15 (7th ed. 2007) ("Rationality means little more to an economist than a disposition to choose . . . an apt means to whatever ends the chooser happens to have selected . . .").

¹⁶⁷ See *supra* Part I.

¹⁶⁸ See T. BURKE, A. GENN-BASH & B. HAINES, *COMPETITION IN THEORY AND PRACTICE* 97 (1988) (noting "strong evidence that goals other than profit maximisation are pursued in manager-controlled organisations"); HERBERT HOVENKAMP, *ENTERPRISE AND AMERICAN LAW 1836-1937*, at 357 (1991) ("[T]he interest of managers and the interest of stockholders are not always the same. As a result, the corporation may not behave as the theory of competition suggests it should."); MICHAEL E. PORTER, *COMPETITIVE STRATEGY* 51 (1980) ("Diagnosis of goals should also be at multiple management levels. There are corporate-wide goals, business unit goals, and even goals that can be deduced for individual functional areas and key managers.").

¹⁶⁹ See Louis Kaplow, *Extension of Monopoly Power Through Leverage*, 85 COLUM. L. REV. 515, 550-52, 550 n.139 (1985) (explaining that management decisions may be beneficial to management but not to the firm); Miles W. Kirkpatrick et al., *Continuities and Discontinuities in Antitrust: The Early 1980's*, 1982 ANTITRUST CONF. 12 (statement of Ira M. Millstein) ("[T]here are a multitude of managerial goals being pressed for, some of which transcend or stretch profit maximization. For example, market-share enhancement, or sales maximization, has been recognized as one possible management objective in our economy and the pursuit of such objectives could lead to conduct (such as the adoption of vertical restraints) unrelated to strict profit maximization."); Christopher R. Leslie, *Cutting Through Tying Theory with Occam's Razor: A Simple*

wards unrelated to the corporation's balance sheet.¹⁷⁰ Thus, "popular business literature recognizes the heterogeneity and emotionality of employees' behavior, which is not driven solely by corporate imperatives but also by the employees' own values."¹⁷¹ A manager's pursuit of goals other than profit maximization may reflect agency costs, but that does not render the manager's conduct irrational or make it implausible that such conduct has occurred.

In addition, business objectives can vary across different cultures, which can make rationality analysis more complicated in transnational contexts. The Supreme Court, however, has generally viewed rationality from a strictly American perspective. In particular, the *Matsushita* majority assumed, without any evidence about the patterns and practices of Japanese multinational corporations, that Japanese firms make their exporting and pricing decisions based solely "on their profit expectations."¹⁷² The Justices assumed that the primary goal of all firms is to increase profitability, that is, to maximize the return on investment.¹⁷³ Judges sometimes fail to consider that foreign firms may operate in business cultures that value other goals above (or as highly as) profit maximization. Most notably, Japanese firms may often care more about growth and market share than return on investment:

The single overriding characteristic of [Japanese corporations] is their unrelenting focus on competitive position. They constantly search for growth, driven by the economics of relatively high fixed costs and the dynamics of their system of labor relations. The result is a preoccupation with market share and competitive position in contrast to the Western firm's return on investment objective. Leading market share will provide high margins in time, which in turn makes possible investment in still another growth area, and still another drive for leading share. . . . Perhaps, then, the single most important lesson to be learned from the study of [Japanese corporations] is in terms of corporate objectives and

Explanation of Tying Arrangements, 78 TUL. L. REV. 727, 769 (2004) (noting the role that goals other than profit maximization play in management decisions).

¹⁷⁰ See Frank, *supra* note 90, at 24 (discussing the relationship between consumption and psychological pleasure or pain and arguing that the emotional response may provide more direct motivation).

¹⁷¹ Stucke, *supra* note 13, at 533.

¹⁷² See *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 582 n.6 (1986).

¹⁷³ The *Matsushita* Court defined rationality solely in terms of profitability. See *id.* at 588-89 ("For the investment to be rational, the conspirators must have a reasonable expectation of recovering, in the form of later monopoly profits, more than the losses suffered.").

corporate planning. . . . World [market] share is the measure of corporate stability and success.¹⁷⁴

Survey data supports the conclusion that many Japanese firms emphasize growth over profits. One study released by the Japanese government in the 1980s revealed that “Japanese executives ranked market share as their most important corporate objective, followed by return on investment and the refreshment of the product portfolio.”¹⁷⁵ Another study of Japanese business culture concluded that although “it is extremely important that the Japanese company should make a profit . . . high *profitability*, a large return on assets or capital employed, is unlikely to be a very important goal.”¹⁷⁶ The *Matsushita* Court never mentioned that American and non-American firms may perceive the world differently and certainly did not take that fact into account in evaluating the plausibility of the Japanese firms’ alleged conduct.

In short, courts may not appreciate the range of objectives that anti-trust defendants or firms generally pursue. As a result, judges may not accurately evaluate the rationality and plausibility of alleged conduct in many contexts. *Matsushita*’s “no rational economic motive to conspire” test is fraught with peril and prone to mistakes if courts incorrectly conclude that a firm’s alleged conduct makes no sense because judges do not appreciate the firm’s (or its managers’) true ambitions.

D. *Judges Fail to Appreciate How Behaving Irrationally Can Be Rational*

Courts assume that predatory pricing is irrational and that therefore firms do not pursue this strategy.¹⁷⁷ But such reasoning is often too facile. Simply because the threat to engage in predatory pricing seems to be irrational for the threatening firm does not mean that it is not a plausible long-term business strategy. A better understanding of game theory—and of how dominant firms actually employ threats against rivals—should persuade judges that it is sometimes rational to convince a competitor that you are irrational.

¹⁷⁴ JAMES C. ABEGGLEN & GEORGE STALK, JR., *KAISHA, THE JAPANESE CORPORATION* 276-77 (1985).

¹⁷⁵ Benz, *supra* note 149, at 708 n.55.

¹⁷⁶ RODNEY CLARK, *THE JAPANESE COMPANY* 136 (1979).

¹⁷⁷ See, e.g., *Advo, Inc. v. Phila. Newspapers, Inc.*, 51 F.3d 1191, 1196 (3d Cir. 1995) (“*Matsushita* . . . created a *legal* presumption, based on *economic logic*, that predatory pricing is unlikely to threaten competition.”); *Stitt Spark Plug Co. v. Champion Spark Plug Co.*, 840 F.2d 1253, 1255 (5th Cir. 1988) (“The [*Matsushita*] Court [held] that the economic disincentives to predatory pricing often will justify a presumption that an allegation of such behavior is implausible.”).

The game of Chicken is instructive. A competitive market does not resemble a game of Chicken. Rather, competition is like NASCAR—race-car drivers sharing the track and all moving in the same direction, each attempting to outrun the other. Each driver's goal is not to vanquish the other drivers from the track but merely to post a better time. In contrast, monopolization is more like the game of Chicken because the last car on the road is the winner.¹⁷⁸ A would-be monopolist is not interested in merely outperforming her rivals (for example, through higher profits or larger market share); she wants to eradicate them from the race entirely.¹⁷⁹ She is thus more willing to aim her car directly at a competitor's front bumper and hit the gas—a strategy that is frowned upon in NASCAR. In competition, with all cars traveling in the same direction, it probably does not make sense to be irrational. However, if the goal is to be the only car remaining on the road at the end of the day, then a prominent display of irrational behavior may make sense.

Some observers argue that given the dangerous nature of the game, rational firms would never initiate a game of Chicken—i.e., engage in costly predatory conduct. But such thinking ignores the in *terrorem* effect that a willingness to play Chicken has on the market. It is true that most rational firms would rather not play Chicken, but this fact works to the predator's advantage. It is impossible to avoid the game if a would-be monopolist declares a price war with below-cost pricing. A dominant player can unilaterally force a game of Chicken on its competitors by saying, "It's you or me. I'm going to reduce my price until one of us is forced from the market." The only way to avoid the game is to not enter markets with firms that are likely to play Chicken, which is exactly what Chicken-playing monopolists want.

Commentators and a majority of the Supreme Court assert that the threat to play Chicken is not credible because predatory pricing is too costly. They argue that if the target of predation does not exit the market quickly, predatory pricing will take time and rack up losses that cannot be recouped, which makes predatory pricing not profit max-

¹⁷⁸ It is more accurate perhaps to describe the marketplace in this scenario as a demolition derby that transitions to a traditional game of Chicken when only two players remain.

¹⁷⁹ Chicken is not a game that most rational drivers would choose to play. There is a risk of humiliation and death that is not sufficiently offset by the value of victory (which merely consists of bragging rights for humiliating the other player by showing her to be "chicken"). The potential gains from winning the game of Chicken in the marketplace, however, are significantly greater. If one firm can repeatedly play and win high-stakes games of Chicken with its competitors, it can secure monopoly profits.

imizing. Many theorists assume that a dominant firm would not follow through on a predatory pricing threat because doing so would cause it to lose money overall.¹⁸⁰ They argue that once the target of a predation threat realizes this, it will stay in the market, and because the predator is aware of the target's calculus, the predator will not actually engage in (or even threaten) predatory pricing.¹⁸¹ Because predatory pricing is irrational, according to this theory, any threat to pursue a sustained strategy of predatory pricing is not credible, and any allegation that a competitor has engaged in predatory pricing is not plausible.

The skeptics of predatory pricing are correct to argue that credibility is critical. In the game of Chicken, if one driver's pledge not to swerve is not credible, the other driver will be less likely to swerve, believing that she can win the war of wills. In contrast, if a driver's promise to stay the course is believed, the other driver must choose between swerving and dying. The former is the best choice, though it means she will lose the game.

1. Creating Credibility Through Facially Irrational Conduct

Because credibility is key, it is important to understand why the threat to engage in predatory pricing can be credible. Early theorists assumed that any target of predatory pricing would know with certainty that a predator would lose money by following a predatory strategy.¹⁸² Some commentators assumed that if a potential new entrant called the incumbent's bluff to price below cost by entering the market, the incumbent would not follow through on the threat because "it would be irrational for the incumbent to engage in predation."¹⁸³

¹⁸⁰ See, e.g., M. Steven Wagle, *Predatory Pricing, a Case Study: Matsushita Electric Industries Co. v. Zenith Radio Corporation*, 22 CREIGHTON L. REV. 89, 129 (1988) ("[A] rational incumbent will conclude that a duopoly share of the market is more desirable than following a predatory strategy.")

¹⁸¹ Commentators have argued that

[b]y backward induction at each stage, predation does not pay. At each stage an entrant knows that if it enters and is preyed on it would have been better not to enter. But this expectation is offset by the potential prey's also knowing that with actual entry the incumbent is better off not to predate. Thus it is rational throughout the history of the market for the incumbent not to predate and for the potential prey to enter.

R. Marc Isaac & Vernon L. Smith, *In Search of Predatory Pricing*, 93 J. POL. ECON. 320, 342 (1985).

¹⁸² See Craswell & Fratrick, *supra* note 97, at 40-41 (1985).

¹⁸³ Wagle, *supra* note 180, at 109. The author proceeds to note that reputational effects from predation could deter entry. *Id.*

Such reasoning misses the overarching premise of much predatory conduct: behaving “irrationally” makes the threat credible. Even if a potential entrant is not deterred by the threat, the predator should follow through on its threat because that will make any future threats much more credible.

The threat to follow through on predatory pricing can be credible because of reputational effects. One of the key assets that a business has is its reputation. Most firms try to establish positive reputations for manufacturing superior products and providing excellent customer support, as well as reputations for trustworthiness and being good business partners. But some firms actively hone reputations for being overly aggressive against competitors. Thus, dominant firms with intellectual property rights sometimes pursue weak lawsuits, viewing even a losing suit “as a profitable investment in that reputation.”¹⁸⁴ After it has acquired a reputation for suing competitors, a dominant firm no longer needs to litigate as much; it can rely on its reputation as an aggressive litigator to deter rivals even if those rivals do not believe that they are infringing the dominant firm’s intellectual property rights.¹⁸⁵

In the context of predatory pricing, a dominant firm may employ predatory pricing to purchase a reputation for aggression. Any losses suffered in the short term reflect the purchase price of acquiring the reputation. Theorists who argue that predatory pricing cannot occur because it is irrational assert that predatory pricing costs the dominant firm much more than it costs the excluded rivals because the firm engaging in predatory pricing is taking a loss over a greater number of products (since it has a large market share that it is trying to make larger) than its smaller competitors. However, the firm engaging in predatory pricing only has to take this loss of profits until it establishes sufficient credibility that its threats to engage in predatory pricing will deter firms from entering the market. It is rational for a firm to engage in predatory pricing and take a disproportionately greater loss than the firms that it is targeting so long as the firm believes that it will be able to recoup these profits once it establishes a credible reputation as a predator.

If a dominant firm can drive one challenger from the market—even at high cost—that success can deter future challengers from en-

¹⁸⁴ Michael J. Meurer, *Controlling Opportunistic and Anti-Competitive Intellectual Property Litigation*, 44 B.C. L. REV. 509, 515 (2003).

¹⁸⁵ See *id.* at 518 n.59 (“The reputation for being tough makes [a] frivolous claim more credible and more valuable.”); see also Christopher R. Leslie, *The Anticompetitive Effects of Unenforced Invalid Patents*, 91 MINN. L. REV. 101, 116-17 (2006).

tering the market. For example, the dominant cable company in Sacramento engaged in predatory pricing to repel two upstarts that sought to enter its market.¹⁸⁶ Although the predation cost the firm \$1 million in losses, it saved over \$16 million by precluding the conversion of its monopolized market into a competitive one.¹⁸⁷ Predatory pricing threats are more likely to be credible if similar threats have actually been carried out in the past. This credibility in turn translates into deterrence: “If potential entrants recognize that predatory pricing has caused the current rival’s exit, fear of facing a similar fate may deter their entry.”¹⁸⁸ With the market to itself, the surviving firm can charge a supracompetitive price while deterring both reentry by the previously exiting competitor as well as entry by other firms that are considering competing in that market.

Theorists who claim that predatory pricing is inherently irrational generally fail to examine the big picture. The first time that the predatory pricing threat is carried out may not be net profitable for the predator in the short term. For example, the cost that the dominant firm incurs may not be quickly recouped. But that one episode is not the sum total of the strategy. “Even if ‘irrational’ when considered in isolation, such conduct may create a reputation for aggressive response that discourages any other competitors from initiating action. The value of that reputation justifies the expenditure in the initially targeted market.”¹⁸⁹ The recoument will come as the dominant firm does not have to carry out the threat in the future. Merely making the threat should suffice going forward, as potential entrants will have greater confidence that the dominant firm will carry out even facially unprofitable (read: irrational) threats. Even if the predator must repeatedly prey upon its competitors in order to purchase its reputation for aggression, the investment can pay off in the long run, once rivals come to believe that threats will be acted upon.¹⁹⁰ Ultimately,

[t]he predator establishes a reputation for aggressive conduct in the demonstration market that induces potential entrants to believe it will price aggressively in the future when faced with new competition. In this

¹⁸⁶ See Bolton, Brodley & Riordan, *supra* note 150, at 2297-98.

¹⁸⁷ See *id.* at 2298.

¹⁸⁸ *Id.* at 2302.

¹⁸⁹ John E. Kwoka, Jr. & Lawrence J. White, *Horizontal Practices: The Economic and Legal Context*, in THE ANTITRUST REVOLUTION, *supra* note 99, at 211.

¹⁹⁰ See Rapp, *supra* note 145, at 602 (“Under these conditions repeated predatory episodes pay off in total even though the defeat of a single rival in any one of them would cost the predator more than it would return in extra profits.”).

manner, reputation effect serves as a barrier to entry, allowing the predator to increase prices in the recoupment market.¹⁹¹

In sum, knowing that a predator needs to hone its reputation for aggression, the rational target of predation should realize that an incumbent might willingly incur the costs of apparently irrational predatory pricing. Decisions that appear “irrational” in the short term can lead to credible threats in the long run. It is hard to measure the return on investments in developing a reputation for predation,¹⁹² but some firms do invest in their reputations and they are rewarded for their efforts by rivals declining to compete.¹⁹³ Over the long run, apparently irrational moves become rational.

2. Facially Irrational Conduct Can Deter Funding for Rivals

The difference between successful entry into a market and merely sitting on the sidelines is often a function of access to venture capital. No matter how good a firm’s new product is, and no matter how great its ambition, an absence of capital can doom a new start-up to failure. Venture capitalists do not award money to start-ups based solely on the intrinsic merits of the new product. Rather, they evaluate the marketplace in which that product will be sold. In particular, venture capitalists must predict the likely response of current market players to the entry of a new competitor into the market. If venture capitalists believe that the existing market participants (whether a dominant firm or a group of current sellers) will render any new entry unprofitable through predatory pricing, then the venture capitalists will most likely not fund the start-up.¹⁹⁴ They will find another new firm that seeks to compete in a less hostile market. Even if a venture capitalist is willing to lend funds, she may require the new entrant to pay a premium that reflects the increased risk of entering a market with an unpredictable (or predictably aggressive) dominant player. If so, this

¹⁹¹ Bolton, Brodley & Riordan, *supra* note 150, at 2300-01.

¹⁹² See Lawrence J. White, *Antitrust Activities During the Clinton Administration*, in HIGH-STAKES ANTITRUST 27 n.49 (Robert W. Hahn ed., 2003).

¹⁹³ See *infra* subsection III.D.4.

¹⁹⁴ See Bolton, Brodley & Riordan, *supra* note 150, at 2301 (“[Predatory pricing] may discourage financiers from backing either existing or future rivals—or otherwise discourage entry based on the belief that such conduct will be repeated in the future. The incumbent’s predatory reputation can then serve as an exclusionary mechanism protecting monopoly profits.” (footnote omitted)).

differential access to capital on equal terms significantly handicaps the start-up's ability to enter the market profitably.¹⁹⁵

A historical example illustrates the point. In order to monopolize the early market for telephone service, the Bell Telephone Company used predatory tactics to dissuade lenders from funding its rivals. Faced with strong competition in Madison, Wisconsin, Bell engaged in below-cost pricing over a thirteen-year period, which made it significantly more difficult for its rivals to secure the financing necessary to expand service and construct a competing network.¹⁹⁶ While Bell engaged in other predatory acts as well, "economic studies generally agree that the predatory pricing was a significant cause of the widespread exclusion of the independent telephone companies from Bell's markets."¹⁹⁷

Venture capitalists are much less likely to fund a new firm that seeks to compete against a dominant firm that behaves in a seemingly irrational way, including engagement in costly predation. Whether on Main Street or Wall Street, appearing irrational makes people run the other way. This can make appearing irrational a paradoxically rational exclusionary tactic.

3. Facially Irrational Behavior as a Barrier to Entry

Courts generally assume that predation is irrational because competitors will enter the market once the predator charges a supracompetitive price in order to recoup its investment in predatory pricing. The Supreme Court in *Matsushita* claimed that monopoly pricing "breed[s] quick entry by new competitors eager to share in the excess profits."¹⁹⁸ This, of course, presupposes an absence of barriers to en-

¹⁹⁵ See Kwoka & White, *supra* note 189, at 211.

¹⁹⁶ See Bolton, Brodley & Riordan, *supra* note 150, at 2308 (citing David Gabel & David I. Rosenbaum, *Prices, Costs, Externalities and Entrepreneurial Capital: Lessons from Wisconsin*, 40 ANTITRUST BULL. 581, 602 (1995)).

¹⁹⁷ *Id.* at 2309 & n.310 (attributing the elimination of independent telephone services in the Midwest to AT&T's strategic moves, "not least of which was predatory pricing" (quoting David Gabel, *Competition in a Network Industry: The Telephone Industry, 1894-1910*, 54 J. ECON. HIST. 543, 567-68 (1994))); see also *id.* at 2308 ("The rival's financing difficulties were substantially caused by the low pricing, which severely reduced the rival's return, allowed only a one percent annual dividend, and blocked additional financing. To be sure, other factors impeded the Madison rival, such as the refusal of the Bell system to interconnect, but the below-cost pricing was a significant and material cause of the Madison rival's exit.").

¹⁹⁸ *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 589 (1986).

try. According to the Third Circuit, easy entry eliminates the credibility of predatory pricing threats:

As a matter of economics, ease of entry makes the threat implicit in strategic entry deterrence non-credible. Potential competitors will realize that at some point the predatory firm will be unable or unwilling to charge below-cost prices and absorb further losses, since nobody's pockets are bottomless. High prices will attract a stream of competitors who eventually will sap the predator's bank account.¹⁹⁹

The *Brooke Group* Court converted similar reasoning into a rule to dispose of predatory pricing cases when it held that "where new entry is easy . . . summary disposition of the case is appropriate."²⁰⁰

This rule would be acceptable if correctly applied, but federal judges may be too quick to conclude that entry is easy because they fail to appreciate that apparently irrational predatory behavior is itself a barrier to entry. High price alone may be insufficient to induce market entry. A dominant firm's excess capacity and its previously executed threats to flood the market can be effective barriers to entry even if it is charging a supracompetitive price. As just discussed, previously executed "irrational" threats of predation can create a reputation for aggression that makes other firms reluctant to invest in a market where they will be greeted with a loss-inducing price war, and prior irrational predation may hamper the financing of new entrants. As a result, the so-called irrational predatory conduct can itself reduce the "ease of entry" that federal judges take for granted as a reason why predation cannot succeed.

4. Successful Predation and Other Credible, "Irrational" Threats

The potential rationality of predatory pricing is empirically demonstrated by the many historical examples of the strategy's success. Dominant air carriers in different markets have employed various forms of predatory pricing to drive new carriers from the market and to deter would-be rivals.²⁰¹ Threats of predation in such markets are

¹⁹⁹ *Advo, Inc. v. Phila. Newspapers, Inc.*, 51 F.3d 1191, 1202 (3d Cir. 1995).

²⁰⁰ *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 226 (1993).

²⁰¹ See Paul Stephen Dempsey, *Predatory Practices & Monopolization in the Airline Industry: A Case Study of Minneapolis/St. Paul*, 29 *TRANSP. L.J.* 129, 164 (2002) ("Any time that a low fare carrier attempted to enter Northwest's monopoly markets, Northwest engaged in a predatory response designed to drive the low fare choice from the market, and to serve as a painful example to any other potential competitor."). While the government's recent predatory pricing case against American Airlines resulted in victory for the defendant, Professor Herbert Hovenkamp has cogently explained why American's strategy represented predatory pricing. See HOVENKAMP, *supra* note 4, at 165-66.

credible when the dominant carriers have relatively deep pockets and actually follow through on their threats whenever a new carrier ignores the case studies of earlier failed entrants.²⁰² Similarly, long before Liggett brought suit against B&W, American tobacco markets experienced predatory pricing episodes to bring “rogue” firms into line.²⁰³ Other historical examples of successful predatory pricing have been documented in the markets for matches, cement, shipping, telephony, and sugar.²⁰⁴ These historical success stories can help establish the credibility of current predatory threats.

Furthermore, despite some commentators’ assertions that apparently irrational threats are not credible, threatening irrational conduct is a well-trod path to monopoly. Dominant firms often announce threats that would appear to be irrational (i.e., not profit maximizing) if they were actually carried out. For example, when a new radio station represented competition for local advertising dollars, the Lorain Journal, the local newspaper, threatened its own customers: if they aired commercials on the radio station, the Journal would not sell them advertising space.²⁰⁵ As the newspaper depended on advertising revenue, it would have been apparently irrational for the Lorain Journal to carry out its threat on any large scale. But that did not negate the exclusionary effect of the Journal’s policy of intimidation, which helped the newspaper maintain a monopoly in the local advertising market.

More recently, Microsoft maintained its monopoly over operating systems by making facially irrational threats. Concerned that the technologies represented in Netscape’s Internet browser and Sun Microsystems’s Java Virtual Machine could evolve in a manner that would undermine Microsoft’s monopoly position, the software giant sought to prevent its business partners from assisting these technologies.²⁰⁶ In

²⁰² See Dempsey, *supra* note 201, at 181 (“Northwest has the financial ability to weather a predatory storm longer than a new entrant.”).

²⁰³ See Malcolm R. Burns, *Outside Intervention in Monopolistic Price Warfare: The Case of the “Plug War” and the Union Tobacco Company*, 56 BUS. HIST. REV. 33, 41-45 (1982) (crediting Continental Tobacco Company’s successful predatory pricing scheme with enabling it to acquire smaller firms, including those that fought acquisition with their own price cuts).

²⁰⁴ Bolton, Brodley & Riordan, *supra* note 150, at 2244-45.

²⁰⁵ Lorain Journal Co. v. United States, 342 U.S. 143, 148-49 (1951).

²⁰⁶ See Steven C. Salop & R. Craig Romaine, *Preserving Monopoly: Economic Analysis, Legal Standards, and Microsoft*, 7 GEO. MASON L. REV. 617, 636 (1999) (documenting Microsoft’s practice of making exclusive deals with business partners requiring them to carry Internet Explorer instead of Netscape browsers); see also *id.* at 629 (“Microsoft allegedly has tried to replace Sun’s cross-platform compatible Java and supersede it with a proprietary version that is not cross-platform compatible.”).

particular, Microsoft pressured Intel to reduce support for Java with the threat that Microsoft would stop supporting the multimedia features of Intel's new chips.²⁰⁷ Additionally, Microsoft advised Apple that Microsoft would cease producing Microsoft Office applications for Apple's Macintosh computers unless Apple adopted a series of anti-Netscape policies.²⁰⁸ Both of these policies were irrational in the sense that Microsoft threatened actions that would cause Microsoft to lose money if carried out. Despite this, the threats were credible and the companies did Microsoft's bidding, facilitating Microsoft's maintenance of monopoly power over operating systems.

Finally, even when a monopolist actually carries out so-called irrational threats, the result can be net profitable. Dentsply International maintained a monopoly in the market for prefabricated artificial teeth, which are used in various dental appliances manufactured by dental laboratories.²⁰⁹ Dentsply distributed its artificial teeth through a network of dealers, which represented the most efficient distribution method because dental labs—the ultimate consumer—strongly preferred to purchase from dealers.²¹⁰ Dentsply repeatedly threatened to terminate its lucrative relationship with any dealer who also handled the artificial teeth of Dentsply's rivals.²¹¹ Dentsply announced that if a dealer purchased any artificial teeth from another source, Dentsply would refuse to use that dealer for any Dentsply product.²¹² The threat appeared irrational given Dentsply's complete dependence on dealers and the fact that these dealers wanted to purchase teeth from multiple manufacturers. But Dentsply followed through on its threat and terminated dealers who did not submit.²¹³ These loss-inducing moves enhanced the credibility of Dentsply's threats. While Dentsply may have lost revenue by ending particular dealer relationships, most other dealers succumbed to the threats and this denied Dentsply's rivals access to the best distribution method. The Third Circuit explained that Dentsply's threats had "a significant effect in preserving

²⁰⁷ See *id.* at 640.

²⁰⁸ See *id.* at 640 & n.66 (reporting testimony that Microsoft threatened both Apple and Intel with reduced support if they refused to support Windows).

²⁰⁹ *United States v. Dentsply Int'l, Inc.*, 399 F.3d 181, 184 (3d Cir. 2005).

²¹⁰ *Id.* at 191-93.

²¹¹ *Id.* at 190.

²¹² See *id.* ("For example, when the DLDS firm considered adding two other tooth lines because of customers' demand, Dentsply threatened to sever access not only to its teeth, but to other dental products as well.")

²¹³ See *id.* at 194 (cataloging instances of dealers acquiescing to Dentsply's threats and practices).

Dentsply's monopoly. It help[ed] keep sales of competing teeth below the critical level necessary for any rival to pose a real threat to Dentsply's market share."²¹⁴ In sum, Dentsply's apparently irrational threats proved both credible and profitable.

5. Summary

Courts, including the Supreme Court, have consistently rejected predatory pricing claims because judges, relying in part on early academic writings, have asserted that the plaintiff's theory requires the jury to conclude that the defendant engaged in irrational conduct, and the rationality assumption posits that firms do not behave irrationally. Such reasoning fails to consider that a demonstrated willingness to sacrifice profits—including but not limited to predatory pricing—can be the cornerstone of a long-term, profit-maximizing strategy. In short, pursuing a facially irrational strategy can deter competitors and thereby render the prior conduct rational.

E. *Judges May Not Appreciate Business Constraints*

Judicial decisions evaluating the economic plausibility of anti-competitive conduct may also be constrained by a lack of understanding about the processes by which businesses make decisions. Businesses must operate under informational constraints, and sometimes they make mistakes due to overconfidence.

1. Uncertainty

Courts often misconceive the role of uncertainty in business decisionmaking. Federal judges often assert that if the outcome of an alleged predatory scheme is uncertain, then it is implausible that the defendant would have pursued that strategy. In particular, in rejecting predatory pricing claims, courts consistently emphasize the uncertainty of recoupment. For example, the *Matsushita* Court stressed that “[a] predatory pricing conspiracy is by nature speculative”²¹⁵ and that “the success of such schemes is inherently uncertain: the short-run loss is definite, but the long-run gain depends on successfully neutralizing the competition.”²¹⁶ Upping the uncertainty quotient, the *Brooke Group* Court asserted that “relying on tacit coordination among oligo-

²¹⁴ *Id.* at 191.

²¹⁵ *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 588 (1986).

²¹⁶ *Id.* at 589.

polists as a means of recouping losses from predatory pricing is highly speculative.”²¹⁷ Following the Court’s lead, lower federal courts now equate the uncertainty of success with implausibility of attempt.²¹⁸

At times, the Court’s treatment of uncertainty in antitrust cases is painfully tautological. For example, the *Matsushita* majority opined that “[a]bsent some assurance that the hoped-for monopoly will materialize, and that it can be sustained for a significant period of time, ‘[t]he predator must make a substantial investment with no assurance that it will pay off.’”²¹⁹ In short, “absent some assurance . . . [firms must invest] ‘with no assurance.’”²²⁰ That is true, but it is agonizingly unhelpful in analyzing the question of how firms will act in situations in which they have no assurance of success. And, as noted earlier, firms necessarily make most of their business decisions with limited or imperfect information.

More importantly, the Court’s effort to conflate uncertainty of outcomes with implausibility of attempt betrays a fundamental misunderstanding of how businesses function. Most business ventures require an upfront investment that must be made without any assurance that the outlay will be profitable. No business makes an investment in new products, new distribution methods, or other improvements knowing for certain that the investment will pay off. Business is about taking risks. Firms accept uncertainty as an inherent component of the business environment. Cartel members and potential monopolists are no different. All are willing to invest money in the hopes of receiving substantial returns on their investment. Businesses willingly accept a level of uncertainty, whether launching a newfangled product or committing an old-fashioned antitrust violation. Thus, the uncertainty of success of a particular course of conduct should not lead a court to conclude as a matter of law that such conduct does not occur.²²¹

²¹⁷ *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 232 (1993) (internal quotation marks omitted); see also *id.* at 238 (“Uncertainty is an oligopoly’s greatest enemy.”).

²¹⁸ See, e.g., *United States v. AMR Corp.*, 335 F.3d 1109, 1114 (10th Cir. 2003) (“Implausibility of predatory pricing schemes was said to flow from the fact that their success is inherently uncertain.” (citing *Matsushita*, 475 U.S. at 598)).

²¹⁹ 475 U.S. at 589 (second alteration in original) (quoting Frank H. Easterbrook, *Predatory Strategies and Counterstrategies*, 48 U. CHI. L. REV. 263, 268 (1981)).

²²⁰ *Id.* (quoting Easterbrook, *supra* note 219).

²²¹ While firms may be risk averse in many contexts, they have shown a willingness to engage in anticompetitive conduct—even per se illegal conduct—when the prospect of monopoly profits is present.

2. Business Confidence

In denying the existence of certain antitrust conspiracies and predatory schemes, courts also fail to consider the role of overconfidence in business decisionmaking. In the context of monopolization, a dominant firm may mistakenly assume a high probability that its anticompetitive action will lead to successful monopolization. For example, a predator might be overconfident in its ability to drive competitors from the market,²²² or it may incorrectly believe that its target does not have the stomach to fight a protracted predatory price war.²²³ A predator may not accurately estimate the length of time that the predation will have to continue in order to succeed.²²⁴ The predator's miscalculation of the target's resolve does not mean that the attempted predation did not occur but only that overconfidence caused the predator to underestimate the duration and cost of the predatory period.

In the context of anticompetitive conspiracies, overconfidence can explain why an arguably irrational scheme is perceived as rational and consequently undertaken. In finding predatory pricing conspiracies to be inherently irrational, the *Matsushita* Court focused on the fact that recoupment would require the conspirators to participate in a traditional cartel.²²⁵ Because price fixing is illegal, the majority suggested that a recoupment strategy based on price fixing would be irrational. The Court's equation of illegality with irrationality, and then irrationality with nonoccurrence, is flawed. First, price-fixing cartels exist and thrive throughout the American and international econo-

²²² A firm that engages in predatory pricing may also simply make a mistake in predicting its target's response. See Oliver E. Williamson, *Predatory Pricing: A Strategic and Welfare Analysis*, 87 YALE L.J. 284, 286 n.6 (1977) ("Strategic behavior, in the context of predatory pricing, involves not merely prepositioning, which is standard to entry barrier analysis, but also contingent responses to entry.").

²²³ See Phillip E. Areeda, *Predatory Pricing (1980)*, 49 ANTITRUST L.J. 897, 903 (1980) ("[P]redation occurs, if at all, only because a defendant makes a long-run strategic calculation about the market and rival responses.").

²²⁴ See Craswell & Fratrick, *supra* note 97, at 33 ("Factoring such costs into the analysis not only depends on having an accurate measure of those costs, but also depends on the firm's estimate of the length of the price war.").

²²⁵ The *Matsushita* Court stated in a footnote that

[t]he alleged predatory scheme makes sense only if petitioners can recoup their losses. In light of the large number of firms involved here, petitioners can achieve this only by engaging in some form of price fixing *after* they have succeeded in driving competitors from the market. Such price fixing would, of course, be an independent violation of § 1 of the Sherman Act.

475 U.S. at 592 n.16 (citing *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150 (1940)).

mies, despite being illegal.²²⁶ Second, price-fixing conspirators often display extreme overconfidence in the belief that they will never be exposed.²²⁷ Exhibiting daring and cheek, businesspeople routinely plan long-term business strategies based on continuing and undiscovered antitrust violations.²²⁸ In the context of price fixing, the fine line between overconfidence and audacious profit maximization often turns out to be largely a function of whether one gets caught.

The fact that a firm allegedly pursuing an anticompetitive strategy ultimately fails does not mean that the strategy was unattempted. It could simply mean that the firm was overoptimistic about its prospects for success, just as DuPont was when it launched Corfam. Behavioral research suggests that the more that a firm values an outcome—e.g., monopoly power—the more likely it is that overconfidence will bias the decisionmaking process.²²⁹ In short, firms bent on monopolization or cartelization may make a decision to violate antitrust laws even though a federal judge later scrutinizing the same business environment would not find such behavior plausible or rational. The fact that the judge would make a particular decision in that situation does not answer the question of whether the defendant, brimming with overconfidence, did in fact violate antitrust laws.²³⁰

F. *The Risk of Judicial Cognitive Bias*

Finally, cognitive biases may undermine judges' ability to evaluate whether a particular anticompetitive scheme was plausible (and attempted) or implausible (and consequently not attempted). Cognitive biases refer to observed phenomena that interfere with people's perceptions and reduce their ability to accurately process information. Scholarship in psychology and related fields has documented a range of various cognitive biases, such as the bandwagon effect and status quo bias. This Section highlights two cognitive biases—hindsight bias

²²⁶ See generally Christopher R. Leslie, *Cartels, Agency Costs, and Finding Virtue in Faithless Agents*, 49 WM. & MARY L. REV. 1621 (2008) (surveying successful cartels and considering agency-cost theory as a means of destabilizing them).

²²⁷ See Gilbert Geis, *The Heavy Electrical Equipment Antitrust Cases of 1961* ("Like most reasonably adept and optimistic criminals, the antitrust violators had hoped to escape apprehension. 'I didn't expect to get caught[,] . . . one of them said."), in WHITE-COLLAR CRIMINAL 103, 107 (Gilbert Geis ed., 1968).

²²⁸ See generally Leslie, *supra* note 111, at 586.

²²⁹ See Tor, *supra* note 73, at 522.

²³⁰ If an anticompetitive scheme—whether a conspiracy or predation—is ultimately unprofitable, it may affect liability and damages, but the ultimate failure of an endeavor is not dispositive proof that the plan was not executed.

and confirmation bias—that appear to afflict judges’ determinations of alleged anticompetitive conduct’s plausibility.

1. Hindsight Bias

Judges evaluating the rationality of alleged anticompetitive conduct do so in retrospect and therefore run the risk of hindsight bias. Hindsight bias describes the fact that people overestimate the ex ante probability of an event occurring when they are told what outcome actually occurred.²³¹ Hindsight bias may affect judges’ ability to evaluate whether alleged conspiracies or predation were rational schemes at the time that they were conceived and undertaken. One of the leaders in the study of this bias, Baruch Fischhoff, explained that,

In hindsight, people consistently exaggerate what could have been anticipated in foresight. They not only tend to view what has happened as having been inevitable but also to view it as having appeared “relatively inevitable” before it happened. People believe that others should have been able to anticipate events much better than was actually the case.²³²

Since his early work, “[v]irtually every study on judging in hindsight has concluded that events seem more predictable than they actually are. The research on judging in hindsight, taken as a whole, strongly supports Fischhoff’s conclusion that ‘[f]inding out that an outcome has occurred increases its perceived likelihood.’”²³³

Many experiments illustrate the forms and pervasiveness of hindsight bias. Early experiments by Fischhoff demonstrated how subjects’ predictions of probable outcomes were driven in large measure by what researchers told each group the actual outcome was.²³⁴ Professors Korobkin and Ulen neatly summarized this research:

In what is arguably the most famous of the many hindsight bias studies, Baruch Fischhoff gave five groups of subjects a passage to read describing the events leading up to a military confrontation between the British army and the Gurkas in Nepal in the nineteenth century and asked them, on the basis of that information alone, to specify the likelihood that four specified military outcomes would have resulted. Each of four

²³¹ See Korobkin & Ulen, *supra* note 8, at 1095.

²³² Baruch Fischhoff, *For Those Condemned to Study the Past: Heuristics and Biases in Hindsight*, in JUDGMENT UNDER UNCERTAINTY 335, 341 (Daniel Kahneman, Paul Slovic & Amos Tversky eds., 1982).

²³³ Jeffrey J. Rachlinski, *A Positive Psychological Theory of Judging in Hindsight*, 65 U. CHI. L. REV. 571, 580 (1998) (footnote omitted) (quoting Baruch Fischhoff, *Hindsight ≠ Foresight: The Effect of Outcome Knowledge on Judgment Under Uncertainty*, 1 J. EXPERIMENTAL PSYCHOL.: HUM. PERCEPTION & PERFORMANCE 288, 297 (1975)).

²³⁴ Fischhoff, *supra* note 233, at 297.

groups was told that a different outcome of the four specified outcomes actually occurred, while the fifth group (the control group) was given no information on the actual outcome. Subjects in each of the groups to whom the investigators gave an outcome reported an *ex ante* prediction of that outcome that was considerably higher than the prediction for that outcome made by the subjects in the control group. In other words, information about what actually occurred apparently influences our judgments concerning what we thought would occur before we knew the outcome. Events that have actually occurred can seem, through the lens of hindsight, to have been almost inevitable.²³⁵

Hindsight bias has been documented among the educated elite,²³⁶ including doctors²³⁷ and politicians.²³⁸ Research subjects also show significant hindsight bias in business contexts, with subjects molding their *ex ante* predictions of business success or failure to the actual outcome they are told occurred.²³⁹ Unfortunately, evidence shows that judges, too, exhibit hindsight bias.²⁴⁰ Professor Rachlinski reports that using experienced judges does not avert hindsight bias,²⁴¹ and that a

²³⁵ Korobkin & Ulen, *supra* note 8, at 1095-96.

²³⁶ See Jon D. Hanson & Douglas A. Kysar, *Taking Behavioralism Seriously: The Problem of Market Manipulation*, 74 N.Y.U. L. REV. 630, 633 (1999) (stating that biases are “not limited to the uneducated or unintelligent”).

²³⁷ See Jolls, Sunstein & Thaler, *supra* note 11, at 1523 (“[P]hysicians . . . when asked to assess the probabilities of alternative diagnoses, given a set of symptoms, offer significantly different estimates depending on what they are told the actual diagnosis turned out to be.”).

²³⁸ Donald C. Pennington, *Being Wise After the Event: An Investigation of Hindsight Bias*, 1 CURRENT PSYCHOL. RES. 271, 277 (1981) (finding that outcome knowledge affected subjective likelihood assessments among active political-party members).

²³⁹ See Clifton E. Brown & Ira Solomon, *Effects of Outcome Information on Evaluations of Managerial Decisions*, 62 ACCT. REV. 564, 568-75 (1987) (detailing a study in which knowledge of a corporate committee’s decision and the resulting project outcome affected subjects’ assessment of the project-failure probability); Thomas A. Buchman, *An Effect of Hindsight on Predicting Bankruptcy with Accounting Information*, 10 ACCT. ORGS. & SOC’Y 267, 274 (1985) (finding that a report of bankruptcy “increased the perceived likelihood that it would happen”); Ed Bukszar & Terry Connolly, *Hindsight Bias and Strategic Choice: Some Problems in Learning from Experience*, 31 ACAD. MGMT. J. 628, 637 (1988) (finding that MBA students forecasting the success of an investment decision were unable, once told, to ignore its results); Terry Connolly & Edward W. Bukszar, *Hindsight Bias: Self-Flattery or Cognitive Error?*, 3 J. BEHAV. DECISION MAKING 205, 207 (1990) (outlining a study designed to measure the effects of motivational factors in hindsight bias); Rachlinski, *supra* note 233, at 578 (“[S]ubjects . . . rate the outcome of more ordinary events, such as whether a business would be successful, as more predictable than they are.”).

²⁴⁰ See Chris Guthrie et al., *Inside the Judicial Mind*, 86 CORNELL L. REV. 777, 821 (2001) (“Judges, it seems, are human. Like the rest of us, they use heuristics that can produce systematic errors in judgment.” (footnote omitted)).

²⁴¹ Rachlinski, *supra* note 233, at 595.

judge may “be unaware of the influence that the hindsight bias has on [her] assessment of a party’s ex ante actions.”²⁴²

Hindsight bias can affect litigation. Most notably, Professors Kamin and Rachlinski have demonstrated that if subjects acting as jurors are told that a particular event (in their experiment, flood damage) did in fact occur, then the jurors are significantly more likely to conclude that the defendant was negligent than subjects in a control group who are informed that the event did not occur.²⁴³ As a result, “the defendant’s level of care will seem less reasonable in hindsight than it did in foresight. Reasonableness must be determined from the perspective of the defendant at the time that the precautions were taken, but the hindsight bias ensures that subsequent events will influence that determination.”²⁴⁴ In short, the knowledge of subsequent events clouds one’s ability to evaluate the wisdom of actions that took place before those subsequent events occurred.

Courts have acknowledged the risk of hindsight bias in nonantitrust contexts, including in patent,²⁴⁵ securities,²⁴⁶ and corporate litigation. In some ways, the business judgment rule in corporation law is a guard against hindsight bias. Courts defer to the rationality of corporate decisionmaking through the business judgment rule because they

recognize that after-the-fact litigation is a most imperfect device to evaluate corporate business decisions. The circumstances surrounding a corporate decision are not easily reconstructed in a courtroom years later [A] reasoned decision at the time made may seem a wild hunch viewed years later against a background of perfect knowledge.²⁴⁷

²⁴² *Id.* at 601.

²⁴³ Kim A. Kamin & Jeffrey J. Rachlinski, *Ex Post ≠ Ex Ante: Determining Liability in Hindsight*, 19 LAW & HUM. BEHAV. 89, 98 (1995) (finding that fifty-seven percent of the juror subjects who were told the outcome found the defendant liable as compared to twenty-four percent of the juror subjects in the control group).

²⁴⁴ Rachlinski, *supra* note 233, at 572 (footnote omitted).

²⁴⁵ See *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) (“A factfinder should be aware . . . of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning.”); *Ellicott Mach. Corp. v. United States*, 405 F.2d 1385, 1390 (Ct. Cl. 1969) (“[H]indsight is often difficult to avoid in determining obviousness of inventions . . .”).

²⁴⁶ *DiLeo v. Ernst & Young*, 901 F.2d 624, 628 (7th Cir. 1990) (asserting that a showing of securities fraud requires more than a hindsight-based statement of a firm’s changed circumstances); Rachlinski, *supra* note 233, at 616-18 (explaining that federal courts have prohibited the assignment of liability based on hindsight alone).

²⁴⁷ *Joy v. North*, 692 F.2d 880, 886 (2d Cir. 1982); see also *Wash. Bancorporation v. Said*, 812 F. Supp. 1256, 1267-68 (D.D.C. 1993) (“Courts recognize that even disinterested, well-intentioned, informed directors can make decisions that, in hindsight, were improvident.”).

In short, many legal rules are designed to minimize the prospect of hindsight bias.

Despite their general awareness of hindsight bias, courts to date have failed to recognize the risk of hindsight bias when determining whether a firm's allegedly anticompetitive conduct was plausible. As a result, judges may fall victim to hindsight bias by failing to recognize that alleged anticompetitive behavior may have been rational at its conception even though it failed when implemented. To determine whether or not multiple defendants conspired in violation of section 1 of the Sherman Act or whether a single defendant violated section 2, courts routinely employ a backward-looking "rationality analysis" of the alleged conduct. When the plaintiff's theory is based on a predatory scheme that ultimately fails, federal judges appear susceptible to concluding that the failure of the alleged scheme demonstrates that the scheme must never have existed. Some judges employ the following logic: "If the alleged conspiracy existed, it has failed. The reasonable person (or firm) would have realized at the outset that such a conspiracy would have failed and thus would not have entered into such a conspiracy. Therefore, there was no conspiracy." For example, in *Matsushita*, the Court held that Japanese electronics makers could not have conspired to engage in predatory pricing in an attempt to drive the American manufacturers from the U.S. market because the alleged predation had been going on for twenty years and still had not vanquished all of the American firms.²⁴⁸ The *Matsushita* majority concluded as follows: "The alleged conspiracy's failure to achieve its ends in the two decades of its asserted operation is strong evidence that the conspiracy does not in fact exist."²⁴⁹

²⁴⁸ *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 591 (1986); Jessica L. Goldstein, Note, *Single Firm Predatory Pricing in Antitrust Law: The Rose Acre Recoupment Test and the Search for an Appropriate Judicial Standard*, 91 COLUM. L. REV. 1757, 1767 (1991) ("Because the defendant Japanese firms had failed to achieve monopoly power even two decades after the commencement of the alleged conspiracy, the Court concluded that the conspiracy did not exist.").

²⁴⁹ 475 U.S. at 592; see also Randolph Sherman, *The Matsushita Case: Tightened Concepts of Conspiracy and Predation?*, 8 CARDOZO L. REV. 1121, 1131 (1987) ("The failure of the alleged conspiracy to come any closer to its objective after so long a period was viewed by Justice Powell as 'strong evidence' that no conspiracy ever existed."). The Court attached incorrect significance to the twenty-year time frame when it asserted that "because the alleged losses have accrued over the course of two decades, the conspirators could well require a correspondingly long time to recoup." 475 U.S. at 592. If the predatory price were five percent below the competitive price and the cartel subsequently successfully charged a price thirty percent above the otherwise prevailing market price, twenty years of predatory losses could be recouped in a few years.

The Court engaged in Monday-morning quarterbacking. Falling victim to hindsight bias, the majority seemed unaware of the possibility that a conspiracy existed but had failed. Furthermore, Justice Powell's reasoning assumes that the Japanese manufacturers *planned* to incur twenty years' worth of losses in the American market before they could begin recoupment. In *Kodak*, the Court described the irrationality of the alleged conspiracy in *Matsushita* by asserting that "the defendants had every incentive not to engage in the alleged conduct *which required them to sustain losses for decades* with no foreseeable profits," and thus the *Matsushita* Court properly "found an 'absence of any rational motive to conspire.'"²⁵⁰ Such reasoning bears the hallmarks of classic hindsight bias. If a predatory pricing conspiracy did exist, it is possible that the Japanese firms initially predicted that they could corner the U.S. market in far less time, incurring far fewer losses. That this prediction proved false does not mean that an initial agreement to engage in predatory pricing was irrational, let alone that such a conspiracy did not exist as a matter of law. Ultimately, the Supreme Court never considered the *ex ante* position of the alleged conspirators. Moreover, the Court's characterization that the conspiracy required sustained losses smacks of hindsight bias. The conspirators—if a conspiracy did in fact exist—may have expected to succeed much sooner. Yet the Court knew at the time of the litigation that the conspiracy had failed to achieve its goals after twenty years, which colored the Court's view of the inevitability of that failure and consequently the implausibility of the conspiracy from the outset.

In sum, the risk of hindsight bias presents another reason why federal judges should not be in the business of determining whether alleged anticompetitive conduct is plausible as a matter of law. The rationality of a business strategy should be determined *ex ante*. But judges—and certainly a majority of Justices in *Matsushita*—do not (and perhaps cannot) analyze rationality *ex ante* but instead employ *ex post* reasoning. Corporate decisionmakers may undertake projects that seem irrational in hindsight but appeared potentially profit maximizing when the firm made the decision. After the fact, judges may not be particularly good arbiters of what constitutes rational *ex ante* business decisionmaking.

²⁵⁰ Eastman Kodak Co. v. Image Technical Servs., Inc., 504 U.S. 451, 468 (1992) (emphasis added) (quoting *Matsushita*, 475 U.S. at 597).

2. Confirmation Bias

Judges may also fall victim to confirmation bias. Confirmation bias is a cognitive bias that limits people's ability to dispassionately find and interpret evidence. When affected by confirmation bias, people seek out evidence that confirms their prior beliefs²⁵¹ and assign more weight to such evidence.²⁵² More importantly, confirmation bias causes people "to miss or irrationally undervalue disconfirming information."²⁵³ As a result, confirmation bias undermines an observer's neutral processing of information in a dispute.²⁵⁴

Confirmation bias is well documented.²⁵⁵ Empirical research suggests "that people are incapable of evaluating the strength of evidence independent of their prior beliefs."²⁵⁶ Studies have found confirmation bias in trained scientists,²⁵⁷ doctors,²⁵⁸ and prosecutors.²⁵⁹ The bias

²⁵¹ See, e.g., SCOTT PLOUS, *THE PSYCHOLOGY OF JUDGMENT AND DECISION MAKING* 233 (1993) ("[Confirmation bias] usually refers to a preference for information that is consistent with a hypothesis rather than information which opposes it."); ARTHUR S. REBER, *THE PENGUIN DICTIONARY OF PSYCHOLOGY* 151 (2d ed. 1995) (defining confirmation bias as "[t]he tendency to seek and interpret information that confirms existing beliefs").

²⁵² See Dan M. Kahan, *The Cognitively Illiberal State*, 60 *STAN. L. REV.* 115, 121 n.26 (2007) ("[C]onfirmation bias . . . refers to the tendency of persons to seek out and assign more weight to evidence that confirms a prior belief or hypothesis than to evidence disconfirming it." (internal quotation marks omitted)); Simon Stern, *Constructive Knowledge, Probable Cause, and Administrative Decisionmaking*, 82 *NOTRE DAME L. REV.* 1085, 1121 (2007) ("Confirmation bias leads people to accentuate the positive thrust of evidence that accords with their expectations or desires, and to minimize the thrust of evidence to the contrary.").

²⁵³ Keith A. Findley & Michael S. Scott, *The Multiple Dimensions of Tunnel Vision in Criminal Cases*, 2006 *WIS. L. REV.* 291, 309; see also *id.* at 313 ("Indeed, studies show that, in some circumstances, people do not respond to information at variance with their beliefs by simply ignoring it, but rather by working hard to examine it critically so as to undermine it."); Michael A. McCann, *It's Not About the Money: The Role of Preferences, Cognitive Biases, and Heuristics Among Professional Athletes*, 71 *BROOK. L. REV.* 1459, 1460 (2006) ("[B]ecause of confirmation bias, individuals are subject to ignore or discount information that challenges existing beliefs.").

²⁵⁴ See Robert Prentice, *Enron: A Brief Behavioral Autopsy*, 40 *AM. BUS. L.J.* 417, 424 (2003) ("[P]eople tend to be subject to the *confirmation bias* in that they seek out and process information in such a way as to confirm preexisting beliefs rather than in a more optimally neutral manner.").

²⁵⁵ See generally Raymond S. Nickerson, *Confirmation Bias: A Ubiquitous Phenomenon in Many Guises*, 2 *REV. GEN. PSYCHOL.* 175 (1998) (presenting and analyzing examples of confirmation bias in various contexts).

²⁵⁶ Alafair S. Burke, *Improving Prosecutorial Decision Making: Some Lessons of Cognitive Science*, 47 *WM. & MARY L. REV.* 1587, 1596 (2006).

²⁵⁷ See Prentice, *supra* note 254, at 424 n.29 ("Because of the confirmation bias, even trained scientists tend to find articles that agree with their positions to be of higher quality than articles that disagree with their positions." (citing Jonathan J.

is driven in part by people's "desire to have their own beliefs confirmed."²⁶⁰ Confirmation bias is not solely driven by the observer having a financial or other personal stake in the outcome of the debate, as studies have found that people exhibit confirmation bias "even when they have no vested interest in those hypotheses."²⁶¹

In theory, legal standards should provide a bulwark against confirmation bias. In reviewing a defendant's motion for summary judgment, the district court judge is not to weigh the evidence presented by both sides but only to determine whether the plaintiff has presented enough evidence to create a genuine issue of material fact. For example, the *Matsushita* opinion defined its task as reviewing "only the standard applied by the Court of Appeals in deciding this case, and not the weight assigned to particular pieces of evidence."²⁶² In reviewing a defendant's motion for judgment notwithstanding a jury verdict for the plaintiff, the court is to interpret all of the evidence in the light most favorable to the plaintiff.²⁶³

However, the *Matsushita* decision invites federal judges to weigh the evidence and to do so in a manner that favors antitrust defendants. At the outset, the *Matsushita* Court encouraged judges to reflect on the likelihood of the plaintiffs' antitrust allegations and indicated that "if the factual context renders [plaintiffs'] claim implausible—if the claim is one that simply makes no economic sense—[plaintiffs] must come forward with more persuasive evidence to support their claim than would otherwise be necessary."²⁶⁴ The

Koehler, *The Influence of Prior Beliefs on Scientific Judgments of Evidence Quality*, 56 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 28, 47 (1993)); Lisa J. Steele, *Trying Cases of Mistaken Identity: Advice to Connecticut Counsel Following State v. Ledbetter*, 25 QUINNIPIAC L. REV. 799, 814 (2007) ("Confirmation bias has caused famous scientists to fail to report easily-visible phenomena that don't fit their expectations and to observe non-existent phenomena." (footnote omitted)).

²⁵⁸ See Nickerson, *supra* note 255, at 192-93 (examining the effect of diagnosticians formulating a small set of hypotheses early in the diagnostic process).

²⁵⁹ Findley & Scott, *supra* note 253, at 315 ("[E]ven when presented with DNA evidence proving that semen taken from a sexual assault victim could not have come from the defendant, prosecutors sometimes persist in their guilt judgments and resist relief for the defendant." (citing Daniel S. Medwed, *The Zeal Deal: Prosecutorial Resistance to Post-Conviction Claims of Innocence*, 84 B.U. L. REV. 125, 129 (2004))).

²⁶⁰ Cass R. Sunstein, *If People Would Be Outraged by Their Rulings, Should Judges Care?*, 60 STAN. L. REV. 155, 176 n.67 (2007).

²⁶¹ Findley & Scott, *supra* note 253, at 311.

²⁶² *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 577 (1986).

²⁶³ See, e.g., *Fineman v. Armstrong World Indus., Inc.*, 980 F.2d 171, 194 (3d Cir. 1992).

²⁶⁴ 475 U.S. at 587.

opinion essentially instructs judges to utilize their own conceptions of business rationality as a lens through which to view the evidence that supports a plaintiff's case. Judge Posner has opined that "summary judgment for a defendant is proper, even if there is some evidence of an antitrust violation, if the plaintiff's theory of violation makes no economic sense. This has to be the right rule . . ." ²⁶⁵ As a result, if the plaintiff's theory of the case conflicts with the judge's own view of how businesses operate, the latter theory will prevail even if the plaintiff provides evidence to support its allegations. ²⁶⁶

Some recent antitrust opinions provide evidence of confirmation bias affecting judicial decisionmaking. For example, in *In re Baby Food Antitrust Litigation*, ²⁶⁷ the plaintiffs alleged that three major baby food manufacturers—Gerber, Beech-Nut, and Heinz—participated in a conspiracy to raise and stabilize the price of baby food in what the court described as a "highly concentrated nationwide industry" in which the three defendants "account[ed] for over 98% of all baby food products manufactured and sold in the United States." ²⁶⁸ After showing that the defendants' prices were increasing in tandem, the plaintiffs presented evidence of pricing coordination through information exchanges. ²⁶⁹ This is a classic form of cartel behavior. ²⁷⁰ For example, the defendants' salespeople informed their counterparts at their competitors of planned—yet unannounced—price increases. In particular, Gerber knew of Beech-Nut's price increases in the spring of 1989 before they were announced to the industry. ²⁷¹ Similarly, "Beech-Nut had advance knowledge of a planned February 1990 Gerber list price increase as early as two months and no less than eight days before its announcement to the industry on December 28, 1989." ²⁷² In at least one instance, Beech-Nut had in its possession a Gerber memorandum detailing the latter's planned price increases, and even though each page was stamped "HIGHLY CONFIDEN-

²⁶⁵ *In re Brand Name Prescription Drugs Antitrust Litig.*, 123 F.3d 599, 614 (7th Cir. 1997) (Posner, J.) (citations omitted) (citing *Matsushita*, 475 U.S. at 587; *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 467-69 (1992)).

²⁶⁶ While it is reasonable for courts to require more proof when the plaintiff asserts implausible facts, it is wrong for courts to ignore actual evidence. Section IV.B will provide several examples of this phenomenon.

²⁶⁷ 166 F.3d 112 (3d Cir. 1999).

²⁶⁸ *Id.* at 116.

²⁶⁹ *Id.* at 118-23.

²⁷⁰ See generally Leslie, *supra* note 111.

²⁷¹ *In re Baby Food*, 166 F.3d at 119.

²⁷² *Id.*

TIAL,” Beech-Nut had the pricing memorandum at least a week before the information was made public.²⁷³ In some cases, Gerber knew of Beech-Nut’s planned price increases before Beech-Nut’s own brokers and sales force.²⁷⁴ One e-mail documented a discussion between Beech-Nut and Gerber managers about price increases, and the e-mail was circulated among Gerber managers.²⁷⁵ An internal Heinz memorandum referred to the difficulty of supplying some retailers because the “truce” in effect meant that their “hands were tied.”²⁷⁶ Additionally, the plaintiffs’ expert explained how the available evidence demonstrated the likelihood of illegal price fixing.²⁷⁷

The court’s reasoning and result in *In re Baby Food Antitrust Litigation* seems infected with confirmation bias. Despite proof that competitors exchanged price information, the Third Circuit concluded that the plaintiffs presented “hardly a scintilla of evidence of concerted, collusive conduct.”²⁷⁸ To reach this result, the court minimized the import of the presented evidence by asserting that “[e]vidence of sporadic exchanges of shop talk among field sales representatives who lack pricing authority is insufficient to survive summary judgment.”²⁷⁹ Such cavalier dismissal seems odd for several reasons. First, this was not mere “shop talk,” but rather competitors divulging planned future price increases, a quintessential area of antitrust concern. Second, the court glossed over the fact that the information about future planned price increases did, in fact, make it to the executives with pricing authority and that the firms actually had policies of funneling this pricing information to those top executives.²⁸⁰ In a similar vein, the court declined to assign any probative value to the internal memorandum referring to a “truce” among the baby food manufacturers because the author of the memorandum did not have the authority to set prices.²⁸¹ But, again, this misconstrues the import of the memorandum, which is that (according to one reasonable reading) it memorialized the existence of a price-fixing agreement regardless of whether the memorandum’s author set the

²⁷³ *Id.*

²⁷⁴ *Id.* at 120.

²⁷⁵ *Id.*

²⁷⁶ *Id.*

²⁷⁷ *Id.* at 122-23.

²⁷⁸ *Id.* at 137.

²⁷⁹ *Id.* at 125.

²⁸⁰ See *id.* at 118-19, 121 (discussing policies of passing information to supervisors and claiming that such evidence is unpersuasive).

²⁸¹ *Id.* at 127.

price. The majority also mischaracterized the exchange of sensitive pricing plans as mere “shop talk”²⁸² and ignored the plaintiffs’ “extensive circumstantial evidence.”²⁸³ The court claimed to draw all inferences in the plaintiffs’ favor,²⁸⁴ but it is difficult to reconcile that claim with the court’s treatment of the evidence presented. The court’s manipulation of the evidentiary standards and its vigorous efforts to assemble a benign explanation for highly suspicious conduct bears the hallmarks of confirmation bias, as the court’s own interpretation trumped both expert testimony and direct evidence of price coordination. This confirmation bias caused the court ultimately to deny plaintiffs the opportunity to prove the conspiracy’s existence to a jury.

IV. “IMPLAUSIBLE” ANTITRUST VIOLATIONS

Part III explored a litany of reasons why federal judges may not be particularly well equipped to distinguish whether alleged anticompetitive conduct is rational or implausible. That Part explained that if courts perceive the anticompetitive conduct alleged by the plaintiff to be irrational or implausible, then judges hold (often erroneously) that the conduct must not have occurred and thus the defendant is entitled to summary judgment or judgment notwithstanding a jury verdict for the plaintiff. Part IV substantiates the arguments made in Part III by examining several recent antitrust decisions in which courts held that the plaintiff’s theory of anticompetitive conduct made “no economic sense.”²⁸⁵ These cases include claims of predatory pricing, price-fixing conspiracies, group boycotts of a supplier, and conspiracies to conceal invalid patents. In each of these decisions, the court committed one or more of the errors detailed in Part III. Most of these opinions share two common flaws. First, the court found the alleged conduct to be implausible despite strong—and sometimes irrefutable—evidence that the conduct in fact occurred. Second, most cases involved garden-variety antitrust violations, examples of which had been well documented in antitrust history, thereby making the notion that the plaintiff’s allegations were implausible itself implausible.

²⁸² *Id.* at 125.

²⁸³ *Id.* at 118.

²⁸⁴ *Id.* at 138.

²⁸⁵ *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986).

A. Predatory Pricing

As established in Parts I and III, courts routinely hold plaintiffs' allegations of predatory pricing to be implausible because judges view the alleged conduct as irrational. In *Matsushita*, the majority reasoned that predatory pricing "makes no economic sense" because the alleged conspiracy in that case failed.²⁸⁶ However, in some later opinions invoking *Matsushita*, the court's pronouncement of implausibility is belied by the very success of the alleged predation. For example, in *Brooke Group*, Liggett alleged that B&W engaged in predatory pricing in order to coerce Liggett into increasing the prices of generic cigarettes, which would allow B&W and the other tobacco firms to raise prices of branded cigarettes.²⁸⁷ The Supreme Court found Liggett's theory to be implausible because it would have required B&W to engage in allegedly irrational conduct—sustaining definite losses with a speculative likelihood of recoupment.²⁸⁸ Despite the fact that Liggett convinced a jury otherwise, the Supreme Court majority held that the predation as described by Liggett could not have happened as a matter of law.²⁸⁹

The *Brooke Group* majority found Liggett's theory implausible for a number of reasons. First, B&W would have to have borne the costs of predation, and the other tobacco companies would have been able to free ride.²⁹⁰ This struck the majority as an irrational move for B&W.²⁹¹ Second, the plaintiffs could not show that the price of generics would rise sufficiently for B&W to rationally incur the losses associated with predatory pricing.²⁹² Third, the Court found it implausible that B&W could recoup the losses sustained in the generic-cigarette market through tacit oligopoly pricing in the branded-cigarette market.²⁹³ Given the Court's view of the implausibility of each of these events, the majority held that B&W must not have engaged in predatory pricing as a matter of law.²⁹⁴

²⁸⁶ *Id.* at 587, 592.

²⁸⁷ *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 212, 217 (1993).

²⁸⁸ *Id.* at 243.

²⁸⁹ *Id.*

²⁹⁰ *Id.* at 230-32.

²⁹¹ *Id.*

²⁹² *Id.* at 232.

²⁹³ *Id.* at 241.

²⁹⁴ *Id.* at 243.

In contrast to the *Matsushita* plaintiffs, though, the *Brooke Group* plaintiffs presented direct evidence at trial to refute each link of the chain in the majority's implausibility logic. First, the trial evidence showed that B&W did, in fact, charge a below-cost price for eighteen months, as alleged by Liggett.²⁹⁵ Indeed, "B&W's own economic experts conceded at trial that B&W had priced below average variable cost."²⁹⁶ Furthermore, it was entirely rational for B&W to bear the cost of predation because it was bearing the brunt of the losses that Liggett's generic-cigarette strategy was inflicting on the market for branded cigarettes. As the majority itself acknowledged, "the growth of generics came at the expense of the other firms' profitable sales of branded cigarettes. B&W was hardest hit, because many of B&W's brands were favored by consumers who were sensitive to changes in cigarette prices."²⁹⁷ Moreover, B&W targeted its predatory pricing by giving the largest discounts to Liggett's largest customers.²⁹⁸ Thus, B&W had more to lose if Liggett succeeded and more to gain if Liggett were brought back into the fold. Second, Liggett did capitulate and increase the price of generic cigarettes in response to B&W's predation. B&W and the other cigarette manufacturers followed Liggett's lead, and the price of generics increased more than seventy percent between 1985 and 1989.²⁹⁹ Third, after Liggett increased the price of generic cigarettes, the price of branded cigarettes increased dramatically. Over the next four years, the list price of all cigarettes—branded and generic—increased twice each year in lockstep fashion by identical amounts.³⁰⁰ In the aftermath of B&W's predation, "the prices for branded and generic cigarettes increased every six months from \$33.15 and \$19.75, respectively, to \$46.15 and \$33.75."³⁰¹ Thus, within a period of a few years, the list price of previously low-priced

²⁹⁵ See *id.* at 231 ("There is also sufficient evidence in the record from which a reasonable jury could conclude that for a period of approximately 18 months, [B&W]'s prices on its generic cigarettes were below its costs . . .").

²⁹⁶ Kenneth L. Glazer, *Predatory Pricing and Beyond: Life After Brooke Group*, 62 ANTITRUST L.J. 605, 614 (1994).

²⁹⁷ *Brooke Group*, 509 U.S. at 214.

²⁹⁸ See *id.* at 249 n.10 (Stevens, J., dissenting) ("By offering its largest discounts to Liggett's 14 largest customers, B&W not only put its money where the volume is, but also applied maximum pressure to Liggett at a lesser cost to itself than would have resulted from a nondiscriminatory price cut." (citation omitted) (internal quotation marks omitted)).

²⁹⁹ See Bolton, Brodley & Riordan, *supra* note 150, at 2257 ("The list price of non-branded black and whites rose by seventy-one percent . . .").

³⁰⁰ *Brooke Group*, 509 U.S. at 249-50 (Stevens, J., dissenting).

³⁰¹ *Id.* at 258.

generic cigarettes was actually higher than the prepredation price of branded cigarettes. The price increases far outpaced inflation³⁰² as well as any increases in the manufacturers' costs, taxes, and promotional expenditures.³⁰³

The *Brooke Group* majority dismissed the evidence of the success of the predation as failing to establish the plausibility of the anticompetitive scheme articulated by Liggett.³⁰⁴ The Court stated that "[t]he evidence is inadequate to show that in pursuing this scheme, [B&W] had a reasonable prospect of recovering its losses from below-cost pricing through slowing the growth of generics."³⁰⁵ Even though prices had risen, the majority asserted that "no evidence suggests that [B&W] . . . was likely to obtain the power to raise the prices for generic cigarettes above a competitive level."³⁰⁶ Thus, "[n]o inference of recoupment is sustainable on this record."³⁰⁷ But prices did in fact rise substantially—in both the generic and branded markets.³⁰⁸ The Court attempted to diminish this fact by asserting that "rising prices do not themselves permit an inference of a collusive market dynamic. . . . [R]ising prices are equally consistent with growing product demand."³⁰⁹ The Court suggested that, given this possibility, the jury could not infer that increased prices were supracompetitive prices.³¹⁰ But in fact, overall demand for cigarettes was decreasing³¹¹ and the evidence at trial showed that the postpredation "price increases were unwarranted by increases in manufacturing or other costs, taxes, or promotional expenditures."³¹² Prices were increasing significantly above their prior levels despite the fact that costs did not increase; that is strong evidence of supracompetitive pricing.

³⁰² See Glazer, *supra* note 296, at 617-18 ("Specifically, record evidence showed that from June 1984 to December 1989 the list price of all cigarettes, including branded, generic, and subgeneric, weighted according to volume, went up 61 percent at a time when inflation was only 20 percent, demand was falling, and costs were basically constant.").

³⁰³ See *Brooke Group*, 509 U.S. at 235 (noting Liggett's economic expert's testimony that prices increased more quickly than these costs).

³⁰⁴ *Id.* at 231.

³⁰⁵ *Id.*

³⁰⁶ *Id.* at 232.

³⁰⁷ *Id.*

³⁰⁸ See *id.* at 258 (Stevens, J., dissenting).

³⁰⁹ *Id.* at 237 (majority opinion).

³¹⁰ *Id.*

³¹¹ See Glazer, *supra* note 296, at 619 ("[T]he cigarette market as a whole was experiencing declining demand and excess capacity during the relevant period.").

³¹² *Brooke Group*, 509 U.S. at 250 (Stevens, J., dissenting).

Next, the Court asserted that B&W could not have planned on these price increases when allegedly initiating a predatory pricing strategy because “the situation facing the cigarette companies in the 1980’s would have made such tacit coordination unmanageable.”³¹³ The Court’s assertion, however, is contrary to economic theory, business history, and common sense. The American tobacco market is a textbook example of a market where tacit coordination occurs: a concentrated market consisting of a handful of firms that, over the last century, have operated at times as a well-heeled cartel and otherwise as a well-disciplined oligopoly that imposed lockstep price increases unrelated to costs every six months and had done so for years before the alleged predation.³¹⁴ It would be perfectly plausible for B&W to anticipate that the other manufacturers of branded cigarettes would raise their prices in unison, as they had done for decades and as they in fact did after Liggett raised the price of generics.³¹⁵ For the *Brooke Group* majority to assert that tacit coordination could not work in the American tobacco market is tantamount to claiming that there is no such thing as tacit coordination, period.

Ultimately, the Court concluded “that the evidence cannot support a finding that [B&W]’s alleged scheme was likely to result in oligopolistic price coordination and sustained supracompetitive pricing in the generic segment of the national cigarette market. Without this, [B&W] had no reasonable prospect of recouping its predatory

³¹³ *Id.* at 238 (majority opinion).

³¹⁴ The majority itself acknowledged this history:

The cigarette industry also has long been one of America’s most profitable, in part because for many years there was no significant price competition among the rival firms. List prices for cigarettes increased in lockstep, twice a year, for a number of years, irrespective of the rate of inflation, changes in the costs of production, or shifts in consumer demand. Substantial evidence suggests that in recent decades, the industry reaped the benefits of prices above a competitive level, though not through unlawful conduct of the type that once characterized the industry.

Id. at 213 (citations omitted); *see also* Glazer, *supra* note 296, at 609 (“[S]uccess for B&W did not depend on bringing about supracompetitive prices for the first time; they already existed and merely needed to be protected.”).

³¹⁵ In dissent, Justice Stevens opined that,

On this point, there is ample, uncontradicted evidence that the list prices on generic cigarettes, as well as the prices on branded cigarettes, rose regularly and significantly during the late 1980’s, in a fashion remarkably similar to the price change patterns that characterized the industry in the 1970’s when supracompetitive, oligopolistic pricing admittedly prevailed.

Brooke Group, 509 U.S. at 255 (Stevens, J., dissenting).

losses”³¹⁶ Thus, the Court held that B&W had no reasonable prospect of recoupment despite the fact that the evidence at trial showed that B&W did in fact recoup. If anything positive can be said of the majority’s opinion, it is that the Court did not fall victim to hindsight bias—proof of success did not shake the majority’s assertion that profitable predatory conduct is implausible.

Brooke Group illustrates many of the arguments from Part III explaining why judges are ill-equipped to evaluate whether alleged anti-competitive predation is plausible. For example, seven years after *Matsushita*, the Court remained unaware of post-Chicago literature in economics and game theory that explains how predatory pricing can be a profit-maximizing business strategy. The Court was also apparently oblivious of past successes of predatory pricing as well as tacit coordination in concentrated industries.

Further, the Court’s opinion exhibits confirmation bias in that the majority ignored any evidence inconsistent with its view that predatory pricing does not happen. For example, in *Brooke Group*, the majority discounted the opinion of Liggett’s expert. The Court began by diminishing the value of experts, noting that “[e]xpert testimony is useful as a guide to interpreting market facts, but it is not a substitute for them.”³¹⁷ The Court’s claimed allegiance to the facts seems strained given that the Court ultimately based its decision not on facts actually found or resolved in favor of the nonmovant but on its view of the theoretical implausibility of recoupment.³¹⁸ The majority opinion noted that

Liggett’s expert based his opinion that [B&W] had a reasonable prospect of recouping its predatory losses on three factors: [B&W]’s black and white pricing structure, corporate documents showing an intent to shrink the price differential between generic and branded cigarettes, and evidence of below-cost pricing.³¹⁹

But the Court immediately discounted all of this evidence, instead concluding that such “evidence is insufficient as a matter of law to . . . sustain the jury’s verdict.”³²⁰

Although the Supreme Court has declared that “theory will not stand in the way of liability” in predatory pricing cases,³²¹ it has done

³¹⁶ *Id.* at 243 (majority opinion).

³¹⁷ *Id.* at 242.

³¹⁸ See *supra* notes 46-52 and accompanying text.

³¹⁹ *Brooke Group*, 509 U.S. at 242-43.

³²⁰ *Id.* at 243.

³²¹ *Id.* at 229.

just that in many antitrust opinions. For example, if a federal judge believes that “a plaintiff’s predatory pricing claim is implausible”—which she essentially must since the Supreme Court said so in both *Matsushita*³²² and *Brooke Group*³²³—then “actual cost data indicating below-cost pricing is the only evidence . . . sufficient to survive a summary judgment motion.”³²⁴ But many courts refuse even to look at the plaintiff’s direct evidence of below-cost pricing if the judge finds the plaintiff’s theory of recoupment implausible.³²⁵ Thus, predatory pricing plaintiffs are stuck in a Catch-22: because courts perceive predatory pricing as irrational, the plaintiff must have direct evidence, but because courts perceive predatory pricing as irrational, they disregard direct evidence of predation. By relying on a constrained and outdated theory, federal judges have put predatory pricing plaintiffs in an untenable position.

B. *Price-Fixing Conspiracies*

Because price fixing among competitors is per se illegal, the sole liability question in price-fixing litigation is whether the defendants actually conspired to fix prices.³²⁶ A plaintiff can prove an illegal price-fixing agreement with direct evidence, such as recordings of the actual price-fixing meetings, as in the lysine conspiracy.³²⁷ In the absence of direct evidence, antitrust plaintiffs can establish an agreement by proving that the defendants engaged in parallel conduct

³²² *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986).

³²³ *Brooke Group*, 509 U.S. at 239.

³²⁴ *N.C. Elec. Membership Corp. v. Carolina Power & Light Co.*, 780 F. Supp. 322, 335 (M.D.N.C. 1991).

³²⁵ See, e.g., *A.A. Poultry Farms, Inc. v. Rose Acre Farms, Inc.*, 881 F.2d 1396, 1401-04 (7th Cir. 1989) (asserting that recoupment was not possible in the egg industry); see also Page I. Austin, *Predatory Pricing Law Since Matsushita*, 58 ANTITRUST L.J. 895, 898 (1990) (“Judge Easterbrook emphasized that if market structure makes it impossible for the defendant to recoup a predatory investment, then the defendant is entitled to judgment as a matter of law regardless of whether it priced below its costs, and even if it had the most evil of intents.”). Judge Easterbrook relies on a recoupment requirement to hold that there is no market harm from predatory pricing absent recoupment. In a draft paper, *Reconsidering the Recoupment Requirement in Predatory Pricing*, I argue that this is incorrect.

³²⁶ Beyond the issue of liability, the plaintiff must also prove that it suffered anti-trust injury and that it is an appropriate plaintiff to pursue the antitrust claim.

³²⁷ See CONNOR, *supra* note 114, at 230 (“For Andreas, the FBI played excerpts of meetings on a tape recorder on which [the conspirators] say incriminating things.”).

(“conscious parallelism”³²⁸) and that the presence of so-called “plus factors” suggests that the parallel conduct was the product of an agreement among the defendants rather than independent action.³²⁹ Examples of “‘plus factors’ include actions contrary to a defendant’s economic self-interest, product uniformity, exchange of price information and opportunity to meet, and a common motive to conspire or a large number of communications.”³³⁰ It is in evaluating plus factors that courts sometimes inappropriately invoke rationality analysis or claims of implausibility to conclude that no reasonable jury could find a conspiracy among the defendants to fix prices.

1. Tobacco

Courts have employed a constrained version of rationality analysis to reject price-fixing claims that are supported by relatively strong evidence. For example, in *Williamson Oil Co. v. Philip Morris USA*, wholesalers that purchased cigarettes for resale brought a class action lawsuit against tobacco companies, accusing them of price fixing.³³¹ Although the American tobacco market had long been characterized by episodes of illegal price fixing and tacit collusion, by the early 1990s the introduction of discount cigarettes had undermined price stability.³³² According to the wholesalers, Philip Morris responded to this price instability by dropping its price considerably in order to discipline its previously price-cutting competitors and to recreate the tobacco price-fixing cartel of prior eras.³³³ Following Philip Morris’s dramatic price decrease, prices for tobacco rose in a lockstep fashion semiannually, for a total of twelve parallel price increases between 1995 and 2000.³³⁴

³²⁸ See *In re Baby Food Antitrust Litig.*, 166 F.3d 112, 121 (3d Cir. 1999) (“In the absence of direct evidence, the plaintiffs may nevertheless support their claim with circumstantial evidence of conscious parallelism.”).

³²⁹ See *Blomkest Fertilizer, Inc. v. Potash Corp. of Saskatchewan*, 203 F.3d 1028, 1033 (8th Cir. 2000) (en banc) (“An agreement is properly inferred from conscious parallelism only when certain ‘plus factors’ exist.”); *Wallace v. Bank of Bartlett*, 55 F.3d 1166, 1168 (6th Cir. 1995) (“[P]arallel pricing, without more, does not itself establish a violation . . . Courts require additional evidence which they have described as ‘plus factors.’”).

³³⁰ *Wallace*, 55 F.3d at 1168 (citations omitted).

³³¹ 346 F.3d 1287 (11th Cir. 2003).

³³² See *supra* notes 34-48, 287-316, and accompanying text.

³³³ *Williamson Oil*, 346 F.3d at 1293-94.

³³⁴ *Id.* at 1294.

The class pointed to a slew of evidence suggesting that the parallel price increases were the result of an underlying agreement among the tobacco firms to stabilize prices. For example, the class explained how the rival firms sent market signals to increase prices, how they implemented “permanent allocation programs” that reduced output despite excess capacity, and how the competitors used a common consultant to track each other’s shipments and prices to help monitor and enforce a price-fixing agreement.³³⁵ The class noted that the tobacco firms had a long history of illegal price fixing in the United States, and the plaintiffs also alleged that during the 1990s, the defendants maintained explicit ongoing price-fixing agreements in other countries, including Argentina, Canada, Costa Rica, France, Hungary, Saudi Arabia, and Venezuela.³³⁶ The Eleventh Circuit acknowledged that the American tobacco market represented a “classic oligopoly.”³³⁷ The class explained how this market structure—including concentrated sellers, inelastic demand, high barriers to entry, and fungible products—facilitated illegal cartelization.³³⁸ The class also highlighted the defendants’ numerous opportunities to conspire and argued that the firms performed little analysis before their price hikes, suggesting that the price increases were made pursuant to a conspiracy among competitors rather than independent decisionmaking.³³⁹

Despite this evidence, the Eleventh Circuit concluded that “the class ha[d] not carried its burden of demonstrating the existence of a plus factor.”³⁴⁰ Furthermore, the court asserted that the “allegations of collusive price fixing are economically untenable.”³⁴¹ Because cigarette prices were lower in 2000 than they were before Philip Morris dramatically dropped its price in 1993, the court concluded that “the class’s conspiracy theory is utterly implausible.”³⁴² The opinion represents a classic example of federal judges relying on their own conception of rational business behavior to deny antitrust plaintiffs their day in court.

The *Williamson Oil* decision seems to evidence many of the problems discussed in Part III. First, the court fell victim to hindsight bias

³³⁵ *Id.* at 1295-96.

³³⁶ *Id.* at 1296.

³³⁷ *Id.* at 1291.

³³⁸ *Id.* at 1296.

³³⁹ *Id.*

³⁴⁰ *Id.* at 1320.

³⁴¹ *Id.*

³⁴² *Id.* at 1323.

by concluding that because the alleged conspiracy did not raise prices sufficiently, the accusation of price fixing was “untenable” and “implausible.”³⁴³ The fact that price did not rise as much as the court thought it would have had there been a conspiracy does not render the wholesalers’ claim implausible. The court did not consider that Philip Morris may have been overconfident in its ability to raise prices higher through price fixing. If so, antitrust liability still attaches. Antitrust law imposes no requirement that price fixing be net profitable for a cartel ringleader in order for price-fixing plaintiffs to recover damages for the cartel overcharges that they paid.

Second, the court failed to consider that Philip Morris may have been pursuing other goals beyond strict short-term profit maximization. Although the court acknowledged that Philip Morris’s concern about its declining market share spurred the firm to slash its price, the court’s rationality analysis focused exclusively on profits, not market share. But Philip Morris may have been balancing the two goals by trying to preserve its market share while fixing the price as much as possible. By focusing exclusively on price, the court failed to appreciate that Philip Morris may have actually achieved its initial goal: preserving market share first and then stabilizing price through price fixing. After all, as shown by its initial price-cutting decision, Philip Morris was clearly willing to trade profits for market share.

Finally, the court’s opinion exhibits a lack of awareness that cartel leaders often use price wars as a mechanism of cartel formation and discipline. The most enduring public cartel of the twentieth century—the diamond cartel—also relied on the threat (and execution) of price predation to rein in defectors. For example, when President Mobutu Sese Seko of Zaire began to sell his country’s industrial diamonds outside of the cartel led by DeBeers, the South African company responded by flooding the international market with industrial diamonds.³⁴⁴ After DeBeers’s move caused the price of diamonds to plummet from \$3.00 per carat to below \$1.80—imposing significant losses on both Zaire and DeBeers for the two years of predation—the Zairian government requested readmission into the cartel.³⁴⁵ DeBeers allowed Zaire to rejoin the cartel only on less favorable terms, which Zaire accepted as its punishment.³⁴⁶ Given that DeBeers used the price war—which cost the diamond cartelists millions of dollars—to

³⁴³ *Id.* at 1320, 1323.

³⁴⁴ DEBORA L. SPAR, *THE COOPERATIVE EDGE* 62 (1994).

³⁴⁵ *Id.* at 62-63.

³⁴⁶ *Id.* at 63.

great effect, it is far from implausible that Philip Morris may have thought that it could use a price war to similar cartel-stabilizing effect.

2. Citric Acid

While the *Williamson Oil* court found the plaintiffs' price-fixing complaint implausible because price did not rise sufficiently to make the conspiracy worthwhile in the court's view, other courts have also found price-fixing claims unbelievable even when the underlying cartel was thoroughly successful until it was exposed. For example, we know for a fact that a conspiracy existed to fix prices and allocate market share in the market for citric acid. The Department of Justice's (DOJ) Antitrust Division exposed the cartel, and several firms pleaded guilty to criminal price fixing and paid tens of millions of dollars in criminal fines.³⁴⁷ However, one major supplier of citric acid, Cargill, did not plead guilty and was not prosecuted by the DOJ.³⁴⁸ So the question remained whether Cargill participated in the citric acid conspiracy.

Manufacturers that purchased citric acid as an ingredient for their products sued the citric acid producers for price fixing.³⁴⁹ Cargill had been granted summary judgment on the ground that insufficient evidence linked it to the proven price-fixing conspiracy.³⁵⁰ To make their case that Cargill participated in the cartel, the plaintiffs focused the court's attention on Cargill's pricing decisions and its relationship with its convicted competitors.³⁵¹ The court noted that Cargill increased prices in "nearly identical" lockstep with its price-fixing competitors.³⁵² The plaintiffs argued that this was suspicious because Cargill was a member of the European Citric Acid Manufacturer's Association (ECAMA), which the convicted firms had used as a cover for their price-fixing conspiracy.³⁵³ Furthermore, Cargill had exchanged price information with its (later convicted) competitors and possessed copies of their price lists.³⁵⁴ Cargill had held meetings and phone conversations with the people running the citric acid cartel, in-

³⁴⁷ See CONNOR, *supra* note 114, at 365 ("A couple of days later, ADM paid a \$30 million fine for its role in price fixing in the market for citric acid, an amount that reflected a hefty discount for its cooperation with prosecutors.").

³⁴⁸ *Id.* at 381-83.

³⁴⁹ *In re Citric Acid Litig.*, 191 F.3d 1090, 1092 (9th Cir. 1999).

³⁵⁰ *Id.* at 1093.

³⁵¹ See *id.* at 1102.

³⁵² *Id.*

³⁵³ *Id.* at 1104.

³⁵⁴ *Id.* at 1103.

cluding the ADM employee, Barrie Cox, who ran the cartel and testified that he had discussions with a Cargill employee regarding the “bidding price for certain [citric acid] accounts.”³⁵⁵

The plaintiffs also highlighted Cargill’s suspicious behavior with respect to its output. In early 1992, Cargill issued a press release announcing that it was going to double its capacity for making citric acid.³⁵⁶ In the late 1990s, however, Cargill reduced its planned increase by half.³⁵⁷ The plaintiffs argued that the decision reflected Cargill’s participation in the cartel.³⁵⁸ Since Cargill argued that it decided to limit its expansion months before the plaintiffs claimed that Cargill had joined the conspiracy, the Ninth Circuit held that “[b]ecause ‘the factual context renders [appellants’] claim implausible,’ no reasonable factfinder could conclude from this evidence that Cargill was part of the conspiracy.”³⁵⁹ The court rejected any anticompetitive interpretation of Cargill’s announcement that it was going to increase its output significantly and its subsequent decision to produce a smaller amount.

The Ninth Circuit found nothing suspicious about the exchange of price information, reasoning that such “is standard fare for trade associations.”³⁶⁰ But this ignored the fact that this particular association was the core of a proven criminal conspiracy. The ECAMA “play[ed] a key-facilitating role in the conspiracy”³⁶¹ and “provide[d] a convenient cover for illegal price-fixing discussions.”³⁶² An insider who helped run the illegal citric acid cartel through the ECAMA explained “that there always was a meaningless official meeting followed by an ‘unofficial’ meeting where the ongoing strategy of the conspiracy was developed. The official ECAMA meetings had an agenda. The unofficial meetings did not.”³⁶³ In essence, “[t]he biennial meetings of ECAMA were pretexts for holding secret parallel price-fixing sessions for citric acid.”³⁶⁴ The court’s desire to equate the ECAMA with other legal trade associations conflicted with the known illegal nature of the citric acid organization.

³⁵⁵ *Id.* at 1104 (alteration in original) (internal quotation marks omitted).

³⁵⁶ *Id.* at 1100.

³⁵⁷ *Id.*

³⁵⁸ *See id.* at 1102.

³⁵⁹ *Id.* (alteration in original) (quoting *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986)).

³⁶⁰ *Id.* at 1098.

³⁶¹ CONNOR, *supra* note 114, at 134-35.

³⁶² *Id.* at 202.

³⁶³ LIEBER, *supra* note 106, at 188.

³⁶⁴ CONNOR, *supra* note 117, at 220.

The court was confronted with an incriminating note handwritten by an attendee at one ECAMA meeting, which read, “Undertaking is a confidential agreement to maintain price. Producers must police.”³⁶⁵ The majority then set out to minimize the note’s significance, explaining that

minutes of an ECAMA meeting indicate that the suggestion “was quickly overviewed and it was decided not to pay attention to that message for most of the information contained in it [was] against the spirit of the anti-trust law.” It would not be reasonable to infer that Cargill engaged in illegal activities merely from evidence that an illegal course of action was suggested but immediately rejected.³⁶⁶

This explanation is strained given that we know that the suggestion of illegal activity was *not* rejected—most of the attendees were actually committing antitrust crimes at the time. They knew their actions were illegal, and they knew that they needed to cover their tracks. In particular, “[t]he manufacturers’ representatives at the [citric acid] conspiracy meetings took pains to cover up their activities by destroying any documentary evidence of their conspiracy. These actions reveal that the conspirators knew their ‘unofficial’ meetings were illegal.”³⁶⁷

Finally, the court sapped all probative value out of the testimony of Barrie Cox, the ADM employee who testified that he had discussions about bidding prices with a counterpart at Cargill. The court asserted that “Cox’s testimony at the lysine trial does not constitute *direct* evidence, however, because it still requires an inference that the price discussions were conspiratorial in nature.”³⁶⁸ For support, the court cited the Third Circuit’s opinion in the *In re Baby Food* case: “Evidence of sporadic exchanges of shop talk among field sales representatives who lack pricing authority is insufficient to survive summary judgment.”³⁶⁹ But this was not mere “shop talk” by a low-level functionary; it was a discussion with an ADM employee who was running an illegal cartel. Moreover, months before the Ninth Circuit published its opinion, new evidence came to light. As reported in the *New York Times*, Cox swore during his FBI interviews that he had regular meetings with his counterpart at Cargill, that the two explicitly fixed prices of citric

³⁶⁵ *In re Citric Acid*, 191 F.3d at 1097-98.

³⁶⁶ *Id.* (alteration in original).

³⁶⁷ CONNOR, *supra* note 114, at 137; see also Christopher R. Leslie, *Judgment-Sharing Agreements*, 58 DUKE L.J. 747, 774-75 (2009) (discussing how price-fixing conspirators destroy documentation).

³⁶⁸ *In re Citric Acid*, 191 F.3d at 1104.

³⁶⁹ *In re Baby Food*, 166 F.3d at 125; see also *In re Citric Acid*, 191 F.3d at 1105.

acid, and that Cargill had participated in the larger cartel through Cox.³⁷⁰ The court declined to consider this evidence.

Ultimately, the Ninth Circuit concluded that “there is no more than a scintilla of evidence that Cargill was a participant in the citric acid conspiracy, and the existence of ‘a scintilla of evidence of concerted, collusive conduct’ is not sufficient . . . to overcome Cargill’s summary judgment motion.”³⁷¹ To reach this result, the court committed several of the errors detailed in Part III. Most notably, the Ninth Circuit exhibited an extreme form of confirmation bias. The plaintiffs directed the court to a raft of damning evidence, founded primarily on the fact that other citric acid producers had already been convicted of criminal conspiracy to fix prices. Yet the court had already made up its mind; it was not prepared to change its opinion despite direct evidence that Cargill had participated in illegal price fixing.

Further, the court seemed unaware of cartel dynamics and anti-trust history. For example, the court deprived Cargill’s announced massive expansion and subsequent reduced expansion of probative value. But, as discussed in Part II, this is the precise strategy that ADM employed to join the lysine cartel.³⁷² Cargill’s initial threat of expansion followed by a more moderate increase in capacity, coupled with the fact that Cargill’s price followed that of its criminally convicted competitors in lockstep fashion, bears the hallmark of using a threat to gain admission to a cartel. Yet the court was either unable or unwilling to recognize this fact, holding that no reasonable jury could find that Cargill engaged in price fixing. We now know with near certainty that Cargill did in fact participate in the citric acid cartel.³⁷³ However,

³⁷⁰ David Barboza, *Archer Daniels Executive Said to Tell of Price-Fixing Talks with Cargill Counterpart*, N.Y. TIMES, June 17, 1999, at C6.

³⁷¹ *In re Citric Acid*, 191 F.3d at 1106 (quoting *In re Baby Food*, 166 F.3d at 137).

³⁷² See *supra* notes 104-07. Ironically, ADM was criminally convicted for participating in the citric acid price-fixing conspiracy.

³⁷³ Cartel expert Professor John Connor explains Cargill’s role:

On October 12, 1996, Barrie Cox was interviewed by the FBI. At the same time, he had been offered immunity from prosecution in return for his complete and truthful cooperation in the FBI’s investigation of the citric acid conspiracy. (Perjury during the interview would be grounds for removing Cox’s immunity). Cox stated that he had held more than a dozen conversations with William Gruber, his counterpart at Cargill. The conversations dealt with Cargill’s plans to raise prices and rig bids to certain customers. Cox said that he agreed to “go along” with Cargill’s plan to raise the price of citric acid and restrain ADM’s sales volume. Thus, it appears that Cargill and ADM had a bilateral price-fixing agreement separate from the G-4 cartel.

because of the Ninth Circuit's eagerness to declare such conduct implausible, Cargill's victims will be denied compensation for the illegal overcharges.

3. Potash

Potash is an ingredient in fertilizer and represents a nearly half-billion-dollar annual market.³⁷⁴ Potash manufacturers are no strangers to either price fixing or antitrust litigation. Potash has been subject to various domestic and international cartels for over a century.³⁷⁵ During the Golden Age of Cartels between the two World Wars, international cartels controlled the price and output of dozens of major commodities, including potash.³⁷⁶ Although they had a shaky start, the potash makers ultimately successfully cartelized the market.³⁷⁷ In reinvigorating the DOJ's Antitrust Division, Thurman Arnold brought suit against potash makers as well as many other cartels.³⁷⁸ Many potash makers nevertheless continued to enter anticompetitive agreements.³⁷⁹

In the late 1990s, a class of potash buyers initiated class action litigation alleging that potash was yet again being controlled by an illegal cartel.³⁸⁰ To support their claims, they presented significant evidence of an agreement among potash producers to raise and stabilize price.³⁸¹ Potash prices had shot up and experienced tandem price increases despite no increase in the producers' costs.³⁸² The producers

CONNOR, *supra* note 114, at 140.

³⁷⁴ See U.S. GEOLOGICAL SURVEY, U.S. DEP'T OF INTERIOR, MINERAL COMMODITY SUMMARIES 2007, at 124 (2007), available at <http://minerals.usgs.gov/minerals/pubs/mcs/2007/mcs2007.pdf> ("In 2006, the production value of marketable potash . . . was about \$411 million.")

³⁷⁵ See Newman, *supra* note 126, at 577-88 (discussing the German potash cartel of the 1890s).

³⁷⁶ See Leslie, *supra* note 111, at 548 (observing that cartels during this period are easier to study due to their openness).

³⁷⁷ See Margaret C. Levenstein & Valerie Y. Suslow, *What Determines Cartel Success?*, 44 J. ECON. LITERATURE 43, 74 (2006) ("Several cartels in our case study sample got off to a rocky start but later managed to sustain collusion for longer periods. This was the case for the Swedish beer, railroad-oil, tea, potash, and sugar cartels." (footnote omitted)).

³⁷⁸ See Harry First, *The Vitamins Case: Cartel Prosecutions and the Coming of International Competition Law*, 68 ANTITRUST L.J. 711, 729-30 (2001).

³⁷⁹ See, e.g., *Montreal Trading Ltd. v. Amax Inc.*, 661 F.2d 864, 866 (10th Cir. 1981) (finding that the court did not have subject matter jurisdiction over actions of Canadian subsidiaries of American potash producers that allegedly belonged to a cartel).

³⁸⁰ *Blomkest Fertilizer, Inc. v. Potash Corp. of Saskatchewan*, 203 F.3d 1028, 1033, 1035 (8th Cir. 2000) (en banc).

³⁸¹ *Id.* at 1040.

³⁸² *Id.* at 1032-34.

had called each other and verified the price increases on dozens of occasions.³⁸³ The plaintiffs presented

a great deal of evidence that one firm freely solicited price-fixing, and one rival frequently complained to another rival about the latter's failure to adhere to its published price lists. The CEO of one firm even went to officers at another firm, carrying charts showing that the CEO's firm was losing market share to rivals and asking what they would do about it. In one case a firm apologized to another firm for making a low bid and stealing the second firm's customer.³⁸⁴

The plaintiffs' economic expert testified that market prices would have been lower absent price collusion.³⁸⁵ Reviewing the entire record, a minority of Eighth Circuit judges credited the class with producing "evidence of a market structure ripe for collusion, a sudden change from price war to supracompetitive pricing, price-fixing overtures from one competitor to another, voluntary disclosure of secret price concessions, an explicitly discussed cheater punishment program, and advance knowledge of other producers' price moves."³⁸⁶

Despite this evidence, the Eighth Circuit sitting en banc issued an opinion for a narrowly divided court in which the majority held that the defendants were entitled to summary judgment.³⁸⁷ Rejecting all of the plaintiffs' factual evidence and expert testimony, the majority criticized the plaintiffs for "assum[ing] a conspiracy first, and then set[ting] out to 'prove' it. However, a litigant may not proceed by first assuming a conspiracy and then explaining the evidence accordingly."³⁸⁸ In essence, the court accused the plaintiffs of falling victim to confirmation bias. But this misconstrues the lens through which evidence is viewed at this stage of the litigation. Because the defendants moved for summary judgment, the court was supposed to view all of the evidence in the light most favorable to the plaintiffs. The majority did not do so and in fact condemned the plaintiffs for doing so. Professor Hovenkamp rightly cites this as an example of the "[f]ailure to account for the distinction between rational and irrational conspiracies [that] has led several courts to dismiss conspiracy claims incorrectly."³⁸⁹

³⁸³ *Id.* at 1033.

³⁸⁴ HOVENKAMP, *supra* note 4, at 135.

³⁸⁵ *Blomkest*, 203 F.3d at 1037-38.

³⁸⁶ *Id.* at 1051 (Gibson, J., dissenting).

³⁸⁷ *Id.* at 1038 (majority opinion).

³⁸⁸ *Id.* at 1033.

³⁸⁹ HOVENKAMP, *supra* note 4, at 134-35.

Ultimately, the Eighth Circuit erred by treating price-fixing conspiracies as though they were as implausible as predatory pricing conspiracies. The *Matsushita* opinion commands lower courts considering defendants' summary judgment motions to demand more evidence from plaintiffs who advance economic theories that strike the court as implausible, such as predatory pricing conspiracies.³⁹⁰ The decision, however, did not elevate the evidentiary standards for all antitrust plaintiffs.³⁹¹ Despite this, many courts apply *Matsushita* broadly such that price-fixing cartels are treated similarly to other, more fanciful antitrust conspiracies.³⁹² But while predatory pricing conspiracies are relatively risky and rare, price-fixing conspiracies are common and generally profitable, even when detected and prosecuted.³⁹³ While the *Matsushita* Court may have been wise to increase the plaintiff's evidentiary burden when its claims make no economic sense,³⁹⁴ it is illogical for courts to treat all antitrust conspiracies as equally implausible. Such an approach invites mistakes and creates false negatives, as truly harmful anticompetitive conspiracies escape liability.

C. Group Boycotts of Suppliers

Courts have held group boycotts against a supplier to be implausible, and thus, defendants accused of such conduct are entitled to summary judgment. Such holdings have been made despite strong evidence of the existence of such boycotts and their injurious effects on competition. For example, in *Adaptive Power Solutions, LLC v. Hughes Missile Systems Co.*, APS produced a specialized missile part and faced only one other competitor.³⁹⁵ Only two defense contractors,

³⁹⁰ See *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986).

³⁹¹ See, e.g., *Petruzzi's IGA Supermarkets, Inc. v. Darling-Del. Co.*, 998 F.2d 1224, 1232 (3d Cir. 1993) (stating that *Matsushita* merely held that "the acceptable inferences which can be drawn from circumstantial evidence vary with the plausibility of the plaintiffs' theory and the dangers associated with such inferences"); see also *In re Brand Name Prescription Drugs Antitrust Litig.*, 186 F.3d 781, 787 (7th Cir. 1999) (Posner, J.) (citing *Matsushita* for the proposition that plaintiffs have the burden of producing economic evidence that shows that collusive action is more likely than individual action, but noting that the evidence need not "exclude all possibility" that the defendant's action was unilateral).

³⁹² See *Blomkest*, 203 F.3d at 1032 ("We are among the majority of circuits to apply . . . *Matsushita* . . . broadly . . .").

³⁹³ See Leslie, *supra* note 367, at 799 n.222.

³⁹⁴ This standard is intuitively acceptable in principle. It is courts' application of the standard that creates problems because judges cannot consistently distinguish between plausible and economically senseless business conduct. See *supra* Part III.

³⁹⁵ 141 F.3d 947, 949 (9th Cir. 1998).

Hughes and Raytheon, purchased that particular missile part.³⁹⁶ When APS attempted to raise the price it charged Raytheon for the missile part, Raytheon balked and asked Hughes to join it in refusing to buy parts from APS at any price.³⁹⁷ According to APS, Hughes and Raytheon jointly agreed to discipline APS by boycotting it and driving it from the market entirely.³⁹⁸

After APS sued Hughes and Raytheon for violating section 1 of the Sherman Act, the district court granted summary judgment to the defendants, and the Ninth Circuit affirmed.³⁹⁹ The judges followed the reasoning of the lower court and found that the alleged boycott would be illogical: Hughes and Raytheon had no incentive to hurt APS as a supplier because this would leave APS's sole competitor with a monopoly over the missile part.⁴⁰⁰ Reasoning that no buyer would rationally seek to subject itself to a monopolist, the court concluded that "APS's argument makes no economic sense."⁴⁰¹

The court's logic is perfectly reasonable: firms should prefer to buy inputs in a competitive marketplace rather than a monopolized one. But the theory espoused by the Ninth Circuit's opinion is completely at odds with the facts of the case. First, the defendants themselves conceded (for purposes of summary judgment) that they agreed to boycott APS. The court acknowledged that

defendants do not contest APS's allegation that because Raytheon was "angered at APS's attempt to charge Raytheon an increased price for A3's," Raytheon convinced Hughes to join it in refusing to deal with APS "for the purpose and with the intent of driving APS out of the market for the manufacture of A3's."⁴⁰²

Second, and most shockingly, after evaluating the facts of the case itself, the court concluded "the evidence establishes *without contradiction* that Raytheon and Hughes boycotted APS to punish it."⁴⁰³

The case illustrates how courts are unable to appreciate the rationality of apparently irrational conduct. The Ninth Circuit asserted that Hughes and Raytheon would not boycott its own supplier because that would be irrational. But the court failed to appreciate that ex-

³⁹⁶ *Id.*

³⁹⁷ *Id.*

³⁹⁸ *Id.*

³⁹⁹ *Id.* at 949, 953.

⁴⁰⁰ *Id.* at 952-53.

⁴⁰¹ *Id.* at 953.

⁴⁰² *Id.* at 949.

⁴⁰³ *Id.* at 953 (emphasis added).

ecuting an “irrational threat” would make future threats credible.⁴⁰⁴ Hughes and Raytheon were more concerned with signaling the legions of small subcontractors from whom they purchased other inputs that if they raised prices, they would be driven from the market just like APS. By “irrationally” boycotting APS, Hughes and Raytheon could keep their other suppliers in line. In essence, Hughes and Raytheon initiated a game of Chicken and refused to swerve. Carrying out seemingly irrational threats can be a rational long-term strategy. Game theorists recognize this, but some federal judges do not.

D. *Conspiracy to Conceal an Invalid Patent*

Even when they consider the available evidence, courts sometimes fail to appreciate the rationality of various forms of conspiracy. For example, in *In re DDAVP Direct Purchaser Antitrust Litigation*,⁴⁰⁵ the court reasoned that an alleged conspiracy to conceal an invalid patent was implausible because it entailed a licensee paying a royalty on an invalid patent.⁴⁰⁶ Plaintiffs alleged an antitrust conspiracy between Ferring and Aventis in which Ferring acquired a patent through inequitable conduct, which rendered the patent unenforceable.⁴⁰⁷ Plaintiffs further alleged that Aventis knew of the inequitable conduct, but instead of exposing the patent’s unenforceability, Aventis conspired with Ferring to conceal the misconduct before the Patent and Trademark Office.⁴⁰⁸ This conspiracy included Aventis paying Ferring for a license to use the patent at issue.⁴⁰⁹ The district court granted summary judgment to the defendants, reasoning that an allegation “[t]hat Aventis would pay to license a patent which it knew to be unenforceable flies in the face of reason. That Aventis agreed with Ferring to participate in a scheme to exploit an unenforceable patent or that Aventis shared Ferring’s allegedly anti-competitive intent also makes no sense.”⁴¹⁰

Whether such a conspiracy actually existed, the alleged conspiracy could have been a rational profit-maximizing scheme. Maintaining invalid patents—whether fraudulently procured or not—can be a cost-effective path to monopoly profits. Invalid patents can deter market

⁴⁰⁴ See *supra* Section III.D.

⁴⁰⁵ No. 05-2237, 2006 U.S. Dist. LEXIS 96201 (S.D.N.Y. Nov. 2, 2006).

⁴⁰⁶ *Id.* at *25.

⁴⁰⁷ *Id.* at *6-7.

⁴⁰⁸ *Id.* at *5.

⁴⁰⁹ *Id.* at *23.

⁴¹⁰ *Id.* at *25-26.

entry even if the licensees know or suspect that the patent is not enforceable.⁴¹¹ Thus, Ferring had an incentive to acquire a patent even if the patent was not legally enforceable. Given the exclusionary effects of such patents, Aventis had a strong incentive to have Ferring's patent invalidated. The district court implicitly assumed that it would be more rational for Aventis to invalidate Ferring's patent than to pay for a license.

But if Aventis were to expose the patent's invalidity, the market would likely become competitive, eliminating the possibility of supra-competitive profits. Aventis would compete on a level playing field against Ferring, but it would also face competition from other firms that would enter the market after a court rendered Ferring's patent unenforceable.⁴¹² Aventis would maximize its expected profits not by competing in a competitive market but by sharing Ferring's ill-gotten monopoly profits. Similarly, Ferring would be better off concealing the unenforceability of its patent and sharing its monopoly profits in exchange for Aventis's complicity. Thus, both firms could maximize their profits by conspiring to insulate Ferring's patent from judicial scrutiny. The Federal Trade Commission and the Second Circuit have recognized this in the context of pioneer drug company payments to a generic drug company, noting that it might "make economic sense for the patent holder to pay some portion of [its monopoly profits] to the generic manufacturer to maintain the patent-monopoly market for itself."⁴¹³ Under some scenarios, a patentee and one of its competitors can jointly maximize their profits through collusion.

This leaves the question of why Aventis would pay for a license. One explanation is that if Aventis received a royalty-free license, it would raise a red flag to others about the patent's validity or enforceability. When competitors pay for a license of even a suspect patent, this increases the market's perception of the patent's validity and consequently enhances the exclusionary power of the patent.⁴¹⁴ Given this fact, Aventis would be rational to pay an "unnecessary" royalty as part of a conspiracy to conceal the unenforceability of Ferring's patent and

⁴¹¹ See Leslie, *supra* note 185, at 113-39 (describing the injurious effects invalid patents may have on competition).

⁴¹² See Joseph Farrell & Robert P. Merges, *Incentives to Challenge and Defend Patents: Why Litigation Won't Reliably Fix Patent Office Errors and Why Administrative Patent Review Might Help*, 19 BERKELEY TECH. L.J. 943, 958 (2004) (describing the public-good problem associated with invalidating patents); Joseph Scott Miller, *Building a Better Bounty: Litigation-Stage Rewards for Defeating Patents*, 19 BERKELEY TECH. L.J. 667, 687 (2004) (same).

⁴¹³ *In re Tamoxifen Citrate Antitrust Litig.*, 466 F.3d 187, 209 (2d Cir. 2006).

⁴¹⁴ See Christopher R. Leslie, *Patents of Damocles*, 83 IND. L.J. 133, 156 (2008).

share in the supracompetitive profits made available from the patent's exclusionary effect.

The above analysis does not prove that a conspiracy actually existed but only demonstrates such a conspiracy's plausibility. Alternative benign explanations remain. For example, Aventis might have paid a royalty not because of any conspiracy with Ferring but rather because it believed Ferring's patent was valid and enforceable. In short, if the defendants were rightfully entitled to summary judgment against the antitrust claim, it was not because the alleged conspiracy "makes no economic sense."⁴¹⁵

V. RECONSIDERING THE ROLE OF RATIONALITY ANALYSIS IN ANTITRUST LITIGATION

The problems described in Part III and illustrated in Part IV do not lend themselves to easy resolution. In search of a solution, this Part begins with the source of these problems: the *Matsushita* opinion itself, which created a procedural rule that lower courts transformed into a substantive one. If *Matsushita* is properly understood as a procedural rule, judges need to be able to recognize economically implausible claims and to determine what additional quantum of evidence the plaintiff must present to support such claims. After addressing these issues, this Part concludes by discussing the role of juries in a system where rationality analysis is properly applied.

A. *Rationality and Implausibility Analysis—Procedural or Substantive Rules?*

The use of rationality analysis for both section 1 conspiracy and section 2 monopolization claims emerged from cases involving predatory pricing. This context is critical because the reasoning in these cases began to blur the distinction between procedure and substance. *Matsushita* is nominally a procedural rule. The opinion requires some plaintiffs (i.e., those making implausible claims) to present a greater quantum of evidence in order to survive summary judgment. The case is frequently taught in civil procedure classes as a summary judgment case, not an antitrust case. But the opinion has significantly transformed substantive antitrust law. *Matsushita* made the empirical statement that predatory pricing does not happen.⁴¹⁶ The Supreme Court based this contention

⁴¹⁵ *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986).

⁴¹⁶ *See id.* at 589 ("[T]here is a consensus among commentators that predatory pricing schemes are rarely tried, and even more rarely successful.").

on the theory that because predatory pricing is irrational, it is generally implausible that firms engage in such conduct.⁴¹⁷ From this empirical assertion, lower courts have fashioned a quasi-substantive rule. Lower courts repeat by rote *Matsushita's* empirical assertion and reflexively reject predatory pricing claims as irrational.⁴¹⁸

Two problems exist. First, the empirical assertion is, at best, suspect. Most of the sources cited by the Court are not empirical analyses but rather theorists stating their reasons for thinking that predatory pricing is irrational. Even the putatively empirical evidence is not actually empirical.⁴¹⁹ Contrary to the Court's assertion, predatory pricing does happen and does succeed, including when performed by cartels.⁴²⁰

Second, *Matsushita* creates the risk that an empirical assertion—based on a flawed theory—is being converted into a rule of substantive law. The procedural rule comes close to making predatory pricing per se legal because the Court has suggested that the practice—whether unilateral or concerted—is irrational and that firms do not engage in irrational conduct. This backdoor approach to legalizing

⁴¹⁷ See *id.* at 589-90 (citing several Chicago School thinkers whose work supports this contention).

⁴¹⁸ See, e.g., *United States v. AMR Corp.*, 335 F.3d 1109, 1114-15 (10th Cir. 2003) (referring to *Matsushita* as proof of the Supreme Court having “adopted the skepticism of [the] Chicago” School of economic thought that has “long labeled predatory pricing as implausible and irrational”); *WorldCom, Inc. v. FCC*, 238 F.3d 449, 463-64 (D.C. Cir. 2001) (citing *Matsushita* in upholding an FCC regulation against charges that it would lead to predatory pricing); *Stearns Airport Equip. Co. v. FMC Corp.*, 170 F.3d 518, 527-28 (5th Cir. 1999) (citing *Matsushita* for the proposition that “the consensus among economists that such [predatory pricing] schemes are difficult if not impossible to successfully complete and thus unlikely to be attempted by rational businessmen”); *Advo, Inc. v. Phila. Newspapers, Inc.*, 51 F.3d 1191, 1205 (3d Cir. 1995) (citing *Matsushita* in determining that a firm allegedly engaged in predatory pricing “had no reasonable prospect of recouping any investment”); *Stitt Spark Plug Co. v. Champion Spark Plug Co.*, 840 F.2d 1253, 1256 (5th Cir. 1988) (“Without an economically plausible theory of anticompetitive effect, Stitt was not entitled to reach the jury on the predatory-pricing claim.”); *Mathias v. Daily News, L.P.*, 152 F. Supp. 2d 465, 473 (S.D.N.Y. 2001) (“Absent the reasonable possibility of success in such recoupment, below-cost pricing cannot be anticompetitive”); *Servicetrends, Inc. v. Siemens Med. Sys., Inc.*, 870 F. Supp. 1042, 1062 (N.D. Ga. 1994) (citing *Matsushita* in “distinguishing those instances of legitimate price cutting that epitomize the benefits of unrestrained competition”); *Nat'l Benefit Adm'rs, Inc. v. Blue Cross & Blue Shield of Ala., Inc.*, No. 88-H-426-N, 1989 WL 146413, at *1-2 (M.D. Ala. July 27, 1989) (citing *Matsushita* for the proposition that a predatory pricing conspiracy “is practically and economically unreasonable”), *aff'd*, 907 F.2d 1143 (11th Cir. 1990).

⁴¹⁹ See, e.g., James A. Dalton & Louis Esposito, *Predatory Price Cutting and Standard Oil: A Re-Examination of the Trial Record*, 22 RES. L. & ECON. 155 (2007) (reexamining the empirical record in *Standard Oil Co. of New Jersey v. United States*, 221 U.S. 1 (1911), to refute McGee's conclusion that Standard Oil did not engage in predatory pricing).

⁴²⁰ See *supra* Section IV.A.

predatory pricing is problematic. The Court has the power to make predatory pricing per se legal or to change the legal test for predatory pricing, for example, by adding elements or creating presumptions. Antitrust is essentially common law, and federal courts have broad authority to treat challenged trade restraints as per se legal, per se illegal, or subject to varying degrees of antitrust scrutiny. Through the common law process, the legal treatment of various restraints has shifted over time.⁴²¹

This raises a question: if the Court can revise predatory pricing law as it sees fit, why does it matter that the Court employed rationality analysis to effect this change? Although the Court has the authority to make predatory pricing per se legal, such changes in substantive law should be clearly announced and defended based on antitrust doctrine, not achieved through purportedly neutral changes in procedural rules or evidentiary standards. If predatory pricing sometimes occurs, then its legality should depend on an evaluation of its likely effects on competition and the likelihood of false positives, not on a mistaken assertion that it does not happen. Manipulating a procedural rule, instead of changing the substantive law directly, has also had deleterious effects on other aspects of antitrust law that are not as controversial as predatory pricing.⁴²² The cases discussed in Part IV show how courts have employed *Matsushita's* heightened standard to reject price-fixing claims as implausible despite the fact that price fixing is relatively common.⁴²³ Price fixing is not irrational; it does not entail the guaranteed losses associated with predatory pricing—whether unilateral or conspiratorial. The so-called procedural rule based on rationality analysis makes it harder to litigate against price-fixing cartels. If the Supreme Court wishes to change substantive anti-

⁴²¹ For example, the Court condemned vertical nonprice restraints as per se illegal in *United States v. Arnold, Schwinn & Co.*, and then ten years later reversed itself and held that such agreements should be evaluated under the rule of reason. 388 U.S. 365, 388 (1967), *overruled by* *Continental T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36 (1977).

⁴²² Antitrust liability for predatory pricing is controversial because low prices form the basis of the violation, which makes the cost of false positives high. If courts incorrectly label a competitive price cut as predatory and hold the competitor liable for antitrust damages, then antitrust litigation may be used to injure or deter competition itself. Because the Court might be legitimately concerned that judges may not be able to distinguish predatory price cuts from competitive price cuts, the Court may decide that predatory pricing law should evolve to address this concern.

⁴²³ See generally CONNOR, *supra* note 114 (describing and analyzing the origins, operations, and impact of global cartels in the markets for lysine, citric acid, and vitamins); LESLIE, *supra* note 111 (discussing a variety of cases where price fixing has occurred).

trust law with respect to predatory pricing, then it should do so directly. Using procedural or evidentiary devices to stifle predatory pricing claims under the rubric of rationality and implausibility distorts uncontroversial areas of antitrust law.

B. *Antitrust Litigation and the Focus on Facts*

Antitrust litigation should focus on two major issues: (1) whether the defendant(s) engaged in the alleged conduct and (2) whether that conduct diminished competition in an unreasonable manner. The first issue is entirely factual; the second includes issues of antitrust injury and the boundaries of antitrust liability and thus combines questions of fact and law. Yet it is on the first question that courts typically appeal to rationality theory. Courts sometimes mishandle theory by suggesting that proven conduct could not have occurred if the conduct appears to the judge to be inconsistent with rational profit maximization.⁴²⁴ This approach is mistaken because rational firms often engage in conduct that is not, or appears not to be, profit maximizing.⁴²⁵

Instead of focusing on the theoretical plausibility of the defendant's alleged conduct, courts should determine whether there is sufficient evidence from which a reasonable jury could conclude that the conduct in fact happened, whether rational or not. The *Matsushita* standard as written may be defensible. The decision provides that "if the factual context renders [plaintiffs'] claim implausible—if the claim is one that simply makes no economic sense—[plaintiffs] must come forward with more persuasive evidence to support their claim than would otherwise be necessary."⁴²⁶ The *Matsushita* sliding scale is intuitively acceptable: less plausible claims should require more evidence.

Two problems, however, have arisen in the rule's application. First, can judges recognize when an antitrust claim alleges conduct that is truly irrational or implausible as opposed to conduct that is facially irrational but profit maximizing when strategic considerations are factored in? Second, when judges do label an antitrust claim implausible, how much more evidence must a plaintiff present to survive summary judgment? This Section addresses these two questions.

⁴²⁴ See, e.g., *supra* notes 394-403 and accompanying text.

⁴²⁵ See *supra* Part II.

⁴²⁶ *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986).

1. Distinguishing Between Irrational and Strategic Behavior

If the *Matsushita* standard is to function properly in antitrust cases, judges need to recognize economically implausible claims. Parts III and IV of this Article argue that judges sometimes cannot properly distinguish implausible from strategic behavior. To understand how to address the problem of judges rejecting plausible claims, we need to understand how we arrived at this point. The federal courts' adoption of the peculiar form of rationality analysis detailed in Part IV is part of a larger pattern of courts increasing the burdens on antitrust plaintiffs. Antitrust jurisprudence from the 1940s through the 1960s was decidedly pro-plaintiff. Judicial decisionmaking in antitrust cases employed little economic reasoning and arguably created antitrust liability in a manner that condemned efficient conduct. Against this backdrop, the Chicago School of Law and Economics emerged as a counterbalance to the then-prevailing pro-plaintiff antitrust orthodoxy. Scholars associated with the Chicago School argued that courts had disapproved procompetitive mergers, condemned benign business agreements, and encouraged anticompetitive litigation.⁴²⁷ These academics advanced a decidedly more pro-defendant vision of antitrust based on their economic theories that markets were self-correcting. Consequently, the Chicago School advocated a move away from per se illegality and toward per se legality for many categories of trade restraint, such as vertical restraints.⁴²⁸ The Chicago School gained traction with judges in the 1970s and onward as the Supreme Court gradually chipped away at antitrust's per se rules.⁴²⁹

The Chicago School advocates were perhaps too successful. As Chicago School thinking has become entrenched, judges have dismissed and rejected antitrust claims based on narrow and inaccurate conceptions of how businesses operate. Although early Chicago School thinkers were correct to criticize then-standard doctrine as excessively pro-plaintiff in antitrust cases, the pendulum has swung too far in the other direction as antitrust jurisprudence now improperly advantages defendants. The courts' invocation of irrationality and

⁴²⁷ See generally BORK, *supra* note 12.

⁴²⁸ See, e.g., Richard A. Posner, *The Next Step in the Antitrust Treatment of Restricted Distribution: Per Se Legality*, 48 U. CHI. L. REV. 6 (1981).

⁴²⁹ See, e.g., *Continental T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 58 (1977) (eliminating per se rule against nonprice vertical restraints); see also *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 907 (2007) (eliminating the per se rule against resale-price maintenance); *State Oil Co. v. Khan*, 522 U.S. 3, 21-22 (1997) (eliminating the per se rule against maximum-resale-price maintenance).

implausibility arguments in the cases detailed in Part IV is one indication of this favoritism toward defendants.

What solution is there to this state of affairs in which judges are employing incomplete economic theories in a manner that undermines antitrust law more broadly? The answer lies in educating judges about how businesses operate when they are trying to monopolize or cartelize a market. Law review articles, such as this one, attempt to correct the course of antitrust doctrine toward a more moderate path that is neither improperly pro-plaintiff nor pro-defendant, but rather attempts to identify anticompetitive conduct that inflicts actual injury. But law review articles are only part of the answer. Advocates of Chicago School philosophies succeeded for several reasons, including their well-founded indictments of many economics-free plaintiff decisions and their well-explained, easy-to-comprehend economic theories. But their philosophy also became dominant because its adherents aggressively preached their message to judges through books, law reviews, and, perhaps most notably, judicial conferences.⁴³⁰ The post-Chicago movement⁴³¹ needs to copy this play from the Chicago School's playbook.⁴³²

Judges need to understand that economic theory has advanced considerably since the early days of the Chicago School. The vast majority of federal judges are intelligent, thoughtful jurists who want to reach the correct result. But people can only appreciate and employ the teachings to which they have been exposed, and many judges have been raised on a steady diet of Chicago School theories.⁴³³ Judges, however, can learn the new economic thinking associated with the post-Chicago School if they are given the same exposure to these new

⁴³⁰ Bruce A. Green, *May Judges Attend Privately Funded Educational Programs? Should Judicial Education Be Privatized?: Questions of Judicial Ethics and Policy*, 29 FORDHAM URB. L.J. 941, 944-45, 944 n.19 (2002) (questioning the ethics of judicial participation in conferences sponsored by proponents of the law and economics movement).

⁴³¹ Post-Chicago broadly refers to a group of scholars that employ game theory, behavioral law and economics, and other dynamic models of strategic behavior to explain and predict economic activity.

⁴³² Some commentators have noted that privately funded junkets for judges raise legal ethics issues. See, e.g., Douglas T. Kendall & Jason C. Rylander, *Tainted Justice: How Private Judicial Trips Undermine Public Confidence in the Judiciary*, 18 GEO. J. LEGAL ETHICS 65, 69 n.9, 70 (2004) (detailing how private organizations provide gifts to judges that inappropriately entangle them with entities that appear in their courts and advance the interests of their funders). Judicial conferences to advance post-Chicago economic perspectives should be pursued in a manner that minimizes or eliminates such problems.

⁴³³ See *supra* notes 150-51 and accompanying text.

theories as they were to the earlier Chicago School theories. In the same way that the Chicago School held seminars and conferences to espouse their economic views, adherents of the post-Chicago School movement need to educate judges. Future conferences for judges could explain economic theories that refute the Chicago School theories, review economic history, and show how cartels have stabilized themselves and endured, which gives lie to the Chicago School belief that cartels will unravel before they do much damage. Judicial conferences that explain post-Chicago economics would put future antitrust complaints in context. The conferences could discuss the characteristics of those cartels that successfully raised prices so that judges could better recognize when cartel claims are plausible and thus prevent mistakes like those examined in Part IV. Presentations could also attempt to quantify the harm caused by illegal monopolies and cartels in terms of lower output and increased prices. With a fuller appreciation of the consequences of antitrust violations and of the emergence of post-Chicago economics, judges would be less likely to incorrectly label alleged conduct and conspiracies irrational or implausible. Consequently, judges should reach more accurate results in antitrust cases.

2. The Evidentiary Burden for Facially Irrational or Implausible Claims

Assuming that judges can recognize irrational or implausible anti-competitive conduct, the question remains how much additional evidence an antitrust plaintiff must present in order to survive summary judgment. Courts often make one of two mistakes in applying the *Matsushita* test. First, some courts do not treat the *Matsushita* standard as a sliding scale, as the Court intended; rather, federal judges treat the inquiry as binary such that if the conspiracy does not seem rational to the judge, then the defendant is entitled to summary judgment. For example, the Eleventh Circuit has held that “*Matsushita* dictates that if the alleged conspiracy is economically infeasible or irrational then, as a matter of law, summary judgment must be entered against the plaintiff.”⁴³⁴ Under this approach, if an antitrust claim seems implausible or irrational to a judge, that is the end of the inquiry. This is

⁴³⁴ *Helicopter Support Sys., Inc. v. Hughes Helicopter, Inc.*, 818 F.2d 1530, 1534 (11th Cir. 1987); see also *In re Brand Name Prescription Drugs Antitrust Litig.*, 123 F.3d 599, 614 (7th Cir. 1997) (Posner, J.) (“[S]ummary judgment for a defendant is proper, even if there is some evidence of an antitrust violation, if the plaintiff’s theory of violation makes no economic sense. This has to be the right rule” (citations omitted)).

a misreading of the *Matsushita* opinion, which simply requires “more persuasive evidence”⁴³⁵ in the face of perceived implausible claims.

Second, of those courts that correctly interpret *Matsushita* as increasing the plaintiff’s evidentiary burden, some make this burden virtually insurmountable. Even when courts do not take the binary approach, they often impose unrealistic evidentiary burdens that are practically impossible to satisfy. Most notably, many courts require antitrust plaintiffs to submit direct evidence. In *Matsushita*, the Court declared that “[a]s a practical matter, it may be that only direct evidence of below-cost pricing is sufficient to overcome the strong inference that rational businesses would not enter into conspiracies such as this one.”⁴³⁶ As a result, lower courts require the plaintiff to present direct evidence in predatory pricing cases.⁴³⁷

Two problems have arisen in the wake of *Matsushita*’s statement that direct evidence may suffice. First, some courts demand direct evidence in non-predatory pricing cases. For example, the courts in the baby food⁴³⁸ and citric acid⁴³⁹ cartel cases required the plaintiff to present direct evidence in order to survive summary judgment. This requirement makes little sense in these contexts because there is nothing inherently implausible or economically senseless about price-fixing conspiracies in a concentrated market. Indeed, this heightened evidentiary requirement conflicts with Supreme Court precedent that price-fixing agreements can be proven through circumstantial evidence⁴⁴⁰—precedent that *Matsushita* did not disturb.

Second, some courts that require direct evidence have narrowly defined the concept, and, consequently, they do not recognize direct evidence even when the plaintiff presents it. This occurs in both predatory pricing and price-fixing cases. For example, the *Matsushita* majority held that the plaintiff’s claim of a predatory pricing conspiracy was implausible in part because the Justices did not believe that the alleged conspirators could coordinate and implement an agreement

⁴³⁵ *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986).

⁴³⁶ *Id.* at 585 n.9.

⁴³⁷ *See, e.g., Advo, Inc. v. Phila. Newspapers, Inc.*, 51 F.3d 1191, 1198 (3d Cir. 1995) (“Regardless of the measure of a defendant’s costs on which a plaintiff premises a predatory pricing claim, a plaintiff cannot anchor its case on theoretical speculation that a defendant is pricing below that measure.”).

⁴³⁸ *See supra* notes 267-82 and accompanying text.

⁴³⁹ *See supra* subsection IV.B.2.

⁴⁴⁰ *See, e.g., Am. Tobacco Co. v. United States*, 328 U.S. 781, 790, 814-15 (1946) (concluding that a violation of the Sherman Act had occurred on the basis of circumstantial evidence).

to allocate both the losses associated with predation and, later, the anticipated cartel profits.⁴⁴¹ To reach this conclusion, the Court disregarded the plaintiff's direct evidence that showed actual price coordination and market allocation among the alleged conspirators. The Court nonetheless dismissed "the 'direct evidence' [as having] little, if any, relevance to the alleged predatory pricing conspiracy."⁴⁴² While this direct evidence did not prove below-cost pricing—the plaintiffs relied on expert testimony for that proposition—the evidence did establish that the defendants were perfectly capable of running a well-heeled cartel in the postpredation period, which tended to disprove the majority's assertion that such coordination was implausible. Ultimately, the *Matsushita* Court chastised the Third Circuit for "focus[ing] . . . on whether there was 'direct evidence of concert of action'" instead of on whether the alleged predators had "a plausible motive to enter into the alleged predatory pricing conspiracy."⁴⁴³ Yet that direct evidence undercut the Court's view that the "concert of action" necessary to the plaintiffs' claims was too implausible to have occurred. In short, the Court did not understand the significance of the direct evidence before it.

Courts have also improperly discounted direct evidence in price-fixing cases. For example, the Third Circuit in *In re Baby Food* narrowly defined the necessary "direct evidence" as "evidence that is explicit and requires *no inferences* to establish the proposition or conclusion being asserted."⁴⁴⁴ Even before application, the test seems odd because at summary judgment, the court is supposed to draw all inferences in the nonmoving party's favor. When applying its test, however, the Third Circuit downplayed the plaintiff's evidence that competitors exchanged confidential pricing information and the documentation of a "truce" among the competitors because the evidence was provided by individuals who did not personally have pricing authority. The court failed to appreciate that this was direct evidence that those with pricing authority were fixing prices through intermediaries. After all, eyewitness testimony about a conspiracy is direct evidence even if the eyewitness is not herself a conspirator. Similarly, in *In re Citric Acid*, the Ninth Circuit adopted the Third Circuit's di-

⁴⁴¹ *Matsushita*, 475 U.S. at 590 (noting the strong incentive for coconspirators to cheat in a coordinated-pricing scheme).

⁴⁴² *Id.* at 595.

⁴⁴³ *Id.* (quoting *In re Japanese Elec. Prods. Antitrust Litig.*, 723 F.3d 238, 304 (3d Cir. 1983), *rev'd*, *Matsushita*, 475 U.S. 574).

⁴⁴⁴ *In re Baby Food Antitrust Litig.*, 166 F.3d 112, 118 (3d Cir. 1999) (emphasis added).

rect-evidence requirement and then discounted all of the plaintiff's evidence as requiring inferences.⁴⁴⁵ Even though one of the convicted price-fixing conspirators testified that he discussed price with his counterpart at (fellow defendant) Cargill, the court asserted the "testimony at the lysine trial does not constitute direct evidence, however, because it still requires an inference that the price discussions were conspiratorial in nature."⁴⁴⁶ If discussing prices with a competitor and then charging the same price as that competitor—who is convicted of participating in a price-fixing conspiracy—is not conspiratorial, then it is hard to fathom what is. In sum, courts have improperly raised evidentiary burdens and then incorrectly applied these new standards.

So what then should satisfy the heightened evidentiary requirement for facially irrational or implausible antitrust claims? The evidentiary burden should not be too low because antitrust defendants would be forced to go to trial against even frivolous litigation. Courts should not return to the days of the *Poller* standard, under which practically all antitrust claims made it to a jury.⁴⁴⁷ But neither should the standard be so high as to prevent even legitimate claims from reaching the jury, as in the cases discussed in Part IV. Instead of either of these two extremes, judges should ask for what *Matsushita* dictates: "more persuasive evidence."⁴⁴⁸

This standard can be satisfied in either of two ways. First, plaintiffs could provide direct evidence, properly defined. Second, plaintiffs could provide substantial circumstantial evidence. In the context of alleged conspiracies, antitrust courts already have an apparatus for requiring such circumstantial evidence: plus factors.⁴⁴⁹ In general, there is no minimum number of plus factors that a plaintiff must prove in order to survive summary judgment. This approach is sufficiently flexible that courts can employ plus-factor analysis when the conspiracy alleged by the plaintiff appears irrational or implausible. If a court believes that an alleged conspiracy is implausible, it may require *more* plus factors before concluding that there is sufficient evidence from which a reasonable jury could infer an illegal agreement. Requiring a plaintiff to prove more plus factors in order to satisfy the *Matsushita* sliding-scale test should be straightforward, but some courts that in-

⁴⁴⁵ *In re Citric Acid Litig.*, 191 F.3d 1090, 1104 (9th Cir. 1999).

⁴⁴⁶ *Id.* (emphasis omitted).

⁴⁴⁷ See *Poller v. Columbia Broad. Sys., Inc.*, 368 U.S. 464, 474 (1962) (declining to grant summary judgment when affidavits merely alleged conspiratorial conduct).

⁴⁴⁸ 475 U.S. at 587.

⁴⁴⁹ See *supra* notes 329-39 and accompanying text.

voke rationality or implausibility arguments also fail to appreciate the significance of plus factors. For example, the Eleventh Circuit in *Williamson Oil* asserted that no plus factors were present despite the fact that the plaintiff presented approximately ten individual plus factors—including a history of prior illegal price-fixing agreements in the United States; ongoing price-fixing agreements in other countries; a concentrated oligopoly market structure; inelastic demand; high barriers to entry; fungible products; opportunities to conspire; repeated simultaneous price increases without market research; and collective monitoring of each others' output, shipments, and prices.⁴⁵⁰ The presence of just a few of these should probably have been sufficient to get the case to a jury. Even if the alleged conspiracy were facially implausible, the abundance of plus factors constituted "more persuasive evidence" and warranted allowing the plaintiffs to proceed to a jury trial.

Finally, judicial conferences explaining post-Chicago economics could help judges properly apply the heightened evidentiary burdens. Judges need to recognize both direct evidence and the significance of proffered plus factors. Understanding how monopolies and cartels operate should help federal judges comprehend the importance of all of these forms of evidence. As a result, judges could better identify rational anticompetitive conduct and conspiracies as well as understand what additional evidence a plaintiff can proffer in order to show that facially irrational conduct actually occurred.

C. *The Proper Role of Juries*

If judges were to rely less on using their perceptions of irrationality and implausibility to grant summary judgment to antitrust defendants, more antitrust cases may be decided by juries. This creates the possibility of two countervailing risks. On the one hand, a jury may make the same mistakes that judges do, and conclude that a purported antitrust violation must not have occurred because the plaintiffs' allegations appear irrational or implausible—even though the defendants did, in fact, violate the antitrust laws. On the other hand, a jury may find antitrust defendants liable when they are not. The first scenario represents a false negative and the second a false positive. Neither risk justifies the status quo. The risk of juries replicating the mistakes outlined in Part III does not warrant turning a blind eye to the judicial errors observed in Part IV.

⁴⁵⁰ *Williamson Oil Co. v. Philip Morris USA*, 346 F.3d 1287, 1305-20 (11th Cir. 2003).

Some commentators worry that juries cannot sufficiently understand the evidence in complex antitrust litigation.⁴⁵¹ This creates the risk that juries will produce false negatives by deciding in favor of antitrust defendants when they should not. Some evidence suggests that the American public, and consequently juries, may have difficulty understanding economic theory.⁴⁵² The composition of juries could skew toward the less economically sophisticated members of society if lawyers “use peremptory challenges to try to obtain a less informed jury” out of concern that having those with “business knowledge could interfere with acceptance of their theory of the case.”⁴⁵³ Some worry that when juries “lack experience in commercial affairs,” they will “not be capable of understanding financial and business terminology.”⁴⁵⁴ Independent of their “difficulty comprehending economic facts,”⁴⁵⁵ jurors may be subject to the same confirmation bias that judges appear to exhibit in some antitrust cases.⁴⁵⁶

While these observed problems with juries are real and deserve consideration and amelioration, some aspects of the jury system mean that jurors may be more adept at overcoming the problems identified in Part III. Collective decisionmaking often leads to better results because “the jury as a group has wisdom and strength which need not characterize any of its individual members.”⁴⁵⁷ This is not merely a matter of twelve individuals making a joint decision, but the process by which they arrive at their conclusions. By engaging in a deliberative decisionmaking process, “the jury reduces the chance that factual misunderstandings will lead to faulty verdicts. That is an important advantage, because judges and jurors alike may have difficulty under-

⁴⁵¹ See, e.g., ARTHUR D. AUSTIN, *COMPLEX LITIGATION CONFRONTS THE JURY SYSTEM*, at vii (1984) (“Complex litigation—antitrust warfare—challenges the credibility of the jury system. There is increasing doubt as to whether a typical jury can comprehend sufficiently to render a rational verdict.”).

⁴⁵² See, e.g., Valerie P. Hans, *The Jury’s Response to Business and Corporate Wrongdoing*, LAW & CONTEMP. PROBS., Autumn 1989, at 177, 187 (identifying studies showing strong recall of “primary” facts but poor grasp of “economic” facts among lay jurors).

⁴⁵³ *Id.* at 190; see also *id.* (“Through both excuses and challenges, prospective jurors who are sophisticated about business may be less likely to sit as jurors in business cases.”).

⁴⁵⁴ AUSTIN, *supra* note 451, at 7.

⁴⁵⁵ *Id.* at 85.

⁴⁵⁶ See *id.* at 89 (“Jurors cope with unwelcome information by ignoring it, distorting it to fit existing values, or minimizing its importance.” (citing Donald E. Vinson, *Psychological Anchors: Influencing the Jury*, LITIG., Winter 1982, at 20)); Donald E. Vinson, *The Shadow Jury: An Experiment in Litigation Science*, 68 A.B.A. J. 1242, 1244 (1982) (“[M]any jurors come to a decision very early in the trial and then seek support for their conclusion.”).

⁴⁵⁷ HARRY KALVEN & HANS ZEISEL, *THE AMERICAN JURY* 8 (1966).

standing the scientific, technical, economic, and statistical evidence characteristic of many business cases."⁴⁵⁸ While jurors confront each other with different interpretations of the same facts, the "judge does not have this vivid reminder that alternative construals are possible."⁴⁵⁹ Thus, even though individuals may experience the biases or problems discussed in Part III, the deliberative process with a jury increases the likelihood that "individual errors and biases are discovered and discarded."⁴⁶⁰ Although juries are not populated by economists, reviews of "very complex jury trials" reveal that "[e]ven when juries do not fully understand technical issues, they can usually make enough sense of what is going on to deliberate rationally."⁴⁶¹

Finally, any lack of economic expertise by jurors does not necessarily mandate their replacement by judges. After all, as some federal judges have observed,

[O]ne is more likely to find a computer technician or an economist on a jury than on the bench. Complex and technical cases, no less than other cases, require judgments on the credibility of witnesses and inferences to be drawn from facts. These are the tasks at which jurors, interacting with other jurors in the crucible of trial, particularly excel.⁴⁶²

⁴⁵⁸ Hans, *supra* note 452, at 202; *see also id.* at 184 ("Supporters of the jury have frequently noted that an important enhancement of jury competence is the group deliberation, where jurors have the opportunity to discuss and debate the evidence and correct one another's factual misunderstandings. Empirical evidence from mock-jury studies confirms that the group nature of the deliberation can provide protection against individual factfinding errors.").

⁴⁵⁹ Phoebe C. Ellsworth, *Are Twelve Heads Better Than One?*, LAW & CONTEMP. PROBS., Autumn 1989, at 205, 206. Some might argue that appellate panels are deliberative as well. But appellate judges do not interact in the way that jurors do nor do they observe the factual and expert witnesses. In general, juries spend considerably more time than appellate panels do on an individual case. Furthermore, most of the instances described in Part IV of judges employing rationality analysis to reject plausible (and sometimes irrefutably true) claims involved appellate judges.

⁴⁶⁰ *Id.*; *see also* Hans, *supra* note 452, at 189 ("Full and competent adversarial examination of disputed technical issues, visual aids, and group deliberation may counteract individual errors so that the group decision is a competent one.").

⁴⁶¹ Valerie P. Hans & Stephanie Albertson, *Empirical Research and Civil Jury Reform*, 78 NOTRE DAME L. REV. 1497, 1511 (2003) (internal quotation marks omitted) (quoting Richard Lempert, *Civil Juries and Complex Cases: Taking Stock After Twelve Years*, in VERDICT: ASSESSING THE CIVIL JURY SYSTEM 181, 234 (Robert E. Litan ed., 1993)).

⁴⁶² Zenith Radio Corp. v. Matsushita Elec. Indus. Co., 478 F. Supp. 889, 935 (E.D. Pa. 1979), *vacated on other grounds sub nom. In re Japanese Elec. Prods. Antitrust Litig.*, 631 F.2d 1069 (3d Cir. 1980); *see also In re U.S. Fin. Sec. Litig.*, 609 F.2d 411, 431 (9th Cir. 1979) ("[N]o one has yet demonstrated how one judge can be a superior factfinder to the knowledge and experience that citizen-jurors bring to bear on a case. We do not accept the underlying premise . . . 'that a single judge is brighter than the jurors collectively functioning together.'" (quoting Patrick E. Higginbotham, *Observa-*

While jurors may experience difficulty assessing economic evidence, they may be no worse than judges.⁴⁶³ After all, we know that judges in antitrust cases sometimes elevate theory over fact when rejecting plaintiffs' claims.⁴⁶⁴

Even if juries are less likely to commit the errors discussed in Part III, the risk remains that juries may be more likely to create false positives, finding antitrust defendants liable when they should not. False positives are costly because they may deter firms from engaging in efficient conduct and may punish defendants who have done nothing illegal. The threat of false positives, fortunately, can be managed. First, simply because a plaintiff's claim survives summary judgment does not mean that the plaintiff will necessarily prevail in the end, let alone that defendants will wrongly be held liable for an antitrust violation.

Second, antitrust law has several mechanisms to protect defendants from false positives. Each antitrust claim has its own elements, many of which—such as monopoly power for a monopolization claim and specific intent to monopolize for an attempted monopolization claim—are difficult to satisfy. Antitrust law also has a heightened standing requirement whereby an antitrust plaintiff must prove that it has suffered causal antitrust injury. Antitrust victories are relatively rare, and false positives are particularly unusual.

Third, little reason exists to conclude that jurors are more likely to create false positives in antitrust cases. Professor Valerie Hans's extensive research on the role of juries in business litigation shows that juries are not biased against corporate defendants. Indeed, her research shows that jurors, like most Americans, share a healthy respect for capitalism and free-market competition.⁴⁶⁵ Jurors worry that litiga-

tion, *Continuing the Dialogue: Civil Juries and the Allocation of Judicial Power*, 56 TEX. L. REV. 47, 53 (1947)); *United States v. Luisi*, 568 F. Supp. 2d 106, 118 (D. Mass. 2008) ("Inasmuch as critics of jury trials complain that juries will not reach the correct outcome, they are plainly mistaken. Twelve citizens drawn from all walks of life are simply more likely to discover the truth than a single fact-finder. While a judge's years on the bench may serve her well for resolving legal issues, juries bring to bear the values, common sense, and a fresh perspective that only come from life experience outside the courtroom." (citation omitted)).

⁴⁶³ See Hans & Albertson, *supra* note 461, at 1511 ("Nonetheless, experimental research has identified some types of evidence that can be particularly challenging to jurors. Statistical and economic evidence, for example, is difficult to weigh and assess properly, although judges can be just as susceptible to these problems as lay jurors.").

⁴⁶⁴ See *supra* Part IV.

⁴⁶⁵ See VALERIE P. HANS, BUSINESS ON TRIAL: THE CIVIL JURY AND CORPORATE RESPONSIBILITY 168 tbl.6-2 (2000) (presenting the results of a juror survey on business regulation and litigation); Valerie P. Hans, *The Illusions and Realities of Jurors' Treatment of Corporate Defendants*, 48 DEPAUL L. REV. 327, 332 (1998) ("For example, the public

tion against firms can “detrimentally affect the strength of the business community” and damage awards “might lead to a loss of jobs or otherwise harm the company.”⁴⁶⁶ Consequently, jurors see part of their task as protecting businesses against frivolous lawsuits⁴⁶⁷ and, as such, jurors are often suspicious about people who sue corporations.⁴⁶⁸ As a result, “on the whole, business corporations appear to enjoy more favorable experiences in court compared to other litigants.”⁴⁶⁹

In sum, whatever misgivings one may have about the jury system—whether it be a fear of false negatives, false positives, or both—the response should not be to replace jury deliberations with judicial application of economic theory, especially when judges misapply such theory to dispose of valid antitrust claims.

CONCLUSION

Supreme Court antitrust jurisprudence holds that if the plaintiff’s theory of the case suggests that the defendant engaged in conduct that the reviewing judge finds implausible, then the plaintiff’s evidentiary burden increases. In practice, this has come to mean that the defendant in such a situation is entitled to summary judgment. This Article questions this approach for several reasons. First, firms sometimes commit facially irrational acts. If some of these acts have anticompetitive effects, then the defendant should not be absolved of liability because the conduct seems irrational. Second, much conduct that appears irrational may be rational precisely because of its long-term anticompetitive effects. Courts should focus more on what the defendant actually did and less on whether the alleged conduct fits within any particular vision of rationality. Finally, because of these judicial misperceptions and limitations, courts mistakenly label some anticompetitive conduct as implausible and reject antitrust claims that

strongly endorses the free enterprise system, seeing it as a necessary precondition for free and democratic government. Americans express support for cultural values underlying a capitalist economy, such as the Protestant work ethic, personal ambition, and competition.” (footnote omitted)).

⁴⁶⁶ HANS, *supra* note 465, at 217.

⁴⁶⁷ See *id.* at 216 (“Part of the jury’s task, as they saw it, was to be vigilant about spotting frivolous lawsuits.”); see also HANS & ALBERTSON, *supra* note 461, at 1507 (“Jurors were deeply committed to an ethic of individual responsibility, and many saw the fact of plaintiffs bringing lawsuits as counter to that ethic. Interestingly, they saw themselves as standing guard against the potential of frivolous lawsuits.”).

⁴⁶⁸ See HANS, *supra* note 465, at 216 (“[J]urors are often suspicious and ambivalent toward people who bring lawsuits against business corporations.”).

⁴⁶⁹ HANS, *supra* note 465, at 330 (emphasis omitted).

should succeed or at least proceed to a jury. As a result, the rationality assumption, as applied, circumvents the factfinding process.

Antitrust law is neither intended nor designed to evaluate the rationality of business conduct. Antitrust litigation should determine whether the challenged conduct occurred and was on balance anti-competitive. To this end, once the plaintiff provides evidence that the defendant pursued a particular business strategy, courts should focus less on whether conduct is “rational” and more on whether it is anti-competitive. If an alleged conspiracy or predatory scheme failed—as the alleged predatory pricing conspiracy in *Matsushita* appears to have, if it existed—then the defendant may be entitled to summary judgment because of the plaintiff’s inability to demonstrate antitrust injury. But the plaintiff should lose because it has not suffered the necessary injury, not because the court believes that the alleged plot was irrational and therefore implausible at its inception.

If federal judges are in fact unable to accurately distinguish between rational and irrational business conduct, this suggests that judges hesitate more before invoking implausibility arguments to reject antitrust claims. Because courts are not well equipped to determine when anticompetitive schemes are actually irrational or implausible, federal judges should be more reticent to grant summary judgment to defendants based on the judge’s understanding of economic theory. Antitrust doctrine would be well served if judges focused less on theory and more on the facts before them.