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DELAY AND ITS BENEFITS FOR JUDICIAL RULEMAKING UNDER SCIENTIFIC UNCERTAINTY

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Abstract: The Supreme Court's increasing use of science and social science in its decision making has a rationalizing effect on law that helps ensure that a rule will have its desired effect. But resting doctrine on the shifting sands of scientific and social scientific opinion endangers legal stability. The Court must be responsive, but not reactive, to new scientific findings and theories, a difficult balance for lay justices to strike. This Article argues that the Court uses delay—defined as refusing to make or change a rule in light of new scientific arguments at time one, and then making or changing the rule because of the same arguments at time two—as a tool to improve decision making amidst scientific uncertainty. Using the Court's antitrust jurisprudence as an example, this Article shows that delay can have a salutary effect on rulemaking because it allows the Court to use academic consensus (that either develops or matures between times one and two) as a signal of scientific reliability. As a conservatizing device, delay operates in the common law tradition, but it also avoids some of the failures associated with traditional common law features like *stare decisis* and incrementalism. The Article concludes by contrasting Supreme Court decision making with an area of law where delay is impractical or undesirable. In toxic tort litigation, where the goals of deterrence and compensation preclude the use of delay in the face of new scientific arguments, the law pays the price in uncertainty and error.

INTRODUCTION

Watchers of antitrust law are often confounded by the slowness with which the Supreme Court adjusts doctrine to conform to new economic science.¹ Why did it take decades for a compelling microeconomic theory to take down the ancient *per se* rule against resale price maintenance (“RPM”)?² Why did the Court drag its feet in changing an economically incoherent presumption

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¹ See, e.g., Roger D. Blair & John E. Lopatka, *Albrecht Overruled—At Last*, 66 ANTITRUST L.J. 537, 566 (1998); Alan Delvin, *On the Ramifications of Leegin Creative Leather Products, Inc. v. PSKS, Inc.: Are Tie-Ins Next?*, 56 CLEV. ST. L. REV. 387, 387–88 (2008); Joshua D. Wright, *Moving Beyond Naïve Foreclosure Analysis*, 19 GEO. MASON. L. REV. 1163, 1165 (2012).

² See *infra* notes 23–87 and accompanying text.

of market power?³ And why is the Court still denying certiorari petitions that raise new and important antitrust concerns about a common business practice?⁴ The answer, in part, lies in the problems inherent in resting doctrine on the shifting sands of scientific opinion.

This Article explores the phenomenon of Supreme Court delay in the context of antitrust jurisprudence, with the expectation that the lessons learned there will have broader implications. Uncertainty is frequently offered as a reason for Supreme Court action.⁵ The classic occasion for granting certiorari is the circuit split, in which disagreement among lower courts forces the Court to step in to resolve the dispute with a single, authoritative rule and saves parties and courts from continuing to suffer under doubt and ambiguity about what the law is.⁶ But one kind of uncertainty seems to be a reason for Supreme Court *inaction*. Where scientific facts necessary to the formulation of an optimal rule are uncertain, the Court delays making or changing a rule until academic debate has settled on a consensus, one that is observable and robust enough for the Court to accept as truth.⁷

A new scientific theory presents a temptation and a risk to lay justices that want to design effective antitrust regulation. On the one hand, new scientific knowledge tempts the Court with the promise of scientific currency, a form of insurance against rule obsolescence and inefficiency. But the rapid pace of scientific change makes legal adoption of the latest economic fad risky. Today's popular new theory can be tomorrow's dead letter. A legal regime too reactive to change in economic opinion will flip-flop between antitrust rules with each new volley in the debate, which spells trouble for rule of law principles like stability and predictability.

Alternatively, delay allows the Court to take a compromise position on new economics that harnesses the informational benefits of dynamic scientific thought and preserves rule stability and long-term accuracy. Delay puts a thumb on the scale of the status quo, which has its own informational and stabilizing benefits. And by putting off a decision, it also enriches the information available to the Court when next it reconsiders the antitrust rule. As indicia of economic consensus develop, so does the Court's confidence in making a major change to doctrine. Delay allows the Court to alter the legal landscape—sometimes dramatically—while minimizing the risk of error and unpredictability.

³ See *infra* notes 102–113 and accompanying text.

⁴ See *infra* notes 114–123 and accompanying text.

⁵ See H.W. PERRY, JR., DECIDING TO DECIDE 246–52 (1991).

⁶ See *id.* (explaining that circuit splits make issues “certworthy”).

⁷ See *infra* notes 23–123 and accompanying text.

Part I of this Article uses the Court's RPM jurisprudence—from 1911's *Dr. Miles Medical Co. v. John D. Park & Sons Co.*⁸ to 2007's *Leegin Creative Leather Products, Inc. v. PSKS, Inc.*⁹—as a blueprint for its practice of delay.¹⁰ It reviews the intellectual history of the economic ideas behind *Leegin*,¹¹ and observes that the Court passed up several earlier opportunities to use them in *Dr. Miles*.¹² This Part argues that although a full causal account of why the Court took so long to overrule *Dr. Miles* would include other factors, the informational benefits of delay should be accounted for in any criticism of the Court's inertia.¹³ This Part then identifies other areas of antitrust law where the Court delayed conforming antitrust doctrine to developing economic thought, suggesting that its RPM jurisprudence is not anomalous.¹⁴

Part II then makes the theoretical case for delay as an information-enhancing mechanism.¹⁵ Delay improves the scientific information available to the Court by allowing time for a scientific consensus to emerge, by providing information about the stability of an existing consensus, or by providing evidence of consensus where it is difficult for the Court to detect.¹⁶ Part II then argues that delay, as a conservatizing force, operates in the spirit of the common law, even where it ultimately results in the kind of large-scale change that the case-by-case method typically scorns.¹⁷

Part III proves the value of delay in the negative.¹⁸ It shows that in a different judicial context—trial-level causation questions in toxic tort cases—delay is impossible or at least undesirable because judicial values other than long-term rule accuracy and legal stability are particularly important.¹⁹ In toxic tort suits, fairness to the injured and deterrence of corporate irresponsibility dictate a short interval between new science and legal consequence.²⁰ The price that tort law pays in inaccuracy suggests that in contexts where delay is not precluded by other considerations, delay can have significant benefits by avoiding these costs.²¹ Part III then concludes by contrasting the values at

⁸ See generally 220 U.S. 373 (1911) (holding resale price maintenance (“RPM”) to be a violation of antitrust law), *overruled by* *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877 (2007).

⁹ See generally 551 U.S. 877 (overruling *Dr. Miles*'s ban on minimum RPM).

¹⁰ See *infra* notes 23–123 and accompanying text.

¹¹ See *infra* notes 51–64 and accompanying text.

¹² See *infra* notes 65–87 and accompanying text.

¹³ See *infra* notes 85–87 and accompanying text.

¹⁴ See *infra* notes 88–123 and accompanying text.

¹⁵ See *infra* notes 124–222 and accompanying text.

¹⁶ See *infra* notes 154–178 and accompanying text.

¹⁷ See *infra* notes 179–222 and accompanying text.

¹⁸ See *infra* notes 223–304 and accompanying text.

¹⁹ See *infra* notes 226–260 and accompanying text.

²⁰ See *infra* notes 295–300 and accompanying text.

²¹ See *infra* notes 295–300 and accompanying text.

stake in Supreme Court antitrust law and toxic tort litigation to explain the different tradeoff values in each context.²²

I. DELAY IN ANTITRUST

The Supreme Court delays making or changing antitrust rules—sometimes for decades—in response to changed economic thinking.²³ The process of delay follows a simple pattern: at time one, certiorari petitioners present economic arguments for changing or making an antitrust rule, which the Court declines to do either by deciding the case narrowly or denying the petition altogether.²⁴ At time two, petitioners present the same argument with largely the same economic evidence, but this time the Court makes or changes the rule.²⁵ This Part considers the Court's RPM doctrine as an example of this pattern. First, Section A describes the Supreme Court's path from *Dr. Miles* to its reversal *Leegin*.²⁶ Then, Section B explains that the economic theory supporting *Leegin* had been known for decades.²⁷ Next, Section C discusses the Court's foregone opportunities to reverse *Dr. Miles* before *Leegin*.²⁸ Finally, Section D identifies other areas of its antitrust jurisprudence featuring a similar lag.²⁹

A. From *Dr. Miles* to *Leegin*

The Supreme Court's rules against RPM originated with its now-infamous *Dr. Miles* decision.³⁰ Minimum RPM is the practice of selling a product to a distributor or retailer on the condition that the distributor or retailer resell the product above a particular price.³¹ *Dr. Miles* involved a manufacturer that sought to enforce a contract term that restricted retail pricing against

²² See *infra* notes 301–304 and accompanying text.

²³ See Blair & Lopatka, *supra* note 1, at 566 (describing the Supreme Court's delay in changing the law on vertical maximum price fixing); Delvin, *supra* note 1, at 387–88 (describing the Supreme Court's delay in changing law on RPM); Wright, *supra* note 1, at 1165 (describing the “mismatch between new economic theories and obsolete doctrine” as an “uncomfortable tension”).

²⁴ See, e.g., *infra* notes 65–84 and accompanying text (describing the Court's refusals to overturn *Dr. Miles* despite contradictory economic evidence beginning in 1977).

²⁵ See, e.g., *Leegin*, 551 U.S. at 882; see also *infra* notes 40–50 and accompanying text (describing the Supreme Court's reversal of *Dr. Miles* in light of decades of economic research).

²⁶ See *infra* notes 30–50 and accompanying text.

²⁷ See *infra* notes 51–64 and accompanying text.

²⁸ See *infra* notes 65–87 and accompanying text.

²⁹ See *infra* notes 88–123 and accompanying text.

³⁰ 220 U.S. at 409.

³¹ See, e.g., B.S. YAMEY, THE ECONOMICS OF RESALE PRICE MAINTENANCE 3 (1954) (“A manufacturer who practises resale price maintenance requires his distributors (wholesalers and/or retailers) to resell the price-constrained goods at stipulated fixed prices or at not less than stipulated minimum prices.”).

a discounting distributor.³² The distributor argued that the vertical price restraint imposed by Dr. Miles was a “restraint of trade” in violation of § 1 of the Sherman Act.³³ The Supreme Court agreed, stating that the rule against vertical price restraints vindicated “[t]he right of alienation.”³⁴ Although the Court did not use the phrase “per se,” the case was quickly interpreted to establish a hard line against vertical price minimums.³⁵

Although the holding in *Dr. Miles* was not based on economic reasoning, the dissent criticized it for hindering certain procompetitive practices.³⁶ A prescient Justice Oliver Wendell Holmes, Jr. argued in dissent that manufacturers should be free to punish “knives [who] cut reasonable prices for some ulterior purpose of their own.”³⁷ Nearly fifty years later, economists would identify the precise harm of that knavery³⁸ and ignite the policy debate that raged—for almost another fifty years—over the appropriateness of a per se rule against minimum RPM.³⁹

The Court finally overturned *Dr. Miles* in its 2007 *Leegin* decision, in which the Court held that although anticompetitive uses of minimum RPM were possible, its efficient uses were neither “infrequent [n]or hypothetical.”⁴⁰ Per se condemnation, therefore, was not justified.⁴¹ The Court reasoned that to condemn per se a business practice with pro and anticompetitive uses was to sacrifice all its benefits to avoid its risks.⁴² Instead, it would be better—as the Court explained—to allow courts to evaluate each use on the case-by-case basis that the rule of reason affords.⁴³ Thus, the viability of the procompetitive theories of minimum RPM was essential to the Court’s argument.

³² 220 U.S. at 375–81. *Dr. Miles*—a manufacturer of elixirs—required its distributors to agree to a resale price no less than a specified minimum. *Id.* at 374. When a distributor began interfering with this contractual scheme, Dr. Miles sued it, alleging that the distributor had induced others to breach their contracts with Dr. Miles. *Id.* at 374–75.

³³ *Id.* at 390, 392; see Sherman Act, 15 U.S.C. § 1 (2012) (“Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations, is declared to be illegal.”).

³⁴ See *Dr. Miles*, 220 U.S. at 404.

³⁵ *Leegin*, 551 U.S. at 887 (citing *Monsanto Co. v. Spray-Rite Serv. Corp.*, 465 U.S. 752, 761 (1984)) (“The Court has interpreted [*Dr. Miles*] as establishing a per se rule against a vertical agreement between a manufacturer and its distributor to set minimum resale prices.”).

³⁶ 220 U.S. at 412 (Holmes, J., dissenting).

³⁷ *Id.*

³⁸ See Lester G. Telser, *Why Should Manufacturers Want Fair Trade?*, 3 J.L. & ECON. 86, 91 (1960) (hypothesizing that price maintenance prevents retailers from free riding on point of sale services by other retailers); *infra* notes 51–64 and accompanying text (discussing how price maintenance prevents retailers from free riding on point-of-sale services by other retailers).

³⁹ See *infra* notes 51–64 and accompanying text.

⁴⁰ *Leegin*, 551 U.S. at 894.

⁴¹ *Id.*

⁴² *Id.* at 895.

⁴³ *Id.* at 898–99.

The fact that none of the procompetitive justifications for RPM were new at the time of *Leegin* prompted criticisms of the Court's new rule.⁴⁴ Economic arguments substantially identical to the ones invoked by the Court's majority opinion appeared in economic and legal literature as early as 1954,⁴⁵ and by 1980, they had been restated and refined by over a dozen economists and legal academics.⁴⁶ To dissenting Justice Stephen Breyer, joined by three other justices, only significantly changed circumstances should override the Court's adherence to *stare decisis*.⁴⁷ Although new economic evidence could provide such a change in circumstances, that was not the case with RPM, as the *per se* rule against RPM had already survived the development and popularity of procompetitive justifications for the practice.⁴⁸ The rule's continued applicability suggested that it was defensible for reasons other than the absence of procompetitive uses of RPM.⁴⁹ Finding those reasons persuasive, the dissenters explained that they would have upheld the *per se* rule.⁵⁰

B. The History of *Leegin*'s Procompetitive Theory of Minimum RPM

Justice Breyer was right: substantially all of the arguments against *Dr. Miles*'s *per se* rule were well-known for decades.⁵¹ *Leegin*'s most prominent economic justification for minimum RPM—that it prevents free riding among retailers and distributors—was articulated in 1960 by Lester Telser.⁵² Telser developed a model of retailing in which manufacturers use RPM to increase

⁴⁴ See *id.* at 918–23 (Breyer, J., dissenting).

⁴⁵ See YAMEY, *supra* note 31, at 52.

⁴⁶ See, e.g., ROBERT H. BORK, THE ANTITRUST PARADOX 290–91 (1978); RICHARD A. POSNER, ANTITRUST LAW: AN ECONOMIC PERSPECTIVE 67–68 (1976); Donald I. Baker, *Vertical Restraints in Times of Change: From White to Schwinn to Where?*, 44 ANTITRUST L.J. 537, 541 (1975); Ward S. Bowman, Jr., *The Prerequisites and Effects of Resale Price Maintenance*, 22 U. CHI. L. REV. 825, 840–43 (1955); William S. Comanor, *Vertical Territorial and Customer Restrictions: White Motor and Its Aftermath*, 81 HARV. L. REV. 1419, 1427–35 (1968); J.R. Gould & L.E. Preston, *Resale Price Maintenance and Retail Outlets*, 32 ECONOMICA 302, 311–12 (1965); Martin B. Louis, *Vertical Distributional Restraints Under Schwinn and Sylvania: An Argument for the Continuing Use of a Partial Per Se Approach*, 75 MICH. L. REV. 275, 296–306 (1976); Stanley D. Robinson, *Recent Antitrust Developments: 1974*, 75 COLUM. L. REV. 243, 279–80 (1975); Telser, *supra* note 38, at 91; Oliver E. Williamson, *Assessing Vertical Market Restrictions: Antitrust Ramifications of the Transaction Cost Approach*, 127 U. PA. L. REV. 953, 955–58 (1979); Edwin M. Zimmerman, *Distribution Restrictions After Sealy and Schwinn*, 12 ANTITRUST BULL. 1181, 1182–87 (1967); Allen B. Chronister & Jerry R. Goldstein, Note, *Territorial and Customer Restrictions: A Trend Toward a Broader Rule of Reason?*, 40 GEO. WASH. L. REV. 123, 146 (1971); Elizabeth Hellman, Note, *Vertical Territorial and Customer Restrictions in the Franchising Industry*, 10 COLUM. J.L. & SOC. PROB. 497, 515–16 (1974).

⁴⁷ *Leegin*, 551 U.S. at 918–23 (Breyer, J., dissenting).

⁴⁸ See *id.* at 920.

⁴⁹ See *id.*

⁵⁰ *Id.* at 929.

⁵¹ See Telser, *supra* note 38, at 91.

⁵² *Id.*

demand for its products, solving the “long-standing puzzle” of why manufacturers would wish to keep resale prices high.⁵³

Telser advanced a theory, one eventually endorsed by *Leegin*, that manufacturers give their retailers a profit margin to induce them to provide “special services” at the point of sale.⁵⁴ Inducement is necessary, explained Telser, because if retailers are free to discount, they will “free ride” on higher-price, higher-service retailers by offering the product without the services for a cheaper price.⁵⁵ This free riding will eventually unravel the market for point-of-sale services altogether, because the high-service sellers, knowing they cannot beat their discounting rivals, must join them in offering low prices without services.⁵⁶ Telser explained that the bargain bin is not always the optimal sales outlet, because for some products, special services boost demand enough to compensate for the higher price that covers the cost of providing those services.⁵⁷ For these products, manufacturers can use minimum RPM to prevent the market for point-of-sale services from unraveling.⁵⁸

As Telser’s model gained traction within the economic and legal academies, pressure against the *Dr. Miles* rule began to build.⁵⁹ When the Court decided *United States v. Arnold, Schwinn & Co.* in 1967, which expanded *Dr. Miles*’s per se rule to vertical territorial (non-price) restrictions,⁶⁰ it provoked an onslaught of criticism from the economists who had developed models demonstrating the procompetitive potential of similar restraints in the last dec-

⁵³ *Id.* at 86. All things being equal, however, higher retail prices should mean reduced demand for manufacturers’ products. RICHARD A. POSNER, *ANTITRUST LAW* 171 (2d ed. 2001) (stating that, “one might expect the manufacturer always to encourage rather than restrict competition among his dealers”); see also YAMEY, *supra* note 31, at 3 (“On the face of it price competition among distributors would seem to serve the interests of manufacturers.”).

⁵⁴ Telser, *supra* note 38, at 86. In-store, pre-sale product demonstration could be such a demand-enhancing special service. *Id.* at 91.

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ *Id.* Telser’s account was the earliest articulation of the free-riding theory that is substantially identical to the one endorsed by the Court in *Leegin*, but his ideas have even older origins in the economics literature. See YAMEY, *supra* note 31, at 52–56; Bowman, *supra* note 46, at 840–43. Telser’s 1960 article was a response to the work on RPM in the previous decade that recognized that the provision of point-of-sale services might have something to do with manufacturers’ use of RPM. See Telser, *supra* note 38, at 86 n.1, 89 n.4 (responding to YAMEY, *supra* note 31, at 52–56; Bowman, *supra* note 46, at 840–43). Telser traces the “special services” story back even farther, quoting a passage from a 1932 book observing that “‘where the sale depends on demonstration or service on the part of the distributor . . . the injury [of price cutting] to the manufacturer is probable.’” *Id.* at 89 n.4 (quoting EDWIN R. A. SELIGMAN & ROBERT A. LOVE, *PRICE CUTTING AND PRICE MAINTENANCE* 193 (1932)).

⁵⁹ See, e.g., Robert Bork, *The Rule of Reason and the Per Se Concept: Price Fixing and Market Division*, 75 *YALE L.J.* 373, 398 (1966) (suggesting that the economic theories that guided *Dr. Miles* did not “have any merit”); *infra* note 61 (collecting sources).

⁶⁰ 388 U.S. 365, 382 (1967). For example, in *Schwinn*, manufacturers allocated exclusive territories to wholesalers and limited sales of products to franchisees. *Id.* at 367.

ade.⁶¹ Since the mid-1960s, it was clear that Telser's model applied to non-price restraints because any mechanism that suppresses intrabrand competition can solve the free-riding problem and induce retailer point-of-sale services.⁶²

The Court's economically questionable decision in *Schwinn* spurred a flurry of productivity in the economic and law-and-economic academies that produced essentially all of the arguments that would ever be presented to the Court in support of overturning *Dr. Miles*.⁶³ In particular, in 1983, a 200-page report on RPM for the Federal Trade Commission detailed the economic evidence, theoretical and empirical, for and against allowing RPM as a legal matter.⁶⁴ Very little changed in economic scholarship on RPM in the years between the report and *Leegin*.

C. The Court's Forgone Opportunities to Overturn *Dr. Miles*

Between Telser's 1960 article and the 2007 *Leegin* decision, the Court declined at least three opportunities to change the per se rule against minimum RPM.⁶⁵ Strikingly, in each of these cases, amicus briefs presented the Court with substantially similar economic theories to those that it eventually relied on to justify the holding in *Leegin*.⁶⁶

The Court's first opportunity to revisit *Dr. Miles* was in 1977, when the Court overruled *Schwinn* with its decision in *Continental T.V., Inc. v. GTE Sylvania Inc.*⁶⁷ In sparing vertical territorial restrictions from per se treatment under *Dr. Miles*, *Sylvania* implicitly adopted Telser's model of improved interbrand competition through restricted intrabrand competition.⁶⁸ The opinion cited more than a dozen economics and law-and-economics articles that sang

⁶¹ See, e.g., Baker, *supra* note 46, at 537; Milton Handler, *The Twentieth Annual Antitrust Review—1967*, 53 VA. L. REV. 1667, 1680–81 (1967); Richard W. McLaren, *Territorial and Customer Restrictions, Consignments, Suggested Retail Prices and Refusals to Deal*, 37 ANTITRUST L.J. 137, 143–44 (1968); Earl E. Pollock, *Alternative Distribution Methods After Schwinn*, 63 NW. U. L. REV. 595, 602–03 (1968); Robinson, *supra* note 46, at 271; Note, *Territorial Restrictions and Per Se Rules—A Reevaluation of the Schwinn and Sealy Doctrines*, 70 MICH. L. REV. 616, 617 (1972). Ironically, one of the most forceful critics of *Schwinn* was Richard Posner, who argued and won the case for the government. See Richard A. Posner, *Antitrust Policy and the Supreme Court: An Analysis of the Restricted Distribution, Horizontal Merger and Potential Competition Decisions*, 75 COLUM. L. REV. 282, 296 (1975) (critiquing *Schwinn*).

⁶² See, e.g., Baker, *supra* note 46, at 537; Handler, *supra* note 61, at 1680–81; McLaren, *supra* note 61, at 143–44; Pollock, *supra* note 61, at 602–03.

⁶³ See, e.g., Baker, *supra* note 46, at 537; Handler, *supra* note 61, at 1680–81; McLaren, *supra* note 61, at 143–44; Pollock, *supra* note 61, at 602–03.

⁶⁴ See generally THOMAS R. OVERSTREET, FED. TRADE COMM'N, *RETAIL PRICE MAINTENANCE: ECONOMIC THEORIES AND EMPIRICAL EVIDENCE* (1983) (detailing arguments for and against retail price maintenance).

⁶⁵ See *infra* notes 67–84 and accompanying text.

⁶⁶ See *infra* notes 67–84 and accompanying text.

⁶⁷ 433 U.S. 36, 58 (1977).

⁶⁸ *Id.* at 51–57.

the praises of vertical distributional restrictions generally.⁶⁹ Yet the Court used these arguments to act narrowly: it carefully carved out territorial restraints from the *Dr. Miles* rule, but left resale *price* restrictions per se unlawful.⁷⁰ A broader holding—that all vertical restrictions (price and non-price) should be analyzed under the rule of reason—was certainly possible.⁷¹ In fact, Justice Byron White suggested in his concurrence that the majority’s reasoning required that result.⁷²

The Court’s next two opportunities to overturn *Dr. Miles* are even more remarkable than *Sylvania* because, unlike in that case, the issue of undoing the per se status of minimum RPM was squarely before the Court.⁷³ First, in 1984, the Court decided *Monsanto Co. v. Spray-Rite Service Corp.*, which it framed as a case about the evidentiary sufficiency to support a violation of § 1 of the Sherman Act for price-fixing.⁷⁴ It held that evidence that a manufacturer terminated a price-cutting distributor after receiving complaints from rival distributors was, by itself, not sufficient to establish § 1 liability.⁷⁵ Although the Court chose a narrow ground to decide *Monsanto*, it was asked to do more.⁷⁶ The government’s amicus brief argued a “more fundamental” ground for reversal than the evidentiary question: “There is no sound basis for assuming, as courts have since *Dr. Miles* . . . that resale price maintenance is so invariably anticompetitive as to justify *per se* condemnation.”⁷⁷ The brief relied heavily on Telser’s 1960 article, as well as subsequent scholarship by Robert Bork and Richard Posner.⁷⁸ Justice William Brennan wrote separately to emphatically reject the government’s invitation to overrule the per se rule, noting that although “[t]he Solicitor General . . . and several other *amici* suggest that we take

⁶⁹ *Id.* at 48 n.13, 56.

⁷⁰ *Id.* at 51 n.18 (“The *per se* illegality of price restrictions has been established firmly for many years and involves significantly different questions of analysis and policy.”). But even at that time, most economists believed that price and non-price restrictions had similar effects. *See supra* note 61 (collecting sources).

⁷¹ *See* Richard A. Posner, *The Rule of Reason and the Economic Approach: Reflections on the Sylvania Decision*, 45 U. CHI. L. REV. 1, 7 (observing that the “Court must have realized . . . that the [free rider] concept applies with equal force to resale price maintenance”).

⁷² *Sylvania*, 433 U.S. at 69–70 (White, J., concurring).

⁷³ *See infra* notes 74–84 and accompanying text.

⁷⁴ 465 U.S. at 755 (“This case presents a question as to the standard of proof required to find a vertical price-fixing conspiracy in violation of § 1 of the Sherman Act.”); *see* 15 U.S.C. § 1 (2012).

⁷⁵ *Monsanto*, 465 U.S. at 764 (explaining that “something more than evidence of complaints is needed,” but ultimately finding that the verdict against Monsanto should stand because it was indeed supported by “something more”).

⁷⁶ *See* Brief for the United States as Amicus Curiae in Support of Petitioner at 6, *Monsanto*, 465 U.S. 752 (No. 82-914), 1983 U.S. S. Ct. Briefs Lexis 375, at *13.

⁷⁷ *Id.*

⁷⁸ *Id.*

this opportunity to reconsider [*Dr. Miles*],” the Court would “decline to reach the question.”⁷⁹

This pattern repeated itself four years later in *Business Electronics Corp. v. Sharp Electronics Corp.*⁸⁰ Again, the Court was asked to reverse *Dr. Miles*,⁸¹ and again it decided the case only on the narrow issue of what constitutes an agreement under § 1.⁸² This time, however, it was not the Justice Department calling for *Dr. Miles*’s demise; the defendant-manufacturer cross-petitioned the Court to grant certiorari on the issue.⁸³ The Court did not even mention the request in its opinion.⁸⁴

Many factors may account for the Court’s change of heart between 1988 and 2007. Indeed, too many things changed to allow a simple causal story to be told about why the Court, when presented with the same question and the same economic evidence, came up with a different answer. Congress’s disapproval of RPM softened.⁸⁵ Cases were decided that lessened the practical effect of the *Dr. Miles* rule.⁸⁶ Perhaps most importantly, the composition of the Court shifted right; the average justice in 2007 was more business-friendly and

⁷⁹ *Monsanto*, 465 U.S. at 769 n.1 (Brennan, J., concurring).

⁸⁰ 485 U.S. 717, 735–36 (1988).

⁸¹ See Brief for the United States as Amicus Curiae at 14–15, *Bus. Elecs. Corp.*, 485 U.S. 717 (Nos. 85-1910 & 85-2094) (“The question presented in the cross petition (No. 85-2094) is whether the Court should reconsider its decisions holding that resale price maintenance is per se unlawful.”).

⁸² *Bus. Elecs. Corp.*, 485 U.S. at 735–36; see 15 U.S.C. § 1.

⁸³ See Brief for Respondent Sharp Electronics Corp. at 15, *Bus. Elecs. Corp.*, 485 U.S. 717 (No. 85-1910), 1987 WL 881326, at *15; see also Brief for the United States, *supra* note 81, at 14–15. The government’s silence was hardly surprising. As it explained in its amicus brief in the case, “The statute appropriating funds for the operation of the Department of Justice during the current fiscal year states in pertinent part that ‘none of the funds appropriated in this Act may be used for any activity to alter the per se prohibition on resale price maintenance.’” Brief for United States, *supra* note 81, at 15 (quoting Joint Resolution of Oct. 30, 1986, Pub. L. No. 99-591, § 605, 100 Stat. 3341, 3341-73). The Department’s hands were tied by Congress, who evidently did not approve of its brief in *Monsanto*. See *id.*

⁸⁴ See generally *Bus. Elecs. Corp.*, 485 U.S. 717 (declining to mention the petition to reconsider the *Dr. Miles* rule). In addition to these most prominent refusals to revisit *Dr. Miles*, the Court also denied several certiorari petitions between 1977 and 2007 that called for an end to the per se ban on RPM. See, e.g., Petition for Writ of Certiorari, *World of Sleep, Inc. v. La-Z-Boy Chair Co.*, 756 F.2d 1467 (10th Cir. 1985), *cert. denied*, 474 U.S. 823 (1985). The Court also implicitly reaffirmed the *Dr. Miles* rule in 1987 in *324 Liquor Corp. v. Duffy*. See 479 U.S. 335, 341 (1987) (“Resale price maintenance has been a per se violation of § 1 of the Sherman Act since the early years of national antitrust enforcement.”) (internal quotation marks omitted).

⁸⁵ See Richard M. Brunell, *Overruling Dr. Miles: The Supreme Trade Commission in Action*, 52 ANTITRUST BULL. 475, 479 & n.21 (2007). Congress stopped conditioning Justice Department funding on its RPM stance in the early 1990s and failed to pass legislation codifying *Dr. Miles* in 1991. See *id.*

⁸⁶ See *id.* at 480. In one commentator’s words, *Dr. Miles* had been “largely defanged” by cases like *Monsanto* and *Business Electronics*. *Id.* (quoting Herbert Hovenkamp, *The Robinson-Patman Act and Competition: Unfinished Business*, 68 ANTITRUST L. J. 125, 125 (2000)).

hostile to antitrust liability than in 1988.⁸⁷ But in the interim, the economic consensus about RPM economics matured, so that when the Court did eventually change the rule by relying on procompetitive arguments about RPM, those arguments had been in the mainstream for decades.

D. Other Examples of Supreme Court Delay in Antitrust Jurisprudence

1. Maximum RPM

Alongside the Court's line of minimum RPM cases ran a related line of cases addressing the legality of maximum RPM.⁸⁸ Maximum RPM has an even less obvious anticompetitive effect because its purpose and effect appeared to keep retail prices lower rather than higher, as with minimum RPM.⁸⁹ But the Court included maximum RPM in the *per se* category in 1968 with its decision in *Albrecht v. Herald Co.*⁹⁰

The Court began to exhibit doubts about the illegality of maximum RPM in its 1989 case *Atlantic Richfield Co. v. USA Petroleum Co. (ARCO)*.⁹¹ An economic consensus had emerged in the 1980s that maximum RPM was almost always efficient and beneficial to the consumer.⁹² Accordingly, when the Court granted certiorari in *ARCO*,⁹³ the Newspaper Publishers Association filed an amicus brief asking the Court to abolish the *Albrecht* rule in light of the academic consensus.⁹⁴ As the Court did in *Monsanto* and *Sharp*, it declined the invitation to revisit its previous economically incorrect decision.⁹⁵ But it did question the continued wisdom of *Albrecht*, observing, as the Newspaper Publishers Association had, that “[m]any commentators have identified procompetitive effects of vertical, maximum price fixing.”⁹⁶ As support for that

⁸⁷ See Thomas A. Lambert, *The Roberts Court and the Limits of Antitrust*, 52 B.C. L. REV. 871, 872–73 (2011) (noting that many scholars view the Roberts Court as highly pro-business); cf. Delvin, *supra* note 1, at 388 (“The Roberts Court has appeared to some to have taken a shift to the right with the addition of its two new members.”).

⁸⁸ See *infra* notes 89–101 and accompanying text.

⁸⁹ See Frank H. Easterbrook, *Maximum Price Fixing*, 48 U. CHI. L. REV. 886, 888 (1981).

⁹⁰ 390 U.S. 145, 154 (1968).

⁹¹ *Atlantic Richfield Co. v. USA Petroleum Co. (ARCO)*, 495 U.S. 328, 331 (1990).

⁹² See, e.g., PHILLIP AREEDA & HEBERT HOVENKAMP, *ANTITRUST LAW* ¶ 340.30b (1988); Roger D. Blair & Jeffrey L. Harrison, *Rethinking Antitrust Injury*, 42 VAND. L. REV. 1539, 1554 n.118 (1989); Easterbrook, *supra* note 89, at 888.

⁹³ *ARCO*, 495 U.S. at 331.

⁹⁴ Motion for Leave to File Brief and Brief of the American Newspaper Publishers Ass’n as Amicus Curiae at 7, *ARCO*, 495 U.S. 328 (No. 88-1668). This was not the first time the Court had been asked to do the same thing; in 1988 it denied a petition for certiorari from Miller Brewing Company that demanded a reversal of *Albrecht*. See *Beer Wholesalers, Inc. v. Miller Brewing Co.*, 426 N.W.2d 438 (Minn. Ct. App. 1988), *cert. denied*, 489 U.S. 1039 (1989).

⁹⁵ *ARCO*, 495 U.S. at 335 n.5 (“We assume, *arguendo*, that *Albrecht* correctly held that vertical, maximum price fixing is subject to the *per se* rule.”).

⁹⁶ *Id.* at 343 n.13.

statement, the Court reproduced a footnote and string cite from the Newspapers' brief.⁹⁷

Albrecht's maximum RPM rule had its *Leegin* moment in 1997 when the Court decided *State Oil Co. v. Khan*.⁹⁸ The Court reversed *Albrecht* in light of "a considerable body of scholarship" criticizing the theoretical justifications for *Albrecht's* rule.⁹⁹ But *Khan*, like *Leegin*, relied almost exclusively on scholarship written before the Court's last clear chance to overrule the case.¹⁰⁰ In fact, the Court mostly relied on economic arguments it itself had explained in *ARCO*.¹⁰¹

2. Market Power Conferred by Patent

Perhaps the most infamous example of delayed rulemaking in the face of advances in economic science is that of the long-standing—and economically indefensible—presumption that a patent confers market power on its holder.¹⁰² Such a presumption makes intuitive sense, because a patent holder, by definition, faces no competition from others making the identical product. That intuition was perhaps enough to justify the Supreme Court's decision to establish it as a rule in the tying context in 1947 in *International Salt Co. v. United States*.¹⁰³ This was, however, before economists developed more sophisticated models of markets and market power.¹⁰⁴ But by the 1970s, mainstream economists agreed that patents did not necessarily confer market power given that many patented products have adequate substitutes in the market.¹⁰⁵

In 1985, the Court passed up a chance to revisit this presumption when it denied certiorari to review the Ninth Circuit's application of the presumption in *Digidyne Corp. v. Data General Corp.*¹⁰⁶ Justices Byron White and Harry

⁹⁷ Compare *id.* (citing six sources previously cited in the Brief for the Newspaper Association), with Brief for the Newspaper Association, *supra* note 94, at 7 n.12 (citing six of the sources later cited in *ARCO*).

⁹⁸ See 522 U.S. 3, 7 (1997) ("We conclude that *Albrecht* should be overruled.").

⁹⁹ *Id.* at 15.

¹⁰⁰ *Id.* at 15–18 (citing scholarship dating back to 1972).

¹⁰¹ *Id.* at 14–15 (citing *ARCO*, 495 U.S. at 343 n.13).

¹⁰² Kenneth J. Burchfiel, *Patent Misuse and Antitrust Reform: "Blessed Be the Tie?,"* 4 HARV. J.L. & TECH. 1, 57 (1991) ("The presumption of market power from ownership of a patent or copyright in antitrust tying violations has been extensively criticized on the basis of economic theory."). Market power, or the ability to profitably raise price above the competitive equilibrium, is often an essential factual question in antitrust cases since many offenses require it as an element. See *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 8 (1984). Tying, for example, is per se unlawful if the defendant has market power in the tying product. See, e.g., *id.* at 13–14.

¹⁰³ 332 U.S. 392, 400 (1947).

¹⁰⁴ See Burchfiel, *supra* note 102, at 57 & n.340 (collecting criticisms of the patent presumption from prominent scholars such as Ward Bowman, Richard Posner, Robert Bork, Louis Kaplow, and Donald Turner).

¹⁰⁵ See *id.*

¹⁰⁶ 734 F.2d 1336, 1339 (9th Cir. 1984), *cert. denied*, 473 U.S. 908 (1985).

Blackmun dissented from the denial, arguing that the Court should have taken this opportunity to revisit whether the existence of “legal monopol[ies]” such as copyrights creates market power.¹⁰⁷

At least one other member of the Court was also prepared to revisit *International Salt*; just a year before in her concurrence in *Jefferson Parish*, Justice Sandra Day O’Connor criticized the majority’s off-hand remark that patents grant market power to sellers.¹⁰⁸ Justice O’Connor called the patent presumption a “common misconception.”¹⁰⁹

That misconception would survive in Supreme Court jurisprudence, if nowhere else,¹¹⁰ until 2006 when the Court overruled *International Salt* in *Illinois Tool Works, Inc. v Independent Ink, Inc.*¹¹¹ As in *Leegin*, the Court referenced scholarly opinion as a reason for the overruling,¹¹² but only cited arguments that had been well-known for decades.¹¹³ Even the more recent sources cited by the Court in *Illinois Tool* merely restated arguments that were prevalent in the economic literature since the 1970s, ones that were very much mainstream when the Court denied certiorari in *Digidyne*.

3. Still Waiting for a *Leegin* Moment: Market-Share Discounts

The Supreme Court recently denied certiorari in cases concerning a current topic of scholarship in the law-and-economics academy: the competitive effects of market-share discounts (also called loyalty discounts).¹¹⁴ A market-share discount is a special price, often achieved through rebates, offered to customers who buy a given percentage of their requirements from a seller instead of from the seller’s competitors.¹¹⁵ Although the practice has been popular for

¹⁰⁷ *Data General Corp. v. Digidyne Corp.*, 473 U.S. 908, 909 (1985) (White, J., dissenting).

¹⁰⁸ 466 U.S. at 37 n.7 (O’Connor, J., concurring); *see id.* at 16 (majority opinion).

¹⁰⁹ *Id.* at 37 n.7 (O’Connor, J., concurring).

¹¹⁰ Emboldened by Justice O’Connor’s *Jefferson Parish* footnote, and armed with decades of economic scholarship critical of *International Salt*’s presumption, many lower courts ignored its holding and required further proof of market power than the mere existence of patent or copyright protection. *See* 10 PHILLIP AREEDA ET. AL., *ANTITRUST LAW* ¶ 1737b (1996) (observing in 1996 that “most current lower courts decline to infer power from the limited legal monopolies conferred by patents, copyrights, or trademarks”); *see also* William Montgomery, Note, *The Presumption of Economic Power for Patented and Copyrighted Products in Tying Arrangements*, 85 COLUM. L. REV. 1140, 1145–46 (1985) (describing lower court cases rejecting the presumption of market power conferred by patents).

¹¹¹ *See* 547 U.S. 28, 46 (2006).

¹¹² *Id.* at 43 n.4 (“Our imposition of this requirement [of proof of market power] accords with the vast majority of academic literature on the subject.”).

¹¹³ *See id.* at 43–45 (citing sources dating as far back at 1988).

¹¹⁴ *See* *ZF Meritor LLC v. Eaton Corp.*, 696 F.3d 254, 263 (3d Cir. 2012), *cert. denied*, 133 S. Ct. 2025 (2013); *Smith Wholesale Co., Inc. v. R.J. Reynolds Tobacco Co.*, 477 F.3d 854, 865–66 (6th Cir. 2007), *cert. denied*, 552 U.S. 818 (2007); *Concord Boat Corp. v. Brunswick Corp.*, 207 F.3d 1039, 1045 (8th Cir. 2000), *cert. denied*, 531 U.S. 979 (2000).

¹¹⁵ Daniel A. Crane, *Bargaining for Loyalty*, 92 TEX. L. REV. 253, 259 (2013).

a long time, and raises unique competitive concerns, the Supreme Court has yet to create a rule that specifically governs market-share discounts.¹¹⁶ Lower courts struggling to evaluate Sherman Act claims alleging these discounts as a vehicle for monopolization have, for the most part, applied the Supreme Court's predatory pricing doctrine that holds lawful any above-cost discounting.¹¹⁷ But the academy and industry want more clarification on the subject because market-share discounts present economic issues distinct from those related to predatory pricing.¹¹⁸

Only relatively recently have economic and law-and-economic literature discussed what exactly those economic issues are, and whether antitrust policy should encourage or discourage the use of such discounts.¹¹⁹ We may yet be in the decade when economic opinion about market-share discounts reaches its maturity; but at the moment, positions on both sides of the debate are populated by distinguished scholars.¹²⁰

Since 2000, the Court has denied petitions for certiorari in three cases that raised the legality of market share discounts under the Sherman Act.¹²¹ Most recently, the Court declined to review the U.S. Court of Appeals for the Third Circuit's 2012 opinion in *Eaton Corp. v. ZF Meritor LLC*, which approved of a monopolization theory premised on market-share discounts.¹²² One amicus brief—signed by eighteen scholars in support of the petition—cited several articles that discussed the economics of market-share discounts, including a 2013 article that provides a survey of the economic scholarship on the subject.¹²³ Perhaps eventually the Court will grant certiorari to create a rule governing the practice, giving market-share discounts its *Leegin* moment. And if that happens, it is not hard to imagine that the nineteen articles cited in the 2013 survey article will figure prominently as academic support for the new rule.

¹¹⁶ *Id.* at 270.

¹¹⁷ Brief for Eighteen Scholars as Amici Curiae in Support of Petitioner at 7, *ZF Meritor LLC*, 133 S. Ct. 2025 (No. 12-1045) [hereinafter Scholars' Amicus Brief] (citing *Southeast Mo. Hosp. v. C.R. Bard, Inc.*, 642 F.3d 608, 610–13 (8th Cir. 2011); *NicSand, Inc. v. 3M Co.*, 507 F.3d 442, 447–48, 455 (6th Cir. 2007); *Virgin Atl. Airways Ltd. v. British Airways PLC*, 257 F.3d 256 (2d Cir. 2001); *Concord Boat*, 207 F.3d at 1062–63; *Barry Wright Corp. v. ITT Grinnell Corp.*, 724 F.2d 227 (1st Cir. 1983)).

¹¹⁸ See *Crane*, *supra* note 115, at 270–71.

¹¹⁹ See *id.* at 255 n.14 (collecting nineteen articles and book chapters dedicated to economic analyses of loyalty discounts).

¹²⁰ See *id.* at 254–55.

¹²¹ *ZF Meritor LLC*, 696 F.3d at 343; *R.J. Reynolds Tobacco Co.*, 477 F.3d at 864–65; *Concord Boat*, 207 F.3d at 1045.

¹²² See *ZF Meritor LLC*, 696 F.3d at 343.

¹²³ Scholars' Amicus Brief, *supra* note 117, at 11 n.5 (citing *Crane*, *supra* note 115, at 255 n.14).

II. THE BENEFITS OF DELAY

Commentators often criticize the Court's passivity in the face of new economic scholarship, as if the Court's lag behind the academy is always a bad thing.¹²⁴ The logic seems to be that if antitrust rules must make economic sense, and if the Court refuses to incorporate known economic principles into its rulemaking, then the Court's performance as rule-giver is suboptimal.¹²⁵ But this syllogism overlooks a very troubling aspect of resting a legal regime on a social scientific foundation. Science changes. To criticize the Court for refusing to adjust a rule in the face of economic truth begs the question of when, exactly, an economic argument achieves the status of truth. That the Supreme Court and economists answer this question differently is neither surprising nor necessarily bad.

Section A of this Part first discusses the difficult institutional position the Court occupies when it considers a new antitrust rule, as it acts as rulemaker in an area of law requiring technical and theoretical knowledge.¹²⁶ Although the Court ideally would defer to economic consensus as a proxy for scientific truth, consensus does not always exist. And even where it does, it can be difficult for a lay justice to observe. Given these institutional limitations, Section B then argues that the Court's delay at time one can actually lead to better antitrust rulemaking by providing the Court with better information at time two.¹²⁷

It may be that the Court recognizes these salutary effects of delay and acts deliberately when it drags its feet in changing law in response to scientific opinion. But even if it does not (and making a convincing causal argument is difficult given the many reasons why the Court may choose to wait before altering any given rule) the benefits of delay should not be ignored when assessing the Court's performance as antitrust regulator.

A. The Court's Expertise-Deficit and Its Consequences for Antitrust

The Sherman Act has been interpreted as a broad delegation of authority—from Congress to the Supreme Court—to regulate competition policy in the first instance.¹²⁸ And because the Court interprets the Act to require eco-

¹²⁴ See Blair & Lopatka, *supra* note 1, at 537 (lamenting the length of time it took the Court to overrule *Albrecht*); Delvin, *supra* note 1, at 387 (calling the Court's refusal to overrule *Dr. Miles* "intransigent and pertinacious"); Wright, *supra* note 1, at 1165 (describing the "mismatch between new economic theories and obsolete doctrine" as an "uncomfortable tension").

¹²⁵ See Delvin, *supra* note 1, at 387–88 ("[N]otwithstanding the bedrock principle that antitrust cases must make economic sense, the rule that vertically imposed minimum price-based restraints are illegal has remained in force for almost a hundred years.").

¹²⁶ See *infra* notes 128–153 and accompanying text.

¹²⁷ See *infra* notes 154–222 and accompanying text.

¹²⁸ See Margaret H. Lemos, *The Other Delegate: Judicially Administered Statutes and the Non-delegation Doctrine*, 81 S. CAL. L. REV. 405, 410 (2008) ("[The Sherman Act] delegates virtually boundless discretion to the federal courts to craft substantive antitrust rules . . .").

conomic efficiency as the guiding principle of antitrust regulation,¹²⁹ it must act as the final arbiter in social scientific debates that are necessarily beyond its expertise.¹³⁰

The Court's institutional role with respect to antitrust is hardly unique to that area of law. The Court is in a similar position whenever it acts as the primary rulemaker in an area of law demanding scientific or social scientific inputs. The most obvious domain where Court has primary rulemaking capacity is in interpreting the Constitution, and rulemaking under several provisions of the Constitution—including the First,¹³¹ Eighth,¹³² and Fourteenth¹³³ Amendments—require scientific or social scientific knowledge. In these areas, as in antitrust, the Court suffers from a similar expertise deficit outlined here. And in these areas, delay may have a similar effect on rulemaking. Accordingly, this Section uses the antitrust story to develop observations with broader applications.

¹²⁹ See *United States v. Syufy Enters.*, 903 F.2d 659, 663 (9th Cir. 1990) (“[L]ike all antitrust cases, this one must make economic sense.”); Daniel A. Crane, *Technocracy and Antitrust*, 86 TEX. L. REV. 1159, 1212 (2008) (“Within the last few decades a broad consensus has emerged that consumer welfare and economic efficiency are the overriding, if not exclusive, goals.”); Frank H. Easterbrook, *Vertical Arrangements and the Rule of Reason*, 53 ANTITRUST L.J. 135, 138 (1984) (stating that the Court views antitrust laws as a consumer-welfare prescription); John E. Lopatka & William H. Page, *Economic Authority and the Limits of Expertise in Antitrust Cases*, 90 CORNELL L. REV. 617, 695 (2005) (“Unlike areas of law that look to expertise to resolve occasional issues of fact, antitrust must incorporate economics into every substantive and evidentiary rule and standard . . .”). In antitrust, economics is—to borrow John Monahan and Laurens Walker’s terminology—“social authority,” which they define as “social science research relevant to creating a rule of law.” John Monahan & Laurens Walker, *Social Authority: Obtaining, Evaluating, and Establishing Social Science in Law*, 134 U. PA. L. REV. 477, 488 (1986).

¹³⁰ See Rebecca Haw, *Amicus Briefs and the Sherman Act: Why Antitrust Needs a New Deal*, 89 TEX. L. REV. 1247, 1248 (2011).

¹³¹ See U.S. CONST. amend. I. For example, the Court’s “secondary effects” doctrine under the First Amendment allows local governments to regulate speech, typically adult entertainment, that has “secondary effects” on criminal activity. See, e.g., *City of Los Angeles v. Alameda Books, Inc.*, 535 U.S. 425, 430 (2002). In defining the contours of the doctrine, the Court often has to evaluate social scientific studies linking adult entertainment to crime. See *id.*

¹³² See U.S. CONST. amend. VIII. For example, the social scientific question of whether the death penalty actually affected homicide rates was central to some of the justices’ opinions in the 1972 decision *Furman v. Georgia* and the Court’s 1976 decision *Gregg v. Georgia*. *Gregg v. Georgia*, 428 U.S. 153, 182 (1976); *Furman v. Georgia*, 408 U.S. 238, 250–51 & n.15 (1972) (Douglas, J., concurring); *Furman*, 408 U.S. at 307 n.7 (Stewart, J., concurring). For an excellent discussion of this social scientific debate and its influence on Supreme Court death penalty jurisprudence, see JOHN MONAHAN & LAURENS WALKER, AN INTRODUCTION TO SOCIAL SCIENCE IN LAW 219–39 (2006).

¹³³ See U.S. CONST. amend. XIV; MONAHAN & WALKER, *supra* note 132, at 95–144. The holding in the Supreme Court’s 1954 decision *Brown v. Board of Education of Topeka*, which abolished segregation in schools, referenced several social scientific studies about the psychological effects of segregation on children. See 347 U.S. 483, 489 & n.4 (1954).

1. The Court as Antitrust Rulemaker

The Sherman Act is short and vague, almost constitutional, in its condemnation of restraints of trade and monopolization.¹³⁴ Courts and commentators alike have interpreted this vagueness as a broad delegation of regulatory power to the courts to reduce the Act's broad language into applicable rules governing firm behavior.¹³⁵ The Court derives this power from the widely accepted idea that Congress intended the Sherman Act to be a common law statute.¹³⁶ Proponents of this view, including the Court itself,¹³⁷ suggest that only common law rulemaking can respond to the diverse business practices that arise over time in response to changes in the economy and innovation in product development and distribution.¹³⁸ If the target of antitrust regulation evolves, the rules themselves need to evolve too.¹³⁹ Once the Sherman Act became known as a charter for economic efficiency, its flexibility became doubly important. Economic beliefs about the efficiency of certain business practices, like the practices themselves, evolve over time. The Act needs to be flexible enough to adapt to these shifts in economics.¹⁴⁰

¹³⁴ See Sherman Act, 15 U.S.C. §§ 1–7 (2012). Indeed the Court has emphasized interpretive similarities between the Sherman Act and the Constitution. See, e.g., *Appalachian Coals Inc. v. United States*, 288 U.S. 344, 359–60 (1933) (“As a charter of freedom, the [Sherman] Act has a generality and adaptability comparable to that found to be desirable in constitutional provisions.”).

¹³⁵ Lemos, *supra* note 128, at 410. This view of the Sherman Act has its prominent critics. See Thomas C. Arthur, *Farewell to the Sea of Doubt: Jettisoning the Constitutional Sherman Act*, 74 CALIF. L. REV. 263, 270 (1986); David F. Shores, *Antitrust Decisions and Legislative Intent*, 66 MO. L. REV. 725, 791 (2001). Nonetheless it seems to have carried the day; the Court continues to invoke its power to make and change antitrust rules with the same free hand it enjoys in its constitutional interpretation. See *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 899 (2007) (“Just as the common law adapts to modern understanding and greater experience, so too does the Sherman Act’s prohibition on ‘restraint[s] of trade’ evolve to meet the dynamics of present economic conditions.” (alteration in original)).

¹³⁶ See P. AREEDA, *ANTITRUST ANALYSIS* 46 (2d ed. 1974) (“[T]he Sherman Act [is] . . . a general authority to do what common law courts usually do: to use certain customary techniques of judicial reasoning . . . and to develop, refine, and innovate in the dynamic common law tradition.”); William F. Baxter, *Separation of Powers, Prosecutorial Discretion, and the “Common Law” Nature of Antitrust Law*, 60 TEX. L. REV. 661, 663 (1982) (“Congress adopted what is in essence enabling legislation that has permitted a common-law refinement of antitrust law through an evolution guided by only the most general statutory directions.”). In legislative debates over the Act, Senator John Sherman himself observed that “it is difficult to define in legal language the precise line between lawful and unlawful combinations All that we, as lawmakers, can do is declare general principles.” 21 CONG. REC. 2460 (1889) (statement of Sen. John Sherman).

¹³⁷ *Leegin*, 551 U.S. at 899 (“From the beginning the Court has treated the Sherman Act as a common-law statute.”); *Cal. Dental Ass’n v. FTC*, 526 U.S. 756, 780 (1999) (referring to antitrust as a “quasi-common law realm”).

¹³⁸ Baxter, *supra* note 136, at 663.

¹³⁹ See *id.*

¹⁴⁰ *Id.* at 670 (“An adaptive approach to antitrust law is necessary . . . because of the continuing progress of economic theory in explaining why firms pursue certain strategies and the competitive consequences of their behavior.”). The economics on which antitrust doctrine rests can be analogized to “foundational facts,” which can be defined as “judges’ generalized, but invisible, intuitions about

Legal change in antitrust is largely driven by the Supreme Court, with the lower courts often playing only a modest role in antitrust reform.¹⁴¹ In part, this is because most of the major changes to antitrust law since the 1970s have involved eliminating per se rules condemning business conduct.¹⁴² Without any room for argument, firms avoided these practices, giving rise to relatively few opportunities for the lower courts to reconsider the rules.¹⁴³ Even when they did, the per se nature of the rules tied lower courts' hands.¹⁴⁴ With this top-down model of legal change, it is unsurprising that many of the economic concepts now common in antitrust jurisprudence first appeared in Supreme Court opinions before any mention in courts below.¹⁴⁵

Although the Court cannot initiate rulemaking without a case or controversy raising the issue, it enjoys significant control over its regulatory agenda and the content of its rules.¹⁴⁶ The Court receives as many as a dozen petitions for certiorari each year raising antitrust issues,¹⁴⁷ and the Court can select among them according to its regulatory preferences.¹⁴⁸ In addition to being

how the world works." Suzanna Sherry, *Foundational Facts and Doctrinal Change*, 2011 U. ILL. L. REV. 145, 146. Although economics is neither merely intuitive nor invisible in the Court's antitrust jurisprudence, it is the shifting factual background that forms the basis for believing a rule is efficient, fair, or effective in much the same way that foundational facts form the basis for the Court's equal protection and pleading standards. *See id.* But the distinction is crucial; with foundational facts, invisibility contributes to illegitimate decision making. *See id.* According to this framework, acknowledged doctrinal shifts citing evolving factual beliefs (such as *Leegin* and *Khan*) are relatively legitimate exercises of judicial power. *See id.* at 151–54.

¹⁴¹ See Andrew I. Gavil, *A First Look at the Powell Papers: Sylvania and the Process of Change in the Supreme Court*, ANTITRUST, Fall 2002, at 8, 9. For example, when the Court overruled *Schwinn* in *Sylvania*, it was not responding to any "pronounced conflict in the circuits." *Id.*

¹⁴² See Blair & Lopatka, *supra* note 1, at 552–54.

¹⁴³ *See id.* (explaining that per se antitrust rules are relatively infrequently litigated because parties have a strong incentive to avoid the prohibited conduct).

¹⁴⁴ See, e.g., *PSKS v. Leegin Creative Leather Prods., Inc.*, No. Civ.A. 2:03-CV-107, 2004 WL 5254322, at *1 (E.D. Tex. Aug. 17, 2004) (denying defendant's motion for a new trial because "[w]hether the per se classification of [RPM] agreements is wise is not for this court to decide"), *aff'd*, 171 F. App'x 464 (5th Cir. 2006), *rev'd and rem'd*, 551 U.S. 877 (2007).

¹⁴⁵ Cross-elasticity of demand was first used by the Court to define the boundaries of a market in 1954's *Times-Picayune Publishing Co. v. United States*. 345 U.S. 594, 612 n.31 (1954); see Gregory J. Werden, *The History of Antitrust Market Delineation*, 76 MARQ. L. REV. 123, 130 (1992). Similarly, the Supreme Court was the first court to discuss the single monopoly profit theorem (although it did not call it by that name) in *Jefferson Parish*. See *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 26 (1984) (O'Connor, J., concurring). Likewise, the competitive implications of free riding were first discussed in *Sylvania*. See 433 U.S. 36, 55 (1977).

¹⁴⁶ See PERRY, *supra* note 5, at 11 ("While it is true that a legitimate case or controversy must exist and be appealed, this requirement is not really much of a constraint if the Court does not want it to be. Virtually any issue the Court might want to resolve is offered to it.")

¹⁴⁷ See Thomas G. Hungar & Ryan G. Koopmans, *Appellate Advocacy in Antitrust Cases: Lessons from the Supreme Court*, ANTITRUST, Spring 2009, at 53, 53 ("From September 2002 to October 2008, 94 petitions were filed that presented issues of antitrust law . . .").

¹⁴⁸ See Gavil, *supra* note 141, at 9. Indeed, Justice Powell's papers reveal that he was looking for an opportunity to overturn *Schwinn* when the petition for certiorari was filed for the *Sylvania* case in

able to select an area for engagement, the Court enjoys a relatively free hand in designing and changing antitrust rules once it grants certiorari in a case.¹⁴⁹ Stare decisis, at least according to the Court, is of small concern in antitrust cases;¹⁵⁰ indeed the Court has explicitly overruled four antitrust cases since the 1970s.¹⁵¹

2. The Justices as Antitrust Economists

As primary antitrust rulemaker, the Court has tremendous power in regulating competition, but this power also puts the inexpert Court in a difficult position. Good rulemaking requires knowledge of background facts about the social costs and benefits of conduct and whether a given rule will encourage or prevent that conduct. In antitrust, as in many areas of law, those background facts are scientific and technical. To make matters worse, they are often theoretical; the economic concepts that have proved the most influential on antitrust policy have not been (and perhaps cannot be) proved in an experimental sense.¹⁵² As in any area of law where it has primary rulemaking authority that requires scientific or technical knowledge, the Court experiences an expertise deficit. Expertise from outside the Court must fill that void.

It is obvious that in antitrust cases the Court draws on external economic expertise; its opinions explicitly cite scholarly works as well as amicus briefs prepared by economists.¹⁵³ But less clear is how the Court chooses between conflicting economic theories and empirical propositions. Because the best way to choose between competing scientific propositions—actual engagement with the science itself—is unavailable to lay justices, they must evaluate economic arguments using secondary criteria, such as whether most economists

1976. *Id.* Through forceful advocacy, the justice was able to convince others to grant the petition, and, ultimately, overrule what he saw as a misguided precedent. *Id.*

¹⁴⁹ See *Leegin*, 551 U.S. at 899.

¹⁵⁰ See *id.* (“[T]he general presumption that legislative changes should be left to Congress has less force with respect to the Sherman Act.” (alteration in original) (quoting *State Oil Co. v. Khan*, 522 U.S. 3, 20 (1997))).

¹⁵¹ See *id.* at 907 (overruling *Dr. Miles Med. Co. v. John D. Park & Sons, Co.*, 220 U.S. 373 (1911)); *Ill. Tool Works, Inc. v. Indep. Ink, Inc.*, 547 U.S. 28, 46 (2006) (overruling *Int’l Salt Co. v. United States*, 332 U.S. 392, 400 (1947)); *Khan*, 522 U.S. at 22 (overruling *Albrecht v. Herald Co.*, 390 U.S. 145 (1968)); *Sylvania*, 433 U.S. at 59 (overruling *United States v. Arnold, Schwinn & Co.*, 388 U.S. 365 (1967)).

¹⁵² See Daniel A. Crane, *Chicago, Post-Chicago, and Neo-Chicago*, 76 U. CHI. L. REV. 1911, 1932 (2009) (“Empiricism has its limits in antitrust, as it does everywhere else. Many antitrust judgments are not Popperian—they cannot be falsified or proven.”); William H. Page, *The Chicago School and the Evolution of Antitrust: Characterization, Antitrust Injury, and Evidentiary Sufficiency*, 75 VA. L. REV. 1221, 1300 (1989) (“The acceptance of a theory by economists or by courts cannot await empirical proof, because full verification is impossible . . .”).

¹⁵³ See, e.g., *Ill. Tool Works*, 547 U.S. at 46 (citing an amicus brief, Federal Trade Commission (FTC) guidelines, and various scholarly works); ; *Atlantic Richfield Co. v. USA Petroleum Co.* 495 U.S. 328, 343 n.13 (1990) (citing various scholarly works dating back to 1966).

believe the proposition or whether it has been published and peer-reviewed. Delay can improve the Court's second-order information about an economic argument.

B. The Informational Benefits of Delay

Given the importance of getting the economics right, and given the Court's economic inexpertise, delayed rulemaking in the face of new economic theories and findings may actually be a good thing. It helps the Court use consensus among economists—consensus being the best possible second-order sign of scientific reliability—in evaluating economic ideas.

1. The Informational Value of Consensus

Truth may be a slippery concept in science, but scientific debate over time resolves itself into widely accepted paradigms; in one observer's words, "[s]cience converges."¹⁵⁴ These points of agreement—although contingent, socially constructed, and ultimately temporary—pass for scientific truth.¹⁵⁵ If getting the underlying science "right" is essential to regulation (as it almost always is), then regulators should regard these points of consensus as facts.¹⁵⁶ It is unsurprising, then, that the Court often invokes consensus among academics as a reason for incorporating an economic concept into an antitrust rule.¹⁵⁷

¹⁵⁴ Peter Huber, *Junk Science in the Courtroom*, 26 VAL. U. L. REV. 723, 724 (1992).

¹⁵⁵ Sheila Jasanoff, *What Judges Should Know About the Sociology of Science*, 32 JURIMETRICS J. 345, 347 (1992) ("[S]cience is socially constructed. According to a persuasive body of work, the 'facts' that scientists present to the rest of the world are not simple reflections of nature; rather, these 'facts' are produced by human agency . . ."). See generally THOMAS S. KUHN, *THE STRUCTURE OF SCIENTIFIC REVOLUTIONS* (3d ed. 1996) (providing the original and perhaps still most influential account of paradigms and their relationship to scientific truth).

¹⁵⁶ The notion that scientific consensus should be the basis of legal judgment is explicit in admissibility standards for scientific testimony. See *infra* notes 264–292 and accompanying text.

¹⁵⁷ See, e.g., *Leegin*, 551 U.S. at 889, 901 (explaining that the "widespread consensus" among economists that minimum RPM can promote interbrand competition supported overruling *Dr. Miles*); *Ill. Tool Works*, 547 U.S. at 43 n.4, 44–45 (justifying overruling *International Salt* by appealing to the "vast majority of academic literature [that] recognizes that a patent does not necessarily confer market power"); *Khan*, 522 U.S. at 15 ("[O]ur reconsideration of *Albrecht's* continuing validity is informed by . . . a considerable body of scholarship discussing the effects of vertical restraints."). Similarly, the Court's use of treatises and textbooks reflects a preference for adopting consensus views. See, e.g., *Leegin*, 551 U.S. at 894 (citing 8 PHILLIP AREEDA & HEBERT HOVENKAMP, *ANTITRUST LAW* 47 (2d ed. 2004)); *Sylvania*, 433 U.S. at 51 n.18 (citing RICHARD A. POSNER, *ANTITRUST: CASES, ECONOMIC NOTES AND OTHER MATERIALS* 134 (1974); ERNEST GELLHORN, *ANTITRUST LAW AND ECONOMICS* 252 (1976)). Treatises and textbooks, unlike academic journals, tend to report the points of agreement among academics, not the cutting-edge theories and controversial findings that drive the engine of scientific progress.

2. The Problems with Consensus

Consensus may be an excellent indicator of social scientific reliability, but it is not always a cure-all for the Court's expertise deficit in antitrust. Consensus among scientists and social scientists is often incomplete or nonexistent, it can be temporary or unstable, and it may be difficult for a lay person to recognize. These problems may be especially pronounced in economics, in which the dominance of theory and the difficulty of empirical proof make it especially difficult to form cohesive and lasting paradigms.¹⁵⁸ Thus the inexperienced policymaker wishing to harness the wisdom of the crowd by searching for a consensus among economists will often find none.

The policymaker faces another challenge as well: even where such a consensus *does* exist, it can be difficult for a lay person to detect. Consensus is a status conferred on an idea by a complex system of citation, discourse, and collaboration among academics.¹⁵⁹ One cannot simply call the scientific proposition with the most adherents or academic citations the "consensus" position.¹⁶⁰ Detecting consensus may itself require expertise.¹⁶¹

To make matters even more difficult for courts, the adversarial process can distort consensus where it does exist.¹⁶² The stakes are high for the regulated, so those whose business interests align with a non-consensus position

¹⁵⁸ See R.H. Coase, *How Should Economists Choose?*, in *ESSAYS ON ECONOMICS AND ECONOMISTS* 15, 32 (1994); Milton Friedman, *The Methodology of Positive Economics*, in *ESSAYS IN POSITIVE ECONOMICS* 3, 11 (1953). As Milton Friedman observed:

The denial to economics of the dramatic and direct evidence of the "crucial" experiment does hinder the adequate testing of hypotheses; but this is much less significant than the difficulty it places in the way of achieving a reasonably prompt and wide spread consensus on the conclusions justified by the available evidence. It renders the weeding-out of unsuccessful hypotheses slow and difficult. They are seldom downed for good and are always cropping up again.

Friedman, *supra*. Similarly, Ronald Coase observed that since the acceptability of theories to the economic community varies with such complex social factors as political values and the salience of economic disasters and threats, a diversity of economic views will persist. See Coase, *supra*.

¹⁵⁹ See Jasanoff, *supra* note 155, at 354–55.

¹⁶⁰ Rebecca Haw, *Adversarial Economics in Antitrust Litigation: Losing Academic Consensus in the Battle of the Experts*, 106 NW. U. L. REV. 1261, 1300–01 (2012). Nor does consensus require unanimity. Indeed, all but the most incontrovertible scientific propositions have their dissenters; in the social sciences, unanimity is probably especially rare. See *Parents Involved in Cmty. Schs. v. Seattle Sch. Dist.*, 551 U.S. 701, 845 (2007) (Breyer J., dissenting). That courts should recognize consensus positions does not require the law to wait for an issue to be past all controversy. See *id.* ("If we are to insist upon unanimity in the social science literature before finding a compelling interest, we might never find one.")

¹⁶¹ Haw, *supra* note 160, at 1300–01.

¹⁶² See Samuel R. Gross, *Expert Evidence*, 1991 WIS. L. REV. 1113, 1130. At least one distorting effect of the adversarial system on expert evidence, the problem of expert allegiance to the side retaining them, has been empirically demonstrated. See Daniel C. Murrie et al., *Are Forensic Experts Biased by the Side That Retained Them?*, 24 PSYCHOL. SCI. 1889, 1890 (2013).

have an incentive to push their view as the consensus position, or, if that fails, at least to convince the policymaker that the issue is seriously up for debate.¹⁶³

3. Delay and Consensus

If consensus among economists is incomplete, unstable, or difficult to detect, it will be a problematic criterion for the Court to use in separating the good economic arguments from the bad. When this is true at time one, the Court may improve its information when it puts off rulemaking until time two.¹⁶⁴ If there is significant disagreement about a new economic theory, delay simply gives the academy a chance to form a consensus.¹⁶⁵ If there is substantial scientific agreement on a question, then delay allows the Court to test the stability of that consensus over time.¹⁶⁶ Finally, when the Court cannot tell whether experts agree or disagree on a new idea at time one, delay allows the Court to use an idea's staying power as a proxy for its mainstream status at time two.¹⁶⁷

a. Giving Scientists Time to Form a Consensus

Building consensus among scientists can take a significant amount of time. The scientific method is inherently conservative; a significant amount of contrary data must accumulate before a mainstream belief is rejected in favor of a new paradigm.¹⁶⁸ Perhaps this is why Nobel Prizes in the sciences tend to be awarded at the end of careers, when it is clear that a recipient's ideas have gained sufficient traction to be worthy of recognition.¹⁶⁹ Delay allows new ide-

¹⁶³ See Haw, *supra* note 160, at 1268–70.

¹⁶⁴ One scholar suggests that the Court's delay improves the legitimacy of its shift by allowing the background facts to become "uncontested" (although perhaps that is a strong word) before altering a rule. See Sherry, *supra* note 140, at 152–54.

¹⁶⁵ See *infra* notes 168–171 and accompanying text.

¹⁶⁶ See *infra* notes 172–176 and accompanying text.

¹⁶⁷ See *infra* notes 177–178 and accompanying text.

¹⁶⁸ See KUHN, *supra* note 155, at 65 ("By ensuring that the paradigm will not be too easily surrendered, resistance guarantees that scientists will not be lightly distracted . . .").

¹⁶⁹ Milton Friedman was given the award in 1976, largely for his work on monetarism in the 1950s. Milton Friedman: *A Heavyweight Champ, at Five Foot Two*, ECONOMIST (Nov. 23, 2006), <http://www.economist.com/node/8313925>, archived at <http://perma.cc/3BKE-933A>. Ronald Coase was awarded a Nobel Prize in 1991 for work he completed in the 1930s through the 1960s. Robert Hahn, *Ronald Harry Coase*, 502 NATURE 449, 449 (2013). And John Nash was awarded the prize in 1994 for his work on game theory in the 1950s, although his mental illness was at least part of the reason for the delay. Harold W. Kuhn et al., *The Work of John Nash in Game Theory*, in NOBEL LECTURES, ECONOMIC SCIENCES 1991–1995, at 160, 165 (Torsten Persson ed., 1997). In the natural sciences, where the "crucial experiment" is possible, Nobel Prizes, along with the implicit judgment that a scientist was "right," can come more quickly. See *All Nobel Prizes in Chemistry*, NOBELPRIZE.ORG, http://www.nobelprize.org/nobel_prizes/chemistry/laureates/, archived at <http://perma.cc/BJ47-QUKK> (last visited Feb. 15, 2014). For example, the Nobel Prize in Chemistry in 1996 was awarded to three scientists for an experiment they performed in 1985 proving the existence of Buckminsterfullerene. See H.W. Kroto et al., *C60: Buckmin-*

as to percolate in the academy between time one, when the Court declines to make or change a rule in response to a new scientific idea, and time two, when the Court, armed with the knowledge that the idea enjoys consensus status among scientists, changes the rule.

The academic opinion on market-share discounts may be in this pre-consensus stage, which perhaps can account for at least part of the Court's reluctance to make a rule governing the practice. Although eighteen scholars signed an amicus brief advocating the position that market-share discounts provide a net benefit to consumers by providing lower prices,¹⁷⁰ ample economic literature takes the view that these discounts can be, and often are, used to anticompetitive effect.¹⁷¹

b. Observing the Stability of a Consensus

Delay also allows the Court to observe the stability of consensus over time. As the history of science illustrates, consensus positions can be wrong.¹⁷² A new theory can gain traction quickly, perhaps because it provides a simple, elegant explanation for phenomena and has attractive policy implications.¹⁷³ But as further investigation by the scientific community produces results inconsistent with it, or a major social event calls it into question, the scientific community rejects it.¹⁷⁴ This process of rejecting a scientific paradigm takes time, because the scientific process places the burden on the heretic to recruit believers away from the mainstream belief.¹⁷⁵

Older consensus positions are more scientifically reliable, since they have likely withstood sustained attacks from skeptics. And often the idea will become more sophisticated and refined in the interim. Thus putting off rulemaking at time one—even when it seems clear that a new consensus position is emerging or has recently emerged—may improve the decision-making process if it enables a later decision at time two when that consensus has reached maturity. For example, the Court's inertial response to arguments in favor of RPM

sterfullerene, 318 NATURE 162, 163 (1985); *All Nobel Prizes in Chemistry*, *supra*. Economists may take even longer to form a consensus than others because the discipline is not as susceptible to empirical proof as the natural sciences and experimentally driven social sciences like psychology.

¹⁷⁰ Scholars' Amicus Brief, *supra* note 117, at 11.

¹⁷¹ See Crane, *supra* note 115, at 255 & n.14.

¹⁷² KUHN, *supra* note 155, at 77 (explaining that accepted scientific theories may later be rejected).

¹⁷³ Economic fads that follow this pattern are both common and unavoidable, because missteps are inevitable in an area of study as complex as economics.

¹⁷⁴ KUHN, *supra* note 155, at 77–91 (discussing the scientific process of rejecting flawed paradigms).

¹⁷⁵ See *id.*

in the 1970s and 1980s allowed it to test the robustness of the emerging economic consensus that the practice had significant procompetitive uses.¹⁷⁶

c. Inferring Consensus from the Age of an Idea

Where recognizing consensus at a given moment in time can be difficult for a lay person, either because the consensus-forming process is opaque or because adversarial investigation into consensus tends to obscure it, observing expert opinion over time can help reveal points of agreement.¹⁷⁷ Delay makes this intertemporal perspective possible.

Even without knowing how many scientists adhere to a particular economic theory, a theory's durability can vouch for its reliability. The fact that many distinguished scientists still use or engage with an old theory provides a strong signal that it reflects mainstream thinking because it has withstood the ultimate scientific test: the test of time. On this view, the durability of an idea is a third-order criterion for its scientific reliability; durability tends to indicate consensus, which in turn indicates scientific merit. Thus, the Court citing out-of-date sources, like Robert Bork's 1978 *The Antitrust Paradox* in its 2007 *Leegin* decision, may be seen as an appeal to the inherent authority of old ideas, so long as they have not been discredited.¹⁷⁸

C. Delay and the Common Law Method

If the Sherman Act is a "common law" statute, then the Court's interpretation of it should harness the benefits of conservative legal change. The "quasi-common law" status of the Sherman Act is usually invoked to illustrate that the Court enjoys a free hand in antitrust rulemaking.¹⁷⁹ But the common law, just like any other rulemaking medium, constrains.¹⁸⁰ The common law can evolve over time, but change is typically limited to small incremental shifts, one case

¹⁷⁶ See *supra* notes 65–87 and accompanying text (describing the Court's refusals to change its RPM rules in the 1970s and 1980s). The 1983 FTC report on RPM is tentative in identifying an economic consensus against the per se rule: "Since 1975 the prevailing consensus among economists, to the extent that it can be inferred from the current literature, would appear to have moved somewhat further toward the view that the current rule of law is overly restrictive." OVERSTREET, *supra* note 64, at 8. In contrast, by the time the Court decided *Leegin* in 2007, the consensus on RPM was not only robust, but also old. See *id.*

¹⁷⁷ See *supra* notes 159–163 and accompanying text (describing the difficulty for laypeople in determining scientific consensus).

¹⁷⁸ See *Leegin*, 551 U.S. at 889, 897 (citing BORK, *supra* note 46, at 292, 294).

¹⁷⁹ *Leegin*, 551 U.S., at 899; Baxter, *supra* note 136, at 663.

¹⁸⁰ See David A. Strauss, *Common Law Constitutional Interpretation*, 63 U. CHI. L. REV. 877, 927 (1996) ("[T]he common law method has a centuries-long record of restraining judges.").

at a time.¹⁸¹ At least theoretically, common law's conservatism tends towards accurate (factually and morally) decisions and efficient rules.¹⁸²

As a conservatizing force, judicial delay operates in the common law spirit even if it sometimes runs afoul of traditional common law strictures like incrementalism and robust forms of stare decisis. Moreover, where delay and traditional common law methodology diverge, delay may actually lead to better outcomes because it harnesses the benefits of judicial restraint while avoiding the myopia that sometimes plagues the common law.

1. Traditional Conservative Forces in Common Law Rulemaking

Three features of traditional common law decision making—stare decisis, incrementalism, and the cases and controversies requirement—exemplify the method's conservatism.¹⁸³ By placing a thumb on the scale in favor of the status quo while also allowing gradual change, these features ensure rule stability and, under some conditions, can promote rule accuracy.¹⁸⁴

a. Common Law's Status Quo Defaults: Stare Decisis, Incrementalism, and Justiciability

The Court's commitment to stare decisis—the principle that past decisions should not be revisited—creates a status quo default with an obvious conservatizing effect.¹⁸⁵ Of course, stare decisis is a norm, not a rule, and the Court can and does overturn precedent as *Leegin* and *Khan* illustrate.¹⁸⁶ Stare decisis may best be understood as a presumption in favor of old rules that can be overcome only in unusual circumstances.¹⁸⁷ Specifically, a significant change in circumstance that renders a rule obviously wrong or inefficient can justify its revision.¹⁸⁸

¹⁸¹ *Id.* at 930.

¹⁸² *See id.* at 927. *See generally* Paul H. Rubin, *Why Is the Common Law Efficient?* 6 J. LEGAL STUD. 51 (1977) (providing a more modern view of common law's efficiency); Adrian Vermeule, *Common Law Constitutionalism and the Limits of Reason*, 107 COLUM. L. REV. 1482 (2007) (providing an excellent summary and critique of traditional Burkean theories of common law optimality).

¹⁸³ *See infra* notes 185–193 and accompanying text.

¹⁸⁴ *See infra* notes 194–213 and accompanying text.

¹⁸⁵ *See Agostini v. Felton*, 521 U.S. 203, 235 (1997).

¹⁸⁶ *Id.* The Supreme Court has repeatedly emphasized that stare decisis is “not an inexorable command.” *See id.*; *Payne v. Tennessee*, 501 U.S. 808, 828 (1991); *see also* Daniel A. Farber, *The Rule of Law and the Law of Precedents*, 90 MINN. L. REV. 1173, 1175 (2006) (“Stare decisis seeks to preserve stability, but the doctrine must also leave room for innovation and correction of error.”); Philip P. Frickey, *Stare Decisis in Constitutional Cases: Reconsidering National League of Cities*, 2 CONST. COMM. 123, 127 (1985) (“[S]tare decisis is not a strict command in constitutional cases.”).

¹⁸⁷ *See, e.g., Agostini*, 521 U.S. at 235; *Payne*, 501 U.S. at 828.

¹⁸⁸ *See Frickey, supra* note 186, at 128 (noting that the Court justifies overruling cases on, among other factors, “changed conditions that have undermined the basis for the overruled decision”); Randy

Because *stare decisis* discourages comprehensive revisions to existing rules, incremental change is the common law's favored mode of rule adjustment.¹⁸⁹ The common law's commitment to incremental change reflects a belief that although legal change is valuable, its optimal process is slow and decentralized; major doctrinal shifts are possible, but they happen slowly and must be achieved through collective judicial action.¹⁹⁰

Finally, all judicial decision making is subject to the Constitution's cases and controversies requirement that prohibits rulemaking outside of actual concrete disputes.¹⁹¹ This branch of the justiciability requirement creates a status quo default by forcing judges to be reactive—not proactive—in their rules and limits their holdings to the facts of a particular case.¹⁹² For courts with selective jurisdiction, like the Supreme Court, the cases and controversies requirement slows the execution of any regulatory agenda by forcing the Court to wait for an appropriate case presenting the issue in an ideal posture.¹⁹³

b. Status Quo Defaults, Rule Stability, and Accuracy

Conservatism's effect on rule stability is straightforward: status quo defaults slow the pace of legal change, affording regulated parties the predictability necessary to organize their affairs within the limits of the law. The efficiency gains from predictable, stable rules cannot be overstated, and are especially important in the antitrust context where the engine of commerce depends on firms knowing the rules of the game.¹⁹⁴ *Stare decisis* means regulated parties can view existing Supreme Court cases as reliable precedent, which allows them to invest in policies and procedures that place them on the right side of the case law.¹⁹⁵ And for parties actually involved in a dispute, the common law's preference for incremental change provides some assurance that their conduct will be judged according to rules substantially identical to those currently on the books. The cases and controversies requirement contributes to

J. Kozel, *Stare Decisis as Judicial Doctrine*, 67 WASH. & LEE L. REV. 411, 426–430 (2010) (identifying the role of “evolving understandings” in overturning existing Supreme Court precedent).

¹⁸⁹ See Vermuele, *supra* note 182, at 1487.

¹⁹⁰ See *id.* (identifying a strain of Burkean common law theory that praises the “value of small-scale incremental change as opposed to sudden large-scale change, and the related idea that institutions evolving incrementally over time are more likely to be optimal than designed institutions”).

¹⁹¹ See U.S. CONST. art. III, § 2, cl. 1.

¹⁹² See *id.*

¹⁹³ See PERRY, *supra* note 5, at 234–39 (observing that a case that provides a bad vehicle for making a legal change, especially when a better case may be in the pipeline, tends to result in denial of certiorari).

¹⁹⁴ See Daniel A. Crane, *Rules Versus Standards in Antitrust Adjudication*, 64 WASH. & LEE L. REV. 49, 85 (2007) (emphasizing the benefits of certainty for businesses in the antitrust context); Maurice E. Stucke, *Does the Rule of Reason Violate the Rule of Law?*, 42 U.C. DAVIS L. REV. 1375, 1422–29 (2009) (same).

¹⁹⁵ See Crane, *supra* note 194, at 85; Stucke, *supra* note 194, at 1422.

stability by putting the brakes on legal change, and preventing rule revision not made absolutely necessary by concrete disputes.

The common law's commitment to conservatism has a more complicated effect on rule accuracy. A status quo default is wrong whenever the status quo is wrong. According to traditional theories of the common law, existing rules have a special claim to accuracy because the judicial process that created them tends towards optimal results.¹⁹⁶ According to these theories, the conservatism embodied in *stare decisis*, incrementalism, and the cases and controversies requirement leads to more accurate rules in the long run than an alternative system that permits centralized, unconstrained rulemaking.¹⁹⁷ But contemporary scholars have attacked the traditional view, arguing that the common law process is often inferior to its less constrained alternatives.¹⁹⁸ On this view that relaxes the assumption that existing rules are more likely to be accurate than new ones formed out of whole-cloth, conservatism's salutary effect on rule accuracy disappears.

The traditional view of common law accuracy holds that a common law rule's very existence is evidence that it is right, or at least superior to alternatives without its pedigree.¹⁹⁹ Theorists posit two kinds of arguments for why this is so. First, a common law rule is especially likely to be right because it is the product of many generations of judicial minds, and so embodies the wisdom of the crowd.²⁰⁰ If judges are only boundedly rational, then an intertemporal aggregation of their judgments is superior to a single judge's reconsideration of a rule.²⁰¹ Indeed, Oliver Wendell Holmes, Jr. described a judge's contribution to the common law in these terms: "No one knows better than I do the countless number of great intellects that have spent themselves in making some addition or improvement, the greatest of which is trifling when compared with the mighty whole."²⁰²

¹⁹⁶ See *supra* note 182 and accompanying text (explaining the accuracy benefits of the common law).

¹⁹⁷ See *supra* notes 185–193 and accompanying text.

¹⁹⁸ See, e.g., Frederick Schauer, *Do Cases Make Bad Law?*, 73 U. CHI. L. REV. 883, 884 (2006); Vermeule, *supra* note 182, at 1482–83; see also CASS R. SUNSTEIN, A CONSTITUTION OF MANY MINDS 92 (2009) (arguing that "the argument for Burkean minimalism is much stronger in some areas than in others").

¹⁹⁹ See Vermeule, *supra* note 182, at 1487.

²⁰⁰ See, e.g., SUNSTEIN, *supra* note 198, at 51, 94 (identifying Burke's account of many minds traditionalism as "aggregative" and connecting it to the Condorcet Jury Theorem); Vermeule, *supra* note 182, at 1485–1517 (situating Burkean minimalism in context of "many minds" arguments).

²⁰¹ See Strauss, *supra* note 180, at 894 (arguing that "traditionalism is a recognition of bounded rationality"); see also Farber, *supra* note 186, at 1178 (calling deference to past decisions an attitude of "humility").

²⁰² Oliver Wendell Holmes, *The Path of the Law*, 10 HARV. L. REV. 457, 473 (1897).

The second kind of argument for a common law rule's accuracy is that it is the product of a competitive process that tends towards optimal results.²⁰³ The metaphor here is Darwinian evolution, in which the incremental changes that define common law rulemaking operate like genetic mutations; the good survive, while the bad fall away. According to this view, the common law's development is teleological; it trends towards perfection, or, as Lord Mansfield famously said, it "*works itself pure*."²⁰⁴ If the common law process is governed by the survival of the fittest, then the very existence of a common law rule suggests that it is fit. Judges deviate from these rules at their peril.

Contemporary theorists have attacked these claims of status quo accuracy by observing that the common law process is subject to serious flaws that undermine both the evolutionary and the many minds models of legal change.²⁰⁵ First, critics like Fred Schauer argue that limiting lawmaking to individual cases does not harness the wisdom of the crowd or promote teleological legal change, but rather it distorts judicial decisions.²⁰⁶ According to Schauer, the cases and controversies requirement forces judges to make rules of general applicability out of particular, idiosyncratic facts.²⁰⁷ This means a judge must guess "the extent to which the case before her [is] representative of the larger class of which it is a member," a particularly difficult task given the availability bias created by the facts of the instant case.²⁰⁸ This point—that cases make bad law—undercuts the "many minds" theories of the common law. If judges have bad information, aggregating their "wisdom" cannot promote rule accuracy.

Second, other critics argue that the common law's path-dependency constrains the practical operation of the evolutionary mechanism that supposedly works the law pure.²⁰⁹ By limiting legal change to small, case-by-case increments, common law rules can only develop along existing lines of reasoning on a particular regulatory problem.²¹⁰ Path-dependency means that a common

²⁰³ Perhaps the most influential account of the evolutionary efficiency of the common law is found in I FRIEDRICH A. HAYEK, *LAW, LEGISLATION, AND LIBERTY: RULES AND ORDER* (1973). See also SUNSTEIN, *supra* note 198, at 107–11 (discussing Hayek's evolutionary account of the common law); ADRIAN VERMEULE, *LAW AND THE LIMITS OF REASON* 33–36 (2009) (same). Edmund Burke's theory of traditionalism can also be understood as relying on an evolutionary model. See Vermeule, *supra* note 182, at 1518–32 (discussing "Burke as Darwin").

²⁰⁴ *Omychund v. Barker*, (1744) 26 Eng. Rep. 15, 23 (Ch.); 1 Atk 21.

²⁰⁵ See, e.g., Schauer, *supra* note 198, at 884; Vermeule, *supra* note 182, at 1482–83.

²⁰⁶ See Schauer, *supra* note 198, at 905.

²⁰⁷ *Id.* at 893.

²⁰⁸ *Id.* at 894.

²⁰⁹ See VERMEULE, *supra* note 203, at 109–10; cf. Vermeule, *supra* note 182, at 1521–22 (noting that where an environment changes more rapidly than an evolutionary process can, incremental change may yield inefficient results).

²¹⁰ Holmes described the common law's path dependency as a pattern of obsolescence and re-birth:

law rule can only achieve its local maximum, defined as the best possible rule achievable by incremental change.²¹¹ But a local maximum is not necessarily an absolute maximum, as there may not be a continuous, monotonic path from the existing rule to the optimal rule.²¹² The best rule can perhaps only be achieved by leaping to a different line of reasoning with more potential for solving a regulatory problem. When that is true, a decision-making process unfettered by the status quo will yield better results than the common law.²¹³

Thus, whether common law's conservatism tends towards accurate rules depends on the reasonableness of the assumptions underlying the evolutionary and many minds theories of legal change as well as the scope of the problems identified by these critics. Resolving this debate as to conservatism in general is beyond the scope of this Article. But as demonstrated below, the specific brand of conservatism explored in this Article—delaying rulemaking in response to scientific change—exploits the possible informational advantages of common law conservatism while avoiding its hazards. As a result, not only does delay certainly contribute to rule stability, it also probably promotes rule accuracy.

2. Delay as a Conservative Force in Rulemaking

Judicial delay in response to scientific change provides many of the benefits claimed for common law rulemaking while avoiding or mitigating some of its flaws. At time one, when the Court stays its hand, its conservatism promotes legal stability and predictability. At time two, when the Court takes action in recognition of scientific reality, its use of delay allows it to act with better scientific information and a broader perspective on the regulatory issue than is usually possible in common law rulemaking.

This judicial delay is consistent with the principle of *stare decisis*. When the Court uses delay, it may seem to exhibit a different attitude towards *stare decisis* at time one, when the Court follows it, than at time two, when the

The customs, beliefs, or needs of a primitive time establish a rule or formula. In the course of centuries the custom, belief, or necessity disappears, but the rule remains. . . . Some ground of policy is thought of, which seems to explain it and to reconcile it with the present state of things; and then the rule adapts itself to the new reasons which has been found for it, and it enters on a new career.

OLIVER WENDELL HOLMES, JR., *THE COMMON LAW* 5 (1881).

²¹¹ VERMEULE, *supra* note 203, at 109–10.

²¹² See Eric A. Posner & Adrian Vermeule, *Constitutional Showdowns*, 156 U. PA. L. REV. 991, 1014 (2008) (“Incremental steps are easier than top-down planning, but they can only take one up to a local maximum, which, in any reasonably complex environment, is unlikely to be the global maximum.”).

²¹³ See *id.* Legislation may be just such a process, because “statutes can innovate more rapidly and completely than the common law.” VERMEULE, *supra* note 203, at 109.

Court flouts it. But recall that even the strongest version of stare decisis gives way when changed circumstances render a rule clearly erroneous.²¹⁴ The passage of time, by providing information about scientific consensus, can provide those changed circumstances that make strict adherence to stare decisis at time two unjustifiable. Thus, when the Court's delay in its RPM jurisprudence is viewed from this angle, Justice Breyer's criticism of the *Leegin* majority has less bite. He argued that overturning *Dr. Miles* when "nothing [was] new" with respect to the economic literature offended stare decisis.²¹⁵ This argument ignores the fact that the maturation of an existing idea may itself be a relevant changed circumstance.

This attitude that stare decisis requires abstention at time one and action at time two promotes legal stability by slowing change, and, perhaps most importantly, by preventing legal flip-flopping. Less or no delay in reacting to scientific change creates a risk of rapid, successive reversals and little stability and predictability for the regulated. If the interval between time one and time two provides valuable information about the scientific reliability of an idea, then a rule change at time one may need to be undone at time two when it becomes clear that the idea has been rejected by the scientific community.²¹⁶ The stability cost of a flip-flop is twice that of a single major change in law, and if the weight of scientific opinion reverses more than once before settling on a consensus, the social costs are even higher.²¹⁷

Judicial delay eschews incremental change in favor of no change at time one, followed by a large change at time two.²¹⁸ But incrementalism and delay have something in common: both ensure that change occurs over a long timeframe. Consequently, both models of legal change realize conservatism's salutary effects on legal stability and predictability. At the same time, delayed rulemaking also avoids some of the informational infirmities of incrementalism. Recall that the best-case scenario for incrementalism is that it pushes the law toward the best rule within a line of reasoning.²¹⁹ But an entirely different

²¹⁴ See *supra* notes 185–188 and accompanying text.

²¹⁵ *Leegin*, 551 U.S. at 921 (Breyer, J., dissenting).

²¹⁶ Perhaps the risk of flip-flopping underlies the claim that judicial minimalism is optimal under conditions of severe uncertainty. See CASS R. SUNSTEIN, ONE CASE AT A TIME 57 (1999) ("Minimalism becomes more attractive . . . when judges are proceeding in the midst of . . . factual . . . uncertainty and rapidly changing circumstances . . .").

²¹⁷ Legal flip-flopping was a particular problem in the early days of DNA identification evidence, when state supreme courts went back and forth on the admissibility of the evidence. See REBECCA C. HARRIS, BLACK ROBES, WHITE COATS 36 (2008). In a period of twelve years (1991–2003), four state supreme courts flip-flopped on the admissibility of DNA evidence; each court first established a permissive rule approving of DNA profiling, then a rule narrowing or abolishing its use in courts, before finally returning to the initial permissive rule. See *id.*

²¹⁸ See also *Leegin*, 551 U.S. at 928 (Breyer, J., dissenting) (criticizing the majority opinion for abandoning common law's commitment to incrementalism).

²¹⁹ See *supra* notes 209–213 and accompanying text.

approach to a regulatory problem—an approach that cannot be effected without large-scale change—may be superior to what is possible with incremental change. Large-scale change at time two allows for this kind of big-picture revision.²²⁰

Finally, judicial delay provides similar benefits to the cases and controversies requirement while also helping to mitigate its adverse effects.²²¹ Both delay and the cases and controversies requirement slow legal change, so they offer similar benefits as those provided by all conservatizing devices. But delay can also alleviate judicial myopia, one of the serious side effects of the cases and controversies requirement. Delay allows the Court a broader perspective than just one case or controversy; when it changes the rule (at time two) it has at least two data points (time one and time two).²²² And if the Court passes on multiple opportunities to change a rule, as it did in its RPM jurisprudence, it can observe a constellation of controversies that ought to be covered by the new rule. So while all judicial decision making is subject to the cases and controversies requirement, delay can counter-act the judicial myopia of that requirement by providing the Court with a broader, intertemporal perspective on regulatory questions.

III. JUDGMENT WITHOUT DELAY: TOXIC TORTS COMPARED

Delay can have a salutary effect on the quantity and quality of scientific information available to legal decisionmakers, but it also can have tremendous costs. And because the costs of delay vary with the context of the legal decision, different contexts have different optimal amounts of delay in the face of changing scientific realities. Indeed, in the context of antitrust rulemaking at the Supreme Court, the costs of delay may be particularly low, suggesting that the optimal amount of lag between scientific and legal change is relatively long. This Part discusses toxic torts, a legal context at the opposite end of the spectrum, where the cost of delay is great and thus the optimal amount of delay is shorter.²²³ In the context of tort trials, significant judicial delay would create

²²⁰ Further, large-scale changes at time two can help ensure that the law moves apace with changing circumstances, unlike incremental change which has no guarantee of moving with the requisite speed. See VERMEULE, *supra* note 203, at 108–09 (observing that where the evolutionary process of the common law cannot keep apace with environmental changes, statutory regulation—because of its ability to quickly adapt to circumstances—may be optimal).

²²¹ See *supra* notes 191–193 and accompanying text. Additionally, the requirement may actually *cause* delay, since the requirement forces justices to wait for the right case to provide the optimal rulemaking vehicle. See PERRY, *supra* note 5, at 234–39.

²²² Indeed, delay can help the problem of judges being forced to make rules based on specific idiosyncratic cases. Schauer, *supra* note 198, at 915 (suggesting “delaying the very process of rulemaking until enough cases arose such that the rulemaking body could have the benefit of having seen multiple examples of some larger problem”).

²²³ See *infra* notes 226–260 and accompanying text.

high social costs by undercompensating the injured and underdetering dangerous conduct.²²⁴ This Part aims to prove the benefits of judicial delay by illustrating the high price the law must pay—in legal uncertainty and error—when other considerations preclude its use.²²⁵

A. Scientific Uncertainty in Toxic Torts: Bendectin and Breast Implants

The litigation over Bendectin and breast implants are familiar stories about the failure of the American tort system.²²⁶ In both cases, cautious, inconclusive studies raising questions about the products' safety precipitated a flood of lawsuits resulting in millions of dollars of damages for plaintiffs.²²⁷ In both cases, scientists later formed a strong consensus that the products did not cause the injuries alleged in the suits.²²⁸ Commentators retell the Bendectin and breast implant fiascos as stories about corporate misconduct,²²⁹ media hysteria,²³⁰ and jury error.²³¹ But these fiascos are also stories about judicial delay, or lack thereof, in the face of scientific uncertainty.

1. Bendectin

Merrell Dow first marketed Bendectin in 1956 as a treatment for morning sickness.²³² Doubts about the drug's safety for pregnant women, however, began relatively early, starting in 1963 when an in-house toxicological study at Merrell revealed that large doses of the drug given to pregnant rabbits caused disfigurements in their young.²³³ The results prompted the principal investigator to recommend further study, and in 1966 and 1967, another in-house study resulted in more defects, although those researchers did not attribute them to Bendectin.²³⁴ In the 1970s, after Bendectin's formulation was altered, similar toxicological studies performed by investigators not associated with Merrell

²²⁴ See *infra* notes 261–292 and accompanying text.

²²⁵ See *infra* notes 293–304 and accompanying text.

²²⁶ See generally MARCIA ANGELL, *SCIENCE ON TRIAL* (1996) (examining the breast implant litigation of the 1980s and 1990s); MICHAEL D. GREEN, *BENDECTIN AND BIRTH DEFECTS* (1996) (examining the Bendectin litigation of the 1970s and 1980s).

²²⁷ See *infra* notes 241–242, 258–260 and accompanying text.

²²⁸ See *infra* notes 244–247, 258 and accompanying text.

²²⁹ See GREEN, *supra* note 226, at 129.

²³⁰ See, e.g., ANGELL, *supra* note 226, at 53 (discussing the role of the media, in particular television news anchor Connie Chung, in fueling unfounded fears about implant safety); David E. Bernstein, *The Breast Implant Fiasco*, 87 CALIF. L. REV. 457, 467–69 (1999) (same).

²³¹ See ANGELL, *supra* note 226, at 74–75.

²³² GREEN, *supra* note 226, at 90–91.

²³³ Joseph Sanders, *From Science to Evidence: The Testimony on Causation in the Bendectin Cases*, 46 STAN. L. REV. 1, 21 (1993).

²³⁴ *Id.*

resulted in defects, but again, the researchers did not directly attribute those defects to the drug.²³⁵

When the parents of David Mekdeci, a baby born with birth defects after his mother used Bendectin while pregnant, filed the first suit alleging that Bendectin caused birth defects in 1977, only toxicological studies like those described above were available.²³⁶ Nonetheless, a jury awarded the Mekdecis a \$20,000 verdict in 1980.²³⁷

The first epidemiological study linking Bendectin to birth defects appeared two years later.²³⁸ This study tentatively suggested a connection between the drug and birth defects, but later studies never replicated its results.²³⁹ The combination of this study and the Mekdecis' success at trial in 1980 opened the floodgates of litigation alleging the teratogenic properties of Bendectin.²⁴⁰ Between 1980 and 1991, eight plaintiffs won jury awards totaling over \$133 million.²⁴¹ Merrell Dow also offered an additional \$120 million to settle a multidistrict case.²⁴² In part because of the increasing price tag of Bendectin litigation, Merrell Dow voluntarily withdrew the drug from the market in 1983.²⁴³

The 1979 study and the successful jury verdict for the Mekdecis also opened another type of floodgates.²⁴⁴ After 1980, epidemiologists conducted dozens of studies investigating the incidence of birth defects among children of women taking Bendectin.²⁴⁵ None of these studies found a significant link between the drug and the defects.²⁴⁶ These studies tipped the scientific opinion against the idea that Bendectin was a powerful teratogen, and by the mid-

²³⁵ *Id.* at 21–22.

²³⁶ *See* Mekdeci v. Merrell Nat'l Labs., 711 F.2d 1510, 1512 (11th Cir. 1983).

²³⁷ Sanders, *supra* note 233, at 6. A retrial was later ordered, in which the jury found for the defendant. *Id.*

²³⁸ *Id.* at 23. Toxicological proof of a drug's effects is generally considered to be inferior to epidemiological evidence, because toxicology studies the effect of exposing lab animals, not humans. 3 DAVID L. FAIGMAN ET AL., MODERN SCIENTIFIC EVIDENCE § 22:1 (2012). In contrast, epidemiological studies examine a drug's effect on humans by comparing the incidence of disease among people actually prescribed the drug to the incidence among the general population. *Id.* § 23:1. Although epidemiological studies lack the controls that lab-based toxicology studies provide, they are generally considered to be more reliable indicators of causation because of the difficulty of extrapolating test results from animals to humans. *Id.* § 22:2; *see* GREEN, *supra* note 226, at 35–37.

²³⁹ Sanders, *supra* 233, at 9 n.27, 23.

²⁴⁰ *Id.* at 9; *see* GREEN, *supra* note 226, at 159–65.

²⁴¹ Sanders, *supra* 233, at 6. All of the verdicts, however, were eventually set aside or reversed on appeal because of the overwhelming consensus that Bendectin does not cause birth defects. *Id.* at 10; *see, e.g.*, Merrell Dow Pharm., Inc. v. Oxendine, 649 A.2d 825, 832–33 (D.C. 1994); Blum *ex rel.* Blum v. Merrell Dow Pharm., Inc., 764 A.2d 1, 4 (Pa. 2000); Merrell Dow Pharm., Inc. v. Havner, 953 S.W.2d 706, 730 (Tex. 1997).

²⁴² GREEN, *supra* note 226, at 213. Merrell Dow also spent millions on litigation; one trial alone cost it \$7 million in litigation costs. *Id.* at 167.

²⁴³ Sanders, *supra* 233, at 7.

²⁴⁴ *Id.* at 23–24.

²⁴⁵ *Id.*

²⁴⁶ *Id.* at 24.

1990s, a scientific consensus emerged that Bendectin did not cause birth defects.²⁴⁷

2. Breast Implants

The Bendectin fiasco fueled a tort reform movement that was gaining momentum when history repeated itself. In the late 1980s, silicone breast implant recipients began to file lawsuits alleging connective tissue disease caused by leaking or ruptured implants.²⁴⁸ The suits followed reports that the largest manufacturer of silicone breast implants knew, and had not disclosed, that the implants frequently leaked silicone gel into the tissues of recipients.²⁴⁹ Further fueling the outrage against defendant Dow Corning, it was revealed that the manufacturer had not studied the women receiving implants since their advent in 1962, and so could not reliably claim that the silicone leakage was harmless.²⁵⁰

Although the suits capitalized on public outrage against Dow Corning's conduct, the pathogenic properties of silicone gel were far from proven.²⁵¹ Some toxicological studies showed that mice injected with silicone developed inflammation in the injection sites, although scientists disputed the meaning of this evidence.²⁵² The Food and Drug Administration (FDA) demanded that manufacturers produce a study demonstrating the safety of their product by July 1991, which the manufacturers were unable to do.²⁵³ But neither had any study reliably linked implants to human disease.²⁵⁴ As a result of the uncertainty surrounding the safety of silicone implants, the FDA declared a "moratorium" on their use in January 1992.²⁵⁵

As in the Bendectin litigation, the early breast implant plaintiffs recovered on thin toxicological evidence of causation.²⁵⁶ The success of the cases precipitated a flood of litigation, which in turn spawned a body of medical research that eventually disproved the link between the breast implants and the alleged

²⁴⁷ *Id.* at 23. Of course, proving the harmlessness of Bendectin is a logical impossibility. See Mike Redmayne, *Scientific Disagreement*, 30 U.C. DAVIS L. REV. 1027, 1063 (1997).

²⁴⁸ See ANGELL, *supra* note 226, at 57–61.

²⁴⁹ See *id.*

²⁵⁰ See Bernstein, *supra* note 230, at 462. Some scholars blame this shortcoming on the physicians who did not demand better safety evidence. See, e.g., Rebecca S. Dresser et al., *Breast Implants Revisited: Beyond Science on Trial*, 1997 WISC. L. REV. 705, 715–31.

²⁵¹ See ANGELL, *supra* note 226, at 21.

²⁵² See Heidi Li Feldman, *Science and Uncertainty in Mass Exposure Litigation*, 74 TEX. L. REV. 1, 23–25 & n.121 (1995) (explaining methodological flaws with animal studies and toxicological studies).

²⁵³ Bernstein, *supra* note 230, at 470.

²⁵⁴ *Id.* at 470–71.

²⁵⁵ *Id.* at 474.

²⁵⁶ Feldman, *supra* note 252, at 20.

injuries.²⁵⁷ This consensus, solidified by a 1994 Mayo Clinic study published in the *New England Journal of Medicine*,²⁵⁸ emerged only after implant manufacturers had paid millions of dollars in damages and settlements²⁵⁹ and had offered \$4.25 billion to settle the remaining cases.²⁶⁰

The breast implant saga and Bendectin litigation followed the same pattern of legal response to changing scientific information. In both examples, some of the early suits based only on toxicological data succeeded, and the success of early suits brought more suits and more research. As the manufacturers continued to pay out, the scientific evidence about causation improved. Within the scientific community, early fears raised by toxicological results were put to rest by more ambitious epidemiological studies showing no link between the product and human disease. With the benefit of more and better studies, a scientific consensus emerged that the products did not cause the alleged injuries. After a time, the law caught up with this consensus, and recovery under theories once successful at trial became impossible. And in both examples, the errors of the early suits and the period of legal instability and uncertainty were extremely costly for the defendants who had to pay for injuries they did not cause and for the patients who were denied access to what turned out to be safe and effective products.

B. Tort Trial Courts as Gatekeepers: Admissibility, Sufficiency, and Delay

The reactivity of the legal system to new information about Bendectin and breast implants is partly a matter of doctrine. Recovery for toxic torts depends on plaintiffs proving that the alleged products, as a general matter, are capable of causing their injuries. That question of medical causation is scientific, and so almost always requires the testimony of an expert witness.²⁶¹ Trial judges make two kinds of judgments about scientific evidence of causation: first, courts must decide whether the testimony is admissible;²⁶² second, they must decide whether the admissible evidence is sufficient to support a jury verdict.²⁶³ For both determinations, the applicable standards contribute to a

²⁵⁷ See Edward K. Cheng, *Changing Scientific Evidence*, 88 MINN. L. REV. 315, 316–17 (2003).

²⁵⁸ See *id.*

²⁵⁹ See Bernstein, *supra* note 230, at 479. Although it is impossible to know how much the firms spent in settlements, see Feldman, *supra* note 252, at 19, single trials awards against manufacturers in excess of \$25 million were not unheard of. See Bernstein, *supra* note 230, at 479.

²⁶⁰ See Feldman, *supra* note 252, at 21–23. Although the manufacturers agreed to this sum, the settlement collapsed when too many implant recipients came forward with claims. See *id.*

²⁶¹ See FAIGMAN ET AL., *supra* note 238, §§ 22:1–2 (discussing the role of medical expert testimony in proving causation).

²⁶² See *infra* notes 264–281 and accompanying text.

²⁶³ See *infra* notes 282–292 and accompanying text.

relatively short period of delay between scientific change and its legal adoption.

1. Admissibility

Both standards for the admission of expert evidence—the *Frye* standard²⁶⁴ and the *Daubert* criteria that replaced it in most jurisdictions²⁶⁵—allow for admission of relatively new scientific findings.

a. *Frye Allowed for Admission of New Scientific Findings*

Until 1993, the threshold for the admission of scientific testimony in all federal and many state cases was that it “[had] gained general acceptance in the particular field in which it belongs.”²⁶⁶ That formulation, known as the *Frye* standard for the case in which it first appeared, may seem to suggest that only consensus propositions were admitted to establish causation, but courts have not interpreted it that way.²⁶⁷ Instead, many courts emphasized that new or controversial opinions were admissible as long as they were derived from established scientific principles and methodologies.²⁶⁸

In the context of toxic torts, the *Frye* standard meant that as long as the *methodology* used to establish causation was generally accepted, the fact of causation needed not be.²⁶⁹ In other words, “products liability law [did] not preclude recovery until a statistically significant number of people have been injured or until science has had the time and resources to complete sophisticated laboratory studies of the chemical.”²⁷⁰ Under this standard, preliminary toxicological evidence in a toxic tort case would be admitted, because the scientific community generally accepts methodologies used by toxicologists.²⁷¹

²⁶⁴ See *infra* notes 266–272 and accompanying text.

²⁶⁵ See *infra* notes 273–281 and accompanying text.

²⁶⁶ *Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir. 1923); see also *United States v. Kilgus*, 571 F.2d 508, 510 (9th Cir. 1978) (“A necessary predicate to the admission of scientific evidence is that the principle upon which it is based ‘must be sufficiently established to have general acceptance in the field to which it belongs.’” (quoting *Frye*, 571 F.2d at 510)).

²⁶⁷ See David E. Bernstein, *Frye, Frye, Again: The Past, Present, and Future of the General Acceptance Test*, 41 JURIMETRICS J. 385, 396–400 (2001).

²⁶⁸ *Id.*

²⁶⁹ See *Ferebee v. Chevron Chem. Co.*, 736 F.2d 1529, 1535–36 (D.C. Cir. 1984) (stating that expert testimony must be based on generally accepted scientific methodologies, but not generally accepted conclusions).

²⁷⁰ *Id.* at 1536 (internal quotation marks omitted).

²⁷¹ See *id.* The admissibility also, somewhat counterintuitively, depends on the extent to which the topic has been studied. See *Ambrosini v. Labarraque*, 966 F.2d 1464, 1469–70 (D.C. Cir. 1992). Applying the *Frye* standard in 1992, the U.S. Court of Appeals for the D.C. Circuit held that toxicological evidence was not admissible to prove the toxicity of Bendectin because of the presence of contrary epidemiological evidence. *Id.* But the court also held that similar toxicological evidence suggesting the toxicity of Depo-Provera was admissible because so little was known about the toxicity

Even if the conclusions—the causal links from the product to the illness—are not generally accepted, that would not preclude admissibility.²⁷²

b. Daubert Continues to Allow New Scientific Evidence

In the 1993 case *Daubert v. Merrell Dow Pharmaceuticals*, the Supreme Court overruled *Frye* with respect to federal cases, replacing its “general acceptance” requirement with a standard even more friendly to novel theories of causation.²⁷³ *Daubert* was an appeal of a Bendectin case in which the district court excluded all toxicological evidence of causation.²⁷⁴ The Supreme Court reversed, not because it believed the toxicological evidence should have been admitted, but because it held that “general acceptance” was no longer a necessary condition for the admission of scientific evidence.²⁷⁵ Rather, the Court instructed district courts to determine for themselves “whether the reasoning or methodology underlying the testimony is scientifically valid.”²⁷⁶ The Court did not formally constrain this inquiry, but it did suggest that a methodology’s testability, its rate of error, whether it has been subject to peer review, and whether it has gained “general acceptance” in the scientific community were all relevant to the inquiry into validity.²⁷⁷

By reducing “general acceptance” to one among several nonexclusive factors tending to indicate reliability, *Daubert* opened the courthouse door to novel scientific theories that could prove their validity through means other than scientific consensus. For example, when the Court decided *Daubert*, DNA profiling studies were published in peer-reviewed journals, and had known error rates, but scientists disagreed about the statistical techniques for calculating the likelihood of a random match, which was essential to its use in identification.²⁷⁸ Meeting the three *Daubert* criteria other than “general acceptance” allowed DNA evidence to be admitted under *Daubert* where it was at least theoretically excludable under *Frye*.²⁷⁹ In other words, *Daubert* “does not require a consensus to form in the field” before admissibility, which can shorten the

of the drug. *Id.* This holding reflects the general notion that for toxic tort admissibility, uncertainty should be resolved in favor of admissibility. For a critique of that position, see David Bernstein, *The Misbegotten Judicial Resistance to the Daubert Revolution*, 89 NOTRE DAME L. REV. 27, 59 (2013).

²⁷² See *Ferebee*, 736 F.2d at 1535–36.

²⁷³ See *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 587 (1993) (holding the *Frye* standard to be superseded by the adoption of the Federal Rules of Evidence).

²⁷⁴ *Daubert v. Merrell Dow Pharm., Inc.*, 727 F. Supp. 570, 575 (S.D. Cal. 1989) (explaining that if epidemiological evidence is available, toxicological evidence is not a generally accepted method of establishing causation), *vacated*, 509 U.S. 579 (1993).

²⁷⁵ *Daubert*, 509 U.S. at 597–98.

²⁷⁶ *Id.* at 592–93.

²⁷⁷ *Id.* at 594.

²⁷⁸ David L. Faigman, *The Daubert Revolution and the Birth of Modernity: Managing Scientific Evidence in the Age of Science*, 46 U.C. DAVIS L. REV. 893, 913 (2013).

²⁷⁹ See *id.*; see also Redmayne, *supra* note 247, at 1077 (calling *Frye* a “wait and see” standard).

delay between a new discovery and its legal recognition.²⁸⁰ As Judge Jack. B. Weinstein of the U.S. District Court for the Eastern District of New York cautioned in a breast implant multidistrict litigation case, “We should not rush to judgment where new scientific theories are proposed that lack adequate support or refutation because they are so new.”²⁸¹

2. Sufficiency

Once a district court has determined the admissibility of causation evidence, it often must also decide whether that evidence is sufficient to support a verdict.²⁸² This occurs first at the summary judgment stage, when the judge decides whether the plaintiff’s expert evidence establishing causation is sufficient to raise a dispute as to any material fact.²⁸³ The court again considers the sufficiency of causation evidence if a defendant moves for judgment as a matter of law (JMOL) during trial, and once again if the defendant renews its JMOL motion after losing at trial.²⁸⁴ The court grants a JMOL motion if no reasonable jury would find a legally sufficient evidentiary basis to support causation.²⁸⁵

In measuring the sufficiency of causation evidence, courts use standards that are relatively friendly to novel scientific theories. Causation is a question of fact that judges “have no special competence to resolve.”²⁸⁶ Courts therefore often take the position that once they have admitted evidence on either side of a scientific question, they must leave the final determination to the jury.²⁸⁷ As the D.C. Circuit explained in a 1984 tort case, on questions that “stand at the frontier of current medical and epidemiological inquiry, if experts are willing to testify that such a link exists, it is for the jury to decide whether to credit such testimony.”²⁸⁸

²⁸⁰ Faigman, *supra* note 278, at 913. This is not to say that legal acceptance of a novel scientific theory is ever instantaneous, even under *Daubert*. For example, one of the standard’s most important measures—whether the scientific idea has been subject to peer review—acts as a delay mechanism, as the process of review and publication can take up to several years. See *Daubert*, 509 U.S. at 594.

²⁸¹ *In re Breast Implant Cases*, 942 F. Supp. 958, 960 (S.D.N.Y. 1996). Judge Weinstein then quoted a passage from Kuhn’s *The Structure of Scientific Revolutions*, implying that “radical new theories” may have a place in toxic tort trials. See *id.* (quoting THOMAS S. KUHN, *THE STRUCTURE OF SCIENTIFIC REVOLUTIONS* 52 (2d ed. 1970)); see also Feldman, *supra* note 252, at 9 (“By allowing trial judges to consider testability, peer review, and publication in addition to general acceptance, however, *Daubert* makes room for testimony based on innovative research developed with techniques not yet generally accepted so long as they are genuinely empirical methods or have received some scrutiny from other scientists.”).

²⁸² See FED. R. CIV. P. 50, 56.

²⁸³ See *id.* 56.

²⁸⁴ See *id.* 50.

²⁸⁵ See *id.*

²⁸⁶ *Ferebee*, 736 F.2d at 1534.

²⁸⁷ *Id.*

²⁸⁸ *Id.*

Oxendine v. Merrell Dow Pharmaceuticals, a 1986 Bendectin case, illustrates how the sufficiency rules allow new and controversial theories to support recovery.²⁸⁹ When the jury returned a verdict in favor of the plaintiffs in *Oxendine*, the court granted Merrell's motion for a judgment notwithstanding the verdict.²⁹⁰ The trial court concluded that although the expert evidence supporting causation was admissible, it was legally insufficient because the plaintiffs' expert witness himself "admitted in his testimony that each of the studies on which he relied could not, by itself, support a finding of causation."²⁹¹ The D.C. Court of Appeals reversed, holding that the jury was entitled to combine the studies "to produce a whole that was greater than the sum of its parts."²⁹² The court's opinion thus made clear that equivocal, tentative studies can support an inference of causation.

C. *The Costs of Delay: Toxic Tort Suits and Antitrust Rulemaking Compared*

The doctrinal explanation for trial courts' reactivity to changes in causation evidence begs the normative question: Is the tort system's sensitivity to scientific change a good thing? Answering that question requires identifying the correct balance between the informational benefits of delay and its costs in the toxic tort context, a project beyond the scope of this Article.²⁹³ But it seems clear that although delay can provide informational benefits in both the antitrust rulemaking and toxic tort litigation contexts, its costs in the tort context are much higher.

Tort law's two primary goals, compensating the injured and deterring unsafe conduct, demand accuracy in fact finding and speed and finality in resolving disputes.²⁹⁴ Accuracy in antitrust rulemaking, although likewise important to the Supreme Court, is defined in a way that makes delay less costly in that context. Furthermore, speed and finality play a much smaller role in antitrust rulemaking than toxic tort litigation. Without claiming that tort law strikes the

²⁸⁹ *Oxendine v. Merrell Dow Pharm., Inc.*, 506 A.2d 1100, 1110 (D.C. 1986).

²⁹⁰ *Id.* at 1102. The *Oxendine* case was decided before a "motion for judgment notwithstanding the verdict" was renamed a "renewed motion for judgment as a matter of law." *Id.*; see FED. R. CIV. P. 50.

²⁹¹ *Oxendine*, 506 A.2d at 1110.

²⁹² *Id.*

²⁹³ At least one scholar has addressed this question head-on, and answered it in the negative. See Cheng, *supra* note 257, at 321.

²⁹⁴ See Feldman, *supra* note 252, at 34 & nn.168–69. I have omitted a third aim of tort law that Feldman identifies, that "it tries to expressively yoke victims of overly risky activity with their injurers by requiring injurers to compensate those they have harmed[.]" because it is a more controversial goal, and perhaps a more peripheral one, than compensation and deterrence. See *id.* In any case, because accuracy and speed are still important to linking victims with their injurers, including such a goal (and others, including corrective justice) would not affect my analysis.

optimal balance, I argue that these differences suggest that optimal delay is shorter in tort litigation than in antitrust rulemaking.

1. Accuracy, Speed, and Finality in Tort Litigation

Tort law's goals of deterrence and compensation demand that individual factual determinations in tort cases be as accurate as possible.²⁹⁵ Inaccurate decisions undermine tort law's goal of compensating the injured, because they either undercompensate plaintiffs who actually suffered at the hands of a defendant or provide windfalls to plaintiffs with injuries caused by bad luck or a third party. Likewise, inaccurate causation findings undermine tort's deterrence goals; if potential defendants have no confidence that causation will be reliably discovered at trial, they have less incentive to discover the truth about their products and take the appropriate precautions in marketing them. Inaccurate judgments also have significant collateral consequences—bankrupting companies and making safe and effective products unavailable to those who need them.²⁹⁶

Speed and finality also serve tort law's two main goals of compensation and deterrence. Delay between injury and recovery represents an uncompensated period for plaintiffs, and compensation that is not final is undercompensatory to injured plaintiffs. On the other side of the same coin, speed and finality aid in tort's deterrence goal by raising the stakes for defendants considering risky behavior. Speed and finality also have the collateral benefit of minimizing judicial costs.

But in the toxic tort context, where scientific evidence of causation is often uncertain at first, the goal of accuracy in fact-finding on the one hand and the goals of speed and finality on the other work at cross-purposes. Toxicological evidence of causation—relatively cheap and easy to obtain—typically precedes extensive epidemiological study of the effects of a product. This means that for toxic causation, the bad evidence tends to precede the good.²⁹⁷ Typically, medical evidence about the effects of a product has not achieved maturity at the time of suit,²⁹⁸ but once a suit is filed, justice (and its goals of compensation and deterrence) dictates a speedy and final resolution to the legal controversy.²⁹⁹ This suggests that the kind of delay in the face of scientific uncertainty that characterizes Supreme Court rulemaking may be too costly in terms of individual justice in tort cases.

²⁹⁵ See Christopher Tarver Robertson, *Blind Expertise*, 85 N.Y.U. L. REV. 174, 181–84 (2010).

²⁹⁶ See Peter H. Schuck, *Multi-Culturalism Redux: Science, Law, and Politics*, 11 YALE L. & POL'Y REV. 1, 22–23 (1993) (discussing the collateral harm of the Bendectin litigation).

²⁹⁷ See Cheng, *supra* note 257, at 328.

²⁹⁸ Feldman, *supra* note 252, at 17.

²⁹⁹ See Cheng, *supra* note 257, at 329–40 (discussing the importance of speed and finality to tort's goals).

Delay is also less attractive in the tort context because its costs are disproportionately borne by plaintiffs. Rejecting less-than-certain theories of harm in order to wait for confirmation from the scientific community would mean dismissing meritorious as well as factually unfounded claims. Thus, delay would systematically disadvantage plaintiffs while providing defendants a period of legal immunity lasting as long as there is scientific uncertainty about their products. In addition to creating bad incentives for manufacturer-led research, this grace period works against tort's goals of swift compensation and strong deterrence.³⁰⁰

2. Accuracy, Speed, and Finality in Antitrust Rulemaking

In contrast, when the Supreme Court makes antitrust rules, it cares less about accuracy in an individual case than it does about adopting the economically accurate rule in the long term.³⁰¹ In part, this is because in antitrust the Court acts as regulator, not adjudicator.³⁰² Thus, the costs to certainty and stability of changing a legal opinion about scientific information is higher for the Court in antitrust than for lower courts addressing toxic causation. Taking a best guess on a new scientific issue in Supreme Court rulemaking carries with it a significant risk of later having to undo that guess when the passage of time has revealed better information.³⁰³ The costs of that flip-flop are visited on all

³⁰⁰ The costs of an overly conservative approach to new scientific theories about tort causation can also be expressed in terms of Type I/II errors. See J. Neyman & E.S. Pearson, *The Testing of Statistical Hypotheses in Relation to Probabilities A Priori*, 29 MATHEMATICAL PROCEEDINGS OF THE CAMBRIDGE PHIL. SOC. 492, 493 (1933) (originating terms Type I and Type II errors). If a Type I error is defined as crediting science later rejected by a scientific consensus, and Type II error is rejecting science later proved to be reliable, then tort law is relatively neutral (at least compared to the antitrust context) about which kind of error is more costly. See *id.* Type I errors, as the Bendectin and breast implant examples show, can be very costly. But so, too, are Type II errors because they not only prevent compensation and undermine deterrence, but they also perpetuate a dangerous product on the market.

³⁰¹ See PERRY, *supra* note 5, at 220.

³⁰² See Haw, *supra* note 130, at 1255–59. This is consonant with the Court's general perspective that its primary function is to make or clarify law, not to resolve individual disputes. See PERRY, *supra* note 5, at 220.

³⁰³ Following the Court's 1954 *Brown v. Board of Education of Topeka* decision, at least one scholar expressed concern that tying legal rules to social science meant risking rapid reversals. Edmond Cahn, *Jurisprudence*, 30 N.Y.U.L. REV. 150, 167 (1955); see 347 U.S. 483, 495–96 (1954). The fears expressed below may be particular to “fundamental rights,” among which antitrust law has never been counted, and the observation that social science is “young” seems less appropriate today, but the criticism of *Brown*'s reliance on relatively new and contested social science nicely expresses the risks of tying law too closely to social scientific findings:

[S]ince the behavioral sciences are so very young, imprecise, and changeful, their findings have an uncertain expectancy of life. Today's sanguine asseveration may be cancelled by tomorrow's new revelation—or new technical fad. It is one thing to use the current scientific findings . . . [to evaluate economic legislation]. It would be quite an-

market actors within the Court's jurisdiction. In contrast, trial courts in tort cases primarily concern themselves with doing justice in the individual case where courts face significant pressure to act swiftly to compensate victims and deter risky behavior.

But delay is more costly in tort trials than in antitrust rulemaking for reasons other than the Court's institutional status. Delay, like other conservative devices, creates a status quo default, which has a distorting effect in the tort context, where the length of time a plaintiff must wait to recover on a scientific theory is inversely related to the amount of care a manufacturer will take with the safety of its products. In antitrust, delay has no such systematically biased result because antitrust plaintiffs and defendants can both advance new, controversial science supporting a rule change.³⁰⁴ Moreover, economically inaccurate rules tend to harm all market actors; they tend to diminish the pie but do not necessarily influence how it is sliced.

Finally, the contexts differ in terms of notice to parties. An existing antitrust rule, however inefficient, is presumably known to both parties at the time of their conduct. A party advancing a new economic theory as support for legal change assumes the risk of disappointment when it engages in the conduct prohibited by an inefficient rule. But the victim of a new product with little information about its safety never had a similar opportunity to avoid the dispute in the first place. Delaying the victim's recovery in the hopes that better science will emerge thus punishes an innocent actor.

CONCLUSION

Law is often aimed at a moving target, whether it be evolving standards of decency, privacy in an age of technology, or academic notions of economic efficiency. Optimally adapting law to changed circumstances requires not only a reliable understanding of those circumstances but also a sensitivity to the costs that attend frequent legal change. Delay can both improve the information used to significantly alter doctrine while also preventing rapid and disruptive reversals in doctrine. By observing that delay *can* improve the Court's informational inputs, I do not mean to argue that the Court necessarily deliberately uses it to achieve this effect. Nor do I claim that the delay observed in its antitrust jurisprudence is optimal; there is a strong argument that the interval

other thing to have our fundamental rights rise, fall, or change along with the latest fashions of psychological literature.

See Cahn, *supra*.

³⁰⁴ Compare, e.g., *Leegin*, 551 U.S. at 884–87 (noting how the defendant was the party arguing for a reversal of *Dr. Miles* in light of academic consensus that the per se rule was wrong), with *Concord Boat Corp. v. Brunswick Corp.*, 207 F.3d 1039, 1043–44 (8th Cir. 2000) (noting how the plaintiffs were the party advocating for a new antitrust rule on market share discounts).

between Telser's article and *Leegin* was too long. But I do mean to suggest that delay, as an information-maximizing—yet conservatizing—device, may have a salutary effect on lay decision making in the face of scientific change.

The problems that attend a lay Court interpreting scientific information are large and growing. Science plays an essential role in almost all areas of Supreme Court jurisprudence; indeed in some areas, as in antitrust, it may be the most important decisional input of all. Any device that improves the rationality of judicial decision making in these areas of law should be recognized, theorized, and balanced against its costs. Delay, as such a device, offers significant benefits to judges struggling to bridge the gap between what they know and what they must decide.

