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Entering the Innovation Twilight Zone: How Patent and Antitrust Law Must Work Together

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Entering the Innovation Twilight Zone: How Patent and Antitrust Law Must Work Together

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ABSTRACT

Patent law and antitrust law have traded ascendancy over the last century, as courts and other institutions have tended to favor one at the expense of the other. In this Article, we take several steps toward stabilizing the doctrine surrounding these two branches of law. First, we argue that an optimal balance between patent rights and antitrust enforcement exists that will maximize consumer welfare, including promoting innovation and economic growth. Further, as Congress is the best institution to find this optimum, courts should enforce both statutes according to their literal text, which grants absolute patent rights but allows for more discretion in antitrust enforcement. Second, we propose three possible reasons for the historical conflict between these regimes: cultural cognition, political economy, and federal court structure. As a result, we propose two stabilizing solutions: research into culturally depolarizing communication techniques and a two-court "Innovation Circuit."

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I. INTRODUCTION

Patent and antitrust laws have not gotten along. In the name of promoting economic growth and prosperity, the proponents of each assert that their preferred policy is the economic engine and that the other is but an opposing force. The late antitrust scholar Milton Handler described this tension as the "Polarities of Antitrust."¹ The push and pull between patent and antitrust law is like the swing of a pendulum, Professor Handler noted, whose "motion can be an instructive force. It frequently must describe a wide arc before reaching the correct point of equilibrium—in legal terms, before our rules can withstand the acid pragmatic test."² Only if each is expressed to its fullest can we enter what he called a "twilight zone"—not a state of surrealism, as the Rod Serling 1960's television show title implies, but rather "the place where conflicting forces are

1. Milton Handler, *The Polarities of Antitrust*, 60 NW. U. L. REV. 751 (1965) (adapted from his address to the Fourth Annual Corporate Counsel Institute).

2. *Id.* at 757.

balanced; . . . the position of equipoise and co-existence, the point at which the pendulum comes to rest.”³

We are far from achieving Professor Handler’s twilight zone. Indeed, over the last century, the two regimes have “traded ascendancy,” as the Federal Trade Commission (FTC) described it in a 2003 report, with courts sometimes favoring patent rights while disfavoring antitrust law and then vice versa.⁴ The Supreme Court’s 2013 decision in *Federal Trade Commission v. Actavis, Inc.*⁵ marks the current locus of the pendulum: swinging high on the side of antitrust. In that case, the Court evaluated the permissibility of “reverse payment” settlement agreements, in which a pharmaceutical company settles a patent dispute with a generic challenger by paying cash to the generic while it respects the life of the patent by staying off the market until the patent expires. The three possible standards that the Court considered were the antitrust-centric “per se violation” position espoused by the FTC, the patent-centric “scope of the patent” position,⁶ and the “rule of reason” position—which is somewhere between the two but still does not give the patentee the entire scope of patent rights. The Court adopted the rule of reason standard.⁷

Writing for the majority, Justice Breyer explained that “patent and antitrust policies are both relevant in determining the ‘scope of the patent monopoly’—and consequently antitrust law immunity—that is conferred by a patent.”⁸ The Court thereby limited patent rights in light of antitrust law.

We argue that patent law and antitrust law can work together to foster consumer welfare by facilitating both innovation and competition. Patent law targets long-term growth while antitrust law operates in a shorter timeframe, and some balance of these two forces will optimize welfare. Systematic error in the interpretation or enforcement of one regime hinders the effectiveness of the other and of the system as a whole. We acknowledge that the exercise of patent monopoly rights may decrease short-term competition in certain situations, but a cohesive view requires that antitrust law not usurp

3. *Id.* at 751.

4. See FED. TRADE COMM’N, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY 14 (Oct. 2003) (*hereinafter* FTC REPORT), available at <http://www.ftc.gov/sites/default/files/documents/reports/promote-innovation-proper-balance-competition-and-patent-law-and-policy/innovationrpt.pdf> (“In general, when courts were favoring patents, they were usually disfavoring antitrust, and vice versa.”); see also *infra* Part II.

5. See 133 S. Ct. 2223 (2013).

6. One of us appeared on the Supreme Court brief arguing this position on behalf of the AIPLA. See Brief for Am. Intellectual Prop. Law Ass’n as Amicus Curiae Supporting Respondents at 3, *FTC v. Actavis, Inc.*, 133 S. Ct. 2223 (2013) (No. 12-416).

7. See 15 U.S.C. § 4302 (2012).

8. *Actavis*, 133 S. Ct. at 2231.

the role of Congress in determining the appropriate level of patent protection to foster the balance necessary for long-term innovation and competition. We observe that Congress has enacted specific rights in the Patent Act⁹ against a more general antitrust regime and argue that the more specific law should control. Honoring Congress's language is not only faithful to the legislature but also helps Congress legislate: only by permitting patent holders to exercise the full scope of their rights can courts allow Congress to calibrate the patent and antitrust regimes to maximize innovation and consumer welfare. Congress has passed a number of major patent bills in the recent past,¹⁰ suggesting that in this realm—unlike many others—relying on Congress to calibrate these laws is not a futile plan.

Other scholars have noted the historically troubled relationship between antitrust and patents,¹¹ but they have not succeeded in stabilizing the regimes. We offer several novel explanations for why antitrust law and patent law have traded ascendancy over the last century, each of which suggests ways to move forward and permit both policies to serve their function. We hypothesize, first, that an atmosphere of political polarization¹² has given antitrust law an anti-business meaning and patent law a pro-business meaning, and that these opposing meanings have caused conflict over beliefs about how to best foster innovation and competition via a mechanism known as cultural cognition. Second, we suggest that economic and industry conditions at a given time may prompt people to favor either long-term

9. 35 U.S.C. §§ 1–376 (2012).

10. See, e.g., America Invents Act Pub. L. No. 112-29, 125 Stat. 284 (2011); Hatch-Waxman Act, Pub. L. No. 98-417, 98 Stat. 1585 (1984); Orphan Drug Act, Pub. L. No. 97-414, 96 Stat. 2049 (1983).

11. In the 1960s, William Baxter argued that patent rights should be restricted, to the extent that prohibitions in licensing agreements burden licensees far more than they benefit patent holders. See William F. Baxter, *Legal Restrictions on Exploitation of the Patent Monopoly: An Economic Analysis*, 76 YALE L. J. 267, 355–58 (1966). In the early 1970s, Ward Bowman argued that both regimes seek “to maximize wealth by producing what consumers want at the lowest cost,” WARD S. BOWMAN, JR., PATENT AND ANTITRUST LAW: A LEGAL AND ECONOMIC APPRAISAL 1 (1973), so they are not fundamentally opposed to each other, and therefore competition law should not restrict intellectual property rights. A decade later, Louis Kaplow argued that patent policy and antitrust law are in deep conflict, and courts should analyze each case by examining “the ratio between the reward the patentee receives when permitted to use a particular restrictive practice and the monopoly loss that results from such exploitation of the patent.” Louis Kaplow, *The Patent-Antitrust Intersection: A Reappraisal*, 97 HARV. L. REV. 1813, 1816 (1984).

12. See BIPARTISAN POLICY CTR., COMM'N ON POLITICAL REFORM, GOVERNING IN A POLARIZED AMERICA: A BIPARTISAN BLUEPRINT TO STRENGTHEN OUR DEMOCRACY 21 (2014), available at <http://bipartisanpolicy.org/wp-content/uploads/sites/default/files/files/BPC%20CPR%20Governing%20in%20a%20Polarized%20America.pdf> (describing “great divisions between the political parties, between the red and blue teams” and how “Americans tend to have spouses, family members, and friends who share their political views”).

investment or short-term consumer protection—the former being viewed as pro-patent and latter being viewed as antitrust friendly—but not both. Finally, we offer that the current judicial structure of addressing these questions—where primarily the US Court of Appeals for the Federal Circuit addresses patent questions and other courts of appeals address antitrust questions—contributes to the tension as each branch of the appellate judiciary seeks to control its own domain, administering its own law separate from the others, thereby increasing the pendulum’s displacement from equilibrium.

These causes suggest potential solutions. For instance, by working to divorce these two fields from their cultural meanings—or by imbuing them with new, non-opposing ones—we can help both cultural groups see how both laws can benefit consumers, small businesses, and big businesses alike. Communicators identifiable as culturally aligned with their audiences could present information about the effects of patent and antitrust policy. Also, considering ways to consolidate economic issues so that the balance between antitrust and patent laws can be considered side-by-side would allow proper economic analysis in a judicial context. One suggestion is replacing the Federal Circuit with a multi-court “Innovation Circuit”—a system of at least two courts that address cases arising under both the patent and antitrust laws—which would facilitate symbiosis of the two legal regimes while addressing some of the criticisms directed at the Federal Circuit.

This Article proceeds in four parts. In Part II, we trace some of the relevant history of antagonistic relationships between patent and antitrust law, which began almost immediately after the Sherman Act was passed, and examine how the courts have tended to favor one at the expense of the other. In Part III, we argue that patent and antitrust law, when properly calibrated by Congress, reinforce each other and benefit consumers by fostering both innovation and competition, demonstrating how over-enforcement of either law, at the expense of the other, can harm the goals of both. In Part IV, we offer several potential explanations for the long-held belief that antitrust law and patent law are in deep tension with each other. In Part V, we synthesize Parts III and IV to suggest several paths forward that will allow patent law and antitrust law to maximize innovation and consumer welfare.

II. A HISTORY OF TRADING ASCENDANCY

Although the modern concept of patents probably dates from the 1400s, Britain’s adoption of the concept that ideas were

protectable property during the seventeenth century changed “[h]uman character (or at least behavior) . . . forever.”¹³ The early British laws evoked the concept of monopolies,¹⁴ and the debate over whether patents promoted or inhibited innovation specifically can be traced to the Fire Engine Act of 1775,¹⁵ when Parliament enacted a private bill extending the life of a specific expiring patent for the steam-powered engine, based upon the argument that the inventors needed more time to recoup the investments required to perfect their invention.¹⁶ The Fire Engine Act of 1775 not only promoted one of the world’s most important advances while limiting competition, perhaps unduly,¹⁷ but also passed Parliament on the same day that the American forces captured Fort Ticonderoga.¹⁸ On that day, the battle campaign up the Hudson presumably was foremost in the minds of the Colonist leadership, but by the time they were drafting the US Constitution, the Founders also were considering and debating the concepts of patents, monopolies, and the balance between the two.¹⁹

13. WILLIAM ROSEN, *THE MOST POWERFUL IDEA IN THE WORLD: A STORY OF STEAM, INDUSTRY AND INVENTION* xxiii, 47 (2010).

14. *E.g.*, Statute of Monopolies, 1623, 21 Jac. 1, c. 3 (“An Act concerning Monopolies and Dispensations with penall Lawes and the Forfeiture thereof”); *see* *Darcy v. Allein* (1602) 77 Eng. Rep. 1260 (K.B.) (better known as the “Case of Monopolies”).

15. ROSEN, *supra* note 13, at 161–63; *see* The Fire Engine Act, 15 George III, ch. 61 (1775).

16. It was not until 1960, when British economist Ronald Coase published *The Problem of Social Cost*, 3 J.L. & ECON 1 (1960), that the concept of balancing economic efficiency with legal theories in light of precedent gained popularity.

17. ROSEN, *supra* note 13, at 162.

18. *Id.*

19. For instance, during an exchange of letters on the topic with Isaac McPherson, Thomas Jefferson wrote:

If nature has made any one thing less susceptible than all others of exclusive property, it is the action of the thinking power called an idea, which an individual may exclusively possess as long as he keeps it to himself; but the moment it is divulged, it forces itself into the possession of everyone, and the receiver cannot dispossess himself of it. Its peculiar character, too, is that no one possesses the less, because every other possesses the whole of it. He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me. . . . Inventions then cannot, in nature, be a subject of property.

SAMUEL EAGLE FORMAN, *THE LIFE AND WRITINGS OF THOMAS JEFFERSON: INCLUDING ALL OF HIS IMPORTANT UTTERANCES ON PUBLIC QUESTIONS* (1900), *reprinted in* ROSEN, *supra* note 13, at 280. As Secretary of State, Mr. Jefferson was the first US government official to issue patents, although that process quickly was changed so that there were a panel of three Commissioners for the Promotion of Useful Arts—one of whom was Jefferson. *See The U.S. Patent System Celebrates 212 Years*, USPTO (Apr. 9, 2002), <http://www.uspto.gov/news/pr/2002/02-26.jsp>.

A. *Early Twentieth Century: "The Patentee Is Czar"*²⁰

Patent laws are some of the oldest and most fundamental in our country. The Constitution itself explicitly empowers Congress to pass a patent statute,²¹ and the First US Congress passed the Patent Act of 1790²² shortly thereafter. But from 1870 to 1890, in the face of an economic depression, patents fell out of favor with the courts. Although the Supreme Court and the courts of appeals held nearly 90 percent of patents valid in the 1850s, by the early 1870s, they held only a little more than half valid; in the period around 1890, they upheld only 13 percent of patents.²³ In that time, the Court denounced using the patent laws to "grant a monopoly for every trifling device, every shadow of a shade of an idea," opining that such a practice:

[C]reates a class of speculative schemers who make it their business to watch the advancing wave of improvement, and gather its foam in the form of patented monopolies, which enable them to lay a heavy tax upon the industry of the country, without contributing anything to the real advancement of the art.²⁴

And around the end of that period the Supreme Court chided litigants who obtained patents "principally to forestall competition, rather than to obtain the just rewards of an inventor."²⁵ It was at this nadir that Congress enacted the Sherman Act, which prohibited restraints of trade and attempts to monopolize any part of interstate commerce.²⁶

But following the election of 1896, during a period of farm-favorable weather conditions,²⁷ the nation's economic condition improved and so did the conditions for patent holders. For instance, in *Bement v. National Harrow Co.*,²⁸ the Court permitted National Harrow Company (NHC) to license its patents on harrowing terms. Anyone wishing to manufacture NHC's improved float spring-tooth

20. *Victor Talking Mach. Co. v. The Fair*, 123 F. 424, 426 (7th Cir. 1903) (noting "[w]ithin his domain, the patentee is czar"). This subsection and the next owe a great debt to the excellent historical overview in MICHAEL A. CARRIER, *INNOVATION FOR THE 21ST CENTURY* 71–87 (2009).

21. See U.S. CONST. art I, § 8, cl. 8 ("The Congress shall have power . . . [t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries[.]").

22. Ch. 7, 1 Stat. 109 (1790).

23. H.R. Mayers, *The United States Patent System in Historical Perspective*, 3 PAT. TRADEMARK & COPYRIGHT J. RES. & ED. 33, 35 fig.1 (1959).

24. *Atl. Works v. Brady*, 107 U.S. 192, 200 (1883).

25. *Pope Mfg. Co. v. Gormully & Jeffery Mfg. Co.*, 144 U.S. 254, 260 (1892).

26. See ch. 646, 26 Stat. 209 (1890) (current version at 5 U.S.C. §§ 1–7 (2012)).

27. Mayers, *supra* note 23, at 41.

28. 186 U.S. 70 (1902); see also CARRIER, *supra* note 20, at 73.

harrow (a piece of farm equipment used for smoothing and loosening soil)²⁹ had to agree that (1) NHC could set the minimum selling price for licensed harrows, (2) they would make only the float spring-tooth harrows licensed by NHC, and (3) they would not contest the validity of the NHC's patents.³⁰ The Court observed that "[t]he very object of these [patent] laws is monopoly, and the rule is, with few exceptions, that any conditions which are not in their very nature illegal with regard to this kind of property, imposed by the patentee and agreed to by the licensee for the right to manufacture or use or sell the article, will be upheld by the courts."³¹

Bement was representative of decisions in the earliest years of the twentieth century. A few years earlier, the US Court of Appeals for the Sixth Circuit had decided *Heaton-Peninsular Button-Fastener Co. v. Eureka Specialty Co.*,³² in which future Supreme Court Justice Lurton allowed the plaintiff to require purchasers of its patented machines to use only its own (unpatented) fasteners with those machines.³³ The Sixth Circuit held that if the plaintiff obtained a monopoly on its unpatented fasteners via this condition, "[t]he monopoly in the unpatented staple results as an incident from the monopoly in the use of complainant's invention, and is therefore a legitimate result of the patentee's control over the use of his invention by others."³⁴ Then-Judge Lurton later wrote the Supreme Court opinion upholding a similar tying scheme in *Henry v. A.B. Dick Co.*³⁵ Justifying the decision on policy grounds, he noted that a patentee could achieve a monopolist's profits either by selling machines at a higher price or by extending his monopoly to appurtenant products.³⁶ Further, he noted that if the patentee had not marketed his invention, the appurtenant products would have no value, so selling the machine with the restriction harmed no one.³⁷ The Court then reaffirmed and elaborated its *Bement* holding in *United States v. General Electric Co.*, where it allowed General Electric to require its licensee to sell its lamps at a specified price.³⁸

29. See generally U.S. Patent No. 604,272 (filed Jan. 18, 1893) (describing and claiming a spring-tooth harrow).

30. *Bement*, 186 U.S. at 72-73.

31. *Id.* at 91.

32. 77 F. 288 (6th Cir. 1896); see also CARRIER, *supra* note 20, at 73.

33. 77 F. 288 at 300.

34. *Id.* at 296.

35. 224 U.S. 1 (1912); see also CARRIER, *supra* note 20, at 74.

36. 224 U.S. at 32.

37. *Id.*

38. 272 U.S. 476 (1926). The government alleged that General Electric (GE) was fixing resale prices on its patented lamps both by using over twenty-one thousand agents to sell the lamps directly to consumers at a set price and by licensing the Westinghouse Company to sell its

During the second half of this period, aside from the strongly pro-patentee *General Electric* decision, the pendulum began to swing against patentees. In response to court decisions such as *A.B. Dick*, Congress passed the Clayton Act in 1914, which *inter alia* prohibited the sale of patented goods on the condition that the purchaser not use a competitor's products if doing so substantially decreased competition.³⁹ In *Motion Picture Patents Co. v. Universal Film Manufacturing Co.*,⁴⁰ the Court overruled *Button-Fastener* and *A.B. Dick*, holding that a patentee cannot extend the scope of his patent monopoly by issuing a notice limiting the articles that may be used with his patented machine. The Court found support for its decision in the Clayton Act.⁴¹ Although appellate courts still regularly upheld patents, the number of patent challenges and patent invalidations increased as compared to the beginning of the century.⁴²

Still, at this time courts declined to use antitrust laws to interfere in most business arrangements. In *Appalachian Coals, Inc. v. United States*,⁴³ for instance, the Court upheld a cooperative sales agreement between competing coal producers, reasoning that if the companies had merged into a single entity, the plan would not have been problematic. Thus, cooperation between separate entities was also permissible.⁴⁴ However, the Court's permissiveness toward cooperative business agreements, along with its reverence toward the patentee's monopoly, was soon to change.

B. The 1940s–1970s: Antitrust Reigns Supreme

The 1940s saw the pendulum swing to a zenith on the side of antitrust enforcement. In contrast to the laissez-faire attitude toward business arrangements exemplified in *Appalachian Coals*, the Court

lamps only at prices specified by GE. The Court upheld GE's practices, noting that a patentee has an unlimited statutory "monopoly of making, using and selling the patented article," and "the comprehensiveness of his control of the business in the sale of the patented article is not necessarily an indication of illegality of his method." *Id.* at 485. Acknowledging that once a patentee sells its patented article outright, it may exercise no further control over it, the Court held that the license to Westinghouse was a legitimate exercise of its patent rights as it allowed GE to realize its legitimate monopoly profits from its patent. *Id.* at 490. This was one of several antitrust cases during that period. Three others upheld the merger of several shoe machine companies that made machines useful at different points in the shoe manufacturing process. See *United Shoe Mach. Co. v. United States*, 258 U.S. 451 (1922); *United States v. United Shoe Mach. Co.*, 247 U.S. 32 (1918); *United States v. Winslow*, 227 U.S. 202, 217 (1913).

39. Ch. 323, 38 Stat. 730 (1914).

40. 243 U.S. 502 (1917); see also *CARRIER*, *supra* note 20, at 74.

41. 243 U.S. at 517.

42. See *Mayers*, *supra* note 23, at 51 app'x A.

43. 288 U.S. 344 (1933).

44. *Id.* at 376–77.

clamped down on price fixing in *United States v. Socony-Vacuum Oil Co.*⁴⁵ In *Socony-Vacuum Oil Co.*, oil companies and individuals had conspired to purchase surplus gasoline at market price, thereby contributing to rising gas prices in the Midwest.⁴⁶ The Court held this agreement illegal per se under the Sherman Act.⁴⁷

This example of the ascendancy of antitrust policy also traced courts' diminishing regard for the patentee's monopoly. Following its reasoning in the *Motion Picture Patents* case, the Court decided three cases in the 1940s that restricted the boundaries of patent rights⁴⁸ and exemplified the trade-off between patent and antitrust law: *Morton Salt Co. v. G.S. Suppinger Co.*,⁴⁹ *Mercoïd Corp. v. Mid-Continent Investment Co.*,⁵⁰ and *United States v. Line Material Co.*⁵¹ In *Morton Salt*, the Court held not only that a patentee could not expand its monopoly through a tying arrangement similar to the one in *Motion Picture Patents*, but also that its attempt to do so violated public policy such that the Court would not enforce the plaintiff's patent even when the defendant infringed *directly*.⁵² The Court built on this doctrine of "patent misuse" to deny equitable relief to patent holders in *Mercoïd Corp.*, where the Court determined that the plaintiff was improperly using its patented combination to control the market for an unpatented component of that combination.⁵³ It refused to grant the plaintiff's request for an injunction against an infringing defendant, as that would "plac[e] its imprimatur on a scheme which involves a

45. 310 U.S. 150 (1940).

46. *Id.* at 178–200.

47. *Id.* at 220–25.

48. See CARRIER, *supra* note 20, at 74–77.

49. 314 U.S. 488 (1942).

50. 320 U.S. 661 (1944).

51. 333 U.S. 287 (1948).

52. Plaintiff produced a patented machine for depositing salt tablets as part of the canning process. It leased these machines to canners on the condition that they use only plaintiff's salt tablets with the machines; it therefore used "its patent monopoly to restrain competition in the marketing of unpatented articles . . . and [aided] in the creation of a limited monopoly in the tablets not within that granted by the patent." *Morton*, 314 U.S. at 491. Defendant produced salt depositing machines that incontrovertibly infringed plaintiff's patent but the Court, sitting in equity, "declin[ed] to entertain a suit for infringement," and said it would do so until "the improper practice has been abandoned," because a patentee who obtained a right in furtherance of a public policy "may not claim protection of his grant by the courts where it is being used to subvert that policy." *Id.* at 493, 494. The Court, then, relied on the public policy considerations of antitrust law to deny the patentee a right within the legitimate scope of the patent monopoly. *Id.* at 494.

53. The plaintiff had granted a license to make and sell a patented combination, but the royalty payments were based only on the sales of one unpatented component of the combination, and the third party's advertising stated that the purchaser only had the right to use the combination patent if he used the component purchased from the third party. 320 U.S. at 663.

misuse of the patent privilege and a violation of the anti-trust laws.”⁵⁴ Additionally, in *Line Material*, a divided Court held that when “two or more patentees in the same patent field . . . combine their valid patent monopolies”⁵⁵ to fix prices “on all devices produced under any of the patents,”⁵⁶ they violate the Sherman Act. The Court’s opinion emphasized “the possession of a valid patent or patents does not give the patentee any exemption from the provisions of the Sherman Act beyond the limits of the patent monopoly.”⁵⁷

In line with these cases disfavoring patentees, courts began to invalidate patents more frequently. In the first two decades of the twentieth century, the appellate courts upheld a majority of patents;⁵⁸ in the second two decades, the courts of appeals upheld 39.6 percent of patents;⁵⁹ but from 1941 to 1950, they held only 24.4 percent of patents valid.⁶⁰ The Supreme Court, from 1931 to 1950, upheld only 17 percent of the patents it considered, prompting Justice Jackson’s dissent in *Jungerson v. Ostby & Barton Co.* that the “only patent that is valid is one which this Court has not been able to get its hands on.”⁶¹ The 1940s marked a low point for patent holders, but they had decades to go before patent and antitrust law would trade ascendancy again: from 1951 to 1973, the courts of appeals held patents valid only 32.5 percent of the time.⁶²

Patentees received one positive bump from Congress with the 1952 Patent Act,⁶³ which established a right of action against contributory infringers and limited the patent misuse doctrine—the doctrine used to deny equitable relief in earlier cases such as *Mercoid*

54. *Id.* at 670.

55. 333 U.S. at 305.

56. *Id.* at 311.

57. *Id.* at 308. Although the opinion ultimately distinguished *General Electric*, in which only one company directed the prices of its patented products, four concurring justices would have overruled *General Electric*, arguing that it improperly placed the secondary role of patents—rewards to inventors—over the primary Constitutional role of the patent system—public interest—thereby “saddl[ing] the economy with a vicious monopoly.” *Id.* at 318, 320–21 (Douglas, J., concurring) (joined by Black, Murphy, & Rutledge, JJ.). When the various opinions are considered together, a plurality of the Court favored antitrust policy over patent rights even more than the opinion of the Court indicated. Justice Reed’s opinion for the Court was joined by Justices Douglas, Black, Murphy, and Rutledge who also concurred, whereas Justices Burton, Vinson, and Frankfurter dissented. *See id.*

58. *See Mayers, supra* note 23, at 35 fig.1.

59. Lawrence Baum, *The Federal Courts and Patent Validity: An Analysis of the Record*, 56 J. PAT. & TRADEMARK OFF. SOC’Y 758, 760 tbl.1 (1974).

60. *Id.*

61. 335 U.S. 560, 572 (1949) (Jackson, J., dissenting).

62. Baum, *supra* note 59, at 760 tbl.1.

63. Pub. L. No. 82-593, 66 Stat. 792 (1952).

*Corp.*⁶⁴ The law provided, among other things, that a patent holder could not be denied relief by virtue of having “derived revenue from acts which if performed by another without his consent would constitute contributory infringement of the patent.”⁶⁵

With this boon from Congress came increasing scrutiny from the Antitrust Division of the US Department of Justice. Starting in the 1940s, it took an active role in prosecuting antitrust violation claims involving patents,⁶⁶ and in the early 1970s, it began enforcing the infamous “Nine No-Nos” that Special Assistant to the Assistant Attorney General Bruce B. Wilson described at the New England Antitrust Conference as applying to “clearly unlawful” conduct.⁶⁷ He explained that the Antitrust Division deemed it unlawful: (1) “to require a licensee to purchase unpatented materials from the licensor”; (2) “to require a licensee to assign to the patentee any patent which may be issued to the licensee after the patent licensing arrangement is executed”; (3) “to attempt to restrict a purchaser of a patented product in the resale of that product”; (4) to “restrict [the] licensee’s freedom to deal in products or services not within the scope of the patent”; (5) “to agree with [the patentee’s] licensee that [the patentee] will not, without the licensee’s consent, grant further licenses to any other person”; (6) to have “mandatory package licensing”; (7) “to insist, as a *condition* of the license, that [the] licensee pay royalties in an amount not reasonably related to the licensee’s sales of products covered by the patent”; (8) “for the owner of a process patent to attempt to place restrictions on his licensee’s sales of products made by the use of the patented process”; and (9) “to require a licensee to adhere to any specified or minimum price with respect to the licensee’s sale of licensed products.”⁶⁸ The Department thereby deemed *per se* illegal a number of practices that had been upheld in the Supreme Court’s early cases, and they prosecuted claims against patent holders accordingly, severely curtailing patent rights.

Perhaps worse than this patent-unfriendly antitrust policy was the inconsistent application of law by the various courts of appeals on pure patent issues. In the Eighth Circuit, only 11 percent of patents were upheld when patent validity was considered as a defense to infringement, whereas in the Tenth Circuit, 70 percent of challenged

64. *Id.* § 271.

65. *Id.*

66. *See* Baum, *supra* note 59, at 774.

67. Bruce B. Wilson, Special Assistant to the Assistant Atty. Gen., Antitrust Div., Dep’t of Justice, Remarks at the Patent and Know-How License Agreements: Field of Use, Territorial, Price and Quantity Restrictions, Remarks Before the Fourth New England Antitrust Conference 3 (Nov. 6, 1970) (on file with authors).

68. *Id.* at 3–7.

patents were deemed valid.⁶⁹ This created uncertainty for patent holders and triggered fierce forum shopping, as patentees scrambled to get into friendly circuits, and accused infringers strived to transfer cases anywhere else.⁷⁰ No matter what circuit the parties landed in, however, the patentee would have a rough time at the highest level of review: the Supreme Court held patents invalid five times out of six from 1953 to 1973.⁷¹

C. *The Mid-1970s through Mid-1990s: The Golden Age*

The disparities between circuits came into focus with a 1975 report by the Commission on Revision of the Federal Court Appellate System, better known as the “Hruska Commission,” after its chair, Roman Hruska.⁷² The Hruska Commission’s patent law consultants surveyed 240 attorneys who had participated in patent cases and found that the worst problem was conflict between the circuits,⁷³ as patent litigants “spen[t] inordinate amounts of time, effort and money jockeying for a post position in the right court for the right issues,” particularly when patent validity was challenged.⁷⁴ They recommended a “single court whose judgments are nationally binding,” noting that the Supreme Court could not take enough patent cases to serve this function.⁷⁵ Although the Commission’s central recommendation of a single national court of appeals for all federal cases was never adopted, the call for a single court to stabilize patent doctrine took hold. In addition to any general benefits of uniformity, the Commission opined a single patent appeals court could provide expertise in technologically complex disputes, reduce the particularly egregious forum shopping that plagued patent litigation, and accommodate an increasing caseload.⁷⁶ Congress noted that the high cost of patent litigation was starting to encroach on innovation, chilling businesses and inventors with a demonstrated ability to

69. See Baum, *supra* note 59, at 762 tbl.3 (reviewing decisions from 1961 to 1973).

70. See Comm’n on Revision of the Fed. Court Appellate Sys., *Structure and Internal Procedures: Recommendation for Change*, reprinted in 67 F.R.D. 195, 320 (1975) [hereinafter Hruska Report].

71. Baum, *supra* note 59, at 777 tbl.5. This Supreme Court did not determine the validity of any patents between 1953 and 1964; from 1965 to 1973, it upheld one patent and declared five invalid. *Id.*

72. See Hruska Report, *supra* note 70.

73. *Id.* at 369–70.

74. *Id.* at 370 (quoting a letter from the Commission’s patent law consultants, Professor James B. Gambrell and Donald R. Dunner).

75. *Id.* at 371.

76. See Rochelle Cooper Dreyfuss, *The Federal Circuit: A Case Study in Specialized Courts*, 64 N.Y.U. L. REV. 1, 2 (1989).

develop novel products.⁷⁷ Similarly, in 1978, the Department of Justice issued a report proposing an “appellate court with national geographic jurisdiction, but with relatively narrow subject matter jurisdiction.”⁷⁸

The following year, at President Carter’s request, the Subcommittee on Patent and Information Policy of the Advisory Committee on Industrial Innovation issued a Report on Patent Policy.⁷⁹ The Subcommittee concluded that while the patent system generally served its function well, its “most serious problems” were “the uncertainty about the reliability of patent [sic] and the long time and high costs associated with resolving such uncertainty through litigation.”⁸⁰ The Report made three recommendations to improve reliability: increased staffing and modernization of the patent office, a new reexamination process, and a central court to hear patent appeals. It endorsed “the court proposed by the Department of Justice,” arguing that it would provide uniformity, minimize forum shopping, facilitate business planning by reducing uncertainty, and contribute technical expertise without being dominated by specialists.⁸¹

In 1982, Congress enacted the Federal Courts Improvement Act,⁸² which established the Court of Appeals for the Federal Circuit and gave it exclusive jurisdiction over appeals of final judgments in patent infringement disputes.⁸³ The creation of the Federal Circuit sparked a new era in patent law. Patent filings increased at an unprecedented, exponential rate,⁸⁴ and patent grants, while lagging filings in growth, also increased sharply. Figure 1 shows applications and grants in the US Patent and Trademark Office (PTO) from 1883 to 2012.

77. See H.R. REP. NO. 96-1307, pt. 1, at 2 (1980).

78. Harold C. Petrowitz, *Federal Court Reform: The Federal Courts Improvement Act of 1982—And Beyond*, 32 AM. U. L. REV. 543, 550 (1983) (citing OFFICE FOR IMPROVEMENTS IN THE ADMIN. OF JUSTICE, U.S. DEPT OF JUSTICE, A PROPOSAL TO IMPROVE THE FEDERAL APPELLATE SYSTEM (July 21, 1978) (draft report)).

79. SUBCOMM. ON PATENT & INFO. POLICY, ADVISORY COMM. ON INDUS. INNOVATION, REPORT ON PATENT POLICY (Feb. 6, 1979), available at <http://hoohila.stanford.edu/Commercializing%20Innovation/Classroom-Book-Principles%20of%20Patent%20Law%20Files/Patent%20Policy.pdf>.

80. *Id.* at 148.

81. *Id.* at 153–55.

82. Pub. L. No. 97-164, 96 Stat. 25 (1982) (relevant provisions codified as amended in scattered sections of 28 U.S.C.).

83. *Id.* § 125(c)(2).

84. Excel fits a 1982–2012 trendline at number of #applications = 95946*e^{0.0573*(year-1981)}; the fit has an R-squared value of 0.992.

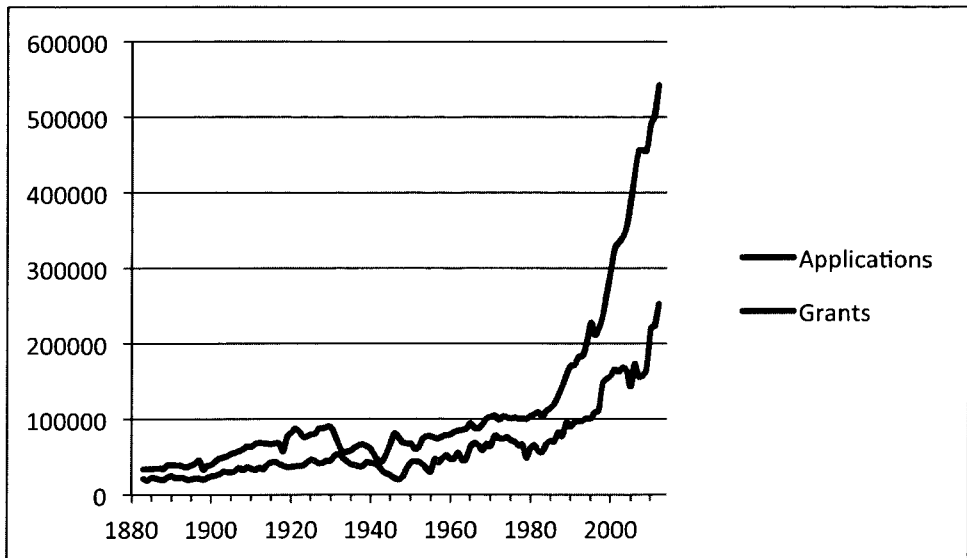


Figure 1. Data from WIPO IP Statistics⁸⁵

While Congress was considering the reports before it, the Supreme Court issued several seminal opinions on patentable subject matter. In the 1980 case of *Diamond v. Chakrabarty*,⁸⁶ the Court held that a microbiologist inventor could patent his genetically engineered bacterium. The Court broadly construed Section 101, which outlines patent-eligible subject matter, concluding, “Congress plainly contemplated that the patent laws would be given wide scope.”⁸⁷ It relied on the legislative history of the patent laws, from Thomas Jefferson’s philosophy that “ingenuity should receive a liberal encouragement”⁸⁸ to the 1952 Act Committee Report, which suggested that Congress intended patentable subject matter to “include anything under the sun that is made by man.”⁸⁹ The following year, in *Diamond v. Diehr*,⁹⁰ the Court held that although a mathematical formula, in the abstract, is not patentable, an otherwise patentable

85. See *Statistics on Patents*, WORLD INTELL. PROP. ORG. (WIPO), <http://www.wipo.int/ipstats/en/statistics/patents/> (last visited Mar. 10, 2015).

86. 447 U.S. 303 (1980).

87. *Id.* at 308.

88. *Id.* (quoting 5 WRITINGS OF THOMAS JEFFERSON 75–76 (Washington ed. 1871)); cf. SAMUEL EAGLE FORMAN, *THE LIFE AND WRITINGS OF THOMAS JEFFERSON: INCLUDING ALL OF HIS IMPORTANT UTTERANCES ON PUBLIC QUESTIONS* (1900), reprinted in ROSEN, *supra* note 13, at 280.

89. S. REP. NO. 82-1979, at 5 (1952); see also H. R. REP. NO. 82-1923, at 6 (1952).

90. 450 U.S. 175 (1981).

process incorporating the application of a mathematical formula could be.

After the formation of the Federal Circuit, patents were upheld much more frequently. From 1989 through 1996, for example, of the 299 patents litigated with final, written validity decisions by either district courts or the Federal Circuit, 54 percent were held valid in their entirety.⁹¹ Some years were even better to patents; in 2002, for instance, the Federal Circuit invalidated only 8 percent of the patents it adjudicated.⁹² The Federal Circuit also began creating patentee-friendly doctrines. For example, in *Mallinckrodt, Inc. v. Medipart, Inc.*,⁹³ a Federal Circuit panel limited the doctrine of patent exhaustion, holding that a “single use only” notice accompanying the sale of a patented device may be enforceable and that use of the device in violation of that notice could be remedied under the patent law.⁹⁴

While patentees were gaining ground in Congress and the courts, antitrust law became less draconian. In *Continental T.V., Inc. v. GTE Sylvania Inc.*,⁹⁵ the Supreme Court overruled an earlier decision establishing that it is unreasonable per se under the Sherman Act “for a manufacturer to seek to restrict and confine areas or persons with whom an article may be traded after the manufacturer has parted with dominion over it.”⁹⁶ Instead, the Court held that a manufacturer’s limitations on its distributors should be evaluated under the traditional “rule of reason,” where a fact-finder “weighs all of the circumstances of a case in deciding whether a restrictive practice should be prohibited as imposing an unreasonable restraint on competition.”⁹⁷ The Court suggested that few business practices are worthy of per se illegality, as most, including vertical restrictions, will have some “redeeming virtues.”⁹⁸

At the same time, the executive branch was backing off of its rigid stance on antitrust limitations for patent licensing. Then-Deputy Assistant Attorney General Abbott Lipsky rejected the Antitrust Division’s previously announced per se rules, writing, “When one makes the analysis, one finds that the ‘Nine No-Nos,’ as

91. See John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 205 (1998).

92. Morgan, Lewis & Bockius, *White Paper Report: United States Patent Invalidation Study 2012* 6 (2012), available at http://www.morganlewis.com/~media/files/publication/presentation/speech/smyth_uspatentininvalidity_sept12.ashx.

93. 976 F.2d 700 (Fed. Cir. 1992).

94. More recent cases have revisited the issue. See, e.g., *Quanta Computer, Inc. v. LG Elecs., Inc.*, 553 U.S. 617 (2008).

95. 433 U.S. 36 (1977); see also *CARRIER*, *supra* note 20, at 78.

96. *United States v. Arnold, Schwinn & Co.*, 388 U.S. 365, 379 (1967).

97. 433 U.S. at 49.

98. *Id.* at 49–55 (quoting *N. Pac. R.R. Co. v. United States*, 356 U.S. 1, 5 (1958)).

statements of rational economic policy, contain more error than accuracy.”⁹⁹ In line with many of the Reagan Administration’s “domestic policy changes favoring a general reduction in federal regulatory intervention in the economy,” “overbroad and inflexible [antitrust]/IP rules . . . were largely rescinded”¹⁰⁰ This new policy stance—which continued long beyond President Reagan’s term—culminated in the Department of Justice and Federal Trade Commission’s joint Antitrust Guidelines for the Licensing of Intellectual Property, issued in 1995.¹⁰¹ In the Guidelines, these two agencies recognized that “[t]he intellectual property laws and the antitrust laws share the common purpose of promoting innovation and enhancing consumer welfare.”¹⁰² They observed that intellectual property laws provide incentives to invest in innovation and commercialization, helping to provide consumers with “new and useful products, more efficient processes, and original works of expression.”¹⁰³ And they noted that antitrust laws also promote innovation and consumer welfare by fostering competition.¹⁰⁴ The Guidelines forswore the presumption that intellectual property creates market power, and they recognized the benefits of licensing.¹⁰⁵ Ultimately, they endorsed the application of standard antitrust analysis to intellectual property licensing arrangements.¹⁰⁶

Congress too began to enact patent reforms that targeted abuses of the patent system without curtailing the legitimate rights of patentees. The Uruguay Round Agreements Act (URAA)¹⁰⁷ brought US patent law into conformity with the World Trade Organization’s Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) by changing US patent terms. Previously, patents expired seventeen years from the date the patent issued no matter how long applications were pending. However, under URAA the patent term became twenty years from the filing date of the earliest US or international application to which priority is claimed, excluding provisional applications, regardless of how long the applications were

99. Abbott B. Lipsky, Jr., *Current Antitrust Division Views on Patent Licensing Practices*, 50 ANTITRUST L.J. 515, 517 (1981).

100. Abbott B. Lipsky, Jr., *To the Edge: Maintaining Incentives for Innovation After the Global Antitrust Explosions*, 35 GEO. J. INT’L L. 521, 528 (2004).

101. U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY (Apr. 6, 1995), available at <http://www.justice.gov/atr/public/guidelines/0558.htm>.

102. *Id.* § 1.0.

103. *Id.*

104. *Id.*

105. *Id.* § 2.0.

106. *Id.* § 2.1.

107. Pub. L. No. 103-465, 108 Stat. 4809 (1994).

pending—although adjustments were created if the Patent Office took an undue amount of time in allowing the patent.¹⁰⁸ The American Inventors Protection Act of 1999 (AIPA)¹⁰⁹ followed soon after, and generally required publication of patent applications eighteen months after filing. It also created the *inter partes* reexamination system, so third parties could participate in the reexamination of potentially weak patents. Combined, the URAA implementation of TRIPS and AIPA served *inter alia* to torpedo “submarine patents,” a phenomenon where a patent applicant could secretly amend claims in a pending patent application to encompass products others developed after the application was filed and then bring infringement suits against those other parties when the amended patent issued.¹¹⁰

Therefore, throughout the mid-1990s, all three branches prioritized the power of patents to foster innovation over strict application of antitrust doctrine.

D. Mid-1990s to the Present: The Pendulum Swings Again

But the force of gravity never let up. Over the two decades since the Antitrust Division and the FTC issued their Guidelines, the pendulum swung back, with the Supreme Court issuing a series of decisions gradually curtailing the power of patentees. For example, in *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*,¹¹¹ the Court narrowed the “doctrine of equivalents,” under which an accused product or process that does not literally infringe the elements of the claim may be deemed to infringe if it is “equivalent” to the claimed invention.¹¹²

108. See 35 U.S.C. §§ 154, 365 (2012); Manual of Patent Examination Procedures § 2701 (9th ed., Mar. 2014).

109. Pub. L. No. 106-113, div. B § 1000(a)(9), 113 Stat. 1536, 1501A-552.

110. S. REP. NO. 110-259, at fn.112 (2008). (“Prior to requiring the publication of applications, the public would not learn of a patent until after it issued, which is often several years after the application was filed. Some patentees took advantage of this practice to the extreme (with ‘submarine’ patents), and intentionally delayed their patents issuance, and thus publication, of the patent for several years to allow potentially infringing industries to develop and expand, having no way to learn of the pending application. See Mark A. Lemley and Kimberly A. Moore, *Ending Abuse Of Patent Continuations*, 84 B.U. L. REV. 63, 79–81 (2004). In contrast, publication of the application allows for the earlier dissemination of the information contained therein, as well as allowing competitors to make decisions based on what is attempting to be patented.”).

111. 520 U.S. 17 (1997).

112. The Court declined to eliminate the doctrine in *Warner-Jenkinson*, but it did reaffirm that equivalence should be determined on an element-by-element basis, not by looking at the accused product or process as a whole. See 520 U.S. at 40. And it held that equivalence determinations are subject to prosecution history estoppel, whereby narrowing amendments made to avoid prior art limit the subject matter that a patentee can claim as equivalent to his invention. See *id.* at 32–33.

Within the last decade, the Court has issued decisions adverse to patent holders concerning validity, remedies, and patentable subject matter. In *KSR International Co. v. Teleflex Inc.*,¹¹³ the Court gave district courts more flexibility to find patented combinations obvious in light of the prior art.¹¹⁴ In 2005, obviousness accounted for only 5 percent of patent-holder losses, but after *KSR*, “when a patent holder loses, obviousness is the reason in nearly 20 [percent] of the cases.”¹¹⁵ Continuing this trend, in *eBay Inc. v. MercExchange, L.L.C.*,¹¹⁶ the Court held that an injunction should not automatically issue upon a finding of infringement.¹¹⁷

But nowhere has the Court recently expressed broader hostility to patents than on the issue of patent-eligible subject matter. Section 101 of Title 35 provides, “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor . . . ,”¹¹⁸ although the Supreme Court has “long held that this provision contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.”¹¹⁹ In

113. 550 U.S. 398 (2007). One of us appeared on the Supreme Court brief on behalf of the AIPLA. See Brief of Am. Intellectual Prop. Law Ass’n as Amicus Curiae Supporting Respondents, *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007) (No. 04-1350), 2006 WL 2950592.

114. Before *KSR*, when each element of a patented combination was found in the prior art, but no single piece of art anticipated the invention, the Federal Circuit employed a “teaching, suggestion, or motivation” test, “under which a patent claim is only proved obvious if ‘some motivation or suggestion to combine the prior art teachings’ can be found in the prior art, the nature of the problem, or the knowledge of a person having ordinary skill in the art.” 550 U.S. at 407 (quoting *Al-Site Corp. v. VSI Int’l, Inc.*, 174 F.3d 1308, 1323–24 (Fed. Cir. 1999)). But the Supreme Court, in a quintessential Justice Kennedy opinion, rejected this “rigid approach.” *Id.* at 415. It noted that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results,” and “any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* at 416, 420.

115. Glynn S. Lunney, Jr. & Christian T. Johnson, *Not So Obvious After All: Patent Law’s Nonobviousness Requirement, KSR, and the Fear of Hindsight Bias*, 47 GA. L. REV. 41, 43 (2012). This still pales in comparison to the 65 percent of losses due to obviousness in the pre-Federal Circuit era. *Id.* at 74.

116. 547 U.S. 388 (2006).

117. The Court reversed the Federal Circuit, which had applied its “general rule that courts will issue permanent injunctions against patent infringement absent exceptional circumstances.” *MercExchange, L.L.C. v. eBay, Inc.*, 401 F.3d 1323, 1339 (2005). Instead, the Court held that courts should follow “well-established principles of equity” and require a plaintiff seeking an injunction to demonstrate that without an injunction it would suffer irreparable injury, that remedies at law are inadequate, that the balance of hardships tilts in its favor, and that an injunction would not disserve the public interest. 547 U.S. at 391.

118. 35 U.S.C. § 101 (2012).

119. *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013) (quoting *Mayo Collaborative v. Prometheus Lab, Inc.* 132 S. Ct. 1289, 1293 (2012)) (internal quotation marks and brackets omitted).

Bilski v. Kappos,¹²⁰ the Court held that a process for hedging risk was an abstract idea and, therefore, not a patent-eligible invention.¹²¹ Most recently, the Supreme Court decided *Alice Corp. v. CLS Bank International*,¹²² which reinforced its earlier eligibility decision, *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*¹²³ In *Mayo*, the Court set forth a two-step process for determining whether a patent claims eligible subject matter: first, a court determines whether a patent is directed toward a law of nature, natural phenomenon, or abstract idea; if so, the court searches for an inventive concept in the claim that transforms the patent-ineligible subject matter into a “patent-eligible application.”¹²⁴ The Court found no such transformation in the software at issue in *Alice*.

Meanwhile, the Court has been in a moderate period with regard to antitrust law, expanding the application of the rule of reason in lieu of per se rules. In *State Oil Co. v. Khan*,¹²⁵ for example, the Court jettisoned the per se rule against vertical maximum price fixing it had established in *Albrecht v. Herald Co.*¹²⁶ and established that courts evaluate those arrangements under the rule of reason. The Court reinforced this decision in *Leegin Creative Leather Products v. PSKS, Inc.*,¹²⁷ holding that instances of resale price maintenance should be analyzed using the rule of reason as well. The Court has also required plaintiffs to prove the defendant’s market power in antitrust suits based on tying arrangements,¹²⁸ and it declined to expand or contract antitrust liability based on the telephone network sharing requirements of the Telecommunications Act of 1996.¹²⁹ The Court took one pro-antitrust step by applying the rule of reason to

120. 561 U.S. 593 (2010).

121. The Court—Justice Kennedy, again—rejected both the Federal Circuit’s “machine or transformation” test, under which a process is not patentable if it is “not tied to a machine and does not transform an article,” and a categorical exclusion of business method patents. *Id.* at 598. Justice Stevens, in a concurrence that some have speculated began as a majority opinion, would have held that “a claim that merely describes a method of doing business does not qualify as a ‘process’ under § 101.” *Id.* at 614 (Stevens, J., concurring); see Mark A. Lemley et al., *Life After Bilski*, 63 STAN. L. REV. 1315, 1319 n.19 (2011). Four members of the Court, then, would have excluded business method patents entirely. See 561 U.S. at 614.

122. 134 S. Ct. 2347 (2014).

123. 132 S. Ct. 1289 (2012).

124. *Alice*, 134 S. Ct. at 2355 (discussing *Mayo*).

125. 522 U.S. 3 (1997).

126. 390 U.S. 145 (1968).

127. 551 U.S. 877 (2007).

128. See *Illinois Tool Works Inc. v. Indep. Ink, Inc.*, 547 U.S. 28 (2006).

129. See *Verizon Comm’ns, Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398 (2004).

activities by NFL teams, concluding that the teams were separate entities for antitrust purposes.¹³⁰

But the Court's priorities became clear when the regimes collided. In the 2013 *Actavis* decision, the Court held that the rule of reason applies to reverse payment arrangements,¹³¹ but intimated that such arrangements should often be held to violate antitrust laws, as "[a]n unexplained large reverse payment itself would normally suggest that the patentee has serious doubts about the patent's survival."¹³² Although Justice Breyer's majority opinion did not actually deny that the holder of a *valid* patent could enter into this sort of an agreement with a potential infringer, he noted that the litigation between the patent holder and the generic drug manufacturer called the patent's validity into question.¹³³ Under those circumstances, Justice Breyer wrote, "[I]t would be incongruous to determine antitrust legality by measuring the settlement's anticompetitive effects solely against patent law policy, rather than by measuring them against procompetitive antitrust policies as well."¹³⁴ Instead, "patent and antitrust policies are both relevant in determining the 'scope of the patent monopoly'—and consequently antitrust law immunity—that is conferred by a patent."¹³⁵ Chief Justice Roberts penned a sharp dissent, however, emphasizing that a patent "provides an exception to antitrust law, and the scope of the patent—i.e., the rights conferred by the patent—forms the zone within which the patent holder may operate without facing antitrust liability."¹³⁶ He was not persuaded that antitrust analysis should question the validity of the patent, noting that validity is a question of patent law and that antitrust analysis can do no more than determine whether the patentee acted outside the scope of the patent.¹³⁷

As the Court has issued decisions averse to patent holders, Congress and the White House have both exhibited a level of anti-patent sentiment by becoming active in the fight against "patent trolls."¹³⁸ Although the Innovation Act¹³⁹ has been bogged down in the

130. See *Am. Needle, Inc. v. Nat'l Football League*, 560 U.S. 183 (2010).

131. See *supra* Part II.

132. *FTC v. Actavis, Inc.*, 133 S. Ct. 2223, 2236 (2013).

133. See *id.* at 2230–31.

134. *Id.* at 2231.

135. *Id.*

136. *Id.* at 2238 (Roberts, C.J., dissenting).

137. See *id.* at 2243.

138. Trolls are the pejorative name for entities that neither invent nor practice inventions. See Joff Wild, *The Real Inventors of the Term "Patent Troll" Revealed*, IAM (Aug. 22, 2008), <http://m.iam-magazine.com/blog/Detail.aspx?g=cff2afd3-c24e-42e5-aa68-a4b4e7524177>. That said, any "non-practicing entity," including inventors at research universities and even Thomas Alva Edison, could fall under the label. By purchasing patents from inventors or

Senate, it represented an effort in the House to increase the costs and risks of filing patent suits.¹⁴⁰ In February 2014, President Obama announced executive actions “to encourage innovation and further strengthen the quality and accessibility of the patent system.”¹⁴¹ Some of these reforms will help innovators, as the PTO expanded its pro bono program to assist inventors who lack legal representation,¹⁴² but the President also renewed his support for meaningful legislation to combat patent trolls, noting the “strong bipartisan support” for such legislation.¹⁴³

However, it does not seem that any of these “solutions” actually solve the problems related to patent trolls—in fact, it sounds similar to the discussions surrounding the Hruska Commission above. A better solution to excessive patent litigation might be greater certainty and predictability of litigation outcomes combined with greater clarity of what constitutes patentable subject matter under Section 101.¹⁴⁴ The Federal Circuit has tended to interpret the section broadly, in accordance with its broad language and legislative history,¹⁴⁵ while the Supreme Court narrows the provision. The Federal Circuit’s *Alice* decision¹⁴⁶ was a one-paragraph per curiam opinion with 128 pages of explanation from five separate authors, and it demonstrates how desperately this doctrine needs to be clarified. The Supreme Court, on the other hand, is caught in an anti-patentee swing of the pendulum and a tendency to eschew bright-line rules in patent litigation, claiming to merely be applying its prior decisions in finding no patent-eligibility.

History does not have to repeat itself with the continuing ebb and flow of patent and antitrust policies based upon pendulum swings. In the next Part, we argue that these two policies are symbiotic. They can both flourish in their relevant domains without intruding on each

assignees, they increase the expected value of patents and, under a traditional economic model, increase the incentive to innovate. *See id.*

139. H.R. 3309, 113th Cong. (2013).

140. *See id.* §§ 3, 7.

141. Office of the Press Sec’y, *FACT SHEET—Executive Actions: Answering the President’s Call to Strengthen Our Patent System and Foster Innovation*, WHITE HOUSE (Feb. 20, 2014), <http://www.whitehouse.gov/the-press-office/2014/02/20/fact-sheet-executive-actions-answering-president-s-call-strengthen-our-p>.

142. *See id.*

143. *Id.*

144. *See also* Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV. 2117 (2013) (arguing that although trolls may impose costs, they are symptomatic of underlying problems with the patent system).

145. “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101 (2012).

146. *CLS Bank Int’l v. Alice Corp.*, 717 F.3d 1269 (Fed. Cir. 2013).

other, and dedication toward one method of promoting consumer welfare need not entail repudiation of the other. The pendulum can come to rest at equilibrium, but only if we let it.

III. PATENT AND ANTITRUST LAWS AS SYMBIOTIC, NOT ANTAGONISTIC

All three branches of government behave as though an innovative nation requires not only strong intellectual property protection but also freedom from antitrust restriction, while a consumer-friendly marketplace requires both the strict enforcement of pro-competition antitrust laws and the limitation of patent rights in the face of those laws. In this Part, we argue that this understanding is too limited and that, in fact, both policies promote the same goals. In the words of former FTC Chair Timothy Muris: “Properly understood, IP law and antitrust law both seek to promote innovation and enhance consumer welfare.”¹⁴⁷ The two legal areas are interdependent—each relies on consistency and proper calibration in the other realm in order to fully achieve its own goals.

We acknowledge that the two realms sometimes come into conflict and, in these instances, one must yield to the other. But patent law is fairly specifically spelled out in statute, and antitrust law is an expansive regime with “very few cracks”;¹⁴⁸ therefore, the government can implement a policy vision through enforcement choices. Instead of favoring one area at the expense of the other, courts and agencies should enforce antitrust law with an eye toward the balance between competition and company protection that Congress has enshrined in the patent law.

A. Scholarship at the Intersection

Several scholars have addressed the historic conflict between patent and antitrust law and proposed terms of reconciliation.¹⁴⁹

In 1966—during the height of antitrust supremacy—William Professor Baxter argued for judicial or legislative implementation of restrictions that resemble the later-announced “Nine No-Nos.”¹⁵⁰

147. Timothy J. Muris, Former Chairman, Fed. Trade Comm’n, Prepared Remarks Before American Bar Association Antitrust Section, Fall Forum: Competition and Intellectual Property Policy: The Way Ahead 2 (Nov. 15, 2001), available at <http://www.ftc.gov/speeches/muris/intellectual.htm>.

148. Herbert J. Hovenkamp, *The Conflict Between Antitrust and Intellectual Property Rights*, in THE ANTITRUST ENTERPRISE: PRINCIPLE AND EXECUTION 249, at 273 (2005).

149. See Lisa Larrimore Ouellette & Michael Carrier, *Classic Antitrust/IP Scholarship*, WRITTEN DESCRIPTION (June 3, 2013), <http://writtendescription.blogspot.com/2013/06/carrier-classic-antitrustip-scholarship.html>.

150. See Baxter, *supra* note 11, at 356–57.

Professor Baxter emphasized that society benefits from many “competing activities of great social utility,” not just innovation, and it should subsidize innovation only to the extent the subsidy could not do greater good elsewhere.¹⁵¹ He faulted Congress for failing to consider this balance of societal assets and liabilities when fashioning patent laws.¹⁵² Baxter argued that the patent monopoly is a justifiable tool for subsidizing innovative activity only to the extent that it permits free market valuation of inventions over administrative valuation.¹⁵³ He argued that this function is undermined when the terms of a patent license provide great value to the patentee at only a small cost to the licensee but at greater cost to third persons, such as competitors or consumers.¹⁵⁴ Such terms typically use the patent monopoly to restrain the sale of other unpatented goods and services. With this in mind, Professor Baxter argued that courts or Congress should prohibit license terms that calculate royalties based on licensee sales of unpatented end products and terms that restrict the licensee’s price or output.¹⁵⁵

Presaging the pro-patent swing of the mid-1970s, Ward Bowman explained how patent monopolies can benefit consumers. In a 1973 book, he observed:

Both antitrust law and patent law have a common central economic goal: *to maximize wealth by producing what consumers want at the lowest cost*. In serving this common goal, reconciliation between patent and antitrust law involves serious problems of assessing effects, but not conflicting purposes. Antitrust law does not demand competition under all circumstances. Quite properly, it permits monopoly when monopoly makes for greater output than would the alternative of an artificially fragmented inefficient industry. The patent monopoly fits directly into this scheme insofar as its central aim is achieved.¹⁵⁶

Bowman then was among the first to articulate something akin to what we advance here: both policies foster consumer welfare. Bowman further argued that when patentees use their patents to impose vertical restrictions on licensees, they do not improperly enlarge their monopoly power. Vertical restrictions do not create market power, he argued; instead, they efficiently extract the maximum reward from the legitimate patent monopoly.¹⁵⁷ Further,

151. See *id.* at 269.

152. See *id.* at 271–72.

153. See *id.* at 267–75.

154. See *id.* at 277–79.

155. See *id.* at 299–312, 329–39.

156. BOWMAN, *supra* note 11, at 1 (emphasis in original); see also HERBERT HOVENKAMP ET AL., *IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW* § 1.3, at 1–12 (2d ed. 2013).

157. BOWMAN, *supra* note 11; see also Oliver E. Williamson, *Patent and Antitrust Law: A Legal and Economic Appraisal*, 83 *YALE L.J.* 647, 661 (1974) (book review).

Bowman argued, patent licenses containing these restrictions often yield allocative efficiency gains and so may actually be desirable. Bowman advocated allowing a patentee to impose any restriction where “the reward to the patentee arising from the conditional use measures the patented product’s competitive superiority over substitutes.”¹⁵⁸

Louis Kaplow, going against the grain during the Golden Age, argued in 1984 that “the conflict [between antitrust law and patent policy] runs even deeper than has generally been recognized.”¹⁵⁹ He then developed a conceptual solution to this conflict: restrictive practices should be analyzed by looking at the ratio of patentee reward to monopoly loss. If innovative activity grows with incentives to innovate, as patent policy assumes, this ratio signifies the relationship between societal benefit and loss resulting from the restrictive practice¹⁶⁰—i.e., the higher the ratio, the more desirable the practice. Kaplow acknowledged that application of this ratio test could be extremely complex and unwieldy, particularly because courts and legislatures rarely have sufficient information to calculate the numerator or denominator.¹⁶¹ In addition, Kaplow emphasized, courts must resolve this conflict on a case-by-case basis, whereas optimal policy would consider all cases in the aggregate.¹⁶² However, Kaplow criticized both Baxter and Bowman for “offer[ing] a test regulating the maximum reward without offering any analysis that bears on whether the level selected is anywhere near the appropriate amount or whether that reward is achieved in the least costly manner possible.”¹⁶³ Only his ratio test, he argued, accounted for all “concerns relevant to a determination of proper patent-antitrust policy.”¹⁶⁴

This conversation has continued apace into the contemporary era. Herbert Hovenkamp has examined the conflict and concluded, like Professor Bowman, that in many situations where conflict is thought to arise—including those involving vertical restraints—the conflict is illusory and the regimes are compatible.¹⁶⁵ Other scholars have looked at how the changing face of innovation affects the relationship between patent and antitrust law. Mark Lemley has argued that innovation policy should be industry-specific, as some industries, such as the pharmaceutical industry, require strong patent

158. BOWMAN, *supra* note 11, at x.

159. Kaplow, *supra* note 11, at 1816.

160. *See id.*

161. *Id.* at 1842–43.

162. *Id.* at 1844–45.

163. *Id.* at 1853–54.

164. *Id.* at 1855.

165. Hovenkamp, *supra* note 148, at 249, 255, 260.

protections to provide an adequate incentive to innovate. On the other hand, in other industries, such as Internet technology, competition is the primary driver of innovation, and innovation will increase with strong antitrust policy.¹⁶⁶

B. A New Argument for Reconciling Antitrust and Patent Law

We contribute to this conversation by offering a new perspective: without divining a precise formula for balancing the benefits and trade-offs of these two welfare-enhancing regimes—without assessing, for example, whether Kaplow’s ratio test is the ideal model for determining the permissible exercise of patent rights—we argue that there exists *some* optimum balance between the two. We postulate that, at some level, patent protection and antitrust enforcement together optimize innovation incentives and competition to enhance consumer welfare. Congress, which has the power to implement a coherent policy regime, is in the best position to determine this balance through observation, empirical study, and democratic pressure. The job of the courts and the executive, then, should be to realize Congress’s vision by applying its rules faithfully. If Congress strikes the right balance, errors in applying either policy will undermine the effectiveness of both. If Congress strikes the wrong balance, erroneous application of the law may inhibit corrective legislation. Because Congress has written broader, more discretionary antitrust laws and more specific patent laws, faithful administration entails calibrating antitrust enforcement in order to allow patent holders to exercise the full scope of their rights.

1. A Theoretical Optimum

Although Baxter, Bowman, and Kaplow argued over precisely how to optimize the balance between patent protection and antitrust enforcement, we start with a more fundamental and less explored issue: whether there exists an optimal balance at all. We conclude that there is such a balance. At the height of the historical pendulum swings, courts and other governmental actors have suggested that one of these regimes is an enemy of good governance and the other an ally.¹⁶⁷ If this were the case, no balance would be necessary: government should minimize enforcement of one and

166. See Mark A. Lemley, Comment, *Milton Handler Antitrust Lecture: Industry-Specific Antitrust Policy for Innovation*, 2011 COLUM. BUS. L. REV. 637, 651–52 (2011).

167. See, e.g., *United States v. Line Material Co.*, 333 U.S. 287, 318 (1948) (Douglas, J., concurring) (referring to patent enforcement focusing on the inventors reward as “saddl[ing] the economy with a vicious monopoly”).

maximize enforcement of the other. Conversely, if both of these regimes were unqualified goods or unqualified harms, the government should, respectively, maximize or minimize both simultaneously. We, however, agree with the FTC statement that “[c]ompetition and patent policy are bound together by the economics of innovation and an intricate web of legal rules that seek to balance the scope and effect of each policy. Errors or systematic biases in the interpretation or application of one policy’s rules can harm the other policy’s effectiveness.”¹⁶⁸ In other words, both patent law and antitrust law are positive forces, but they can interfere with each other—in cases like *Actavis*, for example—and so must be balanced accordingly.

To understand what an optimum balance would look like, we must first articulate what we are optimizing: an appropriate balance of patent and antitrust enforcement optimizes public interest as manifested in consumer welfare. As Justice Douglas wrote, “[The Constitution] makes the public interest the primary concern in the patent system.”¹⁶⁹ Similarly, in his seminal book on antitrust, Robert Bork wrote, “[T]he only legitimate goal of American antitrust is the maximization of consumer welfare.”¹⁷⁰ Bowman has also noted that the common goal of these regimes is “to maximize wealth by producing what consumers want at the lowest cost,”¹⁷¹ in other words, the goal is to produce the inventions most useful to consumers at the smallest expense to consumers.¹⁷² The ideal balance of patent and antitrust law, then, benefits the public by (1) conferring maximally welfare-enhancing inventions on consumers (2) at the lowest possible cost.

Patent law and antitrust law achieve this goal in different, and sometimes opposing, ways. Patents largely, but not exclusively, focus on the first half of this equation: they spur the invention of welfare-enhancing products. They do so both by creating an incentive for inventors to invest significant resources in research and

168. FTC REPORT, *supra* note 4, at 2.

169. *Line Material Co.*, 333 U.S. at 320 (Douglas, J., concurring). Notably, the patent system originates from explicit authorization in the Constitution whereas the Sherman Act does not. Compare U.S. CONST. art. I, § 8, cl. 8 (Copyright and Patent Clause), with U.S. CONST. art. 1, § 8, cl. 3 (Commerce Clause).

170. ROBERT H. BORK, *THE ANTITRUST PARADOX* 7, at 51 (1978).

171. BOWMAN, *supra* note 11, at 1 (emphasis omitted).

172. Unlike Baxter, we do not optimize these systems in the context of the *overall* public interest; we take for granted that patent law and antitrust law are designed to benefit citizens *qua* consumers. Baxter argued, “Innovative activity should be subsidized as much and no more than is necessary to attract to that activity those inputs which, if invested in any other activity, would yield a product of lesser social value.” Baxter, *supra* note 11, at 268. To the extent that the country would benefit from more policemen and teachers and fewer commercialized inventions, achievement of that shift lies beyond the scope of this Article.

development on the front end and by encouraging inventors to disclose their results, which helps other researchers invent useful products.¹⁷³ Patent law plays the long game, granting temporary monopolies and thereby sacrificing short-term competition in favor of inventions that will be reduced to practice years or decades later. A patent does not benefit the public directly while it is being enforced; however, without the promise of that patent, the public might not have its product at all. Hence, “patent policy encompasses a set of judgments about the proper tradeoff between competition and the incentive to innovate over the long run.”¹⁷⁴ Patent law creates an “exception” to the general rule of “free exploitation of ideas,” and it engages in “the difficult business ‘of drawing a line between the things which are worth to the public the embarrassment of an exclusive patent, and those which are not.’”¹⁷⁵

Antitrust, on the other hand, focuses more on the second half of the equation—lowering cost to consumers—although free competition can also spur product innovation where, for example, there is a large advantage in being first to market or in having a superior product that cannot be reverse engineered. By shaping a competitive market, antitrust law allows market forces to drive the supply of what consumers demand at market prices. Therefore, antitrust’s rule of reason “determine[s] whether, on balance, a practice is reasonably likely to be anticompetitive or competitively harmless—that is, whether it yields lower or higher marketwide output.”¹⁷⁶ Antitrust law works on short timescales; competitors scramble to be the first and the best, so consumers receive products as quickly as possible. But when development requires such a large upfront investment that the inventor will not be able to achieve a profit unless it can charge monopoly prices, competition fails consumers.

An ideal legal regime would let each of these policies achieve its goals without interfering with the other. But as history has shown, complete independence is impossible. The best possible regime, then, optimizes these trade-offs between exercise of patent rights and antitrust enforcement to maximize utilitarian benefit of the law.¹⁷⁷

This optimization would occur along several dimensions. Most obviously, it would look at both the technology invented—including

173. See generally Lisa Larrimore Ouellette, *Do Patents Disclose Useful Information?*, 25 HARV. J.L. & TECH. 531 (2012) (surveying nanotechnology researchers and finding that they do use patents as a source of technical information, to some extent).

174. HOVENKAMP ET AL., *supra* note 156, § 7.3 (emphasis omitted).

175. *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 148–49, 151 (1989) (quoting 13 WRITINGS OF THOMAS JEFFERSON at 335 (Washington ed. 1871)).

176. HOVENKAMP ET AL., *supra* note 156, § 7.3.

177. See CARRIER, *supra* note 20, at 45 (2009).

both the quantity of novel inventions and the benefits conferred by each—and the accessibility of that technology, as reflected in price. These factors, however, would need to be integrated over time; the ideal regime would optimize the long-term benefits and short-term drawbacks of robust patent protection with the short-term benefits and long-term drawbacks of robust antitrust enforcement.

In addition, optimal levels of protection differ between industries.¹⁷⁸ Pharmaceutical development, for one, is a high-risk enterprise in which each drug, on average, may take over a decade and cost over a billion dollars to develop.¹⁷⁹ And yet, once efficacy is proven, it generally is relatively inexpensive to copy.¹⁸⁰ Pharmaceutical companies would be unable to recoup these substantial investments if their rivals were free to drive down drug prices and compete in the marketplace by manufacturing drugs they did not invent. It is unsurprising, then, that pharmaceutical research is highly responsive to increased patent protection.¹⁸¹ By contrast, “software patents are arguably less necessary to spur innovation than are patents in other industries, such as pharmaceuticals or biotechnology.”¹⁸² Software development is far less costly, and the success of the open source community suggests that significant software innovation can occur without patent protection.¹⁸³ Some researchers have, in fact, found an *inverse* relationship between software patenting and research in some sub-areas: the more patents a firm obtains, the less it innovates.¹⁸⁴ An optimal consumer welfare

178. See *id.* at 47 (“[E]ach of the major studies undertaken in the last 50 years has shown that [patents] are the primary motivator for innovation in only a handful of industries—pharmaceuticals and biotechnology, and sometimes chemicals, medical products, and agricultural products.”).

179. PHARM. RESEARCH & MFRS. OF AM., 2013 BIOPHARMACEUTICAL RESEARCH INDUSTRY PROFILE 32 (July 2013) [hereinafter PhRMA, 2013 PROFILE], available at <http://www.phrma.org/sites/default/files/pdf/PhRMA%20Profile%202013.pdf>. This figure has been disputed by a number of scholars, some of whom put the average cost of development at as low as below \$100 million. See Lisa Larrimore Ouellette, Note, *How Many Patents Does It Take To Make a Drug? Follow-On Pharmaceutical Patents and University Licensing*, 17 MICH. TELECOMM. & TECH. L. REV. 299, 302 & n.12 (2010) (noting the dispute and citing articles that contest this figure).

180. See PhRMA, 2013 PROFILE, *supra* note 179, at 36.

181. See Ashish Arora et al., *R&D and the Patent Premium*, 26 INT’L J. OF INDUS. ORG. 1153, 1169 tbl.8 (2008).

182. Mark A. Lemley, *Software Patents and the Return of Functional Claiming*, 2013 WISC. L. REV. 905, 935 (2013).

183. See *id.*

184. See James Bessen & Robert M. Hunt, *The Software Patent Experiment*, in PATENTS, INNOVATION AND ECONOMIC PERFORMANCE 247, 255 (2004). For an evocative portrait of programmer resentment toward software patents, see *This American Life: When Patents Attack!*, Chicago Public Radio (July 22, 2011), available at <http://www.thisamericanlife.org/radio-archives/episode/441/when-patents-attack>.

regime, then, would either differentiate between industries or calibrate its level of protection to elicit the greatest number of the most desirable products—in which case, it would need to make normative decisions about the relative benefits of pharmaceutical and software technology.

An optimal regime would need to incorporate at least two additional normative judgments. First, an optimizer would need to decide whether to discount future inventive and economic activity and, if so, what that discount rate should be, as well as whether costs and benefits should be discounted at the same rate.¹⁸⁵ Regulators typically discount future nonmonetary benefits the same way they might discount future earnings to present value,¹⁸⁶ and an optimizer could follow that path. However, other scholars argue that discounting future benefits is both unethical and logically unjustified.¹⁸⁷ Second, an optimizer would need to consider whether to base its analysis on the expected value of a future invention or whether to discount further based on risk aversion.¹⁸⁸

Designing an optimal patent regime a priori, then, would require analyzing trade-offs between price and innovation, long-term benefits and short-term benefits, uniformity and industry-specific tailoring, high-investment industries and low-investment industries, and perhaps countless other factors. In other words, the task is theoretically possible but practically impossible. Further, cross-country econometric comparisons inevitably suffer from endogeneity problems and trans-jurisdictional effects of patent laws,¹⁸⁹ so attempting to derive an ideal law from such studies is a losing battle. As Kaplow acknowledged, even when the issues in play are

185. See Bessen & Hunt, *supra* note 184; see also Edward R. Morrison, Comment, *Judicial Review of Discount Rates Used in Regulatory Cost-Benefit Analysis*, 65 U. CHI. L. REV. 1333, 1337–48 (1998).

186. See Daniel A. Farber & Paul A. Hemmersbaugh, *The Shadow of the Future: Discount Rates, Later Generations, and the Environment*, 46 VAND. L. REV. 267, 268–71 (1993) (discussing the Office of Management and Budget's discount rate policy).

187. Yang Wang, Note, *Now, Later, or Never: Applying Asymmetric Discount Rates in Nuisance Remedies and Federal Regulations*, 105 MICH. L. REV. 2035, 2037–38 & n.20 (2007) (“[D]iscount[ing] later enjoyments in comparison with earlier ones . . . is ethically indefensible and arises merely from the weakness of the imagination” (quoting F.P. Ramsey, *A Mathematical Theory of Saving*, 38 ECON. J. 543, 543 (1928))); Richard L. Revesz, *Environmental Regulation, Cost-Benefit Analysis, and the Discounting of Human Lives*, 99 COLUM. L. REV. 941, 987–1009 (1999) (noting future life-years and environmental goods should not be discounted in intergenerational analysis).

188. See Coleman Bazelon & Kent Smetters, *Discounting in the Long Term*, 35 LOY. L.A. L. REV. 277, 280 (2001) (suggesting that one account for uncertainty by calculating a “certainty equivalent” for a future benefit, equal to “the amount of money that a person is willing to receive or pay to forego the uncertainty associated with the uncertain outcome”).

189. See Lisa Larrimore Ouellette, *Patent Experimentalism*, 101 VA. L. REV. 65, 81–82 (2015).

clear, “the unavoidable complexity of the problem indicates that, in practice, the untangling of the myriad strands in the patent-antitrust conflict may prove impossibly difficult.”¹⁹⁰ Kaplow’s “may” is unduly optimistic. Although a framework of considerations may be useful, and the mere existence of an optimal legal structure is important to note, there is no single formula that will allow a court, administrative agency, or legislature to design the best possible innovation and competition regime. In the next section, we suggest how such a regime should take form.

C. Congressional Calibration

If an optimal patent system cannot be created a priori, then it must instead be shaped by recalibrating an existing patent system. This is, of course, no easy task. As described in Part II, patent laws have changed slowly and gradually over the last century, and, in recent years, interpretation of those laws has been consolidated by the Federal Circuit and the Supreme Court, although the two are not always in accord. With little basis for comparison, empirical evaluation of the current patent system, including evaluation of what should change, is nearly impossible.¹⁹¹ If innovation and competition policy is ever to approach an optimum, however, *someone* has to assume the task of making observations about current laws and adjusting them. The only question is: who?

The Constitution explicitly grants Congress the power to enact patent laws¹⁹² and implicitly grants that body the power to enact antitrust law via the Commerce Clause.¹⁹³ The Supreme Court has recognized that “[i]t is for Congress to determine if the present system of design and utility patents is ineffectual in promoting the useful arts in the context of industrial design.”¹⁹⁴ We agree.¹⁹⁵ As an institution, separate from individual office holders, Congress is the most competent governmental actor for this purpose. For one, “Article I of the Constitution assumes that Congress is best situated to decide how to carry out the terms of its authority”;¹⁹⁶ in other words, the Framers

190. Kaplow, *supra* note 11, at 1816.

191. See Ouellette, *supra* note 189, at 87.

192. U.S. CONST. art. I, § 8, cl. 8.

193. *Id.* § 8, cl. 3.

194. *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 168 (1989).

195. And the same goes for antitrust calibration. See *Nat’l Soc’y of Prof’l Eng’rs v. United States*, 435 U.S. 679, 689 (1978) (remarking that economic arguments that certain industries should be exempt from antitrust regulation should be addressed to Congress, not the courts).

196. Helen Hershkoff, *State Courts and the “Passive Virtues”: Rethinking the Judicial Function*, 114 HARV. L. REV. 1833, 1892 (2001).

made a national judgment that Congress sets national policy in the areas of its enumerated powers. In addition, Congress has the power to create a uniform policy whose effects may be observed. Courts, on the other hand, create inhomogeneities in the legal landscape: contradictory district court decisions and courts of appeals holdings create geographical disuniformity—even different panels of the Federal Circuit may create incongruent law.¹⁹⁷

Similarly, the executive branch takes action against potential Sherman Act violators on a case-by-case basis, employing prosecutorial discretion in its enforcement.¹⁹⁸ The executive branch is better situated than the courts to create national policy, and it does achieve some temporal continuity through the publication of guidelines.¹⁹⁹ Further, the executive branch, like Congress, has the ability to centralize innovation and competition experiments that would reveal telling disuniformities. However, it expresses its policies through only a subset of cases, and the Assistant Attorney General for the Antitrust Division is nominated by the President,²⁰⁰ so executive antitrust policy shifts every four or eight years.

In the complex system of interwoven patent and antitrust law, uniformity is particularly important to calibration. Teasing out the effects of current policy is difficult enough without hidden variables. The strongest executive experiments—those that randomized enforcement across individual cases—may be permissible under the Equal Protection Clause,²⁰¹ but they are likely to be politically unpalatable. Where executive experimentation is feasible within the confines of the statutory language, it may be useful, but ultimately, the calibration is Congress's responsibility. Scholars have proposed that Congress either run randomized experiments on patent policy or create a centralized regime that allows for local experimentation along

197. For instance, although patent claims can be drafted in terms of a product produced by a process, instead of completely describing the resulting product, panels of the Federal Circuit took contrary positions on how to determine infringement that were not resolved for almost two decades. See *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282, 1293 (Fed. Cir. 2009) (en banc). Compare *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1583 (Fed. Cir. 1991), with *Atl. Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 846–47 (Fed. Cir. 1992).

198. See William F. Baxter, *Separation of Powers, Prosecutorial Discretion, and the "Common Law" Nature of Antitrust Law*, 60 TEX. L. REV. 661, 661 (1982) ("I will argue that an exercise of discretion informed by the competitive effects of business conduct and the potential precedential implications of resultant judicial decisions is the approach mandated by the Constitution and antitrust jurisprudence.").

199. See, e.g., U.S. DEPT OF JUSTICE, ANTITRUST DIVISION MANUAL (Sept. 26, 2008) (last updated Mar. 2014), available at <http://www.justice.gov/atr/public/divisionmanual/index.html>.

200. See 28 U.S.C. § 506 (2012).

201. See Michael Abramowicz et al., *Randomizing Law*, U. PENN. L. REV. 929, 967–74 (2011).

specified dimensions.²⁰² We take no position on how Congress should best test its own laws—we take only the relatively uncontroversial position that Congress is better situated than either the executive or the courts to create long-term national policy.

Although patent law development has been slow, Congress historically has proven relatively adept at reforming patent policy in response to public demand. For example, to benefit consumers by lowering drug prices,²⁰³ Congress passed the Drug Price Competition and Patent Term Restoration Act of 1984,²⁰⁴ better known as the “Hatch-Waxman Act.” The Act established a system for generic drug regulation in which generic manufacturers may file an Abbreviated New Drug Application (ANDA) with the Food and Drug Administration (FDA) showing that the generic is the bioequivalent of an approved drug and certifying that any patents covering the approved drug have expired, will expire on a named date, are invalid, or will not be infringed. The law also permits branded companies to sue a generic that asserts an invalid patent and stay FDA approval of the ANDA if the branded company chooses to do so. Some have hailed Hatch-Waxman as a great success that has allowed generics to flourish without compromising overall research and development. Pharmaceutical Research and Manufacturers of America (PhRMA) notes that under Hatch-Waxman, domestic research and development spending increased both in absolute terms—from \$3 billion in 1984 to nearly \$24 billion in 2001—and as a percentage of sales—from 14.6 to 17.7 percent.²⁰⁵ In addition, generics accounted for 19 percent of the prescription drug market in 1984,²⁰⁶ but in 2013, approximately 84 percent of all drug prescriptions were filled with generics.²⁰⁷

Others have been more critical: Professor Michael Carrier notes that the average price of the one hundred most common drugs increased by 25 percent between 2000 and 2004.²⁰⁸ This makes sense to us: the Hatch-Waxman Act allows generic manufacturers to file an ANDA challenging patent validity or enforceability four years after

202. See generally Ouellette, *supra* note 189 (arguing that empirical progress in patent law requires greater disuniformity created by random experiments where concrete variables may be tested and by centralized experimentalist regimes where the questions tested are more nuanced).

203. See Pamela G. Hollie, *Generic Drugs in Bigger Role*, N.Y. TIMES, July 23, 1984, <http://www.nytimes.com/1984/07/23/business/generic-drugs-in-bigger-role.html>.

204. Pub. L. No. 98-417, 98 Stat. 1585 (1984).

205. PHARM. RESEARCH & MFRS. OF AM., DELIVERING ON THE PROMISE OF PHARMACEUTICAL INNOVATION: THE NEED TO MAINTAIN STRONG AND PREDICTABLE INTELLECTUAL PROPERTY RIGHTS 16 (Apr. 22, 2002).

206. *Id.* at 12.

207. See PhRMA, 2013 PROFILE, *supra* note 179, at 36.

208. See CARRIER, *supra* note 20, at 355–56.

regulatory approval.²⁰⁹ If a challenge is successful, the pharmaceutical company loses its ability to charge higher prices far sooner than it might have anticipated, and if it has not recouped its investment costs by the time a challenge is successful, it will lose money on the drug. Pharmaceutical companies, then, will want to charge higher prices based on the expected date that an ANDA challenge could undermine patent protection. But pricing cannot be set without regard to the marketplace. Although a typical monopolist might charge the profit-maximizing price independent of the duration of its monopoly, that cannot be done with pharmaceuticals because drug prices are often constrained through negotiations with insurers, health care organizations such as hospitals and health maintenance organizations, governments, and other interested parties who are the first-line purchasers of drugs.²¹⁰ These organizations likely take a harder stance on prices when a drug company has a longer period to recoup its investment than when it may only have four years of protection before an ANDA challenge. Whatever its effects, the Hatch-Waxman Act was a major bill that shaped innovation and competition policy in light of changing circumstances. Similarly, the 2012 America Invents Act²¹¹ instituted several major reforms. Among other things, it switched the United States from a “first to invent” to a “first to file” patent regime²¹² and created a system of *inter partes* review.²¹³

D. Role of the Courts and Agencies

If Congress is designed to be the best-situated institution to govern patent policy and is best able to do so by observing the effects

209. See 21 U.S.C. § 355(j)(5)(F)(ii) (2012).

210. See Martha Ann Holt, *International Prescription Drug Cost Containment Strategies and Suggestions for Reform in the United States*, 26 B.C. INT'L & COMP. L. REV. 325, 327–28 (2003) (“An example of the impact of elastic consumer demand on the price of prescription drugs is the practice of pharmaceutical company discounts offered to hospitals. Most hospitals operate their own in-house pharmacies. As a result, a hospital can decide which drugs its physicians prescribe—limiting prescriptions to those drugs that the hospital pharmacy chooses to stock. Hospitals thus have significant bargaining power in transactions with pharmaceutical companies. In order to assure that the hospital will buy and use its drug, a pharmaceutical company will regularly offer a substantial discount on bulk purchases of its product.” (citing Stuart O. Schweitzer, PHARMACEUTICAL ECONOMICS AND POLICY 104 (1997))). For instance, the Congressional Budget Office reviewed government purchases and stated, “[T]he prices that federal and state governments pay for drugs are determined by a variety of statutory rebates or discounts, supplemented by negotiations with drug manufacturers.” CONG. BUDGET OFFICE, PRICES FOR BRAND-NAME DRUGS UNDER SELECTED FEDERAL PROGRAMS 1 (June 2005), available at <http://www.cbo.gov/sites/default/files/06-16-prescriptdrug.pdf>.

211. Pub. L. No. 112-29, 125 Stat. 284 (2011).

212. *Id.* § 3.

213. *Id.* § 31.

of the regimes it has created, the job of the other two branches must be to either assist or, as the old saying goes, “get out of the way.” For courts and the executive branch, this entails statutory interpretation via the most strictly textualist lens possible.²¹⁴ This task is far from trivial: both the patent and antitrust statutes are long and complicated; they contain both general rights and prohibitions as well as specific provisions and exceptions. Given that one regime grants monopolies and the other prohibits anticompetitive behavior, the two come into direct conflict surprisingly infrequently.

However, as history shows, sometimes the Patent Act’s right to exclude²¹⁵ and the Sherman Act’s prohibition on concerted action in restraint of trade and unfair methods of competition²¹⁶ do come into conflict. When two statutes cannot be fully implemented simultaneously, the more specific law governs.²¹⁷ Although the “right to exclude” from “making, using, offering for sale, or selling the invention”²¹⁸ is not perfectly specific and clear, it is clearer and more specific than “restraint of trade” or “[u]nfair methods of competition in or affecting commerce.”²¹⁹ The prohibited actions are enumerated in the Patent Act, and there is little question as to the meaning of “exclude.” To exist in harmony, any exercise of the patent monopoly directly ascribable to the absolute power to exclude must not be deemed a restraint of trade or an unfair method of competition under the Sherman Act. “[T]he patent laws ‘are in *pari materia* with the antitrust laws and modify them *pro tanto*,’”²²⁰ and antitrust considerations should not enter into issues of infringement and

214. Cf. Abbe R. Gluck, *The States as Laboratories of Statutory Interpretation: Methodological Consensus and the New Modified Textualism*, 119 YALE L.J. 1750, 1758–59 (2010) (suggesting “modified textualism,” which resorts to legislative history and other tools only if strictly textual analysis fails, “may be textualism’s best chance to accomplish its core theoretical goal of implementing a predictable, text-centric approach to interpretation”).

215. See 35 U.S.C. § 154(a)(1) (2012) (“Every patent shall . . . grant to the patentee, his heirs or assigns . . . the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States”); *id.* § 271(a) (“[W]hoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.”).

216. See 15 U.S.C. § 1 (“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.”); *id.* § 45(a)(1) (“Unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce, are hereby declared unlawful.”).

217. See *POM Wonderful LLC v. Coca-Cola Co.*, 134 S. Ct. 2228, 2240 (2014).

218. See 35 U.S.C. § 154(a)(1).

219. See 15 U.S.C. §§ 1, 45(a)(1).

220. *Tyco Healthcare Grp. v. Mutual Pharm. Co.*, 762 F.3d 1338, 1352 (Fed. Cir. 2014) (Newman, J., dissenting) (quoting *Simpson v. Union Oil Co. of Cal.*, 377 U.S. 13, 24 (1964)).

validity.²²¹ If the patent holder acts outside the scope of the monopoly granted by the patent, however—for instance, if she puts a condition on a license that extends outside this right to exclude—antitrust law may cabin her activity, and a more specific *statutory provision* in antitrust law²²² may, of course, encroach on the patent monopoly.

Other parts of the patent statute are not so clear or specific. Words like “new,”²²³ “useful,”²²⁴ “obvious,”²²⁵ and even “claimed invention”²²⁶ require significant interpretation. In other words, patentability is a whole different ballgame, in terms of statutory clarity, than enforcement. But once an invention is patented, the text of Title 35 gives the patent holder an absolute right to exclude.

In a new paper,²²⁷ Herbert Hovenkamp argues that, although antitrust is being enforced approximately as it should, patent law has become too expansive and should be scaled back for the benefit of consumer welfare.²²⁸ Hovenkamp asserts correctly that “courts need to play the hands they are dealt, which are complex statutes that at least at the verbal level have surprisingly few inconsistencies.”²²⁹ He gives great weight to the fact that the Patent Act explicitly permits certain activities, such as tying “unless . . . the patent owner has market power,”²³⁰ but not others, such as price fixing, arguing that these unspoken powers are subject to antitrust scrutiny.²³¹ But some implicit powers are inherent in the right to exclude,²³² the core of what makes this intellectual property.²³³ And the explicit permissions that Hovenkamp relies on are not affirmative grants of rights that did not previously exist in the statute—they simply prohibit denial of relief for infringement on the grounds that the patent holder engaged in the

221. See *id.*

222. See, e.g., 15 U.S.C. § 14 (prohibiting certain anticompetitive tying arrangements related to commodities “patented or unpatented”).

223. See *id.* § 101.

224. See *id.*

225. See *id.* § 103.

226. See *id.* §§ 102(a), 103; 35 U.S.C. § 100(j). “Claimed invention” is defined as “the subject matter defined by a claim in a patent or an application for a patent,” but that definition itself leaves room for interpretation. 35 U.S.C. § 100(j).

227. Herbert Hovenkamp, *Antitrust and the Patent System: A Reexamination*, 76 OHIO ST. L.J. (forthcoming 2015), available at <http://ssrn.com/abstract=2486633>.

228. See *id.* at 6.

229. *Id.* at 5.

230. 35 U.S.C. § 271(d).

231. See Hovenkamp, *supra* note 227, at 13–14.

232. Cf. *Blair v. City of Chicago*, 201 U.S. 400, 458 (1906) (“The right to exclude altogether, unless resort be had to condemnation, involves the right to limit the period of the grant.” (quoting *Coverdale v. Edwards*, 155 Ind. 374, 381 (1900))).

233. See generally Thomas W. Merrill, *Property and the Right to Exclude*, 77 NEB. L. REV. 730 (1998) (arguing that the right to exclude is the *sine qua non* of property).

enumerated behaviors. Section 271(d) overrules court decisions like *Mercoïd Corp.* that created an over expansive patent misuse doctrine and should not be read as limiting rights within “the legitimate scope of the patent grant” by implication.²³⁴

Under our schema, reverse-settlement cases like *Actavis* would be resolved in favor of the drug companies. Justice Breyer’s majority opinion gives both the executive branch and the courts a large discretionary role in determining the proper scope of patent rights in light of antitrust principles. It lowers the FTC’s burden—the FTC must demonstrate only that the settlement payment is indicative of a weak patent; it need not actually prove invalidity—and gives courts free rein in deciding when the FTC has met that standard.²³⁵ The Court thereby blessed use of a patent holder’s actions as a proxy for the “weakness” of its patent, in effect limiting the scope of the patent monopoly by prohibiting patent holders, who may have completely valid patents, from using their monopolies in ways that could project doubt about validity to the executive or to courts.²³⁶ It allowed antitrust concerns to encroach on an absolute statutory grant. This regime will, first, discourage timely reform of the patent laws—if reverse payments are problematic, Congress can revise the Hatch-Waxman Act and thereby curtail the scope of the patent monopoly in statute—and second, discourage timely reform of PTO procedures, to the extent the PTO frequently allows invalid patents. By casting doubt on issued patents, *Actavis* eliminated the urgency of improving patent prosecution—the real source of the problem Justice Breyer contemplates fixing through FTC action.

Chief Justice Roberts recognized the trouble in his dissent, observing that “[t]he correct approach should . . . be to ask whether the settlement gives [the patentee] monopoly power beyond what the patent already gave it.”²³⁷ The question of validity is “plainly a question of patent law,” not antitrust law, and until that question is

234. See *Princo Corp. v. Int’l Trade Comm’n*, 616 F.3d 1318, 1329–31 (Fed. Cir. 2010) (en banc) (discussing the legislative history of Section 271(d) and stating, “Congress enacted section 271(d) not to broaden the doctrine of patent misuse, but to cabin it.”). *Princo* does note that the legislative history of Section 271(d) suggests that “anticompetitive conduct by patentees who leverage their patents to obtain economic advantages outside the legitimate scope of the patent grant,” including anticompetitive licensing arrangements, may be patent misuse. *Id.* at 1331.

235. See *FTC v. Actavis*, 133 S. Ct. 2223, 2236–37 (2013).

236. See Barry C. Harris et al., *Activating Actavis: A More Complete Story*, 28 ANTITRUST 83 (2014) (explaining, without criticizing *Actavis*, how reverse settlement payments may be procompetitive, particularly if the brand company is risk averse); but see Aaron Edlin et al., *Actavis and Error Costs*, ANTITRUST SOURCE (2014), available at http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/oct14_edlin_10_21f.authcheckdam.pdf (replying to Harris et al., arguing that *Actavis*’s inference against reverse payments is stronger than Harris et al. suggest, and it effectively targets anticompetitive conduct).

237. *Actavis*, 133 S. Ct. at 2238 (Roberts, C.J., dissenting).

resolved under patent law, the patentee's actions must be evaluated relative to the statutory monopoly, not antitrust's rule of reason.²³⁸ The Chief Justice, quoting Hovenkamp's treatise, noted that patent policy encompasses a set of Congressional judgments, whereas "[a]ntitrust's rule of reason was not designed for such judgments and is not adept at making them."²³⁹ In other words, antitrust policy should conform to the absolute language of the patent laws. Had the Court obeyed this principle in *Actavis*, it would have recognized reverse payments as within the scope of the patent monopoly and perhaps indicated that either of the other two branches should change law or policy to limit these sorts of settlements or to reject more invalid patents at the PTO. Within Congress's statutory scheme, it could do no more.

Our understanding of the interaction of these two legal regimes is derived from both the purposes of patent and antitrust law and the text of both statutes. It seems, to us, a plain reading of the law. But it has not previously been articulated, and patent and antitrust have largely been understood as antagonistic, as demonstrated by their sordid history. In the next Part, we explore several hypotheses for why the pendulum has swung back and forth—why the "twilight zone" has remained so elusive.

IV. WHY ANTAGONISM HAS PREVAILED

The goal of both the patent and antitrust laws—maximization of consumer welfare—is uncontroversial. All three branches of government and both political parties would like to see a world where the United States is a leader of innovation and industry and where ordinary citizens can receive the highest-quality, most welfare-enhancing products at affordable prices. And yet, again and again, Congress, the executive branch, and especially the courts have all favored one regime at the expense of the other, declining to see them as a coherent system where patents achieve this goal through a set of Congressional judgments and antitrust, operating external to patent monopolies, and maximizing welfare through flexible executive action. We introduce several plausible, if unproven, possibilities for why these two legal regimes have traded ascendancy over time. Notably, the plausibility of these explanations does not rest on agreement with our proposal for balancing patent and antitrust law—a reader who believes courts should sometimes enforce antitrust

238. *Id.* at 2240.

239. *Id.* at 2246 (quoting HOVENKAMP ET AL., *supra* note 156, § 7.3, at 7–13).

law at the expense of patent rights may still find that these hypotheses have explanatory force.

First, patent law and antitrust law may have gained cultural meanings—at least among business-savvy people—and cultural cognition may create divisions in perception of effectiveness. Second, changing economic conditions at a given time may prompt people to favor either long-term investment or short-term consumer protection. Third, the structure of judicial review of these issues favors large swings in doctrine over time. Each of these reasons suggests a different, but not mutually exclusive, way to stabilize the pendulum and allow both tools to work.

A. Cultural Cognition of Patent and Antitrust Law

Judicial opinions favoring patent or antitrust rely in part on predicted negative consequences of overuse of the disfavored regime. In *Motion Picture Patents*, for example, Justice Clarke acknowledged the benefits of limited patent monopolies but opined that a tying license would give the patent holder a “perfect instrument of favoritism and oppression” with which to “ruin anyone unfortunate enough to be dependent on [the patent holder’s] confessedly important improvements for the doing of business.”²⁴⁰ And in *Continental T.V.*, Justice Powell acknowledged the potential harm of vertical restrictions but overturned a per se rule against them in part because forbidding vertical restrictions would deprive manufacturers of opportunities to achieve economic efficiencies in distribution. This would particularly harm new manufacturers and manufacturers entering new markets, which may use vertical restrictions to engage retailers.²⁴¹ Outside of the courtroom, “advocates and policymakers on both sides of the patent wars often fail to acknowledge the ambiguity of evidence on issues such as whether patents promote innovation.”²⁴² Similarly, some antitrust scholars find “evidence of the necessity and success of antitrust enforcement,”²⁴³ while others opine that “[i]ndividual case studies and more systematic evidence demonstrate that the laws have actually been used not to enhance competition but to reduce it.”²⁴⁴

240. *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 515 (1917).

241. *See Continental T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 55–56 (1977).

242. Lisa Larrimore Ouellette, *Cultural Cognition of Patents*, 4 IP THEORY 28, 28 (2014).

243. Jonathan B. Baker, *The Case for Antitrust Enforcement*, 17 J. ECON. PERSP. 27, 27 (2003).

244. Fred S. McChesney & William F. Shughart II, *Preface to THE CAUSES AND CONSEQUENCES OF ANTITRUST: THE PUBLIC-CHOICE PERSPECTIVE* at x (1995).

The relative benefits and harms of patent protection and antitrust enforcement comprise just one issue among many where Americans are divided over the empirical effects of policies. People disagree over whether the death penalty deters murder, whether gun control laws increase or decrease gun violence, and whether mandatory HPV vaccination will spur an overall increase or decrease in sexually transmitted infections among young people.²⁴⁵ Researchers, led by Dan Kahan of Yale Law School, have sought to explain these divisions through the mechanism of “cultural cognition.”²⁴⁶ Cultural cognition is one breed of the psychological phenomenon of “motivated reasoning,” defined as “the unconscious tendency of individuals to process information in a manner that suits some end or goal extrinsic to the formation of accurate beliefs.”²⁴⁷

Specifically, “[c]ultural cognition refers to the tendency of individuals to conform their perceptions of risk and other policy-consequential facts to their cultural worldviews.”²⁴⁸ These worldviews “consist of systematic clusters of values relating to how society should be organized.”²⁴⁹ Cultural cognition maps these values along two dimensions derived from the work of Mary Douglas and Aaron Wildavsky on the cultural theory of risk as well as from additional research by the Cultural Cognition Project. First, “hierarchical” people expect people’s place in society to be determined by certain explicit, public classifications, such as sex or position in an organization, while “egalitarian” people seek a society where every social role is equally available to every person. Second, “individualists” believe in competition that allows for success based on individual merit, whereas “communitarians” value interdependence and solidarity and believe it is the responsibility of society to care for all.²⁵⁰ Factual beliefs about policies may be congenial to one set of cultural outlooks but hostile to another. For example, hierarchical individualists may value guns as instruments of fathers and protectors, valuable members in a structured society wherein people protect themselves and those for whom they are directly responsible. An empirical finding that gun control improves public safety would

245. See Dan M. Kahan et al., *The Second National Risk and Culture Study: Making Sense of—and Making Progress in—the American Culture War of Fact 1* (Yale Law School, Public Law Working Paper No. 154, 2007), available at <http://ssrn.com/abstract=1017189>.

246. See Dan M. Kahan, *Foreward: Neutral Principles, Motivated Cognition, and Some Problems for Constitutional Law*, 125 HARV. L. REV. 1, 23 (2011).

247. *Id.* at 19.

248. *Id.* at 23.

249. *Id.*

250. See Dan M. Kahan et al., *Culture and Identity-Protective Cognition: Explaining the White Male Effect in Risk Perception*, 4 J. EMPIRICAL L. STUD. 465, 468–69 (2007).

clash with those views. On the other hand, egalitarian communitarians might see guns as a tool of oppression by certain classes over others; therefore, an empirical finding that gun control ultimately harmed public safety would be hostile to their views. Members of each of these groups, then, are “motivated to adopt culturally congruent risk perceptions” and will therefore “fail to converge, or at least fail to converge as rapidly as they should, on scientific information essential to their common interests in health and prosperity.”²⁵¹

If, as we postulate, patent law and antitrust law have assumed cultural meanings—congenial to one group and hostile to another—cultural cognition may, in part, explain the heated disagreements over these two policy tools. There has, to date, been no empirical research on cultural divisions over patent and antitrust law, so such an explanation for this division is necessarily speculative. However, both the nature of the two most populous cultural groups—hierarchical individualists (HIs) and egalitarian communitarians (ECs)—and observational, anecdotal evidence suggest that patent law has acquired a meaning congenial to HIs and hostile to ECs, whereas antitrust has acquired the opposite meanings.

Patents may have acquired a pro-business meaning that fits with the HI worldview and is antagonistic to the EC worldview. Patents are issued overwhelmingly to large corporations. In 2012, for example, nearly 93 percent of all patents issued were issued to corporations, and 41.4 percent of patents issued went to only 176 corporations. Perhaps most striking, 12 percent of all new US patents went to only ten companies, and half went to about four hundred companies.²⁵²

251. Dan Kahan et al., *The Polarizing Impact of Science Literacy and Numeracy on Perceived Climate Change Risks*, 2 NATURE CLIMATE CHANGE 732 (2012).

252. See PATENT TECH. MONITORING TEAM, USPTO, PATENTING BY ORGANIZATIONS (UTILITY PATENTS) 2012: PART B, available at http://www.uspto.gov/web/offices/ac/ido/oeip/taf/topo_12.htm#PartB (the ten companies are IBM, Samsung, Canon, Sony, Panasonic, Microsoft, Toshiba, GE, LG, and Fujitsu).

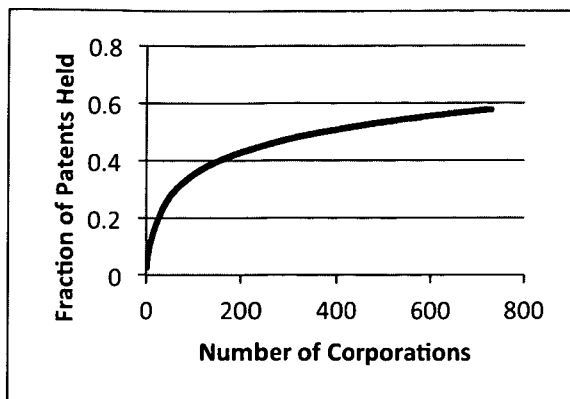


Figure 2

“People with a hierarchical, individualistic worldview tend to value commerce and industry and be suspicious of government regulation,”²⁵³ whereas those with an egalitarian, communitarian worldview tend to be suspicious of commerce and industry, which they see as reinforcing social inequality. If members of the public—or the judiciary—get the message that patents are largely the province of corporate America, then we may expect them to divide along usual cultural lines on patent issues. This appears to have occurred. Since at least 1974, commentators have noticed “[economic] conservatives show a relative willingness to find patents valid,” noting that on the D.C. Circuit, from 1942 to 1972, “all dissents by liberals opposed patent applicants, while all dissents by conservatives favored applicants.”²⁵⁴ In one study, Temple Law School Professor Greg Mandel found that conservative political ideology correlates with a preference for stronger patent rights.²⁵⁵ Although it is far from certain that average Americans have strong opinions about patent policy, it seems that when people do express an opinion, these views divide along cultural lines²⁵⁶ and perhaps reflect more general pro- or anti-corporate biases.

Similarly, antitrust law appears to have acquired a pro-government, pro-“little guy” meaning that is congenial to

253. Ouellette, *supra* note 242, at 32.

254. Baum, *supra* note 59, at 771–72 n.38 (citing Louis S. Loeb, *Judicial Blocs and Judicial Values in Civil Liberties Cases Decided by the Supreme Court and the United States Court of Appeals for the District of Columbia Circuit*, 14 AM. U. L. REV. 146 (1965)).

255. See Gregory N. Mandel, *The Public Psychology of Intellectual Property*, 66 FLA. L. REV. 261, 290 tbl.2 (2014).

256. See generally Ouellette, *supra* note 242 (suggesting cultural cognition explains divisions in perceptions of empirical evidence on patent law).

ECs and antagonistic to HIs. Libertarians—who overlap with Individualists—have long expressed antipathy toward antitrust enforcement. For example, nearly thirty years ago, Alan Greenspan, a self-described “lifelong libertarian Republican,”²⁵⁷ called the Sherman Act a “projection of the nineteenth century’s fear and economic ignorance” and “utter nonsense in the context of today’s economic knowledge.”²⁵⁸ More recently, the pro-business *Wall Street Journal* opined that “[t]here’s one other place where business is still regarded as the enemy: The antitrust shop at Justice.”²⁵⁹ And Fred S. McChesney and William F. Shughart II, the authors who maintain that the evidence indicates antitrust enforcement reduces competition, are both affiliated with the Independent Institute, a libertarian think tank.²⁶⁰

Opinion polls concerning specific antitrust cases support some division among the general population. A 2013 Rasmussen poll found that self-identified Democrats and liberals were much more likely to support the Department of Justice challenge to the American Airlines-US Air merger than Republicans and conservatives.²⁶¹ Similarly, many more Republicans and conservatives than Democrats and liberals predicted that airline prices would remain about the same after the merger.²⁶² A 2009 poll found that while respondents of all ideological groups favored subjecting health insurance companies to antitrust laws, significantly more liberals than conservatives disapproved of an exemption.²⁶³

257. ALAN GREENSPAN, *THE AGE OF TURBULENCE: ADVENTURES IN A NEW WORLD* 208 (2007).

258. Alan Greenspan, *Antitrust*, in *CAPITALISM: THE UNKNOWN IDEAL* 126 (1986), available at <http://web.archive.org/web/20051217172640/http://www.polyconomics.com/searchbase/06-12-98.html>.

259. Editorial, *WALL ST. J.*, July 24, 2000, at 10 (referring to the Microsoft antitrust case).

260. See *Fred S. McChesney*, INDEP. INST., http://www.independent.org/aboutus/person_detail.asp?id=242 (last visited Mar. 10, 2015); *William F. Shughart II*, INDEP. INST., http://www.independent.org/aboutus/person_detail.asp?id=504 (last visited Mar. 10, 2015).

261. See *40% Agree with Government Challenge of US Airways-American Merger*, RASMUSSEN REP. (conducted Aug. 13–14, 2013), http://www.rasmussenreports.com/public_content/business/general_business/august_2013/40_agree_with_government_challenge_of_us_airways_american_merger (finding 58 percent of Democrats, 58 percent of liberals, 26 percent of Republicans, and 28 percent of conservatives supported the challenge).

262. See *id.* (showing 22 percent of Democrats, 20 percent of liberals, 45 percent of Republicans, and 39 percent of conservatives thought prices would stay about the same).

263. See *Competition Wanted: 65% Favor Removing Anti-Trust Exemption for Health Insurance Companies*, RASMUSSEN REP. (conducted Oct. 20–21, 2009), http://www.rasmussenreports.com/public_content/politics/current_events/healthcare/october_2009/competition_wanted_65_favor_removing_anti_trust_exemption_for_health_insurance_companies (77 percent of liberals and 56 percent of conservatives favored subjecting healthcare companies to antitrust regulation).

Although it is far from clear whether these cultural meanings have interacted with the mechanisms of cultural cognition to cause the historical pendulum swings between patent preference and antitrust preference, it provides one plausible hypothesis that is, at least in part, testable. One of us, Ms. Wittlin, plans to join other interested scholars to study the cultural cognition of intellectual property law, seeking to determine whether the public opinion regarding patent benefits and drawbacks falls along the same cultural divisions that predict risk perceptions of gun control, the HPV vaccine, and climate change. This research could illuminate the conflict and, as discussed in Part V, suggest a way to enter Handler's twilight zone.

B. Responding to Our Place in the World

The swings of the patent-antitrust pendulum have also correlated with changing economic conditions and variations in the United States' international status as a lead innovator. Governmental institutions may be sensitive to these economic and political conditions: when the United States is ahead in the world, with strong business and flourishing industrial innovation, courts and the executive may be sensitive to corporate overreach and monopolization such that they prioritize antitrust enforcement. Conversely, when the United States lags in technological success, the need for strong patent protection and long-term investment in innovation may come to the fore.

After the production boom of the Second World War—"between 1939 and 1945 American GNP nearly doubled, as did industrial output"²⁶⁴—the United States led the Western world in productivity. During the war, we developed many of the technologies that would stimulate economic growth for the rest of the twentieth century,²⁶⁵ including synthetic rubber,²⁶⁶ the pressurized airplane cabin,²⁶⁷ and mass production of antibiotics.²⁶⁸ The United States instituted the "Marshall Plan" to "bolster the economic recovery" of Western European countries and to

264. John Gillingham, *Background to Marshall-Plan Technical Assistance: Productivism as American Ideology* 58, in *CATCHING UP WITH AMERICA: PRODUCTIVITY MISSIONS AND THE DIFFUSION OF AMERICAN ECONOMIC AND TECHNOLOGICAL INFLUENCE AFTER THE SECOND WORLD WAR* (Dominique Barjot ed. 2002).

265. *Id.*

266. See generally William M. Tuttle, Jr., *The Birth of an Industry: The Synthetic Rubber 'Mess' in World War II*, 22 *TECH. & CULTURE* 35 (1981).

267. See generally Christian Kehrt, 'Higher, Always Higher': *Technology, the Military and Aviation Medicine During the Age of the Two World Wars*, 30 *ENDEAVOR* 138 (2006).

268. See Peter Neushul, *Science, Government, and the Mass Production of Penicillin*, 48 *J. HIST. MED. ALLIED. SCI.* 371, 371 (1993).

“narrow the productivity gap that prevailed, in the post-war years, between the United States and other countries generally.”²⁶⁹ During the thirty years following World War II, then, the United States exhibited extraordinary confidence in its own technological capacity. Just a few years into this period, the United States did gain a technological rival in the Soviet Union. However, US innovation in response to the space race and the arms race took place in the Army, the Air Force, the Department of Justice, and NASA.²⁷⁰ These were government programs where innovation was driven by national pride and political will. There was no clear connection between technological advancement relative to the USSR and patent rights to incentivize private inventors. In this period of American industrial confidence and generosity—when the United States was on top, and perceived to be so due to public, not private, innovation—antitrust was ascendant.

The country’s fortune changed in the 1970s and the early 1980s, when the United States faced a large economic deficit while Japan maintained a surplus. By the late 1980s and early 1990s, “Japan had come to be widely viewed as a major threat to US economic preeminence and even national prosperity.”²⁷¹ In fact, in the mid-1980s, Japan became the world’s largest creditor and the United States became the world’s largest debtor.²⁷² And Japan was particularly dominant in certain technological industries, including semiconductors, consumer electronics products, and automobiles.²⁷³ Not surprisingly, this period coincided with the Golden Age of Patents, as the Department of Justice backed off of the “Nine No-Nos” and courts expanded patent protection.

The mid-1990s, in turn, saw the dot-com boom, the bursting of the bubble, and then a period of steady economic growth through 2008. In the late 1990s, the stock market soared. There was a

269. Dominique Barjot, *Introduction to CATCHING UP WITH AMERICA: PRODUCTIVITY MISSIONS AND THE DIFFUSION OF AMERICAN ECONOMIC AND TECHNOLOGICAL INFLUENCE AFTER THE SECOND WORLD WAR* 13–14 (Dominique Barjot ed. 2002).

270. See Michael J. Neufeld, *The End of the Army Space Program: Interservice Rivalry and the Transfer of the von Braun Group to NASA*, 69 *J. MILITARY HIST.* 737, 739–40 (2005) (discussing Army and Air Force ballistic missile programs after World War II); Karsten Werth, *A Surrogate for War—The U.S. Space Program in the 1960s*, 49 *AMERIKASTUDIEN / AM. STUD.* 563, 581 (2004) (discussing the urgency to beat the Russians felt at NASA); *The Nuclear Arms Race: Diagnosis and Treatment*, 21 *BULL. AM. ACAD. ARTS & SCIENCES* 2, 6 (1968) (describing a Department of Defense committee organized to assess the feasibility of designing an intercontinental ballistic missile (ICBM) that could carry a hydrogen bomb).

271. C. FRED BERGSTEN ET AL., *NO MORE BASHING: BUILDING A NEW JAPAN-UNITED STATES ECONOMIC RELATIONSHIP* ix (2001).

272. *Id.* at 4.

273. *Id.* at 5.

widespread perception that the nation was experiencing “the serendipitous emergence of a once- or twice-in-a-century surge in technology” and “the resulting more rapid growth of labor productivity [was] at least partly enduring.”²⁷⁴ Economists contemplated that we might be on the verge of a new economy, a sort of “Third Industrial Revolution.”²⁷⁵ This period of prosperity, focused in an industry where small start-ups, not established corporations, held hope for the future, coincided with the most recent pendulum swing toward antitrust enforcement.²⁷⁶ The bubble burst of course, but the market never dipped below 1995 levels, and with the exception of the 2008 crisis, it has been climbing ever since.²⁷⁷ Further, the subprime mortgage crisis has been attributed to big banks and does not suggest a lack of technological investment. Thus, continued focus on antitrust might be a response to pro-regulation public sentiment.

It is not likely that the swinging pendulum can be attributed solely to economic conditions and the United States’ technological competitiveness at the time. However, given the coincidence of patent-antitrust trends and industrial conditions since the Second World War, it is reasonable to hypothesize that courts and the executive assimilate the most pressing domestic concerns into their views about these two policies.

C. One Patent Circuit, Thirteen Antitrust Circuits

Although antitrust law and patent law are co-parents of consumer welfare, the structure of the federal court system forces them into an awkward divorce and impedes the optimal resolution of conflicts between the regimes. The Federal Circuit hears appeals of patent cases, while the other twelve courts of appeals hear appeals of antitrust cases. When the branches of law collide, there are two possibilities: the Federal Circuit, primarily a patent court, will resolve

274. Alan Greenspan, Chairman, Bd. Of Governors of the U.S. Fed. Reserve Sys., Challenges for Monetary Policymakers, Remarks at the 18th Annual Monetary Conference: Monetary Policy in the New Economy (Oct. 19, 2000), available at <http://www.bis.org/review/r001020a.pdf>.

275. C. Wei Li & Hui Xue, *A Bayesian’s Bubble*, 64 J. FIN. 2665, 2666 (2009).

276. See *supra* Part II.D.

277. See NASDAQ Composite (^IXIC), available at <http://finance.yahoo.com/echarts?s=%5Eixic+interactive>.

an antitrust issue,²⁷⁸ or less frequently, a regional circuit, with virtually no experience in patent law, will tackle patent policy.²⁷⁹

In a study of circuit court cases from 1996 to 2001, researchers found that the Federal Circuit heard fifteen of twenty-seven cases involving both antitrust and IP issues.²⁸⁰ It is probable that the Federal Circuit will approach these cases differently from the regional courts, as the Federal Circuit is made of patent experts²⁸¹ who spend their days focused on patent issues. Although 57 percent of the Federal Circuit's docket is not patent-related,²⁸² a gift from a Congress "concerned about the court falling prey to the theorized pitfalls of specialization,"²⁸³ the judges of the Federal Circuit appear to spend the majority of their time on patent cases.²⁸⁴ Thus, it would be surprising if the Federal Circuit did not resolve patent and antitrust conflicts with a focus on how the resolution affects the patent regime, and they may give antitrust considerations short shrift. Other circuit judges, however, have had fewer occasions to think about patent policy at all. They are likely to approach the cases from a more evenhanded, perhaps more antitrust-focused, but also less expert, mindset. A single geographic region, then, may be covered by the rulings of two courts with different perspectives, neither of which is trained to evaluate innovation and competition law as a whole. This regime is unlikely to produce a thoughtful reconciliation of these systems.

Only the Supreme Court independently encounters both fields with regularity and sets national policy when the two collide. For two reasons, we hypothesize that by tasking a single, relatively volatile court²⁸⁵ at the highest level with resolving conflicts between patent

278. See, e.g., *In re Ciprofloxacin Hydrochloride Antitrust Litig.*, 544 F.3d 1323 (Fed. Cir. 2008); see also Ronald S. Katz & Adam J. Safer, *Should One Patent Court Be Making Antitrust Law for the Whole Country?*, 69 ANTITRUST L.J. 687, 688 (2002).

279. See, e.g., *FTC v. Watson Pharm.*, 677 F.3d 1298 (11th Cir. 2012), *rev'd sub nom.* *FTC v. Actavis*, 133 S.Ct. 2223 (2013).

280. See *Katz & Safer*, *supra* note 278, at 688 n.4.

281. At least current Judges Newman, Lourie, Linn, Moore, O'Malley, and Chen had extensive experience with patent law before their appointments, and the remaining judges have gained expertise on the bench. See U.S. Court of Appeals for the Federal Circuit, *Judges*, U.S. COURTS, <http://www.cafc.uscourts.gov/judges> (last visited Mar. 10, 2015).

282. Paul R. Gugliuzza, *Rethinking Federal Circuit Jurisdiction*, 100 GEO. L.J. 1437, 1461 (2012).

283. *Id.* at 1458.

284. See *id.* at 1485 (noting that Judge Michel has suggested that a typical patent case "takes perhaps ten times the work of [a] personnel case").

285. The US Courts of Appeals follow the "law of the circuit rule," which provides that a panel decision binds later panels unless that decision is overruled by the court sitting en banc (or by the Supreme Court). See Michael Duvall, *Resolving Intra-Circuit Splits in the Federal Courts of Appeal*, 3 FED. CTS. L. REV. 17, 18 & n.4 (2009) (citing cases from each circuit stating the rule). Combined, the Circuit courts decide about sixty cases en banc every year. See FED. BAR COUNCIL, SECOND CIRCUIT COURTS COMM., *EN BANC PRACTICES IN THE SECOND CIRCUIT: TIME FOR A*

and antitrust law, the current system encourages wide swings of the pendulum.

First, because it is unable to compare the efficacy of different regimes, as it might with a circuit split, the court can experiment with different policy balances only by shifting them over time—particularly if it does not trust the Federal Circuit to achieve a balance on its own. The regional circuits, like the states, may serve as “laboratories of experimentation,” wherein different interpretations of federal law may be informally tested and the implementations of those interpretations observed.²⁸⁶ A polycentric system facilitates “incremental innovation and competition, while also providing the additional benefit of ‘teeing up’ cases more clearly for Supreme Court review.”²⁸⁷ As Chief Judge Wood of the Seventh Circuit noted in the context of nonobviousness jurisprudence, “several circuits’ elaboration of competing viewpoints might prove useful.”²⁸⁸ Currently, this system of lower court competition does not exist in either patent law or combined patent and antitrust law. In the case of patent law, where there is a single center, the Supreme Court may wait for the Federal Circuit to develop its own coherent jurisprudence, observe how that law plays out, and then reverse the Federal Circuit if it disapproves, as it usually does.²⁸⁹ If major Federal Circuit decisions come in clusters that correlate with the composition of the court or with national mood, then Supreme Court decisions reversing the court below may cluster as well.

At least in the case of patent law, however, the Federal Circuit sets law that the Supreme Court can observe and modify. In the case of innovation policy as a whole—the areas where patent and antitrust intersect—the court may face a hodgepodge of decisions, mostly concentrated in the Federal Circuit but also influenced by the regional circuits. The Supreme Court’s policy is the only one that can be

CHANGE? 5 (July 2011), available at http://www.federalbarcouncil.org/vg/custom/uploads/pdfs/En_Banc_Report.pdf. The Supreme Court, however, sits in banc every time it hears a case and, alone, hears about seventy or eighty cases per term. See *Stat Pack Archive*, SCOTUSBLOG (2015), <http://www.scotusblog.com/reference/stat-pack/>.

286. See *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting) (“It is one of the happy incidents of the federal system that a single courageous state may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country.”).

287. Craig Allen Nard & John F. Duffy, *Rethinking Patent Law’s Uniformity Principle*, 101 NW. U. L. REV. 1619, 1624 (2007).

288. Hon. Diane Wood, *Is It Time To Abolish the Federal Circuit’s Exclusive Jurisdiction in Patent Cases?*, Keynote Address, in 13 CHI-KENT J. INTELL. PROP. 1, 5 (2013).

289. In October Term 2013, the Supreme Court reversed the Federal Circuit unanimously in the first five cases to come before the Court. See Vera Ranieri, *Supreme Court Overrules Federal Circuit Again. And Again.*, ELECTRONIC FRONTIER FOUND. (June 2, 2014), <https://www.eff.org/deeplinks/2014/06/supreme-court-overrules-federal-circuit-again-and-again> (“Even the Chicago Cubs have a better record than that.”).

observed and evaluated. Therefore, in order to test new policies, the Court must shift its own jurisprudence.

Second, a nine-member in banc court that is often closely divided may shift dramatically as its membership changes, even by one or two members, leading to periodic reversals in innovation policy. Empirical work has demonstrated that decisions of Supreme Court justices are influenced by ideology more than those of either circuit judges or district judges.²⁹⁰ Another empirical study found that, among Supreme Court justices, “ideology is highly predictive of IP outcomes,” and “the effect of ideology is uniformly significant for all types of IP cases”—although the effect is weaker than in cases involving culturally divisive social issues and the justices have a higher degree of agreement on IP cases generally.²⁹¹ Cases concerning the intersection of IP and antitrust did not differ significantly from those concerning IP alone.²⁹² The Supreme Court has, of course, dramatically shifted over time on a diverse set of issues, including segregation,²⁹³ campaign finance,²⁹⁴ gay rights,²⁹⁵ and the power of the government to regulate commerce.²⁹⁶ With this oscillating Court at the helm of innovation law, it is not surprising that we continue to see pendulum shifts toward patent or antitrust favoritism.

Although each of these reasons is only a hypothesis at this point, each is a plausible explanation of a problematic dynamic. Further, the three are not mutually exclusive and may act in concert. These hypotheses suggest possible steps that can be taken to stabilize the pendulum, and we discuss these proposals in the next Part.

290. See LEE EPSTEIN, WILLIAM M. LANDES & RICHARD POSNER, *THE BEHAVIOR OF FEDERAL JUDGES* 8–11 (2013).

291. Matthew Sag et al., *Ideology and Exceptionalism in Intellectual Property: An Empirical Study*, 97 CAL. L. REV. 801, 803, 835, 842 (2009). *Id.* at 839 (“Specifically for the Rehnquist Court, moving the ideological distance from Justice Stevens at the liberal end of the Court to Justice Thomas on the conservative end translates to a 51% increase in the odds of voting for the IP owner.”). These findings lend further support to the hypothesis that patents have acquired a certain cultural meaning. *See id.*

292. *Id.* at 843.

293. Compare *Plessy v. Ferguson*, 163 U.S. 537 (1896) (upholding the so-called separate but equal doctrine), with *Brown v. Bd. of Educ.*, 347 U.S. 483, 495 (1954) (“[S]eparate educational facilities are inherently unequal.”).

294. Compare *McConnell v. Fed. Election Comm’n*, 540 U.S. 93 (2003), with *Citizens United v. Fed. Election Comm’n*, 558 U.S. 310 (2010).

295. Compare *Bowers v. Hardwick*, 478 U.S. 186 (1986), with *Lawrence v. Texas*, 539 U.S. 558 (2003).

296. Compare *McCulloch v. Maryland*, 17 U.S. 316 (1819), with *Nat’l Fed’n of Indep. Bus. v. Sebelius*, 132 S. Ct. 2566 (2012), and *West Coast Hotel Co. v. Parrish*, 300 U.S. 379 (1937), and *Lochner v. New York*, 198 U.S. 45 (1905).

V. A WAY FORWARD

We have proposed three hypotheses for the historical pendulum shifts wherein different government bodies favor either patent or antitrust law at the expense of the other. The first and last of these possibilities—cultural cognition and the structure of the federal court system²⁹⁷—each suggests a way to stop the pendulum and move into the Handler twilight zone, and so we focus on those two. First, if patent law and antitrust law are indeed culturally divisive, then communication techniques from cultural cognition research could be employed to mitigate this division and facilitate more productive discussion of these issues. Second, a new innovation court system—a reform of the Federal Circuit in which two regional appellate courts have jurisdiction over both patent and antitrust appeals—could insulate innovation and competition policy from politics and spur more sophisticated antitrust and patent case law at the appellate level. Even if our hypotheses are incorrect, both of these proposals could improve stability and prevent future problems. We discuss these proposals in greater depth in this Part.

A. Decontaminating Discussion of Patent and Antitrust Law

As discussed in Part IV.A, patents may have acquired a pro-business cultural meaning congenial to hierarchical individualists and antagonistic to egalitarian communitarians, while antitrust may have acquired the opposite meaning. If this is so, judges, legislators, and administrations are likely to favor one regime over the other inherently. Worse, even if the system we advocate is implemented—even if the law is enforced in an absolute fashion and Congress is tasked with calibrating the balance—culturally polarized legislators will be less able to adjust their assessments of a policy's effects in response to new evidence. Through a process called "biased assimilation," people tend to credit or discount new information based on whether it conforms to their existing predispositions; this can cause individuals to polarize, rather than converge, in the face of new evidence.²⁹⁸ Social scientists have begun to formulate and test techniques for combatting this undesirable dynamic. We suggest that journalists, scholars, and government actors employ these tactics

297. The second possible cause, the country's economic standing, is more difficult to control.

298. See Charles G. Lord et al., *Biased Assimilation and Attitude Polarization: The Effects of Prior Theories on Subsequently Considered Evidence*, 37 J. PERSONALITY & SOC. PSYCHOL. 2098 (1979).

when communicating factual information regarding antitrust and patent policy.²⁹⁹

First, research by the Cultural Cognition Project has indicated that when scientific information is presented along with a culturally congenial meaning, individuals are more likely to assess that information with an open mind.³⁰⁰ In a recent study, hierarchical individualists proved more receptive to scientific information about climate change risks when the proposed solution was geoengineering—deliberate manipulation of the environment to offset the effects of climate change—instead of a tighter cap on atmospheric carbon concentration.³⁰¹ Suggesting carbon caps as the solution, by contrast, increased polarization relative to a control. The theory supported by this result implies “that an appropriate integration of meaning and information content can ameliorate the tendency of culturally diverse citizens to form opposing beliefs about the validity and weight of any particular piece of evidence.”³⁰² Although applying these sorts of framing techniques is far from straightforward, in the patent and antitrust context, communicators could operate with a few commonsense guidelines. Pro-patent information could be framed in terms of the protection intellectual property laws afford independent inventors against large corporations. Communicators would downplay the protection afforded to powerful corporate innovators against generic manufacturers or start-ups. Additionally, pro-antitrust information could be framed in terms of letting all newcomers compete for business rather than in terms of keeping large corporations in check through regulation, so the company with the best products and services can gain new customers and clients. By attaching cultural meanings to these policies that differ from the ones they appear to have attained, communicators can mitigate polarization and take one step toward greater stability over time. Research by the same group has also suggested that the perceived cultural identity of the person

299. Lisa Larrimore Ouellette has also suggested that researchers conduct experiments with an eye toward minimizing cultural polarization. See Ouellette, *supra* note 242, at 35–36. Although we do not object to this idea, because we contemplate empirical results arising from natural experiments as well as controlled ones, we do not emphasize it.

300. See Dan M. Kahan et al., *Geoengineering and Climate Change Polarization: Testing a Two-Channel Model of Science Communication*, 658 ANNALS AM. ACAD. POL. & SOC. SCI. 192, 192 (2015).

301. *Id.* Carbon caps likely evoke apprehension about commerce and technology—a cultural meaning antagonistic to hierarchical individualists—while geoengineering symbolizes human ability to overcome problems through innovation—a meaning congenial to hierarchical individualists. *Id.* at 200.

302. *Id.* at 200–01.

communicating information can affect the perceived credibility of that communicator.³⁰³

Another recent study investigated how cultural identity influences perceptions of risks and benefits of the HPV vaccine. Researchers found that when arguments against the vaccine were attributed to an egalitarian-communitarian advocate, egalitarian communitarians perceived the vaccine as riskier than they otherwise would; conversely, when arguments for the vaccine were presented by a hierarchical-individualist advocate, hierarchical individualists were more likely to perceive the vaccine as beneficial.³⁰⁴ Similar tactics could be applied to the communication of empirical information regarding patent and antitrust policies. Communicators who are perceived as skeptical of big business, such as representatives from consumer organizations or economically progressive politicians, could communicate positive information about patent rights, while communicators who are perceived as pro-business, such as representatives from large corporations or economically conservative politicians, could discuss the positive effects of antitrust policy.

Although these two tactics provide guidelines and heuristics, they rely on inferences drawn from studies of narrow scope. They are, to a degree, “imaginative conjecture informed by valid decision science.”³⁰⁵ For example, if the most important audience for evidence concerning a policy’s effectiveness is not the national population but experts such as legislators or judges, it is not clear that they will react the same way to cultural meanings and depolarizing communication techniques as laypeople.³⁰⁶ Therefore, the best tactics for ameliorating and preventing further polarization over patent and antitrust law should be discerned through targeted research. Persons and organizations interested in sensible innovation and competition policy may pair with social scientists to determine which communication techniques are most effective in fostering open-mindedness to empirical evidence and theoretical arguments about these policy areas.

303. See Dan M. Kahan et al., *Who Fears the HPV Vaccine, Who Doesn't, and Why? An Experimental Study of the Mechanisms of Cultural Cognition*, 34 *LAW & HUM. BEHAV.* 501, 501 (2010).

304. See *id.* at 513. The researchers created their advocates—each comprising a picture and titles of books the advocate purportedly authored—in pretests. Each advocate generated a reliable imputed culture score. *Id.* at 506.

305. Dan M. Kahan, *Making Climate-Science Communication Evidence-Based: All the Way Down*, in *CULTURE, POLITICS & CLIMATE CHANGE* 203, 204 (Deserai A. Crow & Maxwell T. Boykoff eds. 2014).

306. See Dan Kahan, *Do Experts Use Cultural Cognition?*, *CULTURAL COGNITION BLOG* (Dec. 17, 2011, 10:56 AM), <http://www.culturalcognition.net/blog/2011/12/17/do-experts-use-cultural-cognition.html>.

Further, this recommendation—research into depolarizing communication techniques—merits consideration independent of agreement with our central theses. If a person believes that either patent or antitrust law is best for achieving consumer welfare, or believes that courts should perform careful balancing of the two, or agrees with us that Congress should perform balancing, openness to evidence about these policies is a desirable goal. A person who thinks he or she knows which policy is best should be open to changing her own mind, and she should be eager to convince those across the aisle by associating her position with culturally congenial meanings. And independent of which institution should be balancing the two policies, the country is best served when those doing the balancing most clearly apprehend the effects of existing and potential policies. If cultural polarization is indeed one source of the swinging patent-antitrust pendulum, then neutralizing communication, informed by targeted scientific research, can help us determine optimal policies without the interference of polarizing cultural meanings.

B. Innovation Circuits

In Part IV.C, we hypothesized that instability in patent and antitrust law may stem from the structure of the federal courts. Cases dealing with the intersection of these two branches are split between the patent-focused Federal Circuit and the more broadly focused regional circuits, and no single court is focused on innovation, competition, or consumer welfare policy as a whole. Further, the current hodgepodge at the circuit level, combined with a unitary court at the highest level, is not conducive to testing different interpretations of the applicable statutes. To remedy both of these shortfalls, we suggest that Congress form two courts of appeals focused on innovation—possibly divided between the eastern and western halves of the country—with jurisdiction over both patent appeals and antitrust appeals along with the remainder of the current Federal Circuit’s current jurisdiction.

Giving one court jurisdiction over both patent and antitrust law would allow the judges of that court to develop expertise in two complicated, technical areas and to employ that expertise in deciding how the two interact under their respective statutes, each directed toward innovation and economic benefit in its own way. Moreover, it would encourage the court to keep its eyes on the prize—consumer

welfare—as it evaluates cases where the two areas do *not* explicitly intersect.³⁰⁷

We are not the first to suggest that the Federal Circuit hear more antitrust cases or that a single court should have dual jurisdiction. Rochelle Dreyfuss has suggested routing all intellectual property appeals to a single court and increasing its antitrust jurisdiction to give it experience with the many ways of spurring innovation.³⁰⁸ She noted that Taiwan has a court with jurisdiction over all innovation policy.³⁰⁹ Additionally, Professor Paul Gugliuzza has noted that “[e]xposing the Federal Circuit more frequently to antitrust law, with its clear focus on promoting competition, might refocus the court on the fundamental purpose of the patent laws—promoting innovation.”³¹⁰ He is skeptical that a single court could work, however, because the Federal Circuit’s current antitrust jurisprudence tends to subordinate protection of competition to protection of intellectual property rights.³¹¹ We are unconcerned by this possibility. There is no reason to believe that a court with dual jurisdiction will prioritize patent enforcement over antitrust policy, and the composition of the initial judges can account for any such concern. Once the court is immersed in antitrust law in its daily work and its judges are appointed for both patent and antitrust expertise, patent law may not remain dominant in the court’s approach.

A single innovation court would, however, have several drawbacks, each of which could be alleviated by the addition of a competing second “Innovation Circuit” (as in our proposal for east and west courts). Professor Gugliuzza argues against exclusive antitrust

307. Patent law and antitrust law are not the only two regimes that affect competition or consumer welfare, of course. Laws applied by other agencies, including the Food and Drug Administration and the Federal Communications Commission, regulate for the benefit of consumers, and a consumer welfare circuit could indeed have a more expansive jurisdiction that would cover agency cases. However, a broader jurisdiction would dilute expertise even further, and these other regulatory regimes have not had the same historical level of conflict with patent law as antitrust has. Therefore, we suggest limiting this court to an Innovation Circuit that encompasses patent and antitrust law and not expanding it to a Consumer Welfare Circuit.

308. See Rebecca Tushnet, *Rochelle Dreyfuss on the Federal Circuit and the Supreme Court*, REBECCA TUSHNET’S 43(B)LOG (Oct. 20, 2009, 11:09 PM), <http://tushnet.blogspot.com/2009/10/rochelle-dreyfuss-on-federal-circuit.html> (summarizing Professor Dreyfuss’s talk at the Washington College of Law (AU) Program on Information Justice and Intellectual Property).

309. See *id.* The jurisdiction of Taiwan’s Intellectual Property Court includes protection of rights “under the Patent Act, Trademark Act, Copyright Act, Optical Disk Act, Trade Secrets Act, Regulations Governing the Protection of Integrated Circuits Configuration, Species of Plants and Seedling Act, and Fair Trade Act.” See INTELLECTUAL PROPERTY COURT JURISDICTION (2008), available at http://ipc.judicial.gov.tw/ipr_english/index.php. The Fair Trade Act is Taiwan’s antitrust law. See *Fair Trade Act of 2011*, FAIR TRADE COMM’N, <http://www.ftc.gov.tw/internet/english/doc/docDetail.aspx?uid=644&docid=12106> (last visited Mar. 10, 2015).

310. Gugliuzza, *supra* note 282, at 1466.

311. *Id.* at 1498.

jurisdiction for the Federal Circuit because “there is continuous debate over the proper weight that law should accord each of” antitrust law’s policy goals, and “[t]his lack of policy consensus cuts against specialization in the antitrust area.”³¹² Although we believe that Congress, not the courts, should perform fundamental policy calibration, competition between two circuits will allow for better fine-tuning of patent and antitrust law. Similarly, adding a second innovation circuit would move innovation policy away from a single, insular court and toward the “polycentric” model advocated by Chief Judge Wood and Professors Nard and Duffy.³¹³ Competing circuits will allow Congress to observe different interpretations of its laws,³¹⁴ and differing outcomes in the two circuits may inform Congressional revision of these laws as well as indicate when Supreme Court action is appropriate based upon a split between the circuits.³¹⁵ The existence of only two circuits, as opposed to the many regional circuits, will constrain forum shopping, thereby staying true to the founding principles of the Federal Circuit.

The current Federal Circuit has a somewhat antagonistic relationship with the Supreme Court, which regularly reverses the lower court with large margins and harsh tones.³¹⁶ For instance, during the oral argument in *KSR v. Teleflex*, Justice Scalia referred to the Federal Circuit’s obviousness test as “gobbledygook,”³¹⁷ and last spring, Justice Alito rebuked an opinion of the Federal Circuit sitting in banc, writing: “The Federal Circuit’s analysis fundamentally misunderstands what it means to infringe a method patent.”³¹⁸ Daniel Kazhdan has pointed out that this antagonism may stem from the Federal Circuit’s exclusive jurisdiction. A circuit with the power to create national law might be tempted to create the sort of bright-line

312. *Id.*

313. See Wood, *supra* note 288, at 5; Nard & Duffy, *supra* note 287, at 1656–57.

314. See Ouellette, *supra* note 189, at 111–12.

315. See SUP. CT. R. 10(a) (indicating this is a factor considered by the Court in deciding whether to grant certiorari).

316. See generally Daniel Kazhdan, *Beyond Patents: The Supreme Court’s Evolving Relationship with the Federal Circuit*, 94 J. PAT. & TRADEMARK OFF. SOC’Y 275 (2012).

317. Transcript of Oral Argument at 41, *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007) (No. 04-1350).

318. *Limelight Networks, Inc. v. Akamai Techs, Inc.*, 134 S. Ct. 2111, 2117 (June 2, 2014). As commentators have noted, a paragraph of the *Limelight* opinion misrepresents the Federal Circuit’s decision below. See Jason Rantanen, *Judicial Error and Justice Alito’s Hypothetical in Limelight*, PATENTLY-O (June 3, 2014), <http://patentlyo.com/patent/2014/06/judicial-hypothetical-limelight.html> (comparing the Supreme Court decision (“[T]he Federal Circuit’s reasoning . . . permits inducement liability when fewer than all of a method’s steps have been performed within the meaning of the patent”) with the Federal Circuit decision (“To be clear, we hold that all the steps of a claimed method must be performed in order to find induced infringement . . .”).

rules that the Supreme Court loves to strike down.³¹⁹ Additionally, because the Federal Circuit's jurisdiction is so limited, it is unlikely that a Supreme Court justice will ever be drawn from that Circuit, and the members of the Court may become alienated from the Circuit.³²⁰ We also note that because the Supreme Court cannot rely on circuit splits to suggest when an issue merits certiorari, it may evaluate Federal Circuit decisions for correctness in the first instance—it may look to take questions it sees as wrongly decided rather than questions that require national uniformity or where the Federal Circuit has reached a consensus position.³²¹ Unlike regional circuits that may frequently fall on the winning side of circuit splits, the Federal Circuit may always be “wrong,” since the Supreme Court will only take a case when at least four Justices believe that there is a reason to grant certiorari; if the Justices do not believe review is necessary, they will deny certiorari.³²²

The proposed Innovation Circuits would ameliorate each of these problems. First, without the power to create an overarching national policy, these courts might be less tempted to create the easily administrable bright-line rules that the Supreme Court loves to strike down. Although forum-shopping will be minimal with only two circuits, the threat of forum-shopping removes some of the allure of bright-line rules, as they no longer create uniformity. And with the addition of antitrust cases—which operate under more amorphous rules than patent ones—it will be impossible to seek bright-line rules as a matter of course. The Supreme Court will be less likely to overturn courts that adhere to its own style of standard setting, and it might even be more likely to accept an occasional bright-line rule if that rule is the exception to a court's usual jurisprudence.

319. See, e.g., *Bilski v. Kappos*, 561 U.S. 593, 603 (2010) (holding that while it might be “an important and useful clue,” the “machine-or-transformation test” is not the “sole test” for what constitutes a “process” under Section 101); *KSR Int'l v. Teleflex Inc.*, 550 U.S. 398, 419 (2007) (concluding the Federal Circuit erred by applying its “teaching, suggestion, or motivation” test as a “rigid rule”); *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 737 (2002) (ratifying the “flexible bar” approach to prosecution history estoppel over the Federal Circuit's “complete bar”).

320. See Kazhdan, *supra* note 316, at 278; see also Mark A. Lemley & Shawn P. Miller, *If You Can't Beat 'Em, Join 'Em? How Sitting by Designation Affects Judicial Behavior* (Stanford Public Law Working Paper No. 2449349, 2014), available at <http://ssrn.com/abstract=2449349> (finding that the Federal Circuit is less likely to reverse claim construction rulings of judges who have sat by designation on that Circuit and arguing that this is likely due to increased trust stemming from personal connections formed).

321. The Court may also look to the Solicitor General for input on which cases it should take. See Kazhdan, *supra* note 316, at 281, 283–84.

322. See *New York v. Uplinger*, 467 U.S. 246, 250 (1984) (Stevens, J., concurring) (“As long as we adhere to the Rule of Four, four Justices have the power to require that a case be briefed, argued, and considered at a postargument conference.”).

Second, the broader subject matter jurisdiction of the Innovation Courts increases its visibility and makes it a more probable breeding ground for Supreme Court justices. The Court may be less likely to use harsh tones if its members are more personally familiar with the judges of the lower courts, particularly if one justice came from one of those courts. Finally, although circuit splits are less likely to arise with two districts than with twelve, the Supreme Court would be able to use the few splits that do arise as strong guidance for which questions to take. This asset might be particularly effective if the circuits are divided between east and west. A Court of Appeals for the Eastern Federal Circuit would decide patent issues with disproportionate input from litigants in the biotech and pharmaceutical industries, whereas a Court of Appeals for the Western Federal Circuit would decide those issues with input from litigants in software cases. With a circuit split, then, the Supreme Court is more likely to be exposed to arguments from at least two major categories of American innovators. Two Innovation Circuits could remedy several problems with the current Federal Circuit and might be able to stabilize innovation and competition law in the process.

VI. CONCLUSION

The story of patent and antitrust law has been one of conflict, where each has ascended and descended in dominance inversely with the other. To a degree, this trade-off is understandable; in a number of cases, the principles behind one policy point to a different resolution than the principles behind the other. But while both policies have the same fundamental goal—improved consumer welfare through innovation and competition—they merely achieve it through different means: one by creating temporary monopolies to encourage innovation and one by prohibiting anticompetitive arrangements and activities. Creating an ideal innovation and competition regime requires carefully balancing the strength of each policy. We have argued that Congress should perform this balancing and courts should enforce these laws according to the absolute language of the patent statute and the more flexible language of the antitrust statute. We have also proposed several reasons for the swings in dominance over the years and suggested ways of damping the pendulum. If these issues do not become further polarized, if the relevant courts gain experience with dealing with both of these issues, and if the courts appropriately enforce Congress's laws by allowing for Congressional calibration of policy strength, we are optimistic that we can soon enter the twilight zone.

