

COLLUDING AGAINST A PATENT

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The patent system fosters innovation by granting the right to exclude. Since a rightsholder can legally suppress competition and charge monopoly prices, a patent provides a type of antitrust immunity. Even when firms allegedly abuse their exclusive rights through the creation of patent thickets, meritless infringement litigation, or breaching one’s FRAND commitment, courts and federal agencies have concluded that antitrust is ill-equipped to discipline patent practices. Without antitrust remedies, firms have banded together against rightsholders to negotiate for better terms. Their strategies have included boycotting abusive patentees, as well as collectively negotiating against them. By using self-help remedies, they seek to pay fair rates for only the patents needed for their technology. This type of cooperation may ideally foster competition and innovation where patent abuses undermine both goals. The problem is, ironically, that combining against a monopolist is likely anticompetitive. Antitrust condemns collusion to manipulate prices—here, licensing rates—even when done against a monopolist. This renders a troubling outcome where “Big Pharma,” “Big Tech,” and others can insulate their monopoly power using the very laws meant to condemn monopolies. While debate has emerged about patent abuses, an equally salient issue involves whether antitrust should condemn firms who collude against patent holders and monopolists.

Using economic and historical evidence, this Article argues that antitrust law should allow firms to defend an antitrust claim by citing their rival’s market power. Our models show that powerful rightsholders do, in fact, harm competition and innovation in ways not meant to protect original technology. We then find that the benefits of collusion among smaller firms were advanced by the Sherman Act’s drafters, whose comments are critical to shaping and understanding modern antitrust. Support even comes from the labor arena: Congress excluded workers from antitrust law—as labor unions were once considered a form of collusion—so that workers could counterbalance their employers’ dominance with their own market power. As such, given the practical and theoretical difficulties of remedying anticompetitive abuses of patent rights under the antitrust laws, we assert that taking antitrust out of patent law would allow competition to flourish in dynamic markets while enhancing the patent system’s incentives to innovate.

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INTRODUCTION

A patent holder may exclude competition within a zone of antitrust immunity.¹ When “Big Pharma,” “Big Tech,” and others allegedly abuse their patent rights, competitors have teamed up against them in hopes of leveling the playing field. This has created a significant puzzle: should antitrust condemn firms who collude against a rightsholder (or even a monopolist)?

To illustrate an alleged abuse of patent rights, Momenta and Aventis concocted a scheme after Aventis developed a method of testing the active ingredient in a generic blood thinner. Aventis convinced a regulatory agency to declare the method an industry standard by promising to forgo patenting it so as to keep prices low.² Aventis, however, concealed that its partner, Momenta, had applied for a patent.³ By receiving exclusive rights to an industry standard, Momenta pressed infringement claims against those who sold the drug and otherwise sought to block production of rival blood thinners.⁴ This scheme, based on a valid patent, netted Momenta and Aventis about a quarter-*billion* dollars in monopoly revenue from, in large part, uninsured patients and hospitals.⁵

1. See *In re Tamoxifen Citrate Antitrust Litig.*, 277 F. Supp. 2d 121, 138 (E.D.N.Y. 2003) (describing the exercise of patent rights as “not antitrust injury, but rather the result of the legal monopoly that a patent holder possesses”), *aff’d*, 466 F.3d 187 (2d Cir. 2006); *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195, 1203 (2d Cir. 1981) (“[P]atent laws reward the inventor with a temporary monopoly that insulates him from competitive exploitation of his patented art.”).

2. *Hosp. Auth. of Metro. Gov’t of Nashville v. Momenta Pharms., Inc.*, 353 F. Supp. 3d 678, 685 (M.D. Tenn. 2018) (“[Momenta], who participated in the relevant USP review panel, objected to Aventis having a patent that covered a standardized USP test, contending that the test, once adopted, should be free for anyone to use.”).

3. *Id.* Aventis withdrew its patent application in order to convince the United States Pharmacopeial Convention (“Convention”) to declare its method an industry standard; the duplicity induced the Convention into adopting the standard. *Id.*

4. *Id.* (“Amphastar . . . received FDA approval to sell generic enoxaparin on September 19, 2011. Upon approval, the FDA instructed Amphastar to use the USP compendium for enoxaparin, including Method <207>. Two days later, [Momenta] sued Amphastar in the District of Massachusetts, contending that it was essentially illegal for Amphastar to comply with Method <207> and produce generic enoxaparin because it could not do so without infringing on the 886 Patent.”) (citations omitted).

5. See *Hosp. Auth. of Metro. Gov’t of Nashville v. Momenta Pharms., Inc.*, 333 F.R.D. 390, 408 (M.D. Tenn. 2019) (noting that expert testimony originally pegged damages at \$298 million, but later revised the damages to approximately \$234 million); see also Mike Leonard, *Momenta, Sandoz Get \$120 Million Lovenox Settlement Approved*, BLOOMBERG L. (June 1, 2020, 10:26 AM), <https://news.bloomberglaw.com/corporate-governance/momenta-sandoz-get-120-million-lovenox-settlement-approved> [<https://perma.cc/3BEV-6KZ2>]. The federal antitrust claims were dismissed for lack of Article III standing due to failure to show an imminent injury. *Hosp. Auth. of Metro. Gov’t of Nashville*, 353 F. Supp. 3d at 688. The

Even when an exercise of patent rights may appear anticompetitive, a patent is generally considered a legal monopoly.⁶ Because antitrust can only condemn *unreasonable* efforts to achieve market power, the patent system grants inventors a general right to impede competition and charge high prices.⁷ While debate persists about the extent to which patent rights should permit conduct that would offend antitrust law,⁸ a patent is nevertheless considered an exception to antitrust's ban on monopolization.⁹

Given the hurdles of asserting an antitrust claim against a rightsholder, firms in the business of licensing, using, and implementing technologies have banded together to counterbalance patent

defendants would ultimately settle the remaining class action claims against them. *Hosp. Auth. of Metro. Gov't of Nashville v. Momenta Pharms., Inc.*, No. 3:15-cv-01100, 2020 WL 3053476, at *1 (M.D. Tenn. May 29, 2020). Momenta settled for \$34.8 million and Sandoz for \$85 million. Decl. of Brendan P. Glackin in Supp. of Pls.' Unopposed Mot. to Direct Notice to the Class Regarding Settlement at 23, 56, *Hosp. Auth. of Metro. Gov't of Nashville v. Momenta Pharms., Inc.*, No. 3:15-cv-01100 (M.D. Tenn. Dec. 20, 2019).

6. Note, *Limiting the Anticompetitive Prerogative of Patent Owners: Predatory Standards in Patent Licensing*, 92 YALE L.J. 831, 831 (1983).

7. See *Verizon Commc'ns Inc. v. L. Offs. of Curtis V. Trinko, LLP*, 540 U.S. 398, 407 (2004) ("The mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system. The opportunity to charge monopoly prices—at least for a short period—is what attracts 'business acumen' in the first place; it induces risk taking that produces innovation and economic growth. To safeguard the incentive to innovate, the possession of monopoly power will not be found unlawful unless it is accompanied by an element of anticompetitive *conduct*.").

8. See Kadhim Shubber, *US Regulators Face Off in Court Tussle Over Qualcomm*, FIN. TIMES (Feb. 9, 2020), <https://www.ft.com/content/adbca366-49d3-11ea-aeb3-955839e06441> [<https://perma.cc/5NF4-VYRN>].

9. See, e.g., Christ Morten & Alex Moss, *Could a Patent Get in Between You and a Covid-19 Test? Yes*, GUARDIAN (May 20, 2020, 7:00 AM), <https://www.theguardian.com/commentisfree/2020/may/20/coronavirus-patents-testing-us-senate> [<https://perma.cc/KGC9-PKSL>]. In principal part, some fear that reviewing patent practices as anticompetitive would erode innovation, while others urge that U.S. markets have become historically uncompetitive due to patent abuses. See, e.g., Emily Stewart, *America's Monopoly Problem, in One Chart*, VOX (Nov. 26, 2018, 12:00 PM), <https://www.vox.com/2018/11/26/18112651/monopoly-open-markets-institute-report-concentration> [<https://perma.cc/VAC4-3CDN>]; David Wessel, *Is Lack of Competition Strangling the U.S. Economy?*, HARV. BUS. REV., Mar.–Apr. 2018, at 106, 113; C.W., *Capitalism Is Becoming Less Competitive*, ECONOMIST (Oct. 10, 2018), <https://www.economist.com/open-future/2018/10/10/capitalism-is-becoming-less-competitive> [<https://perma.cc/ME4Y-XTLR>]; Shubber, *supra* note 8. Some lawmakers advocate for strategies to rein in patent abuses while others have proposed legislation to put patent rights further out of antitrust's reach. See Affordable Prescriptions for Patients Act, S. 1416, 116th Cong. § 3 (2019); Competition and Antitrust Law Enforcement Reform Act, S. 225, 117th Cong. § 26A(a)(1)(B)(i) (2021).

monopolies.¹⁰ Rather than individually bargaining or litigating against a rightsholder, their strategies have included boycotting patent owners and collectively negotiating against them.¹¹ This type of cooperation, they claim, mitigates predatory behaviors in hopes of fostering competition and innovation where patent abuses would otherwise undermine both goals.¹²

The issue is that, ironically, combining against a monopolist is likely per se anticompetitive, though the analysis is far from certain.¹³ Because a patent owner wields a *legal* monopoly, those who bargain against patentees risk offending antitrust law when they form a cartel to adjust prices—here, licensing fees—even if those prices were set at monopoly rates.¹⁴ In important part, when a rightsholder presses an antitrust claim against cartel members who license, implement, or use the patented technology, it renders a potentially troubling outcome: the patentee can build monopoly power as well as suppress competition and innovation with the very laws meant to ban monopolies.¹⁵ Confusing matters, though, some courts doubt whether collusion against a monopolist is illegal or seem unsure of which standard to apply, obscuring the analysis

10. See Brian J. Love, *Inter Partes Review as a Shield for Technology Purchasers: A Response to Gaia Bernstein's The Rise of the End-User in Patent Litigation*, 56 B.C. L. REV. 1075, 1094 n.59 (2015) (“A small but growing numbers of IPRs have been filed by industry groups (like the Printing Industries of America), public interest organizations (like the Electronic Frontier Foundation), and membership-based patent risk management firms (like RPX and Unified Patents). By pooling resources ex ante, these groups also help mitigate the collective action problem that arises when multiple purchasers, rather than one manufacturer, is faced with infringement allegations.”).

11. Justin R. Orr, *Patent Aggregation: Models, Harms and the Limited Role of Antitrust*, 28 BERKELEY TECH. L.J. 525, 554 (2013).

12. *Id.* at 546, 553–54 (reviewing the function of defensive aggregators); see also *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1209 (Fed. Cir. 2014) (“[Standard Essential Patents] pose two potential problems that could inhibit widespread adoption of the standard: patent hold-up and royalty stacking. Patent hold-up exists when the holder of a SEP demands excessive royalties after companies are locked into using a standard. Royalty stacking can arise when a standard implicates numerous patents, perhaps hundreds, if not thousands. If companies are forced to pay royalties to all SEP holders, the royalties will ‘stack’ on top of each other and may become excessive in the aggregate.”).

13. See, e.g., *Cascades Comput. Innovation LLC v. RPX Corp.*, No. 12-cv-011430, 2016 WL 705982, at *1 (N.D. Cal. Feb. 23, 2016) (alleging the exercise of monopsony power on behalf of patent licensees by patent holders), *aff'd*, 719 F. App'x 553 (9th Cir. 2017).

14. See generally Suresh Naidu, Eric A Posner & Glen Weyl, *Antitrust Remedies for Labor Market Power*, 132 HARV. L. REV. 536, 569–72 (explaining the antitrust rules regarding a monopsony where buyers accrue buying power).

15. See *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 217 (2014) (referencing “the monopoly granted under our patent laws”).

of “bilateral monopolies” (a situation in which the buyer and seller in a market wield monopoly power).¹⁶

However, most of the relevant federal agencies harbor no such uncertainty: they insist that collusion against a patent holder poses a “more serious risk” than abuses of patent rights.¹⁷ In a joint statement, several agencies remarked that antitrust enforcers must *increase* their protection of monopoly rights despite allegations of patent abuses.¹⁸ The Department of Justice (DOJ) has taken an especially hardline stance, asserting that it not only believes in strong patent rights free of antitrust review, but that it also intends to crack down on those who collude against patent holders.¹⁹ Remarkably, the issue of whether countervailing market power offends antitrust law has received little treatment by scholarship, despite concerns expressed by federal agencies and uncertainties in the courts.²⁰

This Article explores whether or when collusion against a patent owner violates antitrust law. Using economic and historical analyses, it argues that firms should be allowed to defend an antitrust claim by citing their rival’s monopoly power.²¹ While scholars have pled that antitrust should rein in abusive rightsholders, the problem is that no principled

16. A bilateral monopoly is when market power exists on both sides of the bargaining table. *See infra* Part II.A (explaining the likely current approach to bilateral monopolies, though confusion on the issue).

17. Makan Delrahim, Assistant Att’y Gen., Antitrust Div., U.S. Dep’t of Just., Take It to the Limit: Respecting Innovation Incentives in the Application of Antitrust Law (Nov. 10, 2017), <https://www.justice.gov/opa/speech/file/1010746/download> [<https://perma.cc/2GVU-26WW>].

18. U.S. PAT. & TRADEMARK OFF., U.S. DEP’T OF JUST. & NAT. INST. OF STANDARDS & TECH., POLICY STATEMENT ON REMEDIES FOR STANDARDS-ESSENTIAL PATENTS SUBJECT TO VOLUNTARY FRAND COMMITMENTS (Dec. 19, 2019), <https://www.uspto.gov/sites/default/files/documents/SEP%20policy%20statement%20signed.pdf> [<https://perma.cc/KQQ4-CR68>] [hereinafter JOINT POLICY STATEMENT OF USPTO, DOJ & NIST]. *See also* Makan Delrahim, Assistant Att’y Gen., U.S. Dep’t of Just., Antitrust Law and Patent Licensing in the New Wild West (Sept. 18, 2018), <https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-iam-s-patent-licensing> [<https://perma.cc/FG7Z-Y4PY>] (“I have previously spoken at length regarding why the theory and evidence of unilateral ‘hold-up’ by patent-holders does not provide an adequate basis to condemn such conduct under the antitrust laws generally.”).

19. Delrahim, *supra* note 17.

20. *See infra* notes 163–169 and accompanying text (reviewing the increasing policy saliency of bilateral monopolies in the patent context); *contra* Richard A. Epstein & Kayvan B. Noroozi, *Why Incentives for “Patent Holdout” Threaten to Dismantle FRAND, and Why It Matters*, 32 BERKLEY TECH. L.J. 1381, 1381–82 (2017) (arguing that antitrust law must condemn a cartel of licensees who hold out from licensing a holder’s patent); John B. Kirkwood, *Collusion to Control a Power Customer: Amazon, E-Books, and Antitrust Policy*, 69 U. MIAMI L. REV. 1, 5 (2014) (asking whether Amazon has priced its book so low, potentially threatening the viability of rivals, that rivals are warranted in price fixing).

21. *See infra* Part III.

method exists to determine when a rightsholder has excluded “too much” competition; without a bright line, courts have largely conceded that patent rights pose too many obstacles for antitrust review.²² However, a patent holder may ironically use the antitrust laws to impede competition and stymie innovation—the opposite of antitrust’s purpose. We rely on economic theory to assert that, since innovation may likely require monopoly rights, the best compromise occurs when market power exists on *both* sides of the table.²³ By allowing collusion against a monopolist, courts could avoid difficult line-drawing about when a rightsholder has crossed an anticompetitive threshold and also dampen the litigation costs said to plague innovative markets.²⁴ It would even preserve patent rights, as holders may still exclude competition, redress infringement claims, and demand monopoly rates using the full slate of patent remedies—just not the antitrust laws (we offer models indicating that patent rights would effectively incentivize innovation without antitrust remedies). Our analysis shows that reform is necessary, as rightsholders do, in fact, impair innovation and competition in ways unrelated to protecting technology.²⁵ Given the uncertainty of whether antitrust condemns collusion against patent holders, we make the case that removing antitrust risks from *all parties* involved in the bargaining of patent rights would enhance competition and innovation.

Collusion’s benefits, as we find, were even recognized by the Sherman Act’s drafters whose comments are critical to defining modern antitrust.²⁶ Some of the drafters asserted that collusion designed to counter a monopolist offers one of the most effective means of promoting competition.²⁷ Senator John Sherman remarked that, while antitrust should condemn collusion where the loss of competition increased prices, a cartel that *boosts competition and reduces prices* should survive review.²⁸ We also provide historical support from the labor market: Congress excluded labor from the antitrust laws so that workers could form a union—as unions were once considered a form of collusion²⁹—

22. See *infra* notes 93–97 and accompanying text.

23. See *infra* Section III.E.1.

24. See Filippo Mezzanotti, Essays in Corporate Finance 3 (Apr. 2016) (Ph.D. dissertation, Harvard University), <https://dash.harvard.edu/bitstream/handle/1/33493570/MEZZANOTTI-DISSERTATION-2016.pdf?isAllowed=y&sequence=4> [https://perma.cc/EW87-F7F9] (stating that litigation costs curb innovation).

25. See *infra* Part III.A.

26. Beginning in the 1970s, a mixture of jurists and scholars reinterpreted enforcement of the Sherman Act based on its legislative history. See *infra* Section III.E.2.

27. *Id.*

28. See *infra* notes 244–247 and accompanying text.

29. Daralyn J. Durie & Mark A. Lemley, *The Antitrust Liability of Labor Unions for Anticompetitive Litigation*, 80 CALIF. L. REV. 757, 765 (1992) (“The goals

which has allowed workers to build leverage against the dominance of large corporations, trusts, and employers without incurring antitrust liability.³⁰

A quick note about monopoly power: academics and jurists have long characterized patent rights as a limited monopoly since a patentee can charge high prices by virtue of excluding rivals.³¹ Courts had, in fact, long assumed that a patent confers market power.³² In 2006, however, the U.S. Supreme Court ruled that an antitrust plaintiff must actually show monopoly power.³³ This Article refers to patents as a limited monopoly consistently with the literature,³⁴ but know that a patent may or may not meet antitrust's technical definition. With this in mind, we show ways in which our proposal could be applied broadly or narrowly based on whether the firm or rightsholder has actually accrued market power.

This Article proceeds in four parts. Part I explores the tension between patents and antitrust. It explains that both sets of laws are meant to promote innovation but do so in opposite ways: the patent system grants the right to exclude competition, whereas antitrust law condemns exclusionary acts. This creates tension about when, if ever, antitrust law may condemn uses of patent rights when competition or innovation is suppressed. We give specific attention to owners of huge portfolios,

of the union activity . . . are generally two-fold: to raise the wages of union members and to increase union membership, which is equivalent to market share. In other words, the union seeks to monopolize the labor market.”).

30. See generally *H. A. Artists & Assocs. v. Actors' Equity Ass'n*, 451 U.S. 704, 713–14 (1981) (discussing the emergence of an antitrust exception for labor unions to promote national labor policies).

31. Market power is an express condition to offend Section 2 of the Sherman Act and an implicit requirement of many Section 1 offenses. See Gregory Day & Abbey Stemler, *Are Dark Patterns Anticompetitive?*, 72 ALA. L. REV. 1, 25 n.187 (“A section 2 violation also requires the accumulation of monopoly power or the very real chance of a monopoly arising from the strategy whereas a Section 1 offense does not officially require market power. That said, evidence of market power is often used in Section 1 litigation to demonstrate whether the restraint of trade impacted competition.”) (citation omitted).

32. See, e.g., *Indep. Ink, Inc. v. Ill. Tool Works, Inc.*, 396 F.3d 1342, 1348 (Fed. Cir. 2005) (stating that market power is presumed due to the plaintiff's patent rights).

33. *Ill. Tool Works Inc. v. Indep. Ink, Inc.*, 547 U.S. 28, 44–45 (2006) (“[T]he vast majority of academic literature recognizes that a patent does not necessarily confer market power. Similarly, while price discrimination may provide evidence of market power, particularly if buttressed by evidence that the patentee has charged an above-market price for the tied package, it is generally recognized that it also occurs in fully competitive markets. We are not persuaded that the combination of these two factors should give rise to a presumption of market power when neither is sufficient to do so standing alone.”) (citations omitted).

34. See, e.g., Simone A. Rose, *Patent “Monopolyphobia”: A Means of Extinguishing the Fountainhead?*, 49 CASE. W. RESV. L. REV. 509, 524 (1999).

breaches of public licensing commitments (known as FRAND agreements), troll behaviors, and others. Part II explores the self-help remedies used by licensees to mitigate inefficient, or even abusive, licensing regimes imposed by patentees. Part III asserts that licensees should be able to collude against rightsholders. To make this case, our analysis suggests that certain patent strategies inhibit innovation and competition by introducing inefficiencies into patent licensing. However, we propose that antitrust enforcement is not the answer. Not only should antitrust courts resist condemning these patent holders, but they should also, in the same vein, insulate firms that collectively demand equitable license terms. We find evidence supporting our approach in the Sherman Act's legislative history and other historical examples. In this sense, antitrust law should recognize monopoly power as a defense. Part IV discusses the implications of these findings.

I. PATENT AND ANTITRUST LAWS IN CONFLICT

Antitrust plays a prominent yet controversial role in innovative markets. The issue is that antitrust and patent laws are both meant to promote innovation, but do so in conflicting ways: while the patent system grants the right to exclude competition, antitrust law condemns exclusionary behavior. Debate has predictably emerged about when the exploitation of patent rights may offend antitrust law, creating a murky and litigious landscape in which to invent. This Part (A) explores antitrust law in the specter of patent rights, (B) surveys specific allegations of patent abuses under antitrust's framework, and then (C) discusses how this issue is actually emblematic of a greater schism in antitrust law.

A. *The Competing Frameworks of Patent and Antitrust Law*

Courts have struggled to determine when, if ever, patent strategies may constitute an antitrust offense. In hopes of harmonizing patent and antitrust laws, the general rule is that a patent grants a zone of antitrust immunity, though questions persist about the scenarios in which a rightsholder has exceeded their patent's scope.³⁵ Consider the competing functions of patent and antitrust laws.

1. PATENT LAW, EXCLUSION, AND INNOVATION

The patent system is meant to promote innovation by granting twenty years of exclusive rights.³⁶ Experts have long thought that society

35. See, e.g., Herbert Hovenkamp, *Antitrust and the Patent System: A Reexamination*, 76 OHIO ST. L.J. 467, 487 (2015).

36. 35 U.S.C. § 154.

would lack incentives to create if third parties could copy and sell an inventor's device without incurring the costs of creation.³⁷ To avoid this outcome, a patent confers exclusive rights, allowing the patent holder to charge monopoly prices (to the degree that consumers are willing to pay high prices).³⁸ If a party employs another's patented technology without acquiring a license, the patent owner may recover damages and seek injunctive relief, estopping the infringer from using the device altogether.³⁹ Because patent law lacks a general defense of innocent or accidental infringement, firms must exercise significant caution in creating, employing, and selling technology.⁴⁰

Since a patent embodies "the right to exclude," it may come as little surprise that the system impedes degrees of competition.⁴¹ This has generated allegations that some patentees have sought to erect barriers to competition rather than to protect original technology.⁴² If patent owners undermine enough competition and innovation, critics contend that the abuse of patent rights should, at some point, constitute an antitrust offense.⁴³ But antitrust's application to such innovation has so far posed a host of practical and theoretical problems.

37. Richard S. Gruner, *Better Living Through Software: Promoting Information Processing Advances Through Patent Incentives*, 74 ST. JOHN'S L. REV. 977, 1001 (2000) ("Without the promise of patent protections and controls over the use of their inventions, innovators might fear appropriation of their efforts by 'free riders.' That is, innovators might fear that, once their innovations were made public, other parties might simply adopt the innovations without compensating the innovators. Allowing innovators to bear the costs of innovation while 'free riders' reap the benefits may cause potential innovators to forgo product and service innovation and focus their efforts on other activities with a greater possibility of a positive personal reward.").

38. See Amelia S. Rinehart, *Patents as Escalators*, 14 VAND. J. ENT. & TECH. L. 81, 87–88 (2011) (explaining the result of monopoly profits).

39. *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 393–94 (2006) (explaining when the issuing of an injunction blocking the use of patented technology is proper).

40. *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1366 (Fed. Cir. 2017) ("Although patent infringement is a strict liability tort, a patentee who sells or permits the sale of unmarked, patented articles misleads others into believing they are free to make and sell an article actually covered by patent. Marking helps reduce innocent infringement by notifying the public that the article is patented.").

41. *Meehan v. PPG Indus., Inc.*, 802 F.2d 881, 883 (7th Cir. 1986).

42. Gregory R. Day & W. Michael Schuster, *Patent Inequality*, 71 ALA. L. REV. 115, 117–18 (2019).

43. See, e.g., Kyle R. Kroll, *Anticompetitive Until Proven Innocent: An Antitrust Proposal to Embargo Covert Patent Privateering Against Small Businesses*, 100 MINN. L. REV. 2167, 2170–71 (2016).

2. ANTITRUST LAW IN THE SHADOW OF PATENTS

Antitrust has struggled where it collides with patent law. To resolve this tension, courts have sought to draw clear lines about when patent owners can legally exclude competition or, in the alternative, when antitrust law may condemn exclusionary acts. The key to defining antitrust's scope stems from the historical difficulties of identifying anticompetitive conduct regardless of patent rights.

Uncertainty has long prevailed over the types of practices that antitrust law bans. This is due to the broad text of the Sherman Antitrust Act (Sherman Act) which facially forbids vast swaths of acceptable activity.⁴⁴ Section 1 bans every trade restraint, as in “[e]very contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce,”⁴⁵ while Section 2 makes it illegal to “monopolize, or attempt to monopolize . . . any part of the trade or commerce.”⁴⁶ The courts, in turn, have struggled to identify when the elimination of firms was due to anticompetitive practices or valid competition.⁴⁷

To resolve confusion, courts in the 1970s leaned on scholarship (notably, the “Chicago School”⁴⁸) to reinterpret and narrow antitrust law into its modern form: the “consumer welfare prescription.”⁴⁹ The movement's leaders asserted that antitrust's sole purpose is to foster

44. See Joshua D. Wright, *The Antitrust/Consumer Protection Paradox: Two Policies at War with Each Other*, 121 YALE L.J. 2216, 2233–34 (2012) (asserting that problematic inconsistencies had historically plagued antitrust enforcement).

45. 15 U.S.C. § 1.

46. 15 U.S.C. § 2 (emphasis added).

47. See Gregory Day & Abbey Stemler, *Infracompetitive Privacy*, 105 IOWA L. REV. 61, 86–87 (2019) (“This was predictable considering the difficulties of enforcing antitrust; since competition should destroy inefficient firms, the courts struggled to differentiate shrewd business practices from anticompetitive conduct.”) (emphasis omitted).

48. See generally Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 U. PA. L. REV. 925, 926 (1979) (reviewing the “Chicago School” and the “Harvard School”); George L. Priest, *Bork's Strategy and the Influence of the Chicago School on Modern Antitrust Law*, 57 J.L. & ECON. S1, S1 (2014); Konstantinos Stylianou, *Can Common Business Practices Ever Be Anticompetitive? Redefining Monopolization*, 57 AM. BUS. L.J. 169, 190 (2020) (discussing the rise of the Chicago School).

49. *Reiter v. Sonotone Corp.*, 442 U.S. 330, 343 (1979) (citing Robert Bork of the Chicago School for the proposition that antitrust was originally intended to be a “consumer welfare prescription” (quoting ROBERT BORK, *THE ANTITRUST PARADOX* 66 (1978)); see also Alan Devlin, *Antitrust in an Era of Market Failure*, 33 HARV. J.L. & PUB. POL'Y 557, 571–72 (2010) (“It is clear that the Chicago School succeeded in convincing the Supreme Court of a number of issues. Ultimately, the Court accepted Robert Bork's contention that the Sherman Act serves as a ‘consumer welfare prescription.’ This statement had the great benefit of pushing the importance of price effects toward the fore of antitrust analysis and served as the bedrock of several revolutionary decisions that overruled prior cases.”).

competition for the benefit of consumers.⁵⁰ Because consumers are primarily concerned about prices, quality, and innovation, modern antitrust may only condemn exclusionary practices that raised prices, diminished quality, eroded innovation, or rendered similar effects in a defined market.⁵¹ To violate antitrust law, the reduction of competition must derive from an exclusionary act rather than the innovation of superior goods or other legitimate means.⁵²

Since the patent system grants the legal right to exclude competition,⁵³ the consensus is that patent owners enjoy antitrust immunity so long as they act within their patent's scope.⁵⁴ Examples of where a rightsholder exceeds its patent and thereby offends antitrust law include the tying of a non-patented item with a patented good (which extends one's patent to the non-patented item)⁵⁵ and sham infringement litigation.⁵⁶ However, when a rightsholder refuses to license a patent or charges fortunes to do so, courts have largely characterized these acts as squarely within one's exclusive rights.⁵⁷ The principle is that a patent owner—or anyone else—owes no duty to help their rival.⁵⁸

50. See, e.g., *Levine v. Cent. Fla. Med. Affiliates, Inc.*, 72 F.3d 1538, 1551 (11th Cir. 1996) (“The antitrust laws are intended to protect competition, not competitors.”).

51. Joshua D. Wright, Elyse Dorsey, Jonathan Klick & Jan M. Rybnicek, *Requiem for a Paradox: The Dubious Rise and Inevitable Fall of Hipster Antitrust*, 51 ARIZ. ST. L.J. 293, 304–05 (2019) (“[B]oth economists and courts ultimately settled upon the same basic premise that antitrust laws are designed to promote consumer welfare. The antitrust revolution sparked debates that forced scholars and courts to reexamine first principles and to articulate why, in the first instance, we would want to preserve competition. The principled answer that emerged was competition’s ability to lower prices, increase output, enhance quality and innovation—that is, to achieve consumer benefits.”).

52. See *United States v. Microsoft Corp.*, 253 F.3d 34, 58 (D.C. Cir. 2001) (explaining that an antitrust offense requires types of exclusionary behavior rather than valid forms of competition).

53. See, e.g., *F.T.C. v. Watson Pharms., Inc.*, 677 F.3d 1298, 1312 (11th Cir. 2012) (explaining that excluding competition via a patent is not exclusionary unless one exceeds the scope of the patent).

54. *Id.*; *Glass Equip. Dev., Inc. v. Besten, Inc.*, 174 F.3d 1337, 1343 (Fed. Cir. 1999) (“A patent owner who brings a lawsuit to enforce the statutory right to exclude others from making, using or selling the claimed invention is exempt from the antitrust laws, even though such a suit may have an anticompetitive effect . . .”).

55. See, e.g., *Ill. Tool Works Inc. v. Indep. Ink, Inc.*, 547 U.S. 28, 31 (2006) (analyzing patent tying under an antitrust analysis).

56. See, e.g., *F.T.C. v. AbbVie Inc.*, 329 F. Supp. 3d 98, 117 (E.D. Pa. 2018) (explaining sham litigation in the antitrust and patent context).

57. See Herbert Hovenkamp, *Antitrust and the Movement of Technology*, 19 GEO. MASON L. REV. 1119, 1141 (2012) (“As a general proposition, the owner of a patent or copyright has no duty to license it to a rival or anyone else.”).

58. *Id.*

Also informing this rule, antitrust enforcement might threaten innovation. A theory is that firms would tepidly invest in research and development (R&D) if they feared exercising their right to exclude.⁵⁹ Along the same lines, it is thought that courts are ill-equipped to identify whether an act of innovation was meant to produce a superior good or, instead, suppress competition.⁶⁰ Thus, for practical and policy reasons, the exploitation of patent rights has not typically been considered an exclusionary act. Undeterred, plaintiffs have sought to impose antitrust liability on patent holders under an array of theories, as explained next.

B. Alleged Patent Abuses Under the Antitrust Law

Patent holders have pioneered novel ways of excluding competition, inspiring courts, scholars, and federal agencies to debate when the abuse of patent rights should violate antitrust law. Specific areas of contention involve when, if ever, large holdings, burdensome litigation, breached commitments to license on fair and reasonable terms, and troll behaviors are anticompetitive.⁶¹

1. ABUSIVE PATENT LITIGATION

Antitrust courts and scholars have wrestled with abusive patent litigation as a strategy or even as a business model.⁶² A core feature of patent litigation is its costliness: the average price to defend, let alone *win*, an infringement lawsuit exceeds \$3 million.⁶³ With this in mind, some rightsholders have threatened active inventors with repeated claims of infringement to extract settlements or even drive competitors out of the market.⁶⁴ The targets of this “extortionary” litigation have responded

59. Jonathan B. Baker, *Evaluating Appropriability Defenses for the Exclusionary Conduct of Dominant Firms in Innovative Industries*, 80 ANTITRUST L.J. 431, 434–35 (2016).

60. Clark C. Havighurst & Peter M. Brody, *Accrediting and the Sherman Act*, 57 L. & CONTEMP. PROBS. 199, 225 (1994).

61. *See, e.g., Star, SA v. Demandware, Inc.*, No. 15-80098-CIV, 2015 WL 11438495, at *3 (S.D. Fla. July 6, 2015) (alleging anticompetitive conduct on behalf of NPE with respect its patenting strategy).

62. *See* David Wanetick, *How Sun Tzu Would Outflank Patent Trolls*, 30 LICENSING J. 20 (2010).

63. Gregory Day & Steven Udick, *Patent Law and the Emigration of Innovation*, 94 WASH. L. REV. 119, 125 (2019) (explaining the cost of patent litigation averages around \$3.5 million).

64. *See Overstock.com, Inc. v. Furnace Brook, LLC*, 420 F. Supp. 2d 1217, 1218 (D. Utah 2005) (describing a “patent troll,” a person “who tries to make a lot of money off a patent that they are not practicing and have no intention of practicing and . . . [have] never practiced”) (alterations in original) (citing Elizabeth D. Ferrill, *Patent*

with antitrust counterclaims, though their efforts have routinely failed so long as some merit underlies the initial infringement lawsuit.⁶⁵ Even when a patent owner appears to have initiated a bad-faith claim, courts have generally asserted that litigation is one's right rather than anticompetitive behavior.⁶⁶

Note that this discourse has often emphasized the patent assertion entity (PAE), also known as a non-practicing entity or patent troll.⁶⁷ Rather than innovating or making products, PAEs are shell corporations which acquire patents from third parties to assert against market participants.⁶⁸ According to critics, PAEs undermine competition and innovation by forcing firms to spend resources on needless licenses and wasteful litigation without generating the patent system's intended benefit of innovation, as they do not invent or practice any technology.⁶⁹

In a central piece, Mark Lemley and Douglas Melamed added nuance to this discourse by highlighting the disparate strategies employed by these trolls.⁷⁰ The traditional model involves a plaintiff who, in asserting multitudes of claims, hopes to stumble upon a valid and infringed patent, resulting in a substantial jury award against one or more large firms.⁷¹ A second form cares less about patent validity or infringement, but rather relies on the costs of litigation to secure nuisance-value settlements from parties for whom a small payment is preferable to litigation.⁷² The third iteration—the mass aggregator—

Investment Trusts: Let's Build a PIT to Catch the Patent Trolls, 6 N.C. J.L. & TECH., 376, 376 (2005), *aff'd*, 191 F. App'x 959 (Fed. Cir. 2006)).

65. See, e.g., *In re Wellbutrin XL Antitrust Litig. Indirect Purchaser Class*, 868 F.3d 132, 149 (3d Cir. 2017) (finding that the lawsuit was not a sham and thus no antitrust violation was committed).

66. *Id.*

67. *HTC Corp. v. Tech. Props. Ltd.*, No. 08-cv-00882, 2013 WL 4782598, at *4 (N.D. Cal. Sept. 6, 2013).

68. See generally Christopher B. Seaman, *Permanent Injunctions in Patent Litigation After eBay: An Empirical Study*, 101 IOWA L. REV. 1949 (2016) (explaining the patent troll).

69. See, e.g., Megan M. La Belle, *The Local Rules of Patent Procedure*, 47 ARIZ. ST. L.J. 63, 63 (2015) ("Over the past two years, Congress proposed nearly a dozen bills aimed at curbing patent litigation abuse"); Mohamed Elfarra, *Intersection of American Law and Technology: The Innovation Act's Fight Against Patent Trolls*, B.C. INTELL. PROP. & TECH. F. 1, 1 (2015); see also Dana M. Muir, David Baumer, Stephanie Greene, Gideon Mark & Robert E. Thomas, *Justice Sotomayor on the Supreme Court: A Boon for Business?*, 4 VA. L. & BUS. REV. 187, 228 (2009) (noting that patent law has recently been "the subject of severe criticism and reform efforts").

70. Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV. 2117, 2126–27 (2013); see also John R. Allison, Mark A. Lemley & Joshua Walker, *Extreme Value or Trolls on Top? The Characteristics of the Most-Litigated Patents*, 158 U. PA. L. REV. 1, 10 tbl.1 (2009).

71. Lemley & Melamed, *supra* note 70, at 2126.

72. *Id.*

focuses on maximizing portfolio size, again caring little about patent quality.⁷³ It offers licenses to its portfolio and repeatedly sues those who refuse to deal.⁷⁴ Given the costs of inspecting large holdings, most firms find it cheaper to settle claims than to fight them.⁷⁵ And even if a defendant defeats the initial lawsuit, PAEs will simply sue again by asserting another group of patents.⁷⁶

Note that, like NPEs, practicing firms have found similar ways of taxing innovation. Active rightsholders—as opposed to trolls that practice no technology—have outsourced nuisance litigation to “privateers” who license portfolios for the sole purpose of extracting rents from competitors.⁷⁷

Despite the harms of nuisance litigation, courts have struggled to identify anticompetitive behaviors.⁷⁸ Take *Intellectual Ventures I LLC v. Capital One Financial Corp.*⁷⁹ Intellectual Ventures (IV) is a PAE which, after acquiring over 3,500 patents reading on financial services, alleged infringement against Capital One, who counterclaimed with an antitrust suit.⁸⁰ According to Capital One, IV “conceal[s] the identity of its patents” and then, by threat of “repetitive” lawsuits, forces banks like Capital One to license IV’s entire portfolio.⁸¹ Since much of the portfolio

73. *Id.* at 2126–27.

74. *Id.*

75. Day & Udick, *supra* note 63, at 125 (explaining the cost of patent litigation averages around \$3.5 million).

76. *See, e.g., PNY Techs., Inc. v. SanDisk Corp.*, No. C-11-04689, 2012 WL 1380271, at *2 (N.D. Cal. Apr. 20, 2012) (“PNY alleges that SanDisk uses the specter of expensive and endless patent infringement litigation to coerce its competitors into signing (under the guise of a settlement) its uniform, nonnegotiable license, which gives SanDisk control over the pricing of flash memory technology and products sold to its competitors and, ultimately, to consumers.”).

77. *See* Robert G. Harris, *Patent Assertion Entities & Privateers: Economic Harms to Innovation and Competition*, 59 ANTITRUST BULL. 281, 323 (2014); James E. Bessen, Jennifer Ford & Michael J. Meurer, *The Private and Social Costs of Patent Trolls*, 34 REGUL. 4, Winter 2011–12, at 26, 26.

78. *Star, SA v. Demandware, Inc.*, No. 15-80098-CIV, 2015 WL 11438495, at *3 (S.D. Fla. July 6, 2015) (“Defendant pleads that Plaintiffs conspired together to engage in a concerted effort to delay and prevent competition in the relevant market The Counterclaim alleges that Plaintiffs formed an agreement to threaten companies into either settling or, if the companies refused to settle, filing meritless lawsuits. The Court finds that these allegations are sufficient to establish that the suit is objectively baseless and was filed with the subjective motivation to interfere directly with the business relationship of a competitor.”) (internal citations omitted).

79. 937 F.3d 1359 (Fed. Cir. 2019).

80. *Id.* at 1363.

81. *Id.* (“Capital One alleged in the Virginia case that IV, which is principally engaged in the business of acquiring patents and asserting them in litigation, had acquired a huge patent portfolio, including approximately 3,500 patents relating to commercial banking practices. According to Capital One, IV’s business model was to attempt to

is “invalid, unenforceable, and not infringed,” Capital One alleged that IV’s strategy “is not based on the licensing of valuable patent rights, but rather on the threat of asserting thousands of patents in a never-ending series of costly and disruptive patent infringement lawsuits—pummeling its victims into submission.”⁸²

Notwithstanding the force of Capital One’s claim, the U.S. Circuit Court of Appeals for the Federal Circuit determined, first, that Capital One failed to allege a relevant market (as the asserted patents were largely irrelevant); and second, that IV had not excluded more competition than its patents permitted.⁸³ Even though the court criticized IV’s practices, it denounced antitrust’s intervention as ill-equipped to remedy such a grievance.⁸⁴

As for the agencies’ approach to trolls, the Federal Trade Commission (FTC) proposed reforming the rules of civil procedure as well as the process by which courts dismiss infringement claims but notably—as an antitrust agency—did not advocate for increased enforcement.⁸⁵ Similar problems arise when firms hoard low-value patents in order to raise the costs of inventing around one’s portfolio.

obtain large licensing fees from banks by threatening them with repetitive patent infringement suits.”).

82. *Id.* (“Nonetheless, according to Capital One, IV sought to obtain licensing fees based on the large size of its patent portfolio and its willingness to pursue target banks, including Capital One, through serial lawsuits, imposing huge costs on the banks to defend the lawsuits.”).

83. *Id.* at 1370, 1372. *See also Intell. Ventures I LLC v. Cap. One Fin. Corp.*, No. 13-cv-00740, 2013 WL 6682981, at *6 (E.D. Va. Dec. 18, 2013) (“Capital One does not allege IV’s share of that market, and it purports to rely exclusively on what it characterizes as ‘direct evidence’ of market power, namely ‘supracompetitive prices and restricted output.’ But, again, Capital One provides nothing other than conclusory allegations that IV has demanded and received ‘supracompetitive prices.’”) (internal citation omitted).

84. *Cap. One*, 937 F.3d at 1365; *see also Intell. Ventures*, 2013 WL 6682981, at *6–8 (“Presumably, under Capital One’s theory of monopolization, supracompetitive license fees may be obtained by patent holders so long as they are not induced by threats of ‘endless litigation.’ But, Capital One does not explain, and the Court does not understand, how threats of litigation to enforce presumably valid patents can render unlawful license fees that would otherwise be lawful. . . . [T]he antitrust laws appear ill suited as a remedy for what Capital One fears, and relief for any such liability would more likely come through various doctrines of tort liability, statutory fees or judicial sanctions.”) (internal citations omitted).

85. FED. TRADE COMM’N, PATENT ASSERTION ENTITY ACTIVITY 8–14 (2016), https://www.ftc.gov/system/files/documents/reports/patent-assertion-entity-activity-ftc-study/p131203_patent_assertion_entity_activity_an_ftc_study_0.pdf [<https://perma.cc/UEC5-DA6T>].

2. LARGE PORTFOLIOS AND PATENT THICKETS

Firms have allegedly sought to undermine competition by building large portfolios of invalid and low-value patents, exhibiting little desire to protect original technology. Given the difficulty of inspecting thousands of patents, and the millions of dollars needed to defend an infringement claim, the strategy is said to compel firms to license portfolios of unneeded patents in order to enter a market.⁸⁶ When holdings of low-value patents suppress competition, this can arguably exceed the scope of one's portfolio—but again, this rarely, if ever, violates antitrust law.

To explain the incentives and effects of vast holdings, a seminal article asserted that the value of an individual patent is typically *negative*, though patenting offers “true value” in the aggregation of many related patents within a portfolio.⁸⁷ More recently, Freilich explored “patent shoppers”—potential litigants with access to many patents relating to disparate inventions—who can select the perfect patent from their cache to target deep pockets, widespread infringers, or other high-value targets.⁸⁸ Moving to the consequences, we have previously found that large portfolios correlate with reduced R&D spending.⁸⁹ This did not impact all parties the same; firms holding disproportionately more patents continue to innovate while smaller firms reduce R&D, inhibiting less powerful inventors.⁹⁰ Bronwyn Hall, Christian Helmers, and Georg von Graevenitz uncovered similar effects of a “patent thicket”—i.e., an industry saturated with overlapping patents⁹¹—as it can discourage firms from even entering the market.⁹²

86. Incumbent firms that already hold many relevant patents, in contrast, can engage in cross-licensing and avoid burdensome licensing costs. *Tex. Instruments, Inc. v. Hyundai Elecs. Indus., Co.*, 49 F. Supp. 2d 893, 901 (E.D. Tex. 1999).

87. Gideon Parchomovsky & R. Polk Wagner, *Patent Portfolios*, 154 U. PA. L. REV. 1, 5–6, 27 (2005) (“[T]he real value of patents lies not in their individual significance, but instead in their aggregation [of] . . . a strategic collection of distinct-but-related individual patents . . .”). The authors found that a portfolio can cover many features of a technology which decreases risks associated with reliance on any one patent. This “quantity over quality” theory explains why firms accrue low-value patents, spending less capital per patent granted (given the relatively cheaper cost of low-value patents). *Id.*

88. Janet Freilich, *Patent Shopping*, 10 U.C. IRVINE L. REV. 619, 622–23 (2020).

89. *See, e.g.*, Day & Schuster, *supra* note 42, at 150 (detailing how large holdings of patents can negatively influence research expenditures).

90. *Id.*

91. W. Michael Schuster, *Artificial Intelligence and Patent Ownership*, 75 WASH. & LEE L. REV. 1945, 2002 n.317 (2018); Daniel R. Cahoy, *Inverse Enclosure: Abdicating the Green Technology Landscape*, 49 AM. BUS. L.J. 805, 819 (2012).

92. Bronwyn H. Hall, Christian Helmers & Georg von Graevenitz, *Technology Entry in the Presence of Patent Thickets* 2–3, 20–21 (Jan. 2017),

Even though vast holdings may suppress competition, courts have struggled to identify an antitrust offense. Consider the lawsuit against SanDisk Corporation.⁹³ PNY alleged that SanDisk, by virtue of compiling an extensive portfolio reading of flash memory technology, forced parties up and down the supply chain to license its portfolio, receiving multiple royalties for the same patents per each product sold—even in countries where SanDisk lacks patent rights.⁹⁴ According to PNY, this has caused firms to exit the market and thereby raise prices.⁹⁵ Nevertheless, the court held that any exclusionary effect was derived from SanDisk’s patents, which provide the right to impede competition.⁹⁶ While each of SanDisk’s practices might have—or did—frustrate competition, none were *anticompetitive*.⁹⁷

Other courts and agencies have similarly detailed the improvidence of condemning rightsholders for accruing low-value patents.⁹⁸ One

https://eml.berkeley.edu/~bhhall/papers/HHvG_Jan17.pdf [<https://perma.cc/29SF-39QN>] (“[P]atent thickets significantly reduce entry into those technology areas in which growing complexity and growing opportunity increase the underlying demand for patent protection.”).

93. *PNY Techs., Inc. v. SanDisk Corp.*, No. C-11-04689, 2012 WL 1380271, at *1 (N.D. Cal. Apr. 20, 2012).

94. *Id.* at *2 (alleging that market participants must “(1) pay multiple royalties on the same product as it is sold downstream, once when the flash memory device is sold by one of SanDisk’s flash memory device manufacturer licensees, and again (after SanDisk’s patent rights have been exhausted) after the flash memory device is incorporated into a ‘system’ or ‘product’ and sold by an aggregator such as PNY[; and] (2) pay a royalty on worldwide sales (including sales in countries where SanDisk does not have any patent rights)”).

95. *Id.* at *3.

96. *Id.* at *11, *13 (“An overarching inadequacy with PNY’s Complaint is its failure to distinguish factual allegations regarding the alleged antitrust violations without distinguishing between and among the various markets and causes of action. The Complaint admits that SanDisk’s monopoly in the flash memory technology market is a consequence of the patent laws. The Complaint is devoid of any allegations of ‘willful acquisition’ of this monopoly. Further, while PNY alleges ‘anticompetitive conduct’ generally, it fails to relate that conduct to the maintenance of SanDisk’s legally obtained monopoly of the patented technology.”) (citations omitted).

97. *See, e.g., id.* at *12 (“While it is possible that, as PNY alleges, the grant-back provision is part of an overall scheme by SanDisk to maintain control of a patent monopoly in the flash memory technology market, PNY does not allege facts to show that the grant-back provision is anticompetitive.”).

98. *See id.* at *13 (“The ‘injury’ alleged here arises out of the payment of royalties to practice SanDisk’s patents. SanDisk argues that this is not antitrust injury because all of PNY’s alleged harm flows from the terms of the contract into which it voluntarily entered. Because PNY has not adequately pled that it entered into the unfavorable license with SanDisk as a result of anticompetitive conduct, or how exactly it has suffered antitrust injury based upon the terms of the contract, it cannot rely upon its performance of the terms of that contract to establish causal antitrust injury.”) (footnote omitted); *Intell. Ventures I LLC v. Toshiba Corp.*, No. 13-453, 2015 WL 1476708, at *2 (D. Del. Mar. 20, 2015); *SanDisk Corp. v. Kingston Tech. Co.*, 863 F. Supp. 2d 815, 825 (W.D. Wis. 2012).

district judge noted that no test can adequately identify whether the collection of patents should be considered illegal or “how many such ‘invalid’ patents it takes to tip the balance between a legal and an illegal business practice.”⁹⁹

As for the Department of Justice, the agency supports the shielding of patents from antitrust review, describing its approach as “New Madisonian” in reference to James Madison’s belief in strong patent rights.¹⁰⁰ In fact, the agency has specifically opposed applying antitrust laws to owners of large portfolios. For example, it urged the U.S. District Court of Northern California to dismiss Apple’s lawsuit against such a holder, asserting that antitrust should defer to patent law.¹⁰¹ Similar problems exist in the licensing of essential patents.

3. FRAND LICENSING DISPUTES

Critics contend that some rightsholders use standard setting to “extort” supracompetitive profits, despite agreeing to license essential patents on fair and reasonable terms.¹⁰² As background, standard setting organizations (SSOs) recognize that firms would struggle to produce complex technologies unless they agreed on industry standards.¹⁰³ In the typical SSO, stakeholders recommend a single set of technical specifications to ensure interoperability among systems and devices.¹⁰⁴ For example, the European Telecommunications Standards Institute provides uniform requirements to make goods using 2G, 3G, and 4G telecommunications.¹⁰⁵ If the selected standard includes patented technologies, firms must typically license the “standard essential patents” (essential patents or SEPs) from the patentee to compete in the market.¹⁰⁶

99. *Toshiba Corp.*, 2015 WL 1476708, at *2 (“[I]n the given context of a 3,700+ patent portfolio, I conclude that there is no reasonable way to determine how many of such patents are invalid”); see also Erik Hovenkamp, *Antitrust Law and Patent Settlement Design*, 32 HARV. J.L. & TECH. 417, 418 (2019) (noting the difficulty of determining whether a patent is actually invalid or infringed).

100. Delrahim, *supra* note 18.

101. Jan Wolfe, *DOJ Backs Prolific Patent Litigant in Antitrust Fight with Apple*, REUTERS (Mar. 23, 2020, 7:42 PM), <https://www.reuters.com/article/ip-patent-uniloc/doj-backs-prolific-patent-litigant-in-antitrust-fight-with-apple-idUSL1N2BH01W> [<https://perma.cc/AD96-9PD5>].

102. *Golden Bridge Tech. v. Apple Inc.*, No. 12-cv-04882, 2014 WL 2194501, at *4 (N.D. Cal. May 18, 2014) (reviewing a case where the plaintiff alleged a firm breached its FRAND commitment to “extort” licensees).

103. *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1208 (Fed. Cir. 2014).

104. Mauricio A. Uribe, *What’s the Holdup in Establishing a RAND Framework?*, 6 LANDSLIDE, Nov./Dec. 2013, at 46.

105. *TCL Comm’n Tech. Holdings, Ltd. v. Telefonaktiebolaget LM Ericsson*, SA CV 14-00341, 2015 WL 12805150, at *1 (C.D. Cal. Feb. 23, 2015).

106. *Ericsson, Inc.*, 773 F.3d at 1209.

The essential patent system may, though, incentivize “holdups,” which SSOs seek to mitigate via contract. Since redesigning a device to exclude essential technology is typically costly—if possible at all—rightsholders may refuse to license essential patents in order to charge extortionary rates; licensing firms, after all, need the technology.¹⁰⁷ To prevent holdups, SSOs select patents on condition that the rightsholder will license them on fair, reasonable, and nondiscriminatory (FRAND) terms.¹⁰⁸ In the event of infringement, most SSOs require the patentee to seek a reasonable royalty rather than injunctive relief.¹⁰⁹ This ensures the availability of technology while still allowing patentees to profit off their inventions.¹¹⁰ Contract law governs the patentee’s FRAND commitment to the SSO with licensees acting as third-party beneficiaries.¹¹¹ When done properly, FRAND agreements should promote competition and innovation.¹¹²

Notwithstanding these safeguards, abusive behaviors may arise.¹¹³ Patentees have unsurprisingly sought fees on the high end of “fair” and beyond.¹¹⁴ And if a patent owner receives an injunction to block usage of essential technology, despite agreeing not to do so, few avenues allow competitors to produce a compatible device.¹¹⁵ In fact, some rightsholders have allegedly tricked SSOs into declaring their patents

107. *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 313–14 (3d Cir. 2007); Peter J. Levitas, Sonia Kuester Pfaffenroth & Matthew Tabas, *Joint Statement with PTO and NIST on FRAND Injunctions Clarifies DOJ’s Position on SEP-Infringement Relief*, 32 INTELL. PROP. & TECH. L.J. 12, 12 (2020) (“[A]fter a patent is chosen as part of a standard, the patent holder gains the ability to engage in ‘hold up’ by charging more for the license than would have been charged prior to the patent being designated as an SEP.”).

108. THOMAS F. COTTER, *PATENT WARS: HOW PATENTS IMPACT OUR DAILY LIVES* 230–31 (2018).

109. Robert D. Cooter & Uri Y. Hacothen, *Progress in the Useful Arts: Foundations of Patent Law in Growth Economics*, 22 YALE J.L. & TECH. 191, 247 (2020).

110. Eli Greenbaum, *No Forum to Rule Them All: Comity and Conflict in Transnational FRAND Disputes*, 94 WASH. L. REV. 1085, 1089–90 (2019).

111. COTTER, *supra* note 108, at 230–31; Bowman Heiden & Nicolas Petit, *Patent “Trespass” and the Royalty Gap: Exploring the Nature and Impact of Patent Holdout*, 34 SANTA CLARA HIGH TECH. L.J. 179, 200 n.100 (2017); *Microsoft Corp. v. Motorola, Inc.*, 696 F.3d 872, 884–85 (9th Cir. 2012).

112. See generally Daryl Lim, *Standard Essential Patents, Trolls, and the Smartphone Wars: Triangulating the End Game*, 119 PENN ST. L. REV. 1, 3–5, 72–78 (2014) (have authors add explanatory parenthetical).

113. King Fung Tsang & Jyh-An Lee, *Unfriendly Choice of Law in FRAND*, 59 VA. J. INT’L L. 220, 225–27 (2019).

114. See Thomas F. Cotter, *Comparative Law and Economics of Standard-Essential Patents and FRAND Royalties*, 22 TEX. INTELL. PROP. L.J. 311, 311–13, 316–18 (2014).

115. William F. Lee & A. Douglas Melamed, *Breaking the Vicious Cycle of Patent Damages*, 101 CORNELL L. REV. 385, 398–99, 434–37 (2016).

essential—never intending to honor any FRAND commitment—in order to reap even greater hold up profits.¹¹⁶

As such, FRAND litigation is one of the most contentious areas of antitrust.¹¹⁷ While some courts initially adopted the approach that misleading an SSO is anticompetitive,¹¹⁸ other courts and scholars insist that the refusal to license is a core property right even when essential patents are involved.¹¹⁹ Today, some federal agencies like the DOJ and United States Patent and Trademark Office (USPTO) assert that antitrust should forebear from FRAND matters altogether.¹²⁰ The DOJ has rejected that antitrust law may scrutinize owners of essential patents since antitrust enforcement threatens to deprive patent owners of their deserving monopoly profits.¹²¹ The DOJ's antitrust chief, Makan Delrahim, remarked further that:

There is a growing trend supporting what I would view as a misuse of antitrust or competition law, purportedly motivated by the fear of so-called patent hold-up, to police private commitments that IP holders make in order to be considered of inclusion in a standard. This trend is troublesome. If a patent

116. *See, e.g., Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 304 (3d Cir. 2007) (“The intentional acquisition of monopoly power through deception of an SDO, Broadcom posits, violates antitrust law.”).

117. *See, e.g., Apple Inc. v. Samsung Elecs. Co.*, No. 11-CV-01846, 2011 WL 4948567, at *2 (N.D. Cal. Oct. 18, 2011) (“Apple also alleges that Samsung made a commitment to license its declared-essential patents on FRAND terms. Apple argues that these false FRAND declarations violated ETSI policy which requires an owner of an essential IPR to undertake a commitment to license on FRAND terms.”).

118. *See, e.g., Broadcom*, 501 F.3d at 313–14 (holding that deception of an SSO may violate antitrust law); *Funai Elec. Co. v. LSI Corp.*, No. 16-cv-01210, 2017 WL 1133513, at *1, *7–*9 (N.D. Cal. Mar. 27, 2017) (finding a potential antitrust violation where patent owner “lied to two different standard setting organizations . . . as part of a scheme to monopolize the markets for certain technologies”).

119. *In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d 1322, 1328 (Fed. Cir. 2000) (ruling that one’s refusal to license patents did not violate antitrust laws); *see also* Makan Delrahim, Assistant Att’y Gen., Antitrust Div., U.S. Dep’t of Just., “Telegraph Road”: Incentivizing Innovation at the Intersection of Patent and Antitrust Law, at 2–7, 12–13 (Dec. 7, 2018), <https://www.justice.gov/opa/speech/file/1117686/download> [<https://perma.cc/QCG5-BBJA>] (asserting that patent and contract law provide sufficient relief for when a patent owner breaches its FRAND commitment, suggesting that antitrust should resist enforcement).

120. Delrahim, *supra* note 17, at 3 (“I worry that we as enforcers have strayed too far in the direction of accommodating the concerns of technology *implementers* who participate in standard setting bodies, and perhaps risk undermining incentives for IP *creators*, who are entitled to an appropriate reward for developing break-through technologies.”).

121. *Id.* at 4 (“Despite the benefits SSOs confer, the regulation of the interactions and licensing practices within an SSO through the misapplication of the antitrust laws threatens to disrupt the free-market bargain, which could undermine the process of dynamic innovation itself.”).

holder violates its commitments to an SSO, the first and best line of defense, I submit, is the SSO itself and its participants. . . . If a patent holder is alleged to have violated a commitment to a standard setting organization . . . [t]here are perfectly adequate and more appropriate common law and statutory remedies available to the SSO or its members.¹²²

In fact, the DOJ has insisted that *any* “unilateral refusal to license a valid patent should be *per se* legal,” cloaking SEP owners and other patentees in antitrust immunity.¹²³ Rightsholders should even avoid antitrust liability, Delrahim pressed, upon deceiving an SSO.¹²⁴ Other agencies have reached the same conclusion. The USPTO released a joint statement with the National Institute of Standards and Technology (NIST), parroting the DOJ’s position that FRAND disputes should not implicate antitrust law.¹²⁵ These issues are, in fact, emblematic of a bigger debate about the reorganization of antitrust law and property rights.

C. The Modern Evolution of Antitrust Enforcement and Property Rights

Questions about the optimal enforcement of antitrust law in innovative markets implicate a much greater debate. The antitrust reforms inspired by the Chicago School in the 1970s are now under attack. A new generation of scholars has emerged known as Neo-Brandeisians, or even “hipster antitrust,” who criticize antitrust’s shrinking scope.¹²⁶ They assert that antitrust has long been underenforced, empowering large firms to exploit consumers, suppliers,

122. *Id.* at 7–8. “These ‘exclusive rights’ importantly and necessarily include the power to exclude. The misapplication of the antitrust laws to punish the legitimate exercise of these rights seems to undermine these policies when they require a patent holder to sacrifice these rights.” *Id.* at 6.

123. *Id.* at 8.

124. Delrahim, *supra* note 18 (“Nor should an antitrust duty spring into being if a patent holder allegedly ‘deceives’ an SSO when it commits to license on FRAND terms and its participants rely on that representation in deciding to adopt the technology. That is because Section 2 should not condemn a patent holder’s profit-maximizing intentions or aspirations at the time it makes a FRAND commitment, particularly where remedies are already available to an unhappy licensee or SSO participant.”).

125. JOINT POLICY STATEMENT OF USPTO, DOJ & NIST, *supra* note 18.

126. Jake Walter-Warner & Jonathan H. Hatch, *A Brief Overview of the “New Brandeis” School of Antitrust Law*, PATTERSON BELKNAP (Nov. 8, 2018), <https://www.pbwt.com/antitrust-update-blog/a-brief-overview-of-the-new-brandeis-school-of-antitrust-law> [<https://perma.cc/V3FG-GUUB>].

workers, and stakeholders with impunity.¹²⁷ To them, the Chicago School has disenfranchised antitrust law by tethering it to unrealistic theories of economic behavior.¹²⁸

A salient facet of this schism focuses on the exclusionary nature of patent rights. The DOJ's position that antitrust must avoid scrutinizing patent rights is a shift in theory rather than a longstanding policy.¹²⁹ By emphasizing patents as a property right and beating back calls for increased enforcement, the DOJ has reasserted the Chicago School's vision in its rejection of hipster antitrust.¹³⁰

To illustrate the centrality of patent rights in antitrust's internal feud, take the FTC's lawsuit against Qualcomm. According to the FTC, Qualcomm's FRAND commitment created an antitrust duty to deal with rivals, though the lawsuit lacked allegations of deception à la Broadcom's earlier case against Qualcomm.¹³¹ Animating the contentiousness of the FTC's case, the DOJ took several positions *in opposition of the FTC*.¹³² The DOJ has indicated that, since patents are a property right, firms like Qualcomm may generally license or not license their patents in whichever way they please.¹³³ Moreover, the DOJ and Chicago School theorists have suggested that the *real problem* arises when companies like Apple—in seeking to alter licensing rates—refuse to license SEP patents from a

127. See generally John M. Newman, *Reactionary Antitrust*, 4 COMPETITION L. REV. 66, 66–68 (2019) (explanatory parenthetical).

128. *Id.*

129. See Cecilia Kang, *How Trump's Pick for Top Antitrust Cop May Shape Competition*, N.Y. TIMES (Apr. 25, 2017), <https://www.nytimes.com/2017/04/25/technology/how-trumps-pick-for-top-antitrust-cop-may-shape-competition.html> [https://perma.cc/NTD9-CU7U] (explaining that Trump's antitrust policy might alter the Obama administration's course with respect to intellectual property rights).

130. See Daisuke Wakabayashi, *A Challenge to Big Tech and Antitrust Thinking in a Surprising Place*, N.Y. TIMES (Sept. 15, 2019), <https://www.nytimes.com/2019/09/15/technology/university-of-chicago-technology-antitrust.html> [https://perma.cc/6SPT-4AJC].

131. See *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 304 (“The Complaint alleged that Qualcomm induced the ETSI and other SDOs to include its proprietary technology in the UMTS standard by falsely agreeing to abide by the SDOs’ policies . . . but then breached those agreements by licensing its technology on non-FRAND terms.”)

132. Shubber, *supra* note 8, at 8.

133. United States’ Statement of Interest Concerning Qualcomm’s Motion for Partial Stay of Injunction Pending Appeal at 6, *FTC v. Qualcomm, Inc.*, 969 F.3d 974 (9th Cir. 2020) (No. 19-16122) (“The district court’s erroneous expansion of *Aspen Skiing* threatens to chill procompetitive conduct. Deploying antitrust law to remedy a breach of a contractual FRAND commitment can chill participation in standard-setting activity, which, to date, has been guided by the principle that ‘the antitrust laws do not negate the patentee’s right to exclude others from patent property.’”) (citation omitted).

firm like Qualcomm; here, the holdout may actually constitute the bad act.¹³⁴

Despite the emerging belief that more antitrust is warranted where patent-fueled monopolies dominate innovative markets—such as Big Pharma, Big Tech, and telecom monopolists—detractors of hipster antitrust assert that the new guard has yet to propose a principled manner in which to expand enforcement.¹³⁵ Since Neo-Brandeisians have made their point by citing specific corporations perceived to degrade consumer welfare, critics contend that hipster antitrust is largely driven by populist desires to “get” Amazon, Facebook, Monsanto, and others.¹³⁶ Thus, while Neo-Brandeisians complain that antitrust’s narrowing has enabled a new breed of monopolists in especially innovative markets,¹³⁷ critics assert that antitrust’s expansion would recreate the problems prevailing in the pre-1970s era.¹³⁸ This has indeed made the issue of whether patent rights should take primacy over antitrust a chief battleground.

In sum, even when a patent owner appears to exceed one’s rights, courts and federal agencies have largely cautioned against imposing antitrust liability. The fears are twofold: first, subjecting patentees to antitrust review would likely chill innovation and, second, courts face myriads of truly difficult practical, doctrinal, and theoretical questions in assessing when an exploitation of patent rights was anticompetitive: Was the underlying patent invalid? How many patents does it take to create an antitrust offense? Are the patents low value? Observers have, however, argued persuasively that abuses of patent rights may counterintuitively embellish the risks and costs of inventing.¹³⁹ As a result, the lack of antitrust mechanisms afforded to licensees has led teams of inventors, implementers, and licensees to rely on self-help strategies in bargaining against rightsholders. So, what should occur if licensees take matters into their hands in combining against abusive patent holders or otherwise refusing to deal with them? As explained

134. *In re Qualcomm Litig.*, No. 3:17-cv-108, 2019 WL 7834768, at *7 (S.D. Cal. Mar. 20, 2019) (“Qualcomm also seeks a declaration that Apple has engaged in conduct that constitutes unreasonable holdout behavior and demonstrate that it is an unwilling licensee.”).

135. Wright, Dorsey, Klick & Rybnicek, *supra* note 51, at 294, 326 (“But this revolution is a blast from antitrust’s past in many ways. It calls for the return of populism in antitrust enforcement. It declares the modern antitrust era—and the consumer welfare standard itself—a failure. This new revolution lays at antitrust law’s feet a myriad of perceived socio-political problems, including, but not limited to, rising inequality, employee wage concerns, and the concentration of political power.”).

136. *See, e.g., id.* at 294.

137. *Id.* at 294–97, 308–13.

138. *Id.* at 294, 326, 345–48.

139. *See, e.g.,* Thomas F. Cotter, *Patent Holdup, Patent Remedies, and Antitrust Responses*, 34 J. CORP. L. 1151, 1174–81, 1207 (2009) (discussing remedies of patent infringement and their impact on the patent market).

next, self-help remedies may controversially offer an alternative to antitrust litigation.

II. COLLUSION AND REINFORCING PATENT RIGHTS WITH ANTITRUST ENFORCEMENT

Given the obstacles of litigating patent practices under the antitrust laws, can licensees adopt self-help methods to level the playing field? As an example: may firms boycott or collectively negotiate against rightsholders, or even refuse to deal with them? The issue is that such agreements may—though lacking a consensus—present a clearer antitrust offense than any conduct of patent holders. In fact, consider the consequences of condemning self-help remedies: patent owners can suppress competition, charge high prices, and block innovation with the very laws meant to promote competition. Federal agencies have even announced their intention to crack down on cartels of licensees, inventors, and implementers who have sought to collude against rightsholders (while absolving rightsholders of antitrust liability regardless of their conduct, as discussed in the prior Part).

A. The Antitrust Prohibition of Collusion

Antitrust *probably* bans group boycotts and price-fixing against a monopolist or rightsholder as per se illegal, though the issue is far from settled. As background, to identify an antitrust offense, courts scrutinize conduct under the rule of reason, “quick look,” or per se illegal approach.¹⁴⁰ Most conduct receives scrutiny under the rule of reason, which asks whether the act’s procompetitive attributes justify its anticompetitive effects.¹⁴¹ But if it fits a small list of behaviors that rarely, if ever, benefit competition, courts impose liability as per se illegal—no procompetitive rationale can save it.¹⁴² Two types of per se illegal acts

140. Kenneth Khoo & Jerrold Soh, *The Inefficiency of Quasi-Per Se Rules: Regulating Information Exchange in EU and U.S. Antitrust Law*, 57 AM. BUS. L.J. 45, 54 (2020) (discussing per se versus rule of reason antitrust analyses).

141. *Ohio v. Am. Express Co.*, 138 S. Ct. 2274, 2284 (2018) (“To determine whether a restraint violates the rule of reason, the parties agree that a three-step, burden-shifting framework applies. Under this framework, the plaintiff has the initial burden to prove that the challenged restraint has a substantial anticompetitive effect that harms consumers in the relevant market. If the plaintiff carries its burden, then the burden shifts to the defendant to show a procompetitive rationale for the restraint. If the defendant makes this showing, then the burden shifts back to the plaintiff to demonstrate that the procompetitive efficiencies could be reasonably achieved through less anticompetitive means.”) (citations omitted).

142. *Nw. Wholesale Stationers, Inc. v. Pac. Stationery & Printing Co.*, 472 U.S. 284, 289 (1985) (“This *per se* approach permits categorical judgments with respect to certain business practices that have proved to be predominantly anticompetitive.”).

are price-fixing¹⁴³ and group boycotts.¹⁴⁴ But if conduct is not per se illegal, yet lacks competitive rationales, a court may condemn it under the quick look analysis.¹⁴⁵

To illustrate per se illegal price fixing: Apple convinced book publishers to leave Amazon for Apple’s marketplace.¹⁴⁶ To make this deal, Apple enticed the publishers with the promise of high prices if they agreed to abandon low-price platforms like Amazon.¹⁴⁷ The U.S. Court of Appeals for the Second Circuit condemned the restraint as per se illegal.¹⁴⁸ Because Apple set prices among horizontal competitors—a “hub and spoke” scheme¹⁴⁹—the agreement rendered “the purpose and effect of raising prices,” which is “*per se* unreasonable because they pose a ‘threat to the central nervous system of the economy.’”¹⁵⁰

A similar type of per se illegal conduct is the group boycott. Here, firms collude *not* to patronize another firm.¹⁵¹ By withholding business, the cartel can either eliminate the outsider or force it to deal at below market rates.¹⁵² Note that antitrust’s ban on boycotts leaves efforts by civil rights leaders and other protestors untouched.¹⁵³ The text of the Sherman Act limits enforcement to trade and commerce, though protests are considered non-economic activity even when monetary harm is

143. *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, 221–22 (1940) (declaring price-fixing to be per se illegal); Kirkwood, *supra* note 20, at 20 (referring to price-fixing as the most “important” and “inflexible” ban in antitrust).

144. *In re Blue Cross Blue Shield Antitrust Litig.*, 308 F. Supp. 3d 1241, 1278 (N.D. Ala. 2018) (citing *Clorox Co. v. Sterling Winthrop, Inc.*, 117 F.3d 50, 55–56 (2d Cir. 1997)) (noting that price-fixing and boycotts are per se illegal under the antitrust laws), *appeal denied*, No. 18-90020-E, 2018 WL 7152887, at *1 (11th Cir. Dec. 12, 2018).

145. *Deutscher Tennis Bund v. ATP Tour, Inc.*, 610 F.3d 820, 830 (3d Cir. 2010) (“[C]ourts sometimes apply what amounts to abbreviated or “quick look” rule of reason analysis.’ It is ‘an intermediate standard’ and ‘applies in cases where *per se* condemnation is inappropriate but where no elaborate industry analysis is required to demonstrate the anticompetitive character of an inherently suspect restraint.’” (quoting *United States v. Brown Univ.*, 5 F.3d 658, 669 (3d Cir. 1993))).

146. *United States v. Apple, Inc.*, 791 F.3d 290, 296–97, 323 (2d Cir. 2015).

147. *Id.*

148. *Id.* at 323

149. *Id.* at 314.

150. *Id.* (quoting *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, 224 n. 59 (1940)).

151. *See, e.g., SD3, LLC v. Black & Decker (U.S.) Inc.*, 801 F.3d 412, 426 (4th Cir. 2015), *as amended on reh’g in part* (Oct. 29, 2015) (discussing a group boycott).

152. *See id.*

153. *NAACP v. Claiborne Hardware Co.*, 458 U.S. 886 (1982) (holding that a boycott meant to harm certain merchants was political activity, free of antitrust scrutiny); *see also* Hillary Greene & Dennis A. Yao, *Antitrust as Speech Control*, 60 WM. & MARY L. REV. 1215, 1222–23 (2019) (explaining antitrust’s inability to govern political activity).

intended.¹⁵⁴ A boycott of a widget firm would only violate antitrust law if it was organized by widget buyers or rival widget makers for the sake of gaining a competitive edge.¹⁵⁵

With this background, it is unclear whether collusion offends antitrust law when the scheme creates buying power meant to counterbalance a monopolist's selling power (the exercise of buying power is considered the mirror image of a monopoly, called a *monopsony*).¹⁵⁶ On one hand, federal agencies and most courts assert that price-fixing or group boycotts on the buying side are per se illegal regardless of whether monopoly power exists on the selling side.¹⁵⁷ Some courts have expressly rejected the defense of countervailing market power. Consider *In re Vitamins Antitrust Litig.*,¹⁵⁸ where the opinion quoted case law to hold that

[T]he crucial issue is whether there was a conspiracy to fix prices. To suggest that a conspiracy was not as successful as it might otherwise have been because of the plaintiffs' countervailing economic power is absurd. Such an alleged "economic check" is of no consequence in a price fixing case.¹⁵⁹

154. *Johnson v. Comm'n on Presidential Debates*, No. 15-1580, 2016 WL 4179269, at *1 (D.D.C. Aug. 5, 2016) (stating that activity must occur in a commercial market to implicate antitrust review).

155. *United States v. Brown Univ.*, 5 F.3d 658, 668 (3d Cir. 1993) (discussing that an activity qualifies as trade or commerce on the antitrust laws when done to gain a competitive advantage).

156. *See Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co.*, 549 U.S. 312, 320 (2007) ("Monopsony power is market power on the buy side of the market."); Roger D. Blair & Jeffrey L. Harrison, *Antitrust Policy and Monopsony*, 76 CORNELL L. REV. 297, 297-98 (1991) (describing monopsony power); *see also* Roger D. Blair & D. Daniel Sokol, *The Rule of Reason and the Goals of Antitrust: An Economic Approach*, 78 ANTITRUST L.J. 471, 492-93 (2012) ("When competitive sellers are confronted by a lawful monopsony, merger to monopoly creates a bilateral monopoly, which is a market with one buyer and one seller. The same, of course, is true for a cartel that forms in response to monopsony. Bilateral monopoly has superior welfare properties relative to the prior market structure. In this event, such an agreement or a merger should survive a rule of reason analysis because there is a total welfare improvement. This case, however, demands some careful analysis.").

157. Hillary Greene, *Non-Per Se Treatment of Buyer Price-Fixing in Intellectual Property Settings*, 2011 DUKE L. & TECH. REV. 57, ¶ 26 (discussing the law of monopsony price-fixing as per se illegal).

158. *In re Vitamins Antitrust Litig.*, 198 F.R.D. 296, 301 (D.D.C. 2000).

159. *Id.* (quoting *In re Folding Carton Antitrust Litig.*, MDL No. 250, 1978 U.S. Dist. LEXIS 20409, at *9 (N.D. Ill. May 5, 1978)).

Other courts have similarly ruled that countervailing market power is irrelevant in price-fixing and other per se illegal acts.¹⁶⁰ It is for this reason that Congress enabled parties such as labor¹⁶¹ and farmers¹⁶² to combine against monopolists, as their collusion would otherwise violate antitrust. To this end, “efforts to justify anticompetitive conduct based on the assertion that it will aid in the creation of countervailing market power have consistently been rejected in a variety of industries and antitrust contexts.”¹⁶³

But other courts have taken a softer approach in refusing to condemn countervailing market power as per se illegal. To them, per se illegality is reserved for acts producing reliably anticompetitive effects—but here the balancing of market power may lower prices in *benefitting* consumers.¹⁶⁴ The court in *Balmoral Cinema, Inc. v. Allied Artists Pictures Corp.*¹⁶⁵ chose the rule of reason—although the challenged conduct had typically been considered per se illegal—since the countervailing market power benefited consumers.¹⁶⁶ In a similar dispute,

160. *In re Aspartame Antitrust Litig.*, No. 06-CV-1732, 2008 WL 2275528, at *5 (E.D. Pa. Apr. 8, 2008) (denying discovering of the plaintiff’s data to assert the plaintiff’s countervailing market power, ruling whether or not it exists as irrelevant to whether the defendant price fixed); *see also In re Pressure Sensitive Labelstock Antitrust Litig.*, 226 F.R.D. 492, 496 (M.D. Pa. 2005) (rejecting that “power buyers” cannot join class actions because their injury is different than regular buyers, noting again that arguments about countervailing market power is unpersuasive).

161. *See Nat’l Basketball Ass’n v. Williams*, 857 F. Supp. 1069, 1077–78 (S.D.N.Y. 1994) (explaining how labor unions may form a bilateral monopoly) (citations omitted), *aff’d*, 45 F.3d 684 (2d Cir. 1995).

162. *Nat’l Broiler Mktg. Ass’n v. United States*, 436 U.S. 816, 842–43 (1978) (White, J., dissenting) (explaining the importance of federal legislation allowing certain less powerful actors to collude against monopolists, forming a bilateral monopoly); *Fairdale Farms, Inc. v. Yankee Milk, Inc.*, 635 F.2d 1037, 1043 (2d Cir. 1980) (“In short, when Congress enacted the Capper-Volstead Act, it did not intend to prohibit the voluntary and natural growth that agricultural cooperatives needed to accomplish their assigned purpose of effective farmer representation. That farmers’ legitimate desires for unity of effort would incorporate of necessity a concept of corporate aggrandizement did not *per se* make this method of cooperative growth illegal.”).

163. Andrew I. Gavil, *Moving Beyond Caricature and Characterization: The Modern Rule of Reason in Practice*, 85 S. CAL. L. REV. 733, 776 (2012).

164. *Balmoral Cinema, Inc. v. Allied Artists Pictures Corp.*, 885 F.2d 313, 317 (6th Cir. 1989) (holding that the per se approach is improper because it did not unreasonably harm consumer welfare).

165. *Id.*

166. Laura Alexander, *Monopsony and the Consumer Harm Standard*, 95 GEO. L.J. 1611, 1624–25 (2007) (“Although it found an agreement to do away with competitive bidding, the Sixth Circuit determined that the case should be tried under the rule of reason, because the economic impact of the arrangement was uncertain. More specifically, the court suggested that the agreement might represent a shift not from competition to monopsony but from a distributor monopoly to a bilateral monopoly that would benefit consumers. In other words, a plausible explanation for why the agreement benefited consumers shifted the case from the per se analysis to rule of reason.”).

rival grocery stores agreed to share profits in case their workers decided to strike so that they could win a labor dispute.¹⁶⁷ The Ninth Circuit reviewed the agreement under the rule of reason, though Judge Reinhardt argued in dissent that it should have been irrelevant whether the grocers colluded in order to counterbalance labor's market power.¹⁶⁸ Other courts have likewise ruled that countervailing market power demands a more deferential approach.¹⁶⁹ Given this case law, the proper approach to bilateral monopolies is hardly certain.

The above gray areas about antitrust's approach to bilateral monopolies is remarkable given the mounting importance of firms colluding against patent owners. It is under the above framework that cartels of licensees such as "defensive aggregators" may likely, but possibly not, constitute an abuse of monopsony power.¹⁷⁰

B. Collusion, Price-Fixing, and Group Boycotts of Patent Rights

Over the last few years, firms in the business of licensing, implementing, and using technologies have formed cartels meant to bargain collectively against (abusive) rightsholders such as the "defensive aggregator." RPX—the most notable of defensive aggregators—justified its existence by the \$6 billion spent by PAEs on patents to assert against active inventors, entailing 16% of U.S. patent litigation.¹⁷¹ By joining a defensive aggregator, one can avoid bargaining against PAEs in a piecemeal fashion; in essence, they may collectively balance the PAE's leverage and market power. As one commentator stated, the RPX model "boils down to a protection racket. An enlightened one, perhaps, but still

167. *California ex rel. Harris v. Safeway, Inc.*, 651 F.3d 1118, 1123 (9th Cir. 2011).

168. *Id.* at 1160 (Reinhardt, J., dissenting) ("Defendants' proffered justification for their profit sharing arrangement is, in essence, a countervailing power defense that the restraint of trade is necessary in order to give them sufficient bargaining power to counteract the market power exercised by their striking workers and thereby to allow them to purchase their workers' labor at a lower price. As California points out, however, the chain of contingencies linking defendants' exercise of bargaining power to reduced prices for consumer purchases renders any such procompetitive benefits of their profit sharing agreement purely speculative. Rule of reason examination of defendants' countervailing power defense is accordingly unnecessary.").

169. *GMA Cover Corp. v. Saab Barracuda LLC*, No. 10-CV-12060, 2012 WL 642739, at *7–*8 (E.D. Mich. Feb. 8, 2012), *report and recommendation adopted*, 2012 WL 639528 (E.D. Mich. Feb. 28, 2012) (refusing to consider the pricing fixing per se illegal given the creation of a bilateral monopoly).

170. Greene, *supra* note 157, at ¶ 30; *see also Cascades Comput. Innovation LLC v. RPX Corp.*, No. 12-CV-1143, 2013 WL 6247594, at *1 (N.D. Cal. Dec. 3, 2013) (alleging the defensive aggregator was illicitly abusing its monopsony power).

171. Press Release, RPX Corp., RPX Introduces First Defensive Patent Aggregation Service (Nov. 25, 2008), <https://www.rpxcorp.com/about/news/rpx-introduces-first-defensive-patent-aggregation-service/> [<https://perma.cc/7C2V-DXYB>].

a protection racket.”¹⁷² The federal agencies have, however, shown significantly less uncertainty than the courts about the proper approach to collusion against patent monopolies.

In important part, while the federal agencies have largely immunized patent holders from antitrust liability, they have aggressively pursued enforcement against cartels of licensees. A 2019 joint statement between the USPTO and NIST asserted that “the collective exertion of monopsony power over a patent holder” creates an antitrust offense.¹⁷³ The DOJ used identical language to warn that collusion against rightsholders is anticompetitive.¹⁷⁴ An effect of the DOJ’s position is that antitrust protects a rightsholder’s ability to generate monopoly profits despite whatever anticompetitive effects are likely to result. Similar issues arise from agreements among smaller firms *not* to license essential patents.

Would-be licensees have refused to negotiate with essential patent owners as a bargaining technique. Rather than a holdup, this entails a “hold out,” wherein firms working in concert reject licensing patents unless the SEP owner (or patentee) lowers its rates.¹⁷⁵ The DOJ has cautioned that boycotting an SSO to augment licensing fees offends antitrust law as a form of collusion.¹⁷⁶ Although Makan Delrahim stated that antitrust should avoid intervening in holdups, he insisted that the DOJ will aggressively pursue licensees who hold out.¹⁷⁷ This position reflects the agency’s belief that antitrust should favor the ability of rightsholders to draw monopoly profits over those who must pay monopoly prices.

Note the irony of using antitrust law to condemn collective action by licensees. While antitrust is intended to foster competition for the benefit of consumers—typically via low prices or enhanced innovation¹⁷⁸—litigation against licensing groups accomplishes the opposite in preserving monopoly pricing and raising the costs of

172. Erick Schonfeld, *Is RPX’s “Defensive Patent Aggregation” Simply Patent Extortion by Another Name?*, TECHCRUNCH (Nov. 24, 2008, 10:50 AM), <https://techcrunch.com/2008/11/24/is-rpxs-defensive-patent-aggregation-simply-patent-extortion-by-another-name/> [<https://perma.cc/YE79-X8XG>].

173. JOINT POLICY STATEMENT OF USPTO, DOJ & NIST, *supra* note 18, at 2 n.3.

174. Delrahim, *supra* note 119, at 7–8.

175. Peter J. Levitas, Sonia Kuester Pfaffenroth & Matthew Tabas, *Joint Statement with PTO and NIST on FRAND Injunctions Clarifies DOJ’s Position on SEP-Infringement Relief*, 32 INTEL. PROP. & TECH. L.J. 1, 2 (2020).

176. *Id.* at 2–3.

177. *Id.*

178. *But see* Barak Orbach, *Foreword: Antitrust’s Pursuit of Purpose*, 81 FORDHAM L. REV. 2151, 2151–56 (2013) (discussing the competing and well-debated goals of antitrust law).

inventing.¹⁷⁹ Here, a firm bolsters its monopoly power via the antitrust laws, giving rightsholders leverage to bargain under patent *and* antitrust laws. This employs antitrust enforcement in a manner achieving the opposite of antitrust's goals. Referring to this outcome as ironic is not meant to belittle the competitive problems of collusion but is instead meant to call attention to the tension between patent and antitrust laws.

C. Scholarly Reaction

Despite the agencies' mounting concern for collusion against patent holders as well as division among courts about the proper approach to bilateral monopolies, scholarship has remarkably paid little attention to this issue. The few articles on this topic have typically examined discrete areas and taken the side of patent owners.¹⁸⁰ Richard Epstein and Kayvan Noroozi asserted that, since inventors would otherwise have no duty to license their technology, antitrust enforcers should condemn firms who hold out licensing an essential patent.¹⁸¹ This is because licensees and implementers, Epstein and Noroozi posit, encounter "powerful incentives" to infringe patent rights,¹⁸² though it is unclear why patent and contract remedies could not adequately redress this harm. Like Epstein and Noroozi, another article adopted the stance that a FRAND arrangement "is not a commitment to be whipsawed by a potential licensee."¹⁸³

That said, outside of the patent arena, there is perhaps the beginning stages of recognition that collusion could mitigate modern monopolies. As one observer suggested in the context of Big Tech, small firms might need the ability "to band together in their dealings with dominant platforms, potentially in violation of antitrust's prohibitions on such coordination across firm boundaries."¹⁸⁴ In fact, the publishers' collusion

179. Amy L. Landers, *The Antipatent: A Proposal for Startup Immunity*, 93 NEB. L. REV. 950, 994–95 (2015) (discussing benefits from defensive patent aggregation that may be inhibited by litigation).

180. Epstein & Noroozi, *supra* note 20, at 1384 (calling hold out behavior an "overlooked" problem).

181. *Id.*

182. *Id.* at 1404–05.

183. Mark A. Lemley & Carl Shapiro, *A Simple Approach to Setting Reasonable Royalties for Standard-Essential Patents*, BERKELEY TECH. L.J. 1135, 1153 (2013); *see also* Lim, *supra* note 112, at 56 ("The discussion that follows explains why SEP owners should be allowed to show why they deserve injunctions or exclusion orders. Enjoining implementers should happen rarely, such as when implementers are unwilling to negotiate or refuse to be bound by an adjudicated royalty rate, or where they fail to meet a precondition to the FRAND commitment, such as by failing to seek out the SEP owner prior to using the standard.").

184. Hal Singer, *Regulators Turn Their Attention Towards Apple's Exploitation of App Developers. Now What?*, PROMARKET (June 24, 2020),

in the e-book case is said to have derived from their need to counter Amazon, which had allegedly underpriced books in an act of predatory pricing.¹⁸⁵ Another commentator noted that labor has increasingly lost the power to unionize as individuals become more likely to work as independent contractors, suggesting that they should be more able to collude.¹⁸⁶ So, given the debate over countervailing market power, this raises greater policy and theoretical questions about antitrust's interactions with patent rights.

While courts and agencies have found that antitrust is ill-equipped to identify anticompetitive patent practices, the clearer antitrust offense may thus occur when licensees combine to negotiate against rightsholders. As a result, patent owners may enforce the antitrust laws to solidify their limited monopoly even though antitrust is meant to condemn monopolies. In light of this, the next Part explores the costs imposed by strategic patenting. It concludes with a simple, yet effective, proposal promising to foster innovation and harmonize the antitrust and patent laws.

III. THE NON-ANTITRUST SOLUTION

The best remedy against abuses of patent rights is less antitrust. This Part suggests that some firms have used the patent system to exclude competition rather than to protect original innovation. But we caution against enhancing antitrust enforcement as many policymakers and scholars have sought to do.¹⁸⁷ Using historical and economic analyses, we assert that firms should be able to collude against a monopolist or rightsholder, effectively balancing another's market power. This would

<https://promarket.org/2020/06/24/regulators-turn-their-attention-towards-apples-exploitation-of-app-developers-now-what/> [<https://perma.cc/4EF3-TL2Y>].

185. Kirkwood, *supra* note 20, at 4 (“What united the critics was concern with Amazon’s dominant position as an e-book retailer and its aggressive tactics, particularly its below-cost pricing as a seller and its hard bargaining as a buyer. Its low prices could drive out other booksellers and ultimately increase retail prices, while its buyer power could reduce gains to publishers and authors, stunting the development of new titles. One common refrain was that the government was focused on collusion by the publishers and Apple when the real problem was the threat of an Amazon monopoly.”). See generally Herbert Hovenkamp, *Antitrust and Information Technologies*, 68 FLA. L. REV. 419, 437–46 (2017) (analyzing the incentives to collude in the e-book market).

186. See John Newman, *Cooperation, Competition, and COVID-19*, TRUTH ON THE MKT. (Apr. 15, 2020), <https://truthonthemarket.com/2020/04/15/cooperation-competition-and-covid-19/> [<https://perma.cc/URY7-4TDA>].

187. George S. Cary, Mark W. Nelson, Steven J. Kaiser & Alex R. Sistla, *The Case for Antitrust Law to Police the Patent Holdup Problem in Standard Setting*, 77 ANTITRUST L.J. 913, 913, 920–24 (2011) (“[O]nly antitrust law can ensure that private parties and government enforcement authorities can seek redress where the underlying abuse harms competition.”); Kevin J. Arquit, *Abuse and the Antitrust Laws*, 59 ANTITRUST L.J. 739 (1991).

harmonize the patent and antitrust laws, resolve the judicial split about bilateral monopolies, reduce litigation, and promote efficiency.

A. *The Puzzle*

The issue of whether antitrust should discipline rightsholders raises questions about the patent system's efficacy. Federal agencies, courts, and scholars have cautioned against involving antitrust within patent disputes on the belief that it would stymie innovation.¹⁸⁸ The theory is that the patent system must grant the right to exclude competition unfettered by antitrust review.¹⁸⁹ This position, however, presumes that the exploitation of patent rights promotes R&D. But if patent abuses achieve the opposite result in predictable instances, then the deadweight loss may not warrant the per se insulation of patent rights sought by the DOJ and others. We ask, first, should the patent system go unaltered, or is enough competition and innovation impaired to demand a remedy? If the latter is true, then the issue is whether antitrust enforcement offers the best solution.

We advocate for *less antitrust*. Based on economic theory, as well as support from the labor market and the Sherman Act's legislative history, allowing firms to combine against rightsholders and monopolists would help to discipline abusive practices and provide clear rules without costly litigation. Helping to support our claim, we investigated whether patent owners do seek to impede competition and R&D without contributing innovation. It seems that as firms build large arsenals of low-value patents, rivals tend to reduce R&D and exit the market. That said, we also assert that antitrust is the wrong remedy.

Further, we insist that permitting firms to collude against a monopolist would redress ironic uses of antitrust law. As discussed earlier, a patent owner may currently enforce the antitrust laws to charge monopoly prices as well as suppress competition and innovation.¹⁹⁰ While patentees must be able to exercise exclusive rights, we think that they should rely on patent and contract remedies rather than antitrust enforcement. By taking antitrust out of patent law, it would provide holders with the proper scope of exclusive rights to foster innovation (as

188. *See, e.g., United States v. Microsoft Corp.*, 253 F.3d 34, 65 (D.C. Cir. 2001) ("As a general rule, courts are properly very skeptical about claims that competition has been harmed by a dominant firm's product design changes.").

189. *See, e.g., Arminak & Assocs., Inc. v. Saint-Gobain Calmar, Inc.*, 789 F. Supp. 2d 1201, 1209 (C.D. Cal. 2011) ("Thus, imposing antitrust liability on patent holders bringing non-sham patent suits or even allowing a litigant to introduce evidence concerning non-sham patent suits to prove a patent holder's anticompetitive intent would undermine the incentive to innovate and harm competition.").

190. *See supra* Section I.A.1.

well as preserve the incentives to innovate conferred in patent, which Part IV explains in greater detail).

B. Support

We suggest that patent abuses may harm competition and innovation, which would indicate that our proposal could benefit the R&D process. Rather than a robust empirical investigation, we caution readers about the limitations in data as well as observing “hidden” behaviors. The following analysis is best understood as an illustration of potential problems of strategic or abusive behaviors in the patenting environment. It is indeed impossible to capture a pristine picture of how exactly firms are patenting yet we find the following correlations to be helpful in illustrating the value of countervailing monopoly power. To that end, our methods explore whether patent owners have built large arsenals of low-value patents in manners that depress R&D.

1. RESEARCH DESIGN

We created two tests. In light of allegations that firms build large holdings of patents regardless of quality for the purpose of excluding competition, the first test explores the effects of large holdings on innovation. The second test builds off the first analysis by measuring how the *quality* of these holdings impacts competition. By conducting both tests, we sought to study whether portfolios of lower-value patents erect barriers to entry. Together, the tests suggest that large holdings and low-value patents diminish innovation and competition.

a. Test 1: Patent Density

The first test explores the effects of large holdings on innovation. When a patent thicket engulfs a market, we expect for firms to decrease R&D spending. As such, the dependent variable is *R&D Expenditures* of individual firms.¹⁹¹ We measure the relative size of a company’s portfolio compared to a thicket using two independent variables. The first is *Patents Issued Relative to a Thicket*, which entails the annual numbers of patents issued in a specific field compared to the patents issued to a specific firm. If the number of patents issued to a firm pales in comparison to the greater industry, we expect the firm to decrease its R&D spending. An alternative variable captures not the patents issued in a year, but rather the firm’s entire portfolio relative to the total patents

191. Additional models were run with the dependent variable as its natural logarithm, which produced the same results. Please email the authors for the unreported models using the natural logarithm of the dependent variable.

in the field. We thus hypothesize that vast holdings held by industry competitors tend to discourage firms from investing in R&D.

While a patent thicket is typically considered a negative consequence, it is important to note that a large holding of patents is not by itself problematic and can instead be the result of intensive R&D. A large holding, though, would more likely reflect abusive patenting when the portfolio is comprised of low value patents. Because the collection of low-value patents in building a thicket is theorized to be an important element of problematic patenting, our next test incorporates this consideration.

Further, several control variables account for “noise.” First, we control for *Industry* as a critical part of our fixed effects regression (which we describe below).¹⁹² Second, we include a measure reflecting annual *Gross Domestic Product* (GDP) since economic conditions are likely to influence innovation. Third, the models control for *Assets Held*, reflecting the overall value of assets owned by each firm, assuming that more resourceful companies innovate differently than smaller and less-motivated firms. Fourth, we control for market concentration using the Herfindahl-Hirschman Index (HHI),¹⁹³ the assumption being that vibrant competition incentivizes R&D spending.¹⁹⁴ HHI captures the market’s level of concentration, producing a larger number when fewer firms claim a greater number of an industry’s sales. We also included in certain models a variable representing *Overall Patents Owned* regardless of field. The purpose is to account for whether the size of a patent thicket has levied an independent effect on a firm’s R&D spending in that specific field *as it continues to invent in other markets* or, alternatively, whether the firm’s overall R&D has diminished across all fields.

b. Test 2: Patent Quality

Test 2 shifts gears by investigating the quality of patents in a portfolio. Specifically, the analysis tests whether the collection of low-value patents impairs competition and innovation (whereas the first test explored the impact of portfolio size on R&D). In measuring the relative value of patents, we rely on reports about *how* firms build large

192. See *infra* Section III.B.2.

193. *Fed. Trade Comm’n v. Penn State Hershey Med. Ctr.*, 838 F.3d 327, 346–47 (3d Cir. 2016) (“Market concentration is measured by the Herfindahl–Hirschman Index (‘HHI’). The HHI is calculated by summing the squares of the individual firms’ market shares. In determining whether the HHI demonstrates a high market concentration, we consider both the post-merger HHI number and the increase in the HHI resulting from the merger.”).

194. William Hubbard, *The Debilitating Effect of Exclusive Rights: Patents and Productive Inefficiency*, 66 FLA. L. REV. 2045, 2079 (2014).

portfolios: they tend to patent all aspects of the R&D process.¹⁹⁵ Rather than patenting only valuable technology, each process or device arising from the program is patented in order to create large portfolios irrespective of each device's quality.¹⁹⁶ As a result, a serial patentor would generally spend less money per patent (e.g., if Firm X invents 10 valuable devices after spending \$100, its price per patent is \$10. But if it patents 10 valuable inventions and 10 low-value technologies, the cost per patent would be \$5). Also, an invalid or low-value patent would typically be cheaper when purchased on the open market than would a patent protecting important technology.¹⁹⁷ To show that low-value patents comprise thickets—and the effects are deleterious—we created the variable *Patents Per Dollar*. We expect that lower *Patents Per Dollar* tax competition to the degree that firms leave the field. Here, the dependent variable is *Competition* measured by HHI (we avoided using R&D spending or patenting due to both variables' collinearity with *Patents Per Dollar*).

2. METHODS AND DATA SOURCES

To analyze these models, we recognize that different industries might operate in disparate manners. For instance, what constitutes a greater level of R&D in one industry may vary from other industries. We attempt to control for the unique qualities of industries by using a fixed effects model, which accounts for heterogenous qualities among groups in a larger population—here, industries. We recorded each firm's primary industry at the 4-digit North American Industry Classification System (NAICS) level, a code given to identify the industry in which a firm works.¹⁹⁸

Data for all patents granted to public companies between 1989 and 2012 was amassed using the USPTO's PatentsView database—which includes information on assignees, claims, citations, and technological class¹⁹⁹— and the Patent Examination Research Dataset (PatEx), detailing

195. See Parchomovsky & Wagner, *supra* note 87, at 42–48.

196. *Id.* at 2, 42.

197. See Ronald J. Mann & Marian Underweiser, *A New Look at Patent Quality: Relating Patent Prosecution to Validity*, 9 J. EMPIRICAL LEGAL STUD. 1, 3–4 (2012) (“[A] . . . patent . . . might be worth tens (or hundreds) of millions of dollars if it purports to claim rights to a valuable product (like the Blackberry or Microsoft Word). Conversely, a patent . . . might be worth little or nothing if the product that it describes is unmarketable.”).

198. *North American Industry Classification System*, U.S. CENSUS BUREAU, <https://www.census.gov/naics/#q1?99967> [<https://perma.cc/P6QE-9AL9>] (last visited Mar. 18, 2021).

199. *PatentsView*, U.S. PAT. & TRADEMARK OFF., <https://www.uspto.gov/ip-policy/economic-research/patentsview> [<https://perma.cc/9SR8-4JH2>] (Jan. 7, 2021, 10:06 AM) (“The PatentsView platform is built on a regularly updated database that longitudinally links inventors, their organizations, locations, and overall patenting activity.”).

application numbers, filing dates, and priority information.²⁰⁰ Both datasets are hosted on Google's BigQuery SQL platform.²⁰¹ As in past research, we solely analyzed ordinary utility patents and excluded design patents, re-issues, and plant patents.²⁰²

Financial information was collected via Compustat—a database of financial information for public companies.²⁰³ Given the international nature of U.S. patent ownership, we created a global dataset by collecting information from Compustat's North America and Global datasets. Redundancies were eliminated by keeping the most recent or complete information. And due to the international nature of the information, many reports were in currencies other than U.S. dollars. To account for this issue, all reports were changed to reflect U.S. dollars using exchange rates for each currency for the relevant year.²⁰⁴

C. Results

Our methods support criticisms of strategic patenting. While patents are intended to foster innovation, our analysis finds that certain patent abuses cause the opposite effect of discouraging innovation. The models

. . . PatentsView uses data derived from USPTO bulk data files.”); U.S. PAT. & TRADEMARK OFF., *PatentsView*, <https://www.patentsview.org/web/#search&simp=1> [<https://perma.cc/K7SA-7E6V>] (last updated Sept. 29, 2020).

200. See Stuart Graham, Alan Marco & Richard Miller, *The USPTO Patent Examination Research Dataset: A Window on the Process of Patent Examination* 3, 5, 8 (U.S. Pat. & Trademark Off., Working Paper No. 2015-4, 2015), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2848549 [<https://perma.cc/Z8EK-QKVY>] (describing the PatEx database).

201. *Google Patents Public Datasets*, GOOGLE CLOUD PLATFORM, <https://console.cloud.google.com/marketplace/browse?q=google%20patents%20public%20datasets> (last visited Mar. 18, 2021); Ian Wetherbee, *Google Patents Public Datasets: Connecting Public, Paid, and Private Patent Data*, GOOGLE CLOUD BIG DATA & MACHINE LEARNING BLOG (Oct. 31, 2017), <https://cloud.google.com/blog/topics/public-datasets/google-patents-public-datasets-connecting-public-paid-and-private-patent-data> [<https://perma.cc/P6SX-GHQR>].

202. See, e.g., Kyle Jensen, Balázs Kovács & Olav Sorenson, *Gender Differences in Obtaining and Maintaining Patent Rights*, 36 NATURE BIOTECHNOLOGY 307, 307 (2018).

203. Stanley Veliotis, *Equating U.S. Tax Treatment of Dividends and Capital Gains for Foreign Portfolio Investors*, 56 AM. BUS. L.J. 345, 369 n.123 (2019); Susan Lorde Martin & Nancy White Huckins, *Consumer Advocates vs. The Rent-to-Own Industry: Reaching a Reasonable Accommodation*, 34 AM. BUS. L.J. 385, 417 n.200 (1997).

204. *U.S. Dollar Exchange Rates*, BANK FOR INT'L SETTLEMENTS, <https://www.bis.org/statistics/xrusd.htm> [<https://perma.cc/V65B-WFWM>] (last visited Mar. 18, 2021). Several of the adopted exchange rates were successfully compared to rates from the International Monetary Fund. *Exchange Rate Archives by Month*, INT'L MONETARY FUND, https://www.imf.org/external/np/fin/data/param_rms_mth.aspx [<https://perma.cc/5FBW-LA8E>] (last visited Mar. 18, 2021).

indicate that R&D and levels of competition decline when firms collect low-quality patents as means of accruing large holdings. Indeed, firms owning relatively fewer patents appear to reduce their R&D spending in markets saturated with competing low-value patents, particularly where markets lack competition. Thus, by building a large portfolio in a market with fewer players, certain exploitations of the patent system seem to obstruct innovation.

In Table 1, we observe the overall number of patents owned by a firm (Models 1 and 2) and issued to a firm (Models 3 and 4), relative to a thicket. When a firm receives fewer patents in a certain year compared to the greater market, the firm's R&D spending tends to decrease. Consider Model 4, where the negative and statistically significant coefficient of *Patents Issued Relative to Thicket* indicates that as the number of patents issued in a field outpaces the firm's patenting activity, the firm is likely to reduce R&D. The same is true when studying not the patents issued to a firm in a certain field but the overall number of patents owned by a firm regardless of which year the patents were issued. In both cases, firms reduce R&D spending when their portfolio is relatively small compared to competitors.

Further, the variable *HHI* reflecting market concentration indicates that a reduction in competition diminishes R&D. This is important because—while the patent system is meant to incentivize innovation—firms can raise barriers to competition, thereby diminishing innovation.²⁰⁵

A potential problem is that the reduction of R&D spending may actually be why a firm's portfolio has diminished. We dampen this effect in a of couple ways, the first of which is by lagging the patent variables. The model also includes a control variable for the firm's overall portfolio. By doing so, Models 3 and 4 account for whether the firm has reduced R&D spending due to a thicket in the specific market while owning a large number of patents in other markets. When firms continue to patent in other fields, it suggests that a thicket has specifically discouraged innovation in the observed market.

205. Jonathan M. Barnett, *Has the Academy Led Patent Law Astray?*, 32 BERKELEY TECH. L.J. 1313, 1321 (2017); see also *supra* note 69 and accompanying text.

Table 1. Regressions with Industry Fixed Effects

<i>Dependent Variable: R&D Expenditures</i>				
	Model 1	Model 2	Model 3	Model 4
Patents Owned Relative to Thicket	-.0083* (.0036)	-.0135*** .0003		
Patents Issued Relative to Thicket			-.0056** (.0017)	-.0087*** (.0018)
HHI	-.0195*** .0013	-.0144*** .0014	-.0199*** (.0013)	-.0149*** (.0014)
GPD	-.4537 (1.398)	-2.581 (1.455)	-.6586 (1.399)	-2.901* (1.457)
Assets Owned	.0644*** (.0004)	.0723*** (.0003)	.0644*** (.0004)	.0722*** (.0003)
Overall Patents Owned	.0867*** (.0015)		.0867*** (.0016)	
Constant	58.12*** 5.097	71.01*** (5.303)	60.93*** 5.232	75.33*** (5.44)
Observations	35,594	35,594	35,594	35,594
Chi-Squared	51,226.35***	44,439.54***	51,239.88***	44,467.02***

F *** = p < 0.001; ** = p < 0.01; * p < 0.05. Period: 1989-2012. Standard errors in parentheses

In the second set of tests (Table 2), to show that the exclusionary effects of patent thickets can derive from activities beyond innovation, we included *Patents Per Dollar*. As explained above, firms that collect low-value patents spend less per patent because they extract more patents from the same programs as those who patent only valuable inventions (as well as purchase low-value patents at discounted prices).²⁰⁶ The difference between Model 5 and 6 is that Model 5 uses the industry as the level of analysis (in other words, we observed industry level effects, such as the industry's level of market concentration and patents per dollars). Model 6 was on the firm-level in which we observed the behaviors of specific firms in influencing competition levels.²⁰⁷ Both types of tests produced the same results. Since, as we find, industries in

206. See *supra* Part III.B.

207. Note that industry level effects were inappropriate for Test 1, as we studied the independent R&D decisions of firms confronting a dense thicket of patents.

which *Patents Per Dollar* is lower experience less competition, it suggests that attempts to build large portfolios regardless of quality prompts rival firms to exit the market (or forbear from entering) and thereby diminish R&D spending (according to Test 1).

Table 2. Regressions with Industry Fixed Effects

<i>Dependent Variable: HHI</i>		
	Model 5	Model 6
Patents Per Dollar	-2.527*** (.4274)	-.7865*** (.218)
GDP	38.81*** (13.16)	25.23*** (5.062)
Assets Owned	-.0002*** (.0001)	.0116*** (.0012)
Constant	3,527.67*** (119.94)	3,328.05*** (137.19)
Observations	9,658	26,904
Chi-Squared	120.37***	116.15***
Prob > F *** = p < 0.001; ** = p < 0.01; * p < 0.05. Period: 2001–2018. Standard errors in parenthesis.		

The takeaway is that companies seem to lose incentive to innovate where competitors generate large portfolios of low-value patents. Studying the patenting choices of firms shows that patenting and R&D are distinctively different activities—companies seek to patent in ways meant to exclude competition and erode innovation. If rightsholders do impair innovation, then the costs imposed on competition are problematic. Removing impediments to the licensing of patented technology (i.e., facilitating licensing of only necessary patents and discouraging holdups) should thus decrease the obstacles frustrating innovation and competition discussed in Part I. This type of reform is possible, we argue, without increasing antitrust litigation and its attendant costs and risks.

D. Discussion

We assert that self-help remedies are superior to the status quo as well as heightened antitrust enforcement. To make this case, we propose a general policy which can be applied in several different ways, depending on one's objectives.

1. POLICY

Antitrust law should allow parties to cite their opponent's patent ownership as a defense to their own anticompetitive conduct. This would redress instances where patentees have discouraged competition by building vast portfolios of low-value patents, breaching FRAND deals, and threatening meritless litigation. In fact, because collective bargaining can ameliorate holdup behavior (as explained in the economic analysis below),²⁰⁸ the defense would increase the rate of licensing. And since competition promotes R&D (as shown in Table 1), licensees working in concert could balance the anticompetitive effects of patent abuses in a manner promoting innovation.

A related problem is that patent and antitrust lawsuits have significantly raised the costs of competing in innovative markets. While patent scholars have largely focused on the \$3 million required to defend an infringement lawsuit,²⁰⁹ antitrust scholars have likewise spent decades discussing the paralyzing effects of enforcement.²¹⁰ Since antitrust is a frequent counterclaim to infringement and vice versa,²¹¹ uncertainties about the allocation of rights between inventors and their competitors pose a risky and costly landscape in which to invent. Our proposal would thus reduce the need to resort to litigation to define legal rights.

It would also resolve the irony of when a rightsholder bolsters its market power using the antitrust laws. Since antitrust is meant to promote competition for the sake of consumer welfare, antitrust enforcement should resist raising prices, diminishing competition, or threatening innovation. In other words, the precise law meant to condemn monopolies should not be used to preserve monopoly power and prices.

In important part, fears should also be assuaged that patent rights may erode. The proposed defense would leave all parts of the patent monopoly intact, as patent holders can still charge monopoly rates as well as prevent other parties from using their technology.²¹² While patentees may assert that antitrust should condemn groups who (threaten to) infringe as a bargaining ploy,²¹³ such an argument is unpersuasive since

208. See *infra* Part IV.

209. Day & Udick, *supra* note 63.

210. See generally Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1 (1984) (explaining the costs of over-enforcing the antitrust laws).

211. Mark A. Lemley, *Antitrust Counterclaims in Patent and Copyright Infringement Cases*, 3 TEX. INTELL. PROP. L.J. 1, 1 (1994).

212. *United Access Techs., LLC v. EarthLink, Inc.*, No. 02-272, 2012 WL 2175786, at *4 (D. Del. June 14, 2012) (“The primary benefit of a patent is the right to exclude others.”) (citing *Arachnid Inc. v. Merit Indus. Inc.*, 939 F.2d 1574, 1578–79 (Fed. Cir. 1991)).

213. See, e.g., *Cascades Comput. Innovation LLC v. RPX Corp.*, No. 12-CV-01143, 2013 WL 316023, at *2 (N.D. Cal. Jan. 24, 2013) (“Allegedly, the Defendants

patentees may still initiate infringement lawsuits. Further, this defense would *not* empower a cartel of, for instance, big box stores to collude in hopes of depressing the price of a patented television—the proposal instead pertains only to the licensing, use, and implementation of the underlying technology in the television. Therefore, stripping rightsholders of antitrust remedies would leave untouched the right and ability to charge monopoly prices, exclude competition, and all other benefits of exclusive rights (as the following review of economic research indicates). It would only remove antitrust from the quiver of tools. We indeed find no reason why antitrust law provides a better mechanism to protect patent rights than patent law.

2. OPTIONS OF APPLICATION

The extent to which a cartel may assert this defense could be tailored broadly or narrowly based on the type of monopolist, though we have pursued the “broad” version throughout this Article.

Only Rightsovers with Market Power. In terms of narrowly tailoring the proposal, it could only apply where a patentee has accumulated traditional market power where the patent holder can profitably diminish output and raise prices.²¹⁴ The benefit of such a limited scope is that it would exclusively apply where a rightsholder has actually accrued the power to diminish consumer welfare. This would, however, require line-drawing, as courts must then determine the scope of the market and existence of market power.²¹⁵ The requirement of market power, though, would only resolve some of the litigation plaguing innovative markets and avoid the benefits of simplicity discussed herein.

All rightsholders. The simpler approach is to adopt a broad exception by allowing licensees to bargain collectively against *any* rightsholder whether or not the patentee has actually generated traditional market power. Benefits would include eliminating difficult line-drawing and litigation. It would also promote bargaining while leaving the patent monopoly and the associated right to exclude intact. After all, the value of a patent is largely derived from its exclusivity over an area of technology which collusion of licensees and implementers cannot

agreed they would jointly refuse to license Cascades’ patents; none would negotiate a license with Cascades independently; and all would infringe on Cascades’ patents without paying royalties.”).

214. See *Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 504 U.S. 451, 464 (1992) (“Market power is the power ‘to force a purchaser to do something that he would not do in a competitive market.’” (quoting *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 416 U.S. 2, 13–14 (1984))).

215. See Jeffrey J. Keyes, *The Market Power Requirement in Franchise Tie-Ins*, 54 ANTITRUST L.J. 1239 (1985).

overcome;²¹⁶ the consequence is that the market power of licensees will typically remain less than the patentee's, as they cannot employ the technology without the patentee's consent. Given this landscape, which is explained in Part IV, we assert that allowing this defense to apply against all rightsholders would ameliorate costly litigation and establish clear legal rights, as well as keep the patent monopoly intact.

All Monopolists Regardless of Rights: While not discussed thoroughly, a broad form of the proposal would permit this defense concerning *any monopolist* regardless of IP rights. The benefits of bilateral monopolies in IP fields are consistent where large firms have accrued a "legal monopoly."²¹⁷ Rather than litigating natural monopolists like Amazon under the antitrust laws, countervailing market power would entail a more effective and efficient approach.²¹⁸ In fact, this would not be the first time that the courts and Congress have promoted the benefits of competition by excluding certain actors from the antitrust laws. As with the labor market, as discussed below, Congress passed the Capper-Volstead Act to allow collectives of farmers to "fix prices at which their cooperative will sell their produce" without facing antitrust sanctions.²¹⁹ We also find that this approach makes sense from an economics approach.

E. Support

The virtues of our proposal are evidenced in economic research as well as historical evidence spanning subjects such as the Sherman Act's enactment to the labor arena.

1. ECONOMIC RESEARCH

Economic theory supports the contention that allowing a cartel to collude against a monopolist is superior to condemning the cartel. Consider a two-party bargaining system with the patentee on one side and a cartel of licensees on the other, opposing it. If the rightsholder wants to license its patent, it must deal with the cartel, and if the cartel wants to secure a license, it must deal with the patentee.²²⁰ Restated in economic terms, a bilateral monopoly exists with a monopolist selling

216. *United Access Techs., LLC*, 2012 WL 2175786, at *4.

217. *In re Tamoxifen Citrate Antitrust Litig.*, 277 F. Supp. 2d 121, 138 (E.D.N.Y. 2003) (referring to a patent as a "legal monopoly").

218. *See infra* Part IV.B.

219. *Md. & Va. Milk Producers Ass'n v. United States*, 362 U.S. 458, 466 (1960); 7 U.S.C. § 291.

220. *See Walgreen Co. v. Sara Creek Prop. Co.*, 966 F.2d 273, 276 (7th Cir. 1992).

licenses on one side and a cartel of buyers (a monopsony) on the other.²²¹ This landscape allows, as we show, the cartel to balance the rightsholder's negotiating power without turning the tables, giving the licensees the power to exploit monopsony pricing.²²² This should, at the macro level, allow patent markets to enhance efficiency. All the innovative incentives conferred by a patent should also remain intact, as we explain later in Part IV.

In the typical monopoly or monopsony, the dominant actor can extract supracompetitive benefits due to its market power.²²³ Absent a bilateral monopoly, a monopolist controls the supply function such that it will operate at the point on a demand curve that maximizes profits.²²⁴ Likewise, a monopsonist usually controls the demand curve and can select a preferred location on the supply curve at which to buy.²²⁵ These benefits break down in a bilateral monopoly because there are no markets to establish supply and demand curves on which the monopolist and monopsonist can operate.²²⁶ The deal must occur at some point below the monopoly price and above monopsony pricing, meaning that neither party can render the inefficiencies of market power.²²⁷

This two-party system does, however, create the risk of a stalemate where an agreement cannot be reached.²²⁸ Yet, unlike a traditional bilateral monopoly involving physical goods, the patent regime enjoys several ways of encouraging a deal. In FRAND situations, the patentee is contractually obligated to license on fair and reasonable terms at the risk of facing liability for breach of contract.²²⁹ A would-be licensee could also coerce negotiations by threatening to attempt to invalidate the patent

221. Tom Campbell, *Bilateral Monopoly in Mergers*, 74 ANTITRUST L.J. 521, 524 (2007).

222. See, e.g., Robert H. Jerry, II & Donald E. Knebel, *Antitrust and Employer Restraints in Labor Markets*, 6 INDUS. RELS. L.J. 173, 200 (1984) (describing, in a labor situation, how collective bargaining can offset monopoly power).

223. See *United States v. E. I. du Pont de Nemours & Co.*, 351 U.S. 377, 391 (1956) (defining "monopoly power" as "the power to control prices or exclude competition"); *NCAA v. Bd. of Regents of the Univ. of Okla.*, 468 U.S. 85, 109 n.38 (1984) (defining "market power" as "the ability to raise prices above those that would be charged in a competitive market").

224. Roger D. Blair & Jill Boylston Herndon, *Physician Cooperative Bargaining Ventures: An Economic Analysis*, 71 ANTITRUST L.J. 989, 1006 (2004).

225. *Id.*

226. See JAMES MITCHEL HENDERSON & RICHARD E. QUANDT, *MICROECONOMIC THEORY: A MATHEMATICAL APPROACH* (3d ed. 1980).

227. Blair & Herndon, *supra* note 224, at 1006.

228. Jeffrey L. Harrison, *Fingerprints: An Impressionistic and Empirical Evaluation of Richard Posner's Impact on Contract Law*, 50 U. PAC. L. REV. 373, 382 (2019).

229. See, e.g., *In re Qualcomm Litig.*, No. 3:17-cv-108, 2019 WL 7834768, at *1 (S.D. Cal. Mar. 20, 2019).

via *inter partes* review.²³⁰ Potential negative outcomes associated with these actions would thus break a stalemate.

Nevertheless, a bilateral monopoly offers the second-best scenario for consumers: better than when a monopolist controls the market but worse than the best-case scenario—vigorous competition.²³¹ Since the two parties may negotiate between themselves, this should maximize the surplus split between the parties.²³² Moreover, the expected supply curve from a patentee—especially in regulated situations like essential patents—is expected to account for hyper-marginal returns to recoup research costs and fund future endeavors.²³³ Accordingly, formation of a monopsony among potential licensees should not harm aggregate welfare while creating a method to discipline patentees who engage in holdup behaviors. Similar evidence exists in Sherman Act’s legislative history which is essential to modern enforcement.

2. LEGISLATIVE HISTORY

Legislative history is critical to interpreting the Sherman Act. Recall that the Sherman Act had traditionally caused confusion about which acts should entail an offense until the 1970s when the Chicago School persuaded the courts to narrow antitrust based on their reading of legislative history.²³⁴ This event has since given the Sherman Act’s legislative history an integral role in defining antitrust’s scope, though debate persists about the Chicago School’s methods.²³⁵ The Supreme Court has nevertheless instructed that “courts should interpret [the Sherman Act] in the light of its legislative history.”²³⁶ And based on this historical evidence, we find that the drafters recognized the utility of allowing firms to combine against monopolies.

Senator Stewart expressed great concern about the inability of individual firms to combine against legal monopolies.²³⁷ The problem, to him, was that society required a remedy in instances where a monopolist received legal protection, like a patent.²³⁸ When others cannot generate

230. W. Michael Schuster, *Rent-Seeking and Inter Partes Review: An Analysis of Invalidity Assertion Entities in Patent Law*, 22 MICH. TELECOMM. & TECH. L. REV. 271, 277 (2016).

231. Blair & Sokol, *supra* note 156, at 492 (remarking that when a “bilateral monopoly” replaces a monopoly or monopsony there will be “welfare gains”).

232. *Id.* at 495.

233. J. Gregory Sidak, *Patent Holdup and Oligopsonistic Collusion in Standard-Setting Organizations*, 5 J. COMPETITION L. & ECON. 123, 156–59 (2009).

234. *See* Priest, *supra* note 48, at S1–S2, S7, S10–S12.

235. *See supra* Part I.C.

236. *Apex Hosiery Co. v. Leader*, 310 U.S. 469, 489 (1940).

237. 51 CONG. REC. 2,606 (1890).

238. *Id.*

market power to balance the monopoly, “[i]t is that which depresses the people.”²³⁹ In addressing patents, Senator Stewart argued that the public must enjoy the right to combine against a holder when vibrant competition would result:

While in England every privilege (e.g., patents) was parceled out to corporations and to private individuals, favorites of the Crown, there was no way for the people to compete with them; but now, in the march of progress, we find everything has been changed and there is freedom of action, freedom of combination, and when one combination is formed, if it is not beneficent, if it puts up the price, others will be formed that will put the price down, and there will be competition. *But if you deny the right to combine in order to compete with the capitalists, in order to compete with strong establishments, you go back hundreds of years.*²⁴⁰

Put more strongly, he argued that “The great harmfulness of corporations was they were monopolies; that others could not form them. . . . If you take away the right to form combinations to meet combination, you will have monopoly in this country to your heart’s content.”²⁴¹ With this in mind, some drafters were skeptical about how broadly to interpret patent rights as an exception to antitrust law.²⁴² In fact, their assertion was that the courts would later need to determine antitrust’s relationship with patent law—an exercise that, as this Article shows, continues to this day.²⁴³

And with the passage of time, we find that allowing firms to combine against monopolists would achieve the very goals sought by the drafters. Senator Sherman exclaimed that antitrust’s purpose is to condemn a singular actor who accrued a “kingly prerogative” prevailing “over the production, transportation, and sale of any of the necessaries of life.”²⁴⁴ Yet when a combination uses “a proper and useful expedient,” it “ought to be encouraged and protected *as tending to cheapen the cost of production.*”²⁴⁵ To this end, the Sherman Act “does not in the least affect combinations in aid of production where there is free and fair

239. *Id.*

240. *Id.* (emphasis added).

241. *Id.*

242. *Id.* at 2,644.

243. *Id.* (“Whether this is to abolish all the laws of all the States which have organized corporations, and the patent laws of the United States, which create the greatest monopolies of the country, will be left for the courts to construe, and they will have some difficulty, I think, in doing it.”).

244. *Id.* at 2,456.

245. *Id.* at 2,457 (emphasis added).

competition.”²⁴⁶ Key to Senator Sherman was whether the agreement among rivals would “prevent competition” in raising prices.²⁴⁷

From this record, the debates seem to lack any intention of condemning parties who combine against a rightsholder or monopolist. First, some of the drafters specifically believed that market power offers an effective remedy to counter a monopoly, cautioning that the Sherman Act should leave this mechanism in place. Further, Senator Sherman remarked that combinations among competitors should survive scrutiny if they promote competition and lower prices. So long as the cartel preserves competition rather than drive the patent holder out of the market—especially where prices fall due to the competition—the drafters appeared to harbor no plans of antitrust’s intervention. Given the primacy of antitrust’s history, we assert that joint actions by firms to balance a monopolist or rightsholder constitute desirable behavior backed by historical support. The virtues of this proposition can also be found in workers bargaining against employers.

3. THE LABOR MARKET

Labor unions had historically posed antitrust problems until Congress sought to promote collective bargaining by carving out an antitrust exception. As background, labor trades in a market that anticompetitive conduct may threaten. In the labor market, workers negotiate with employers for the cost of labor—i.e., wages. And akin to the way competitive markets establish prices of conventional goods, repeated bargaining between employers and workers sets salaries at competitive levels.²⁴⁸ If, however, workers colluded, the historical fear was that labor could refuse to accept a wage unless employers capitulated in setting wages at above-market levels.²⁴⁹ In turn, courts had long interpreted the antitrust laws as condemning trade unions, which were considered anticompetitive forms of collusion.²⁵⁰

246. *Id.*

247. *Id.* So long as a combination keeps competition intact, and even lowers prices, this should not offend the antitrust laws, as the Sherman Act was only intended to bar combinations that “increase the profits of the producer at the cost of the consumer.” *Id.*

248. See Hiba Hafiz, *Labor Antitrust Paradox*, 87 U. CHI. L. REV. 381, 386–88 (2020) (explaining the economics of labor markets).

249. See *Apex Hosiery Co. v. Leader*, 310 U.S. 469, 502 (1940) (“A combination of employees necessarily restrains competition among themselves in the sale of their services to the employer . . .”).

250. James M. Altman, *Antitrust: A New Tool for Organized Labor?*, 131 U. PA. L. REV. 127 (1982) (“Historically, the antitrust laws have victimized organized labor. Although Congress passed the Sherman Act to combat the threat to a free market economy posed by trusts and other big business combinations, the Act initially was invoked against labor unions. The Supreme Court’s 1908 decision in *Loewe v. Lawlor* that union activities

The problem with this position was that workers could hardly exploit employers. In the era of trusts and company stores, large firms were often the sole employers in many markets, giving them leverage to set wages, labor conditions, and terms of employment.²⁵¹ And when recognizing that employers may manipulate salaries with less power than in conventional markets,²⁵² as well as exploit structural weakness in the labor market,²⁵³ employers imposed their preferred terms on labor.²⁵⁴ Despite employers' greater power, in the first decades of antitrust law, prosecutors disproportionately targeted labor unions instead.²⁵⁵

This prompted Congress to exempt labor unions from antitrust law.²⁵⁶ It first passed the Clayton Antitrust Act²⁵⁷ (Clayton Act) in 1914,

were not wholly immune from antitrust liability led directly to devastating treble damage awards against individual union members. For the next thirty years, Sherman Act injunctions crippled organized labor's use of its chief economic weapons—strikes and secondary boycotts.”) (footnotes omitted).

251. See Hafiz, *supra* note 248, at 286–87.

252. See José A. Azar, Iona Marinescu, Marshall I. Steinbaum & Bledi Taska, *Concentration in US Labor Markets: Evidence from Online Vacancy Data* 1–2 (Nat'l Bureau of Econ. Rsch., Working Paper No. 24395, 2019), https://www.nber.org/system/files/working_papers/w24395/w24395.pdf [<https://perma.cc/5ACU-9DQJ>] (finding that labor markets can be particularly concentrated).

253. For an explanation of how employers can set wages at artificially low wages with more ease than firms can fix prices in conventional markets, see Gregory Day, *Anticompetitive Employment*, 57 AM. BUS. L.J. 487, 494–95 (2020) (“[L]abor markets *do not typically self-correct*. Rarely would low salaries cause firms to enter the market for the sake of offering higher wages. And in the face of low wages, many workers would incur significant costs in switching jobs, careers, geography, or skillsets. Because workers and employers are unlikely to correct the labor market, a cartel can depress wages using less effort and market power than in product markets.”) (emphasis added).

254. *Id.* at 503–04 (discussing the uneven bargaining power baked into the labor relationship).

255. D. Daniel Sokol, *Reinvigorating Criminal Antitrust?*, 60 WM. & MARY L. REV. 1545, 1570 (2019) (discussing criminal prosecutions of labor unions).

256. Russell T. Gorkin, *Sports-League Player Restraints, Section 1 of the Sherman Act, and Federal Labor Law in the Context of the National Football League*, 5 HARV. J. SPORTS & ENT. L. 1, 62–63 (2014) (“After the Sherman Act was enacted in 1890, courts routinely applied the statute to invalidate and enjoin labor organizations from engaging in ‘anticompetitive’ conduct (such as strikes and boycotts) that tended to increase the costs of labor, and thus, the price of the goods that labor produced. Responding to the dire working conditions that many laborers faced in the early twentieth century, Congress passed Section 6 of the Clayton Act in 1914”) (footnote omitted).

257. 15 U.S.C. § 17 (“The labor of a human being is not a commodity or article of commerce. Nothing contained in the antitrust laws shall be construed to forbid the existence and operation of labor, agricultural, or horticultural organizations, instituted for the purposes of mutual help, and not having capital stock or conducted for profit, or to forbid or restrain individual members of such organizations from lawfully carrying out the legitimate objects thereof; nor shall such organizations, or the members thereof, be

which recognized the travails of labor and other blind spots in national antitrust policy.²⁵⁸ By declaring that labor is not a commodity governed by antitrust law, the import of the Clayton Act was that workers could form a union without offending the Sherman Act.²⁵⁹

Scholars and courts have since credited collective bargaining with leveling the playing field.²⁶⁰ The U.S. Circuit Court for the District of Columbia remarked that, since modern labor laws are meant to “preserve the delicate balance of countervailing power,” the allowance of one party to employ antitrust remedies against the other would constitute a “powerful weapon,” upsetting equitable bargaining.²⁶¹ As a commentator described, “a policy consistent with the maximization of societal welfare” validates the rise of labor unions.²⁶² Not only did the legalization of labor unions increase wages, it also helped to bring about safer work conditions.²⁶³ But the rise of unionization was far from a complete wealth transfer from companies to labor; industry reported enhanced levels of productivity even when accounting for increased wages.²⁶⁴ This is partially explained by the lower quit rates among unionized companies, attributable to both higher wages and greater levels of worker satisfaction.²⁶⁵ Said differently, in light of the employers’ market power, less antitrust in employment markets was beneficial. Therefore, as labor unionized following the Clayton Act, it enabled workers to balance their employer’s power without violating antitrust.

Given the historical and economic evidence, the implication is that antitrust should exclude patent rights from antitrust law. Rather than allowing rightsholders to insulate their market power using the antitrust laws—as Congress and the Supreme Court decided with labor unions—

held or construed to be illegal combinations or conspiracies in restraint of trade, under the antitrust laws.”).

258. See generally Randall Marks, *Labor and Antitrust: Striking a Balance Without Balancing*, 35 AM. U. L. REV. 699, 704–05 (1986) (explaining the ratification of the Clayton Antitrust Act in the shadow of the Sherman Act).

259. *Id.* at 714 (“Of course, section 6 of the Clayton Act almost certainly precludes a suit against a labor union for monopolizing a labor market, although it allows such a suit for monopolizing a product market.”).

260. See Kenneth G. Dau-Schmidt, *A Bargaining Analysis of American Labor Law and the Search for Bargaining Equity and Industrial Peace*, 91 MICH. L. REV. 419, 420–21 (1992) (“Those who enacted our basic labor laws, as well as the majority of legal scholars who have since commented on those laws, believed unions necessary for workers to achieve the benefits of industrial democracy and a larger share of industry’s profits.”).

261. *Brown v. Pro Football, Inc.*, 50 F.3d 1041, 1052 (D.C. Cir. 1995).

262. Robert H. Lande & Richard O. Zerbe, Jr., *Anticonsumer Effects of Union Mergers: An Antitrust Solution*, 46 DUKE L.J. 197, 212 (1996).

263. Eric Engle & Tetiana Danyliuk, *Emulating the German Two-Tier Board and Worker Participation in U.S. Law: A Stakeholder Theory of the Firm*, 45 GOLDEN GATE U. L. REV. 69, 85 (2015).

264. Lande & Zerbe, Jr., *supra* note 262, at 212–13.

265. *Id.*

the plaintiff's monopoly should entail an antitrust defense belonging to the defendant. Rightsholders and licensees could thus negotiate against each other on more balanced grounds without the costly and ubiquitous threat of antitrust litigation said to undermine modern innovative markets.

IV. IMPLICATIONS

This Part provides a brief discussion of some implications raised by this research. It discusses non-patent monopolies as well as game theoretical models showing that our proposal would prevent harm to patent holders. The latter section explains that patent and contract remedies are sufficient to incentivize innovation, justifying the removal of antitrust from this arena.

A. Colluding Against the Garden Variety Monopolist

Our approach could as easily work against the garden variety monopolist as with rightsholders. Commentators and lawmakers have grown increasingly anxious about the market power accrued by Big Tech, the telecommunications giants, and other monopolists.²⁶⁶ Concerns involve how companies, like Amazon, wield market power over the firms selling on their platforms.²⁶⁷ The problem is that small firms operating through Amazon lack the ability to bargain in concert with Amazon and similar monopolists, given the illegality of collusion. While not the overarching focus of this Article, our proposal could likewise apply to monopolists acting without patent rights.

It would, in fact, help to resolve complaints about the growth of “natural” or legal monopolists such as Facebook and Google, which allegedly diminish consumer welfare without offending the antitrust laws.²⁶⁸ In fact, underlying the e-book case between Apple and Amazon were allegations that Amazon had priced e-books below the market rate in an act of predatory pricing; as such, commentators asserted that the publishers were right to collude against Amazon's abuse of market power.²⁶⁹ We are sympathetic to this argument, as it would be optimal for rivals to solve this problem via private ordering—rather than

266. See *supra* notes 184–186 and accompanying text.

267. See Day & Stemler, *supra* note 31, at 9 (explaining allegations that Amazon uses its monopoly power for anticompetitive purposes).

268. Recall that exclusionary conduct is required to violate antitrust law. A natural monopolist, rightsholder, or other firms that accrue market power on the merits do not offend antitrust law. See *supra* notes 52–54 and accompanying text.

269. Kirkwood, *supra* note 20, at 4–5 (discussing countervailing market power in the e-book case).

litigation—and to effectively estop monopolists from using the antitrust law to preserve their market power. To this end, instead of increasing antitrust enforcement, a more efficient remedy would entail permitting smaller firms to bargain in concert against such monopolists.

B. Theoretical Model of the Proposal's Application

The prior Parts described problems associated with holdup behaviors and presented an easy-to-apply policy solution to facilitate equitable patent licensing. This proposal does not, however, erode the value of an average patent. The following discussion analyzes the effects of our proposal on patent value and licensing behaviors. It finds that our proposed policy will discourage the strategic patenting that harms market efficiency without unduly injuring the value that patents inure to the average inventor.

1. SINGLE PATENT OWNERS

Assessment of the implications from our proposal must begin with the licensing market for patented technologies. We begin by evaluating a single patent held outside of a large portfolio. A single patent likely does not raise the substantial anticompetitive concerns discussed in Part I. Analysis must determine whether our proposal would unduly harm the value of these patents. We believe it will not.

Assuming a willing market to license these technologies, the patentee is free to present terms on which it is willing to deal. If these terms satisfy potential licensees, they will strike a deal and our proposal is not implicated. Should a cadre of licensees find the proposals unreasonable, they may select from a host of stratagems. They can opt to research and develop a means of inventing around the patent—a decision that avoids licensing and furthers the innovative goals of the patent system.²⁷⁰ Absent the requirements of industry standards, no patented technology *must* be adopted. Similarly, a firm can simply elect not to utilize a technology. Both of these options remain the same after implementation of our policy.

Licensees may also collaborate to fix a lower-than-offered licensing rate (a “collusion rate”). At this time, the licensor can concede to this demand if it believes that entering into a multi-firm license is worth

270. Glynn S. Lunney, Jr., *Patents and Growth: Empirical Evidence from the States*, 87 N.C. L. REV. 1467, 1490 (2009) (“For example, three domestic firms may each be considering whether to license foreign technology or invent around the foreign patent. For each of the firms individually, it is less expensive to license than to invent around. Thus, taking a license is individually rational. However, if the three firms shared the cost, inventing around would be less expensive than licensing.”).

discounting to the collusion rate—as it can potentially exploit the benefits of scale—but it is not obligated to do so (e.g., no FRAND obligation exists). It can counter all or individual potential licensees with an offer, which they are free to accept. Assuming that there is no enforceable contract precluding the licensees from accepting a license above the collusion rate,²⁷¹ firms are free to defect from their price fixing scheme—in fact, this is quite likely, as scholarship has shown cartels are fragile and temporary, suggesting that firms would only employ our proposal in a limited and immediate fashion.²⁷² If so, the parties have reached a market-rate license. If not, the patentee maintains its exclusive rights in the technology and the market benefits entailed thereby. And should a potential licensee adopt the technology without permission, the choice of infringement litigation remains. The ability to collectively bargain has therefore not precluded arrival at a market-rate for licenses because the patentee owes no obligation to license its technology.

2. FRAND PATENTS

The situation changes when a firm owns an essential patent subject to FRAND obligations. Here, the patentee has a contractual obligation to make an offer to license patents on FRAND terms.²⁷³ This obligation does not extend to actually reaching an agreement, such that it bears no requirement to negotiate with potential licensees after it extends a reasonable offer.²⁷⁴ If a patentee's offer is rejected (constructively or explicitly), the offeree is considered an unwilling licensee,²⁷⁵ such that the patent owner may bring suit for past infringements.²⁷⁶ Should this suit succeed, courts have been willing to adopt the patentee's prior offer as the damage rate.²⁷⁷

In contrast, if the essential patent owner fails to make a FRAND offer, the potential licensee can—as a third-party beneficiary—bring suit

271. Contracts to further horizontal restraints are unenforceable. *Frank Sexton Enters., Inc., v. Sodial N. Am. Corp.*, 2002 WL 47841, *8 (E.D. Pa. Jan. 14, 2002).

272. See George Norman & Joel P. Trachtman, *The Customary International Law Game*, 99 AM. J. INT'L L. 541, 547 (2005) (explaining that cartel members encounter economic incentives to leave the cartel).

273. J. Gregory Sidak, *Mandating Final-Offer Arbitration of FRAND Royalties for Standard-Essential Patents*, 18 STAN. TECH. L. REV. 1, 15 (2014).

274. J. Gregory Sidak, *The Meaning of FRAND, Part II: Injunctions*, 11 J. COMPETITION L. & ECON. 201, 239–40 (2015).

275. See *In re Qualcomm Litig.*, No. 3:17-cv-108, 2019 WL 7834768, at *6–*7 (S.D. Cal. Mar. 20, 2019).

276. Sidak, *supra* note 274 at 239–40. Injunctive relief may be possible, if the plaintiff can satisfy the standard. *Id.*

277. See, e.g., *TCL Commc'n Tech. Holdings Ltd. v. Telefonaktiebolaget LM Ericsson*, No. SAVC 14-00341, 2016 WL 4150033, at *2 (C.D. Cal. July 25, 2016).

for breach of the patentee's contract obligations to the SDO.²⁷⁸ If successful, a jury will determine the appropriate FRAND payment to the licensor for prior uses of the technology by the would-be licensee,²⁷⁹ and the court may craft appropriate future FRAND license terms in the form of an injunction.²⁸⁰

Given the primary importance of whether the patent owner offered a FRAND license, we assess the situation under our rule for both when a FRAND offer was made and when one was not. When a FRAND offer has been made, the only question for the patentee is whether to accede to lower demands from a cadre of colluding licensees or sue for infringement. If an essential patent owner concedes to the demands of the colluding licensees, it loses the difference between its FRAND offer and the collusion price (ΔP) times the aggregate number of units of the technology created by the licensees (units).²⁸¹ If it chooses to go to court, it loses the cost of bringing an infringement lawsuit (PL_Cost).²⁸² Thus, we expect litigation where the patentee made a FRAND offer, and the licensees responded with a collusion price counteroffer if:

$$(1) \Delta P * \text{units} > PL_Cost$$

However, the patentee must consider whether a jury will determine it did make a FRAND offer. We call this likelihood “%_FRAND.” If the jury determines that the patentee failed to make a FRAND-compliant offer, it may adopt the licensees' collusion rate (or some other reasonable rate) as the measure of damages and future license rate. The benefit of going to court for the patentee must be adjusted to include the threshold that a jury must find its offer to be fair and reasonable if it is to collect the additional license income associated with not acceding to the collusion rates.

$$(2) \%_FRAND * \Delta P * \text{units} > PL_Cost$$

278. See *In re Qualcomm Litig.*, 2019 WL 7834768, at *1–*2.

279. *TCL Commc'ns Tech. Holdings Ltd. v. Telefonaktenbologet LM Ericsson*, 943 F.3d 1360, 1373 (Fed. Cir. 2019). The jury may (potentially) assess any other damages associated with the breach of obligations to an SDO. *TCL Commc'ns Tech. Holdings Ltd.*, 2016 WL 4150033, at *2.

280. See *TCL Commc'n Tech. Holdings, Ltd. v. Telefonaktiebolaget LM Ericsson*, No. SACV 14-341, 2018 WL 4488286, at *57 (C.D. Cal. Sept. 14, 2018), *rev'd in part on other grounds, vacated in part*, 943 F.3d 1360 (Fed. Cir. 2019).

281. This assumes a per unit royalty, which is common, though “ $\Delta P * \text{units}$ ” in Equation (1) could be replaced by a single flat rate cost (or the sum of all flat rates for all licensees).

282. This assumes no grant of attorney's fees, which is the common situation within the United States.

Based on this relationship,²⁸³ our proposal will have largely off-setting consequences where the patentee has lived up to its obligation to make a reasonable license offer. A patentee has an incentive to increase the likelihood that a jury might find their offer fair and reasonable (and thus, increase the value of the left side of Equation 2), but this decreases ΔP as the difference between the collusion price and demanded license price converge. Further, as these prices converge, more licensees are likely to defect and accept a license. This in turn decreases the aggregate number of units being litigated and decreases the cost of litigation for the patentee (PL_Cost). Except in very specific examples, our proposal should have negligible impact.

The impact will be, however, significant where the patentee engages in a holdup behavior by offering a license at obviously non-FRAND terms (i.e., a rate higher than fair). In this instance, the patentee has no interest in litigation, as a court will simply force it to license its patents at a fair and reasonable price, plus it will still have to pay litigation costs. The patentee's goal in a holdup instance is to encourage some licensees to agree to the elevated non-FRAND rate. A rational, individual licensee will do so where the aggregate additional licensing cost (the difference between a FRAND rate and the holdup rate offered) is less than the cost of litigation. In some instances, this may be a reasonable choice by the single licensee, as the cost of litigation can be substantial.

This situation changes, however, where licensees work in concert. In that instance, they will jointly agree not to accept the holdup rate, which discourages the patentee from demanding this elevated sum, with the goal of inducing it to offer FRAND terms. Should this change not occur, the decision for licensees to litigate becomes more palatable in the cartel situation. Given the shared litigation interests within the group (e.g., proving that the offered license rate is unreasonable and unfair or that the patent is invalid), substantial efficiencies are created by sharing the costs of these undertakings.²⁸⁴ This, in turn, encourages litigation by the licensees to the exclusion of accepting a holdup cost license from the patentee. That is the exact opposite of what the patentee hopes for, thus encouraging the patentee to offer licenses at a FRAND rate.

More, to the extent that the licensee cartel shares information about licensing offers from the patentee (explicitly or implicitly, by leaving the cartel), this benefits the cartel. The parties recognize that the patentee

283. This relationship assumes that the licensee's collusion rate is fair and reasonable and that the court adopts it as the FRAND rate if the patentee was demanding unfair and unreasonable license rates. In that instance, the adopted license rate is equal to the collusion rate, rendering ΔP to equal zero.

284. See *Princeton Digit. Image Corp. v. Facebook, Inc.*, No. 2:11-CV-400, 2012 WL 3647182, at *5 (E.D. Tex. Aug. 23, 2012) (working in concert can drive down litigation costs).

must license on non-discriminatory terms, such that it must afford all licensees the same offer as it gave to one.²⁸⁵ If another party left the cartel, it is likely they received better terms than the holdup rate, which encourages the cartel to demand these improved terms for itself.²⁸⁶

3. PATENT AGGREGATORS

Similar benefits arise to a cartel of licensees in the face of a mass patent aggregator (patent troll or otherwise) that is either actively seeking to license its entire large portfolio or maintaining a large portfolio to discourage competition.²⁸⁷ The aggregator's patents and licensing efforts are backed by a threat of litigation, and often repeat litigation, if the initial suit does not achieve the intended goal. Their holdings are large enough that they can repeatedly sue a recalcitrant potential licensee for patent infringement, thus maximizing pressure to license via litigation cost and the potential for liability.²⁸⁸ For this business model to prove beneficial, aggregators must secure force licensing deals on market participants, without undertaking excessive litigation costs of its own (though litigation will sometimes be necessary). Price fixing by potential licensees may not undermine this approach, but it does harm it.

Where a cadre agrees only to license the aggregator's patents at a set price, this may injure the patentee's ability to reap substantial profits. The aggregator must choose to accept lower license rates and undercut a part of its income, or it can threaten to sue the price-fixing potential licensees. The former undermines income, while the latter increases costs (likely through legal fees). And to the extent that aggregation was intended to create barriers to market entry, this goal is injured where these financial barriers (i.e., licensing costs) are diminished.

Moreover, should the aggregator choose to file suit, the coordinating parties may decrease their individual costs by engaging in joint defense activities. Experts can be shared, negotiation tactics coordinated, and the costs associated with duplicative defense activities avoided. The exact scope of savings will vary from case to case, as a function of patents asserted, the timing of litigation, and other strategic behaviors by the aggregator. However, the price fixing individuals will be able to decrease

285. David J. Teece & Edward F. Sherry, *Standards Setting and Antitrust*, 87 MINN. L. REV. 1913, 1960 (2003).

286. This benefit is diminished where the party that left the cartel received a license via a cross-license. The exact licensee/licensor relationship in the cross-license is not found for any other licensee/licensor pair, and thus establishing which would constitute "non-discriminatory" for later licensee/licensor pairs becomes much more difficult. *See id.*

287. The aggregator may be attempting to license its entire portfolio or a portion of its entire portfolio relevant to this particular market or licensee.

288. Lemley & Melamed, *supra* note 70, at 2127.

income to the aggregator through diminished income or increased legal fees. This, in turn, disinclines the aggregator business practice.

CONCLUSION

As described herein, the patent system has the capacity to encourage innovation by affording a specific set of exclusionary rights. However, certain firms undertake strategies that create power extending beyond the scope of their patent rights, which can damage competition. In response, some market participants attempt to remedy this harm by collectively bargaining to even the playing field. These behaviors have been alleged to violate the antitrust laws. We argue that application of antitrust laws in this instance is a policy error.

Collective negotiations have the capacity to undercut abusive behaviors that may be undertaken by mass patent aggregators or those who ignore their FRAND obligations. And as shown through our analysis, anticompetitive behaviors such as aggregation of huge numbers of patents can undercut the incentive to spend money on research, incentivize the filing of relatively lower value patents, and increase market concentration. With this in mind, we argue that antitrust should not be used to stifle collective negotiation where the opposing party enjoys monopoly power. Moreover, we address the implications of our proposal, showing that while it discourages anticompetitive behaviors, it should not harm patent owners who behave in good faith.