Why Patent Hold-Up Does Not Violate Antitrust Law

Gregory J. Werden

Luke M. Froeb*

Table of Contents

Owners of standard essential patents (SEPs) are sometimes cast as villains for engaging in "patent hold-up" and thereby extracting excessive royalties to the detriment of consumers. Academics,[1] technology companies,[2] and a member of the Federal Trade Commission[3] have argued recently that Section 2 of the Sherman Act,

* Werden is Senior Economic Counsel in the Antitrust Division, U.S. Department of Justice. Froeb is William C. Oehmig Chair of Free Enterprise and Entrepreneurship at Owen Graduate School of Management, Vanderbilt University. The views expressed herein are not purported to reflect those of the U.S. Department of Justice. We thank Rebecca Allensworth for comments.

1 *See* Letter from Michael A. Carrier, Timothy J. Muris, et al. to Makan Delrahim (May 17, 2018), https://patentlyo.com/media/2018/05/DOJ-patent-holdup-letter.pdf.

2 *See* Standards, Licensing, and Innovation: A Response to DOJ AAG's Comments on Antitrust Law and Standard-Setting (May 30, 2018), http://actonline.org/wp-content/uploads/05302018_Multi-Assn-DOJ-Delrahim-SEP-White-Paper_FINAL.pdf.

3 *See* Terrell McSweeny, Holding the Line on Patent Holdup: Why Antitrust Enforcement Matters (Mar. 21, 2018), https://www.ftc.gov/system/files/documents/public_statements/1350033/mcsweeny_-_the_reality_of_patent_hold-up_3-21-18.pdf.

which prohibits monopolization, should act as a critical bulwark against patent hold-up. But these advocates of antitrust intervention confuse the Sherman Act's ends with its means. The Sherman Act protects the competitive process against efforts to corrupt or sabotage it, but patent hold-up has no such effect and cannot give rise to a valid antitrust claim.[4]

I. Introduction

Rather than develop and implement proprietary technologies, companies that make electronic components and devices often cooperate with each other and with technology developers on technical standards. Standard setting organizations (SSOs) host these efforts and promulgate standards open to all component or device manufacturers. A relatively recent phenomenon is that important standards are encumbered by many—perhaps thousands—of SEPs.

In our terminology, "inventors" own SEPs and grant licenses to them, while "implementers" manufacture or sell standard-compliant components or devices. This terminology merely distinguishes the two sides in SEP licensing disputes. Implementers might also be inventors, and in any event, they contribute to technical progress by developing innovative standard-compliant components and devices.

Absent licenses granted by inventors, implementers would infringe the SEPs, and SEPs typically are not pooled, so each implementer must take a license from each inventor. To facilitate licensing, most major SSOs require or urge all participants to disclose intellectual property rights and commit to license on fair, reasonable, and non-discriminatory (FRAND) terms.[5]

Royalties are not negotiated until licenses are executed, which can be long after a standard is adopted, and after implementers have made investments in design, and possibly or even in manufacturing, of standard-complaint components and devices. In economic terms, these investments (or portions of them) are sunk because they

---

4 Our bottom line on the application of antitrust law to patent hold-up has much in common with that of Bruce H. Kobayashi & Joshua D. Wright, *The Limits of Antitrust and Patent Holdup: A Reply to Cary et al.*, 78 ANTITRUST L.J. 505, 707 (2012); Bruce H. Kobayashi & Joshua D. Wright, *Federalism, Substantive Preemption, and Limits on Antitrust: An Application to Patent Holdup*, 5 J. COMPETITION L. & ECON. 469, 29–30 (2009); James F. Rill, James G. Kress, Dina Kallay & Hugh M. Hollman, *Antitrust and FRAND Bargaining: Rejecting The Invitation for Antitrust Overreach into Royalty Disputes*, ANTITRUST, Fall 2015, at 72; J. Gregory Sidak, *Patent Holdup and Oligopsonistic Collusion in Standard-Setting Organizations*, 5 J. COMPETITION L. & ECON. 123, 188 (2009); Makan Delrahim, Assistant Attorney General, Antitrust Law and Patent Licensing in the New Wild West (remarks at IAM's Patent Licensing Conference, Sept. 18, 2018), https://www.justice.gov/opa/speech/file/1095011/download.

5 *See* Microsoft Corp. v. Motorola, Inc., 696 F.3d 872, 876 (9th Cir. 2012); Qualcomm Inc. v. Broadcom Corp., 548 F.3d 1004, 1010 (Fed. Cir. 2008); Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. 1889, 1904–06 (2002); Rudi Bekkers & Andrew Updegrove, A STUDY OF IPR POLICIES AND PRACTICES OF A REPRESENTATIVE GROUP OF STANDARDS-SETTING ORGANIZATIONS WORLDWIDE 71 (Sept. 17, 2012), http://sites.nationalacademies.org/cs/groups/pgasite/documents/webpage/pga_072197.pdf. The history of the practice is traced by Jorge L. Contreras, *A Brief History of FRAND: Analyzing Current Debates in Standard Setting and Antitrust through a Historical Lens*, 80 ANTITRUST L.J. 39, 43–44 (2015).

cannot be recovered if the standard is abandoned or some SEPs cannot be licensed.

Antitrust intervention advocates argue that these sunk costs permit inventors to engage in "opportunism" by demanding royalties that could "capture part of the fruits of another's investment," i.e., part of the sunk investment of implementers.[6] This "opportunistic" behavior by inventors is what generally is meant by the term "patent hold-up."[7] A special case of patent hold-up is patent ambush: an SEP is asserted against an accused infringer that could not have been aware of the infringement.[8] Economic analyses posited to explain why patent hold-up leads to excessive royalties do not posit ambush, but rather that some costs of implementing the standard are sunk before a license is executed and the royalty determined.[9]

Inventors want high royalties, while implementers want low royalties. Both try to get what they want and likely have fiduciary obligations to do so. Out of a conviction that inventor opportunism is a serious problem, advocates of antitrust intervention in patent hold-up contend that implementers should be able to use antitrust law to get what they want. But no evidence has been put forward to indicate that lower SEP royalties would be sufficient to incentivize and finance new technology.[10] And intervention advocates pay little heed to the ubiquitous opportunism of implementers.[11] All of the costs of innovation have been sunk before licenses are executed. Implementers, therefore, could capture not just a part of the fruits of inventors' investments, but the lion's share by "holding out," refusing to pay anything until inventors agree to accept unreasonably low royalties.[12]

---

6 Joseph Farrell, John Hayes, Carl Shapiro & Theresa Sullivan, *Standard Setting, Patents, and Hold-Up*, 74 ANTITRUST L.J. 603, 603 (2007).

7 "The tactic of withholding a license unless and until a manufacturer agrees to pay an unduly high royalty rate for an SEP is referred to as 'hold-up.'" Microsoft Corp. v. Motorola, Inc., 795 F.3d 1024, 1031 (9th Cir. 2015). *See* Broadcom Corp. v. Qualcomm Inc., 501 F.3d 297, 310 (3d Cir. 2007). Most commentators define patent hold-up as opportunistic behavior that exploits implementers' sunk costs. *See, e.g.*, 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, 914–15 (2011); Joseph Kattan, *FRAND Wars and Section 2*, ANTITRUST, Summer 2013, at 31; A. Douglas Melamed & Carl Shapiro, *How Antitrust Law Can Make FRAND Commitments More Effective*, 127 YALE L.J. 2110, 2111 (2018).

8 *See* Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEXAS L. REV. 1991, 1995 (2007). Opportunism and ambush have been equated. *See* Farrell et al., *supra* note 6, at 603. But opportunism is foreseeable, while ambush is not, and this distinction affects both the economic analysis and the availability of remedies.

9 *See* Farrell et al., *supra* note 6, at 612–13; Carl Shapiro, *Injunctions, Hold-Up, and Patent Royalties*, 12 AM. L. & ECON. REV. 280, 284, 291–92 (2010).

10 Two antitrust intervention advocates suggest that current rewards to inventors are excessive. Melamed & Shapiro, *supra* note 7, at 2114 n.12, 2116, 2118. Others suggest that the supply of invention was unresponsive to rewards. Farrell et al., *supra* note 6, at 632.

11 The adequacy of inventor rewards was questioned by Einer Elhauge, *Do Patent Holdup and Royalty Stacking Lead to Systematically Excessive Royalties?*, 4 J. COMPETITION L. & ECON. 535, 541 (2008). Empirical evidence that they are low was cited by Alexander Galetovic & Stephen Haber, *The Fallacies of Patent-Holdup Theory*, 12 J. COMPETITION L. & ECON. 1, 7–9 (2017).

12 *See* Richard A. Epstein & Kayvan B. Noroozi, *Why Incentives for 'Patent Holdout' Threaten to Dismantle FRAND, and Why It Matters*, 32 BERKELEY TECH. L.J. 1381, 1384 (2018); Luke Froeb & Mikhael Shor, *Innovators, Implementers, and Two-sided Hold-up*, ANTITRUST SOURCE, August

In Part II we set out the economic framework employed by many of the intervention advocates and characterize patent hold-up. In economic analyses deployed to demonstrate that patent hold-up is a problem for which antitrust law provides a solution, patent hold-up is just a bargaining outcome in which an inventor obtains a royalty higher than it would have through arms-length bargaining *before the standard was adopted*. If royalties had been set in the standard-setting process, the inventor of the best solution to a technical problem would have obtained at most its incremental value as compared with the next-best solution. But royalties actually are determined much later. The term "patent hold-up" refers merely to impact on the bargaining of implementers' having already made sunk investments in the standard.

Part III reviews four strains of cases relevant to antitrust intervention in patent hold-up. We first examine cases that elucidate the central concern of antitrust. The cases explain that the essential premise of antitrust law is that competition promotes various societal goals and establish that only conduct harming competition violates antitrust law. Patent hold-up, as we use the term, does not harm competition and therefore does not give rise to an antitrust claim.

Second, we explore the patent–antitrust interface. To help understand where were are today, we briefly trace the path that brought us here. The one constancy has been that anything patent law specifically authorizes has been off limits to antitrust law. Over time, however, what was a grudging resolution of tension between opposing bodies of law has given way to a recognition of the shared ends and means for patent and antitrust law. In the present understanding of the patent–antitrust interface, conduct pejoratively described as patent hold-up is permitted by antitrust law both out of respect for patent law and to promote innovation-based competition.

Third, we review leading cases addressing patent hold-up and more generally when patent enforcement might violate antitrust law. These cases demonstrate that contract law can be effective in enforcing FRAND commitments, but the cases provide very little scope for antitrust law. Efforts to enforce a patent normally cannot offend antitrust law but are subject to contractual limitations. Such efforts can violate antitrust law only when the patent holder attempts to exercise rights known not to be rightfully possessed, as when a patent was procured by fraud on the Patent Office. Conduct by an inventor after the standard was adopted, aimed at maximizing royalties, might breach an enforceable contract, but no court has held that it gives rise to a cause of action under antitrust law.

Finally, we consider the antitrust injury requirement. It has proved extraordinary useful in terminating antitrust suits that are not focused on harm to competition. The antitrust injury requirement is a gatekeeping device: An antitrust claim can be dismissed on the pleadings if the plaintiff is unable to explain convincingly how the challenged conduct causes the plaintiff's injury by harming competition (or to harm competition). Antitrust suits alleging patent hold-up should not proceed to discovery

2015, at 1–3; Bernhard Ganglmair, Luke M. Froeb & Gregory J. Werden, *Patent Hold-up and Antitrust: How a Well-Intentioned Rule Could Retard Innovation*, 60 J. INDUS. ECON. 249 (2012).

unless other allegations plead antitrust injury.

Part IV responds to calls for antitrust intervention. Advocates differ on what conduct they condemn and the antitrust rationale for condemning it, but exhibit have consistent themes: Antitrust intervention advocates sometimes overlook the fact that no violation of antitrust law can occur without harm to competition. Advocates often see harm to competition where none exists. Finally, advocates favor intervention based on the belief that lowering SEP royalties is beneficial, but that benefit is a conjecture, and even if it were proved, it could not be a sufficient basis for antitrust intervention.

Part V concludes. Although blackletter law holds that merely charging excessive rates cannot violate antitrust law, antitrust intervention advocates would impose antitrust liability, with treble damage exposure, for conduct that amounts to the same thing. FRAND commitments hammered out by inventors and implementers working together should be enforced, and the courts are enforcing them. Using antitrust law to push royalties even lower distorts antitrust law, disserves patent law, and possibly even harms the consumers it is meant to protect.

Antitrust law promotes consumer welfare only by protecting competition. Casting aside this core principle would expose countless business decisions, including ordinary price setting, to oversight by generalist judges empowered to help consumers. Even if these judges had the wisdom and knowledge necessary to micromanage the economy, doing so ultimately would harm consumers by denying the free-market's rewards to enterprise and efficiency. Antitrust law does not provide a remedy for every perceived wrong in the business world, even if consumer welfare arguably is threatened.

II. Bargaining Theory and the Concept of Patent Hold-Up

A (valid) patent can have great value if it claims technology essential to devices from which many consumers derive substantial utility. The owner of such a patent possesses a monopoly of sorts, and the investment in the technology could pay off handsomely. A technology standard tends to increase the pay off by causing standard-essential technology to be used in more units of royalty-paying components or devices.[13] Moreover, a standard locks in technology choices, so patents essential to a standard-complaint version of a particular component or device could be inessential to a noncompliant version of the component or device that uses alternative technologies.

Inventors that become monopolists with the adoption of a standard generally accept an important restriction on the grant of monopoly. They commit to license their SEPs to all comers and to do so on FRAND terms. FRAND, however, is neither a number nor a formula, and innumerable FRAND commitments were made before

[13] *See* Melamed & Shapiro, *supra* note 7, at 2118; Daniel G. Swanson & William J. Baumol, *Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power*, 73 ANTITRUST L.J. 1, 8–10 (2005).

any court had interpreted the concept. As a matter of economic theory, broad agreement exists on how to conceptualize a FRAND royalty: It is the royalty that would have been negotiated just before the standard was adopted.[14] This is the benchmark used in economic analyses of patent hold-up.[15] The scenario defining FRAND is properly termed "*ex interim* bargaining" because it occurs before implementers invest but after inventors invest.[16]

Bargaining theory predicts that bilateral negotiations divide the total gain to both parties reaching agreement.[17] The original theory of John Nash posited an even division,[18] but economic analyses of patent hold-up posit a division determined by relative bargaining skill.[19] In *ex interim* bargaining, inventors and implementers would have divided the incremental gain from using the best technical solution instead of the next-best alternative. This incremental gain would be huge for a breakthrough invention but very small if alternative technical solutions to a particular problem were almost equally good.

Licensing SEPs before adoption of a standard likely is infeasible because some SEPs have not been issued and their claims are unsettled.[20] Before taking all the necessary licenses, implementers are apt to make sunk investments in product development and manufacturing. Once they have, replacing a particular technology in a standard with the next-best alternative *ex interim* might be impossible, in which case all of an implementer's sunk investments in standard-compliant products would be lost if bargaining over the royalty failed to produce an agreement. This puts SEP holders in a position to engage in what is called patent hold-up, meaning that the SEP holder exploits the bargaining advantage afforded by the implementer's sunk investment.

A concrete example clarifies the insight that *ex interim* and *ex post* bargaining produce different royalties because they involve different metaphoric pies: Suppose

---

14 *See, e.g.*, Dennis W. Carlton & Allan L. Shampine, *Patent Litigation, Standard-Setting Organizations, Antitrust, and FRAND*, 22 TEX. INTELL. PROP. L.J. 223, 230 (2014); Thomas F. Cotter, *Patent Holdup, Patent Remedies, and Antitrust Responses*, 34 J. CORP. L. 1151, 1172–74, 1182–83 (2009); Doug Lichtman, *Seventh Annual Baker Botts Lecture: Understanding the RAND Commitment*, 47 HOUS. L. REV. 1023, 1032–35 (2010); Swanson & Baumol, *supra* note 13, at 10–11, 21.

15 *See* Farrell et al., *supra* note 6, at 611–12; Lemley & Shapiro, *supra* note 8, at 1999–2000; Shapiro, *supra* note 9, at 289.

16 *See* Froeb & Shor, *supra* note 12, at 3.

17 For presentations of bargaining theory ordered in increasing degrees of detail and technical rigor, see, e.g., LUKE M. FROEB, BRIAN T. MCCANN, MIKHAEL SHOR & MICHAEL R. WARD, MANAGERIAL ECONOMICS: A PROBLEM SOLVING APPROACH 205–11 (5th ed. 2018); SAMUEL BOWLES, MICROECONOMICS: BEHAVIOR, INSTITUTIONS, AND EVOLUTION 167–83 (2004); MARTIN J. OSBORNE & ARIEL RUBINSTEIN, BARGAINING AND MARKETS (1990).

18 *See* John Nash, *Two-Person Cooperative Games*, 21 ECONOMETRICA 128 (1953); John Nash, *The Bargaining Problem*, 18 ECONOMETRICA 155 (1950).

19 *See* Farrell et al., *supra* note 6, at 612–15; Lemley & Shapiro, *supra* note 8, at 1997–98; Shapiro, *supra* note 9, at 288.

20 *See* Melamed & Shapiro, *supra* note 7, at 2113. Inventors sometimes commit to specific maximum royalty rates as part of the standard-setting process, and option-to-license contracts can completely solve the hold-up problem. *See* Ganglmair, Froeb & Werden, *supra* note 12, at 13–15.

that an implementer expects to manufacture a standard-compliant component with a marginal cost of $2 and a price of $8. The difference of $6 is not expected profit because the implementer incurred sunk costs. But once those costs are sunk, the per-unit gain from reaching agreement with holders of SEPs is the full $6, so *ex post* bargaining splits $6. If sunk development costs amortized to $4 per unit, *ex interim* bargaining would have split just $2. If bargaining splits gains evenly *à la* Nash, conducting the bargaining after product development costs are sunk increases the per-unit royalty (divided among all SEP holders) from $1 to $3.[21]

The foregoing ignores external influences on the bargaining outcome, and there are several. An inventor can seek an injunction, and threat of an injunction could affect the bargaining outcome.[22] An implementer can seek a declaratory judgment that the patent is invalid or not infringed,[23] and the threat to do so could also affect the bargaining outcome. And, of course, an implementer can bring an action to enforce the FRAND commitment,[24] and the threat to do that could also affect the bargaining outcome. Courts have observed that a FRAND commitment is meant to achieve the outcome that *ex interim* bargaining would have produced,[25] and they have

---

21 For the purpose of this example, we assume that SEP holders collectively negotiate with each implementer, and we assume that some of the technologies incorporated into the standard had no alternatives. These assumptions simplify the analysis: They eliminate any impact on the total royalty from locking implementers into specific technologies through the standard. And they eliminate the possibility of "royalty stacking." Because all SEPs for a particular standard are complements, cooperation by the SEP holders has the opposite impact of collusion by competing sellers. It solves the "double marginalization" or "Cournot complements" problem. On that problem, see Carlton & Shampine, *supra* note 14, at 231–32; Cotter, *supra* note 14, at 1169–70; Farrell et al., *supra* note 6, at 641–42; Lemley & Shapiro, *supra* note 8, at 2013–14; J. Gregory Sidak, *Holdup, Royalty Stacking, and the Presumption of Injunctive Relief for Patent Infringement: A Reply to Lemley and Shapiro*, 92 MINN. L. REV. 714, 725 (2008).

22 Such injunctions are granted only if the patent holder shows irreparable injury and the inadequacy of the monetary damages. eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 391 (2006). An injunction can be granted upon a showing of causal nexus between the infringement and lost sales, and this "causal nexus requirement . . . requires the patentee to show 'some connection' between the patented features and the demand for the infringing products." Apple Inc. v. Samsung Elecs. Co., 809 F.3d 633, 640–44 (Fed. Cir. 2015).

23 *See* MedImmune, Inc. v. Genentech, Inc., 549 U.S. 118, 126–32 (2007); Asia Vital Components Co. v. Asetek Danmark A/S, 837 F.3d 1249, 1254–55 (Fed. Cir. 2016); Arkema Inc. v. Honeywell Int'l, Inc., 706 F.3d 1351, 1356–57 (Fed. Cir. 2013).

24 *See* Realtek Semiconductor Corp. v. LSI Corp., 946 F. Supp. 2d 998, 1006 (N.D. Cal. 2013); *In re* Innovatio IP Ventures, LLC Patent Litig., 921 F. Supp. 2d 903, 923–24 (N.D. Ill. 2013); Apple, Inc. v. Motorola Mobility, Inc., 886 F. Supp. 2d 1061, 1083–85 (W.D. Wisc. 2012); Microsoft Corp. v. Motorola, Inc., 864 F. Supp. 2d 1023, 1030–33 (W.D. Wash. 2012); Research in Motion Ltd. v. Motorola, Inc., 644 F. Supp. 2d 788, 797 (N.D. Tex. 2008).

25 *See* Broadcom Corp. v. Qualcomm Inc., 501 F.3d 297, 314 (3d Cir. 2007) (noting that after a patent is incorporated into a standard, an SEP holder could "demand supracompetitive royalties. It is in such circumstances that measures such as FRAND commitments become important safeguards against monopoly power."); Apple, Inc. v. Motorola, Inc., 869 F. Supp. 2d 901, 913 (N.D. Ill. 2012) (Posner, J.) ("The purpose of the FRAND requirements . . . is to confine the patentee's royalty demand to the value conferred by the patent itself as distinct from the additional value—the hold-up value—conferred by the patent's being designated as standard-essential."(citing *Broadcom Corp.*, 501 F.3d at 313–14)), *aff'd in part, rev'd in part*, 757 F.3d 1286 (Fed. Cir. 2014).

acted accordingly in determining SEP royalties.[26]

Antitrust intervention in patent royalty disputes also would alter the bargaining outcome. Section 4 of the Clayton Act allows any person injured "by reason of anything forbidden by the antitrust laws" to sue for treble damages.[27] If patent hold-up was deemed an antitrust violation, damages presumably would be computed as the difference between the royalties paid and the royalties later determined to have been FRAND. With uncertainty about what royalty a court would choose, the threat of antitrust damages would cause the bargaining to settle on a royalty less than the expected court-determined FRAND royalty.[28] Reducing SEP royalties would cause inventors to reduce their investment and would result in less innovation, thereby harming consumers.[29]

III. Case Law Informing the Application of Antitrust Law to SEP Royalty Disputes

A. Consumer Welfare and the Sherman Act

Professor Robert Bork introduced the term "consumer welfare" to antitrust discourse.[30] He first published several articles on the relevant "values" under antitrust law, arguing that the courts should recognize only "consumer welfare," which he equated to "maximization of wealth."[31] He argued that pursuit of "broad social, political, and ethical mandates" made antitrust unworkable.[32] *The Antitrust Paradox*, published in 1978, drew on Congressional debate to argue that "[t]he Sherman Act was clearly presented and debated as a consumer welfare prescription."[33]

Quoting Bork, the Supreme Court observed in 1979 that "Congress designed the Sherman Act as a 'consumer welfare prescription'"[34] to help explain why allowing consumers to bring actions for damages was not in tension with congressional intent

---

26 *See* Commonwealth Sci. & Indus. Res. Org. v. Cisco Sys., Inc., 809 F.3d 1295, 1304–05 (Fed. Cir. 2015) (non-FRAND-encumbered SEPs); Ericsson, Inc. v. D-Link Sys., Inc., 773 F.3d 1201, 1229–33 (Fed. Cir. 2014) (FRAND-encumbered SEPs). This view of the FRAND royalty is inconsistent with the principle that a reasonable royalty is determined by a hypothetical negotiation at the time the infringement began. *See* Prism Techs. LLC v. Sprint Spectrum L.P., 849 F.3d 1360, 1376–77 (Fed. Cir. 2017); LaserDynamics, Inc. v. Quanta Computer, Inc., 694 F.3d 51, 75 (Fed. Cir. 2012); Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1324–25 (Fed. Cir. 2009).

27 Advocates of antitrust intervention in patent royalty disputes also have argued that the equitable remedies possible in antitrust cases should be available to implementers. *See* Cary et al., *supra* note 7, at 937–44; Melamed & Shapiro, *supra* note 7, at 2136.

28 *See* Ganglmair, Froeb & Werden, *supra* note 12, at 255, 265.

29 *See id*.

30 *See* Douglas H. Ginsburg, *Judge Bork, Consumer Welfare, and Antitrust Law*, 31 HARV. J.L. & PUB. POL'Y 449, 450–51 (2008). For a review of Bork's relevant work, see Gregory J. Werden, *Antitrust's Rule of Reason: Only Competition Matters*, 79 ANTITRUST L.J. 713, 718–23 (2014).

31 Robert H. Bork, *The Goals of Antitrust Policy*, 57 AM. ECON. REV. (PAPERS & PROC.) 242, 243–44, 253 (1967); Robert H. Bork, *Legislative Intent and the Policy of the Sherman Act*, 9 J.L. & ECON. 7, 7–8, 47–48 (1966).

32 Bork, *Legislative Intent*, *supra* note 31, at 10.

33 ROBERT H. BORK, THE ANTITRUST PARADOX 66 (1978).

34 Reiter v. Sonotone Corp., 442 U.S. 330, 343 (1979).

in enacting the Sherman Act.[35] The Court repeated the observation five years later to explain why the NCAA's output restriction on college football telecasts violated the Sherman Act.[36] In *NCAA*, the Court identified two "hallmarks of anticompetitive behavior" in the challenged telecasting policies—that they imposed "a restraint upon the operation of a free market," and that they "operated to raise prices and reduce output."[37] The Court did not suggest that the policies were unlawful merely because viewers did not get to see games they wanted to see, holding instead that "the criterion to be used in judging the validity of a restraint on trade is its impact on competition."[38]

Nothing in the Court's antitrust jurisprudence is at odds with its admonition that "it frustrates rather than effectuates legislative intent simplistically to assume that *whatever* furthers the statute's primary objective must be the law."[39] And Justice Scalia, who raised statutory interpretation to an art form, aptly declared that: "Every statute purposes, not only to achieve certain ends, but also to achieve them by particular means . . . ."[40] In enacting the Sherman Act, Congress "sought to establish a regime of competition as the fundamental principle governing commerce in this country."[41] Deeming SEP holders in violation of the Sherman Act merely for asking to be paid high royalties would unmoor the Act from its one core principle.

In the 1958 *Northern Pacific* decision, the Supreme Court distinguished between the policy of the Sherman Act and the goals Congress hoped that policy would advance:

> The Sherman Act was designed to be a comprehensive charter of economic liberty aimed at preserving free and unfettered competition as the rule of trade. It rests on the premise that the unrestrained interaction of competitive forces will yield the best allocation of our economic resources, the lowest prices, the highest quality and the greatest material progress, while at the same time providing an environment conductive to the preservation of our democratic political and social institutions. But even were that premise open to question, the policy unequivocally laid down by the Act is competition.[42]

Two of the Supreme Court's decisions are particularly telling on this point.

Professional Engineers concerned a canon of ethics adopted by a professional

---

35 *Sonotone*, 442 U.S. at 342–43.

36 NCAA v. Bd. of Regents of the Univ. of Okla., 468 U.S. 85, 106–08 (1984).

37 *Id.* at 113.

38 *Id.* at 104.

39 Rodriguez v. United States, 480 U.S. 522, 526 (1987) (per curiam).

40 Dir., Office of Workers' Comp. Programs v. Newport News Shipbldg. & Dry Dock Co., 514 U.S. 122, 136 (1995).

41 City of Lafayette v. La. Power & Light Co., 435 U.S. 389, 398 (1978); *see also* FTC v. Phoebe Putney Health Sys., Inc., 568 U.S. 216, 225 (2013) (referring to "the fundamental national values of free enterprise and economic competition that are embodied in the federal antitrust laws").

42 N. Pac. Ry. Co. v. United States, 356 U.S. 1, 4 (1958). That the Court did not abandon this view under Bork's influence is clear from the fact that it quoted the passage from *Northern Pacific* in the latter of its two decisions quoting Bork on the "consumer welfare prescription." NCAA v. Bd. of Regents of the Univ. of Okla., 468 U.S. 85, 104 n.27 (1984).

association that barred participation in competitive bidding.[43] Defendants argued that the canon "ultimately inures to the public benefit" by preventing "deceptively low bids" and eliminating the "tempt[ation of] individual engineers to do inferior work with consequent risk to public safety and health."[44] Without invoking the per se rule, the Court labeled the attempt to justify an agreement among competitors not to compete on price a "frontal assault on the basic policy of the Sherman Act"[45] and explained that administration of the Act must remain true to its policy of protecting competition:

> The Sherman Act reflects a legislative judgment that ultimately competition will produce not only lower prices, but also better goods and services. "The heart of our national economic policy long has been faith in the value of competition." . . . Even assuming occasional exceptions to the presumed consequences of competition, the statutory policy precludes inquiry into the question whether competition is good or bad.[46]

Discon concerned a scheme by a cost-of-service-regulated telephone company under which it paid higher-than-market prices to an affiliate and passed the cost on to customers.[47] The Supreme Court described the scheme as "a regulatory fraud" that "hurt consumers by raising telephone service rates" but observed that the injury flowed not "from a less competitive market" but rather from lawfully acquired market power and "deception worked upon the regulatory agency."[48] Constrained by the question presented, the Supreme Court held only that the conduct was not a per se violation.[49] However, in stating that the plaintiff had to "allege and prove harm . . . to the competitive process, *i.e.*, to competition itself,"[50] the Court provided all the lower court needed to dismiss the case on remand.[51]

The Sherman Act is a powerful instrument for promoting consumer welfare, but it operates only by protecting competition from the restraints of trade[52] and exclusionary single-firm conduct.[53] As in *Discon*, consumer harm, no matter how clear, cannot make up for the absence of harm to competition, and as in *Professional Engineers*, possible consumer benefit is irrelevant when harm to competition is palpable. As then-Judge Breyer explained, antitrust law reserves the label "anticompetitive" for "actions that harm the competitive process. And, the law assesses both harms and benefits in light of the [Sherman] Act's basic objectives, the

---

43 Nat'l Soc'y of Prof'l Eng'rs v. United States, 435 U.S. 679, 682–83 (1978).
44 *Id.* at 693.
45 *Id.* at 695.
46 *Id.* (quoting Standard Oil Co. v. FTC, 340 U.S. 231, 248 (1951).
47 NYNEX Corp. v. Discon, Inc., 525 U.S. 128, 131–32 (1998).
48 *Id.* at 136–37.
49 *Id.* at 138–40.
50 *Id.* at 135.
51 *See* Discon, Inc. v. NYNEX Corp., 86 F. Supp. 2d 154, 165 (W.D.N.Y. 2000).
52 *See* Werden, *supra* note 30 (arguing that impact on competition is the only issue under the rule of reason applied in most cases under Section 1 of the Sherman Act).
53 *See* Gregory J. Werden, *Identifying Exclusionary Conduct Under Section 2: The "No Economic Sense" Test*, 73 ANTITRUST L.J. 413 (2006).

protection of a competitive process that brings to consumers the benefits of lower prices, better products, and more efficient production methods."[54]

In disputes over SEP royalties, the possibility that antitrust intervention can benefit consumers is not a sufficient basis for finding a Sherman Act violation. Nor does it become a sufficient basis when coupled with reprehensible, but not anticompetitive, conduct by an SEP holder. To violate the antitrust laws, the SEP holder's conduct must undermine competition. Moving royalties away from some theoretical ideal might exercise market power, but that is no offense under the Sherman Act:

> 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.[55]

Finally, "[i]nstitutional concerns" cited in *LinkLine* weigh against applying antitrust law.[56] The decision by Chief Justice Roberts observed that the judiciary was not equipped to determine "the proper price,"[57] and that firms seeking to comply would "have no safe harbor for their pricing practices" once exposed to antitrust scrutiny.[58] The same is true with patent hold-up. Critically, an SEP holder lacks even an officially sanctioned methodology for determining FRAND. And when such a methodology is developed, it necessarily will "lack[] any grounding in [the Supreme Court's] antitrust jurisprudence."[59]

B. Shifting Perspectives on the Patent–Antitrust Interface

"The patent laws . . . are *in pari materia* with the antitrust laws and modify them

---

54 Clamp-All Corp. v. Cast Iron Soil Pipe Inst., 851 F.2d 478, 486 (1st Cir. 1988) (citations omitted). *See also* Cohlmia v. St. John Med. Ctr., 693 F.3d 1269, 1280 (10th Cir. 2012) ("The primary concern of the antitrust laws is the corruption of the competitive process . . . ." (quoting Tal v. Hogan, 453 F.3d 1244, 1258 (10th Cir. 2006)); Valuepest.com of Charlotte, Inc. v. Bayer Corp., 561 F.3d 282, 290–91 (4th Cir. 2009) ("The purpose of antitrust law, at least as articulated in the modern cases, is to protect the competitive process as a means of promoting economic efficiency." (quoting Morrison v. Murray Biscuit Co., 797 F.2d 1430, 1437 (7th Cir. 1986) (Posner, J.)); Cascade Health Solutions v. PeaceHealth, 515 F.3d 883, 902 (9th Cir. 2008) (The Supreme "Court has often reinforced the principle that the antitrust laws' prohibitions focus on protecting the competitive process . . . ."); Geneva Pharm. Tech. Corp. v. Barr Labs. Inc., 386 F.3d 485, 489 (2d Cir. 2004) ("The antitrust laws, however, safeguard consumers by protecting the competitive process.").

55 Verizon Commcn's Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 407 (2004). *See* Kartell v. Blue Shield of Mass., Inc., 749 F.2d 922, 927 (1st Cir. 1984) (Breyer, J.) ("[E]ven a monopolist is free to exploit whatever market power it may possess when that exploitation takes the form of charging uncompetitive prices.").

56 Pac. Bell Tel. Co. v. LinkLine Commc'ns, Inc., 555 U.S. 438, 452 (2009).

57 *Id.* (quoting *Trinko*, 540 U.S. at 408). Of course, the courts cannot completely avoid this arduous and unfamiliar task. They sometimes must determine FRAND royalties.

58 *Id.* at 453.

59 *Id.* at 454. That methodology would come mainly from game theory.

pro tanto."[60] This is how the Supreme Court once grudgingly acknowledged that whatever patent law authorizes antitrust law must allow.[61] For most of the 20th Century,[62] however, the Court consistently held that patent law placed little off-limits to antitrust. For example, the Court explained that:

> The grant of a patent is the grant of a special privilege "to promote the Progress of Science and useful Arts." Const., Art. I, § 8. It carries, of course, a right to be free from competition in the practice of the invention. But the limits of the patent are narrowly and strictly confined to the precise terms of the grant.[63]

The Court condemned any licensing practice seen to extend the patent monopoly beyond the statutory grant, which included essentially every licensing practice that came before it.[64] Patent law was viewed as impliedly repealing antitrust,[65] but implied repeals always have been disfavored and strictly construed.[66]

The prevailing view of the relationship between patent and antitrust law owes

---

60 Simpson v. Union Oil Co. of Cal., 377 U.S. 13, 24 (1964).

61 For decisions explaining the dictum, see Telecom Tech. Servs. Inc. v. Rolm Co., 388 F.3d 820, 826 (11th Cir. 2004); Data Gen. Corp. v. Grumman Sys. Support Corp., 36 F.3d 1147, 1186 (1st Cir. 1994).

62 Early decisions came close to exempting all patent-related conduct from antitrust scrutiny. *See* Henry v. A.B. Dick Co., 224 U.S. 1, 26–32 (1912); Bement v. Nat'l Harrow Co., 186 U.S. 70, 88–91 (1902). The Court's attitude on the relationship between patent and antitrust law took a radical turn in with its decision in *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502 (1917). The Court held that a patent does not entitle its owner to attach conditions to the use of patented articles (e.g., engage in tying). *Motion Picture Patents*, 243 U.S. at 514–18.

63 Mercoid Corp. v. Mid-Continent Inv. Co., 320 U.S. 661, 665 (1944); *see* Walker Process Equip., Inc. v. Food Mach. & Chem. Corp., 382 U.S. 172, 177 (1965) (a patent "is an exception to the general rule against monopolies" (quoting Precision Instrument Mfg. Co. v. Auto. Maint. Mach. Co., 324 U.S. 806, 816 (1945)); United States v. Masonite Corp., 316 U.S. 265, 280 (1942) ("Since patents are privileges restrictive of a free economy, the rights which Congress has attached to them must be strictly construed so as not to derogate from the general law beyond the necessary requirements of the patent statute.").

64 *See, e.g.*, United States v. Singer Mfg., Co., 374 U.S. 174, 192–97 (1963); United States v. Line Material Co., 333 U.S. 287, 312–15 (1948); Int'l Salt Co. v. United States, 332 U.S. 392, 394–96 (1947); *Masonite*, 316 U.S. at 277–78; United States v. Univis Lens Co., 316 U.S. 241, 250–52 (1942); Ethyl Gasoline Corp. v. United States, 309 U.S. 436, 455–57 (1940).

65 *See Line Material*, 333 U.S. at 308–09 ("The progress of our economy has often been said to owe much to the stimulus to invention given by the rewards allowed by patent legislation. The Sherman Act was enacted to prevent restraints of commerce but has been interpreted as recognizing that patent grants were an exception.").

66 *See* Brief for the United States as Amicus Curiae at 6, Gen. Talking Pictures Corp. v. Western Elect. Co., 305 U.S. 124 (1938) (No. 38-1) ("A grant of monopoly is an exception to the general law against restraints in trade. As such an exception the patent privilege should be construed strictly." (capitalization altered)) (per Solicitor General Robert H. Jackson and Assistant Attorney General Thurman Arnold). *See* United States v. Nat'l Ass'n of Sec. Dealers, 422 U.S. 694, 719–20 (1975) ("Implied antitrust immunity is not favored, and can be justified only by a convincing showing of clear repugnancy between the antitrust laws and the regulatory system."); Silver v. N.Y. Stock Exch., 373 U.S. 341, 357 (1963) ("Repeal is to be regarded as implied only if necessary to make [another law] work, and even then only to the minimum extent necessary. This is the guiding principle to reconciliation of the two statutory schemes."); United States v. Borden Co., 308 U.S. 188, 198 (1939) ("It is a cardinal principle of construction that repeals by implication are not favored.").

much to Professor Ward Bowman, whose 1973 book argued "that the antitrust/patent conflict, as courts have assessed it, is to a large extent illusory."[67] Bowman argued that the courts were mistaken in thinking that various licensing practices extended the patent monopoly, and he began by asserting that patent and antitrust law share the same "central purpose" of "efficiently providing those things consumers value."[68] Bowman explained that patents do so by preventing free riding and thereby increasing the rewards to invention.

During the Reagan Administration, the Justice Department[69] and the judiciary began to stress the commonalities of patent and antitrust law.[70] The new Federal Circuit declared that patents were "not an 'exception' to the antitrust laws,"[71] and explained that "patent and antitrust laws are complementary" because patents serve "a very positive function in our system of competition" by encouraging risky investment in innovation.[72]

The primacy of innovation-based competition also came to be recognized in the 1980s, although the idea was not new. When the Supreme Court was declaring all manner of patent-related conduct unlawful, Professor Joseph Schumpeter was arguing that the dominant force of competition was the "perennial gale of creative destruction" that characterizes dynamic, innovation-based competition.[73] Whatever the merit of Schumpeter's views on antitrust and monopoly, it is now agreed that productivity increases are responsible for the prosperity of the industrialized nations and that technical progress has driven productivity.[74]

In the late 1950s, Robert Solow attributed to technical progress about seven-

---

67 WARD S. BOWMAN, JR., PATENT AND ANTITRUST LAW ix (1973).

68 *Id.* at 2. Bowman's argument was anticipated. *See* JOHN MAURICE CLARK, COMPETITION AS A DYNAMIC PROCESS 11, 208 (1961).

69 *See* Charles F. Rule, *The Administration's Views: Antitrust Analysis after the Nine No-No's*, 55 ANTITRUST L.J. 365, 367–69 (1986).

70 On the evolution of thinking, see Willard K. Tom & Joshua A. Newberg, *Antitrust and Intellectual Property: From Separate Spheres to Unified Field*, 66 ANTITRUST L.J. 167 (1997).

71 Am. Hoist & Derrick Co. v. Sowa & Sons, Inc., 725 F.2d 1350, 1367 (Fed. Cir. 1984).

72 Loctite Corp. v. Ultraseal Ltd., 781 F.2d 861, 876, 877 (Fed. Cir. 1985); *see* Atari Games Corp. v. Nintendo of Am., Inc., 897 F.2d 1572, 1576 (Fed. Cir. 1990) ("[T]he aims and objectives of patent and antitrust laws may seem, at first glance, wholly at odds. However, the two bodies of law are actually complementary, as both are aimed at encouraging innovation, industry and competition."). *See also* Herbert Hovenkamp, *Antitrust and the Patent System: A Reexamination*, 76 OHIO ST. L.J. 467, 471 (2015) ("At the atmospheric level, antitrust focuses on the short run, including such things as immediate pricing and output, while patent law is concerned with long run issues relating to innovation. But upon inspection this dichotomy quickly breaks down. In fact, antitrust policy has always been concerned with performance over both the short and long runs and often considers effects on innovation.").

73 JOSEPH A. SCHUMPETER, CAPITALISM, SOCIALISM AND DEMOCRACY 84, 87 (Taylor & Francis e-Library, 2003) (1942).

74 *See, e.g.*, F.M. SCHERER, NEW PERSPECTIVES ON ECONOMIC GROWTH AND TECHNOLOGICAL INNOVATION 119 (1999); Frank H. Easterbrook, *Intellectual Property Is Still Property*, 13 HARV. J.L. & PUB. POL'Y 108, 108 (1990) ("New and better products and methods of making them are the principal source of economic betterment. The gains they produce swamp all other forms of wealth—even one percent per year compounded over a long period yields fabulous returns.").

eighths of the growth in U.S. GDP between 1909 and 1949.[75] Follow-on research refined Solow's analysis, but did not overturn his basic conclusion,[76] and his work on economic growth won him the Nobel Prize in 1987. Solow later commented that: "Adding a couple of tenths of a percentage point to the growth rate is an achievement that eventually dwarfs in welfare significance any of the standard goals of economic policy."[77] He did not have antitrust policy in mind, but the antitrust import of his comment is clear.

Patent law is an intricately crafted policy instrument for fostering technical change.[78] "From their inception, the federal patent laws have embodied a careful balance between the need to promote innovation and the recognition that imitation and refinement through imitation are both necessary to invention itself and the very lifeblood of a competitive economy."[79] Another aspect of the balance struck by patent law is accepting short-term losses in allocative efficiency and consumer welfare that result from higher prices as the cost of obtaining the long-term gains that result from new technology.[80]

The reward to inventors contemplated by patent law often is garnered by

---

75 *See* Robert M. Solow, *Technical Change and the Aggregate Production Function*, 39 REV. ECON. & STAT. 312, 316 (1957). During the four decades following World War II, technical progress accounted for an estimated 49% of U.S. economic growth and a larger percentage in other industrialized countries. Michael J. Boskin & Lawrence J. Lau, *Capital, Technology, and Economic Growth*, *in* TECHNOLOGY AND THE WEALTH OF NATIONS 17, 47 (Nathan Rosenberg et al. eds., 1992). During the late 1990s, improvements in information technology alone were found to have contributed more than half of the increase in industrial productivity in the United States. Stephen D. Oliner & Daniel E. Sichel, *The Resurgence of Growth in the Late 1990s: Is Information Technology the Story?*, 14 J. ECON. PERSP. 3, 4 (2000).

76 *See* Richard R. Nelson, *Research on Productivity Growth and Productivity Differences: Dead Ends and New Departures*, 19 J. ECON. LITERATURE 1029, 1030–31, 1042, 1053 (1981).

77 Robert M. Solow, Growth Theory and After, Prize Lecture for the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 1987 (Addendum, Aug. 2001), https://www.nobelprize.org/prizes/economic-sciences/1987/solow/lecture/.

78 *See* Quanta Computer, Inc. v. LG Elecs., Inc., 553 U.S. 617, 626 (2008) ("the primary purpose of our patent laws . . . is 'to promote the progress of science and useful arts.'" (quoting Motion Picture Patents Co. v. Universal Film Mfg. Co., 243 U.S. 502, 511 (1917)).

79 Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141, 146 (1989). The Court recently reiterated the point. Halo Elects., Inc. v. Pulse Elects., Inc., 136 S. Ct. 1923, 1935 (2016). *See* Pennock v. Dialogue, 27 U.S. (2 Pet.) 1, 19 (1829) ("While one great object was, by holding out a reasonable reward to inventors, and giving them an exclusive right to their inventions for a limited period, to stimulate the efforts of genius; the main object was 'to promote the progress of science and useful arts;' and this could be done best, by giving the public at large a right to make, construct, use, and vend the thing invented, at as early a period as possible, having a due regard to the rights of the inventor."). *See also* Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 234 F.3d 558, 640 (Fed. Cir. 2000) ("It is generally agreed that long-term economic growth requires a policy framework that encourages the creation and commercialization of new technologies, as contrasted with a policy that facilitates appropriation of the creative product, lest the creative product dry up in the face of too-easy appropriation. 'Knowledge capital,' secured by intellectual property rights, now rivals the traditional economic components of labor productivity, capital formation, and natural resources, as the foundation of economic growth.) (Linn, J., concurring in part and dissenting in part), *rev'd*, 535 U.S. 722 (2002).

80 *See* Easterbrook, *supra* note 74, at 110–11.

royalties paid for the use of an invention. The royalty reduces the efficiency of resource allocation by driving a wedge (or enlarging a wedge) between price and the marginal cost of production on all of the affected products, and it reduces consumer welfare as a result of the higher prices for those products. But paying a bit more for products embodying relatively new technology is an extraordinarily good deal for consumers if it secures the continuing flow of new technology.[81] Whether it is a good deal or a bad one, however, is a matter for patent policy, not antitrust policy.[82]

"Intellectual property rights do not confer a privilege to violate the antitrust laws."[83] As the Supreme Court recently confirmed in *Actavis*, marketplace conduct related to patents, but not specifically authorized by patent law, can run afoul of the Sherman Act.[84] But it is equally true that "the antitrust laws do not negate the patentee's right to exclude others from patent property."[85] And "the patentee may grant a license to make, use[,] and vend articles under the specifications of his patent for any royalty."[86] "A patent empowers the owner to exact royalties as high as he can negotiate with the leverage of that monopoly."[87]

The Supreme Court has not dealt with patent hold-up, but its jurisprudence leaves little doubt on the most important issue: SEP licensing activity by inventors is authorized by patent law, and therefore normally does not violate antitrust law. And because patent law allows a patent owner to charge any royalty, breaching a FRAND

---

81 The same is true for cost-reducing innovation. *See* Frank H. Easterbrook, *Ignorance and Antitrust*, *in* ANTITRUST, INNOVATION, AND COMPETITIVENESS 119, 122–23 (Thomas M. Jorde & David J. Teece eds., 1992) ("An antitrust policy that reduced prices by 5 percent today at the expense of reducing by 1 percent the annual rate at which innovation lowers the cost of production would be a calamity. In the long run a continuous rate of change, compounded, swamps static losses.").

82 *See* Cotter, *supra* note 14, at 1159 ("[T]o the extent that substantive patent law reflects Congress's judgment concerning how strong or how weak patent rights should be to achieve their intended social objectives, both rule-of-law and institutional competency considerations suggest that patent and antitrust courts should defer to that judgment.").

83 United States v. Microsoft Corp., 253 F.3d 34, 63 (D.C. Cir. 2001) (en banc) (per curiam) (quoting *In re* Indep. Serv. Orgs. Antitrust Litig., 203 F.3d 1322, 1325 (Fed. Cir. 2000)). *See* United States v. Line Material Co., 333 U.S. 287, 308 (1948) ("[T]he possession of a valid patent or patents does not give the patentee any exemption from the provisions of the Sherman Act beyond the limits of the patent monopoly.").

84 FTC v. Actavis, Inc., 570 U.S. 136, 148–51 (2013). And as Chief Justice Roberts explained in his Actavis dissent, "The key, of course, is that the patent holder—when doing anything . . . must act within the scope of the patent. If its actions go beyond the monopoly powers conferred by the patent, we have held that such actions are subject to antitrust scrutiny." *Id.* at 162 (Roberts, C.J., dissenting). *See Line Material*, 333 U.S. at 310 ("The monopoly granted by the patent laws is a statutory exception to this freedom for competition and consistently has been construed as limited to the patent grant. It is not the monopoly of the patent that is invalid. It is the improper use of that monopoly." (citations omitted)).

85 Intergraph Corp. v. Intel Corp., 195 F.3d 1346, 1362 (Fed. Cir. 1999). *See* Schering-Plough Corp. v. FTC, 402 F.3d 1056, 1067 (11th Cir. 2005) ("[A] patent holder does not incur antitrust liability when it chooses to exclude others from producing its patented work"); Abbott Labs. v. Brennan, 952 F.2d 1346, 1354 (Fed. Cir. 1991) ("The commercial advantage gained by new technology and its statutory protection by patent do not convert the possessor thereof into a prohibited monopolist.").

86 United States v. General Electric Co., 272 U.S. 476, 489 (1926).

87 Brulotte v. Thys Co., 379 U.S. 29, 33 (1964).

commitment cannot violate antitrust law. In addition, the prevailing view of the patent–antitrust interface suggests that the Court would exercise great caution in applying antitrust law at the interface for fear of undermining innovation-based competition. In any event, we believe that the courts should exercise such caution.

C. Leading Cases on, or Relevant to, Patent Hold-up

Walker Process[88] is the only Supreme Court decision to entertain an antitrust claim involving unilateral conduct in patent enforcement. The case does not deal with SEPs or anything like patent hold-up but nevertheless is critical in defining the narrow circumstances in which unilateral conduct by an SEP holder might violate Section 2 of the Sherman Act. Respondent in the case had sued petitioner for patent infringement, and petitioner counterclaimed, alleging that respondent violated Section 2 of the Sherman Act by attempting to enforce a patent obtained through fraud on the Patent Office.[89] The appeals court affirmed the counterclaim's dismissal,[90] but the Supreme Court reversed.[91] The Court rejected what it took to be a per se theory of liability that would have transformed the fraud into a monopolization claim without any clearly defined intermediate steps.[92] The Court remanded the case to give petitioner "the opportunity to make its § 2 claims more specific, to prove the alleged fraud, and to establish the necessary elements of the asserted § 2 violation."[93]

The Supreme Court's narrow holding in *Walker Process* was only that patent law does not preclude the application of Section 2 when the alleged exclusionary conduct includes an attempt to enforce a patent obtained through fraud.[94] Concurring Justice Harlan explained that allowing suits "to recover damages for Sherman Act monopolization knowingly practiced under the guise of a patent procured by deliberate fraud[] cannot well be thought to impinge upon the policy of the patent laws."[95]

Professor Herbert Hovenkamp observed that "the courts have read *Walker Process* quite restrictively, and with good reason," for example, requiring "clear and convincing evidence of patent fraud."[96] Whether misconduct before the Patent Office "is sufficient to strip a patentee of its immunity from [the] antitrust laws is . . . [a]

---

88 Walker Process Equip., Inc. v. Food Mach. & Chem. Corp., 382 U.S. 172 (1965).
89 *Id.* at 173–74.
90 Food Mach. & Chem. Corp. v. Walker Process Equip., Inc., 335 F.2d 315 (7th Cir. 1964).
91 *Walker Process*, 382 U.S. at 178.
92 *Id.* at 177–78.
93 *Id*. at 178.
94 *Id.* at 174, 176–78. *See* FTC v. Actavis, Inc., 570 U.S. 136, 148 (2013) (*Walker Process* stands for the proposition that: "[E]nforcement of a patent procured by fraud may violate the Sherman Act." (internal quotation marks omitted)).
95 *Walker Process*, 382 U.S. at 179–80 (Harlan, J., concurring). A *Walker Process* claim is permitted even if the plaintiff could not seek declaratory relief under patent law. Ritz Camera & Image, LLC v. SanDisk Corp., 700 F.3d 503, 504–05 (Fed. Cir. 2012).
96 Herbert J. Hovenkamp, *The Intellectual Property–Antitrust Interface*, 3 ISSUES COMPETITION L. & POL'Y 1979, 2000 & n.121 (2008) (footnote omitted).

question of Federal Circuit law."[97] The Federal Circuit holds that inequitable conduct before the Patent Office is not sufficient and maintains exacting proof requirements, including specific intent.[98]

In *Handgards*[99] the Ninth Circuit extended the holding of *Walker Process*. Reasoning that patent "infringement actions initiated and conducted in bad faith contribute nothing to the furtherance of the policies of either the patent law or the antitrust law," the court affirmed a ruling that such actions could constitute an attempt to monopolize in violation of Section 2 of the Sherman Act.[100] The court further held that "a patentee's infringement suit is presumptively in good faith and that this presumption can be rebutted only by clear and convincing evidence."[101] The Supreme Court subsequently raised the bad-faith bar, requiring proof that the infringement claim is "objectively baseless in the sense that no reasonable litigant could realistically expect success on the merits."[102]

With the foregoing foundation, courts began dealing with SEPs and patent hold-up. Two significant appellate decisions involved Qualcomm. *Broadcom v. Qualcomm* concerned patents essential to a standard used by some U.S. cellular telephone service providers.[103] The relevant SEPs covered the wideband code division multiple access (WCDMA) standard created by the European Telecommunications Standards Institute (ETSI) and U.S. counterparts as part of the Universal Mobile Telecommunications System (UMTS). Broadcom alleged (among other things) that Qualcomm violated Section 2 by ignoring the FRAND commitment it made to ETSI.

The Third Circuit viewed a "FRAND commitment, or lack thereof" as "a key indicator of the cost of implementing a potential technology" and opined that "[m]isprepresentations concerning the cost of implementing a given technology may . . . bias the [*ex interim*] competitive process in favor of that technology's inclusion in the standard."[104] The court held that "established principles of antitrust law" support the conclusion that a Section 2 claim can be based on the combination of an "intentionally false promise to license essential proprietary technology on FRAND terms," "reliance on that promise when including the technology in a standard," and "the patent holder's subsequent breach of that promise."[105] The court

---

97 Nobelpharma AB v. Implant Innovations, Inc., 141 F.3d 1059, 1068 (Fed. Cir. 1998). *See* Xitronix Corp. v. KLA-Tencor Corp, 882 F.3d 1075, 1078–79 (Fed. Cir. 2018) (reaffirming the holding of *Nobelpharma* while holding that the Federal Circuit does not have jurisdiction over all appeals of *Walker Process* claims.).

98 *See* B.D. Daniel, Walker Process *Proof: The Proper Prescription*, 41 RUTGERS L.J. 105, 127–45 (2009).

99 Handgards, Inc. v. Ethicon, Inc., 601 F.2d 986 (9th Cir. 1979).

100 *Id.* at 993.

101 *Id.* at 996.

102 Prof'l Real Estate Investors, Inc. v. Columbia Pictures Indus., Inc., 508 U.S. 49, 60 (1993).

103 Broadcom Corp. v. Qualcomm Inc., 501 F.3d 297 (3d Cir. 2007).

104 *Id.* at 313.

105 *Id.* at 314. In referring to "established principles of antitrust law," the court evidently referred to the FTC's reasoning in its *Rambus* decisions, which is discussed presently along with the D.C. Circuit's subsequent rejection of that reasoning.

therefore reinstated Section 2 claims that had been dismissed.[106]

Qualcomm v. Broadcom concerned patents essential to the H.264 video compression standard developed by the Joint Video Team (JVT) and adopted by the two SSOs that had joined forces to form it.[107] The litigation began as an infringement action initiated by Qualcomm.[108] The jury found no infringement, and the court found that Qualcomm's failure to comply with JVT disclosure requirements rendered two patents entirely unenforceable.[109] The Federal Circuit upheld the determination that Qualcomm had breached a duty to disclose and invoked the doctrine of equitable estoppel to render undisclosed SEPs unenforceable only against H.264-compliant products.[110]

In the first round of appellate decisions in patent hold-up cases, the most important was that in *Rambus*.[111] The founders of Rambus developed a faster architecture for dynamic random access memory (DRAM) and filed a patent application.[112] Rambus became a member of the Joint Electron Device Engineering Council (JEDEC), which then adopted a standard incorporating technologies over which Rambus would later assert patent rights.[113] Several years later, while JEDEC was working on a related standard, Rambus was granted a patent and then withdrew from JEDEC.[114] Subsequently, the second standard was adopted, and it included additional technologies over which Rambus would assert patent rights.[115] Rambus then begin asserting its patent rights.

The FTC's administrative decision held that Rambus deceived JEDEC in a manner that constituted monopolization in violation of Section 2 because the result was that Rambus acquired monopoly power.[116] The FTC determined that Rambus disregarded JEDEC's policy under which "members were expected to reveal the existence of patents and patent applications that later might be enforced against those practicing the JEDEC standards."[117] The FTC took the view that Rambus corrupted a competitive process involved in selection of technologies incorporated into the JEDEC standards.[118] The FTC found that Rambus's technology was not so clearly

---

106 *Id.* at 315–19.
107 Qualcomm Inc. v. Broadcom Corp., 548 F.3d 1008 (Fed. Cir. 2008).
108 *Id*.
109 *Id.* at 1008–09.
110 *Id.* at 1012–19, 1024–26. Since Broadcom practiced the standard yet was held not to have infringed the patents, they were not SEPs. The courts treated them as if they were on the basis that, at the relevant point in time, they "reasonably might be necessary." *Id.* at 1017–19.
111 Rambus Inc. v. FTC, 522 F.3d 456 (D.C. Cir. 2008).
112 *Id*. at 459.
113 *Id*. at 460.
114 *Id*.
115 *Id.* Rambus later went to trial on fraud claims. Ultimately, the Federal Circuit held that its claims failed as a matter of law. Rambus Inc. v. Infineon Techs. AG, 318 F.3d 1081, 1096–1105 (Fed. Cir. 2003).
116 Rambus, Inc., 2006 WL 8266094, at *6 (F.T.C. July 31, 2006).
117 *Id.* at *7. For a detailed explication of the events and the FTC's analysis of them, see *id.*
118 *Id.* at *34–35.

superior that it inevitably would have been adopted.[119] The FTC also found that, with full disclosure, Rambus would have been required to commit to license "on RAND terms."[120] In a subsequent remedy order, the FTC declined to order royalty-free licensing because it could "neither confirm nor reject the possibility that JEDEC would have preferred Rambus's technologies over the alternatives . . ."[121]

The D.C. Circuit held this last concession meant that the FTC's theory could be sustained only if frustrating JEDEC's efforts to obtain "assurances from Rambus of RAND licensing terms . . . could be said to harm competition."[122] But the court held that avoidance of a RAND "commitment is not a harm to competition"[123] and rejected the FTC's contention that, "because the ability to profitably restrict output and set supracompetitive prices is the *sine qua non* of monopoly power, any conduct that permits a monopolist to avoid constraints on the exercise of that power must be anticompetitive."[124]

Several more recent decisions involve Motorola's SEP licensing. One litigation involved the Wi-Fi standard developed by the Institute of Electrical and Electronics Engineers (IEEE) (IEEE 802.11) as well as the H.264 video standard mentioned above.[125] Microsoft's breach of contract action alleged that Motorola's offer of license terms violated its RAND commitments.[126] The district court held that the commitments created contracts that Microsoft could enforce as a third-party beneficiary, and that the commitments required a good faith offer to license but not that RAND terms initially be proposed.[127] After a bench trial, the court issued a lengthy opinion determining the RAND royalties.[128] With that as background, the breach claim was tried before a jury, which found in Microsoft's favor and awarded damages.[129] The Ninth Circuit held that the bench trial to determine the RAND royalty was proper and that the court's FRAND determination was not clearly erroneous.[130] The Ninth Circuit also affirmed the denial of Motorola's motion for

119 *Id.* at *41–46.
120 *Id.* at *47.
121 FED. TRADE COMM'N, OPINION OF THE COMMISSION ON REMEDY IN THE MATTER OF RAMBUS INC. BY CHAIRMAN DEBORAH PLATT MAJORAS (2007), https://www.ftc.gov/system/files/documents/public_statements/568321/070205opinion.pdf.
122 Rambus Inc. v. FTC, 522 F.3d 456, 464 (D.C. Cir. 2008).
123 *Id.* at 466.
124 *Id.*
125 *See* Microsoft Corp. v. Motorola, Inc., 854 F. Supp. 2d 993, 995 (W.D. Wash. 2012).
126 Microsoft Corp. v. Motorola, Inc., 795 F.3d 1024, 1033 (9th Cir. 2015).
127 *Id*.
128 Microsoft Corp. v. Motorola, Inc., 2013 WL 2111217 (W.D. Wash. Apr. 25, 2013). For critiques of the decision, see Rebecca Haw Allensworth, *Casting a FRAND Shadow: The Importance of Legally Defining "Fair and Reasonable" and How* Microsoft v. Motorola *Missed the Mark*, 22 TEX. INTELL. PROP. L.J. 235 (2014); William H. Page, *Judging Monopolistic Pricing: F/RAND and Antitrust Injury*, 22 TEX. INTELL. PROP. L.J. 181 (2014).
129 *Microsoft*, 795 F.3d at 1045.
130 *Id*. at 1040–45. Other courts have since made determinations of FRAND royalties. *See, e.g.*, TCL Commc'ns Tech. Holdings, Ltd. v. Telefonaktiebolaget LM Ericsson, 2017 WL 6611635 (C.D. Cal. Nov. 8, 2017); Realtek Semiconductor, Corp. v. LSI Corp., 2014 WL 2738226, at *2 (N.D. Cal. June 16, 2014); *In re* Innovatio IP Ventures, LLC Patent Litig., 2013 WL 5593609, at *43 (N.D. Ill. Oct.

judgment as a matter of law on the breach of contract claim.[131]

A separate litigation, involving both the IEEE 802.11 standard and the standards of the 3rd Generation Partnership Project, combining seven SSOs, began as an infringement action at the International Trade Commission.[132] Apple filed multiple counterclaims and removed the case to federal district court.[133] Among Apple's claims was a Section 2 allegation based on "abuse of the standard-setting process" arising from offering "a license with exorbitant royalty rates."[134] The district court dismissed this claim on *Noerr-Pennington*[135] grounds. The court reasoned that Apple suffered no injury merely from Motorola's royalty demand, so any injury was from the lawful conduct of enforcing patents.[136] The court held, however, that the same reasoning did not extend to breach of contract claims, leaving them for trial.[137] In granting Apple's motion for partial summary judgement, the court held that Motorola's FRAND commitments formed enforceable contracts, that Apple had the right to enforce the contracts as a third-party beneficiary, and that the contracts imposed on Motorola a duty to disclose its intellectual property rights.[138]

Patent hold-up does not include the scenarios of *Walker Process* or *Handguards* because the SEPs at issue in patent hold-up were neither obtained by fraud nor enforced in bad faith. Patent hold-up is just securing royalties from a valid patent in excess of those from *ex interim* bargaining. Patent hold-up also does not include the hypothetical scenario posited by the Third Circuit in *Broadcom*, in which an actual *ex interim* competitive process allegedly was corrupted. The Third Circuit explained that conduct "not harming the competitive process itself[] is not anticompetitive" and hence does not violate Section 2.[139] And *Rambus* observed that the *Broadcom* ruling "rested on the argument that deceit lured" the SSO "away from non-proprietary technology."[140] Of course, *Broadcom* did not make or uphold a factual determination that an *ex interim* competitive process was corrupted, but rather merely held that a Section 2 claim asserting such corruption was not legally deficient on its face.

Courts have consistently held that FRAND commitments made in a standard-setting process create contracts that can be enforced by implementers against SEP holders. Courts have not endorsed the transformation of a FRAND commitment breach into a Section 2 claim, but rather have held that efforts to extract maximum royalties for a legitimately obtained SEP are lawful under antitrust law. *Broadcom*

3, 2013).

131 *Microsoft*, 795 F.3d at 1045–47.

132 Apple, Inc. v. Motorola Mobility, Inc., 886 F. Supp. 2d 1061, 1066, 1070 (W.D. Wisc. 2012).

133 *Id.* at 1066.

134 *Id.* at 1076.

135 E. R. R. Presidents Conference v. Noerr Motor Freight, Inc., 365 U.S. 127 (1961); United Mine Workers of Am. v. Pennington, 381 U.S. 657 (1965).

136 *Apple*, 886 F. Supp. 2d at 1076–77.

137 *Id.* at 1078–79.

138 *Id.* at 1083–87.

139 Broadcom Corp. v Qualcomm Inc., 501 F.3d 297, 308 (3d Cir. 2007).

140 Rambus Inc. v. FTC, 522 F.3d 456, 466 (D.C. Cir. 2008).

and *Rambus* together hold that deception of an SSO leading to patent hold-up can violate Section 2 when it is part of an exclusionary course of conduct that includes sabotaging meaningful, actual *ex interim* competition. No court has suggested that the mere possibility of *ex interim* competition can combine with bad acts in the standard-setting process to make out a Section 2 claim.

D. The Antitrust Injury Doctrine and Gatekeeping

In 1977 the Supreme Court decided a case that appeared then to have no doctrinal significance[141]—*Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc.*[142] The respondent had been awarded damages to compensate for injury resulting from lawful competition from a rival bowling center, which would have closed but for its acquisition by petitioner. The acquisition had been held to violate Section 7 of the Clayton Act,[143] but respondent's injury was not traceable to a resulting lessening of competition, but rather to the resulting maintenance of competition. In overturning the damage award, the Court held that, to recover damages,

> Plaintiffs must prove *antitrust* injury, which is to say injury of the type the antitrust laws were intended to prevent and that flows from that which makes defendants' acts unlawful. The injury should reflect the anticompetitive effect either of the violation or of anticompetitive acts made possible by the violation.[144]

This holding caused "a substantial change in the manner in which virtually all private antitrust actions are brought, defended, and decided."[145] It has been cited by more than two thousand federal court opinions.

In 1986 the Supreme Court extended the antitrust injury doctrine by holding that "in order to seek injunctive relief under § 16 [of the Clayton Act], a private plaintiff must allege threatened loss or damage 'of the type the antitrust laws were designed to prevent and that flows from that which makes defendants' acts unlawful.'"[146] The decision made antitrust injury functionally akin to standing: "If a plaintiff's injury

---

[141] At the 1978 ABA annual meeting, Professor Richard Posner opined that the "case could have been used as a vehicle for announcing general principles of antitrust damage liability" but the "narrowly" written opinion prevented it from "having much impact on antitrust law." Richard A. Posner, *The Antitrust Decisions of the Burger Court*, 47 ANTITRUST L.J. 819, 824 (1979). When the decision was suggested as a subject for an article, Professor William Page's first thought it unpromising because it was "an obvious (and therefore trivial) rejection of a ridiculous lawsuit." John E. Lopatka & William H. Page, *Brunswick at 25: Antitrust Injury and the Evolution of Antitrust Law*, 17 ANTITRUST 20, 20 (Fall 2002).

[142] 429 U.S. 477 (1977).

[143] *See* Treadway Cos. v. Brunswick Corp., 364 F. Supp. 316 (D.N.J. 1973), 389 F. Supp. 996 (D.N.J. 1974). Although the appeals court did not take issue with the plaintiff's theory of Section 7 liability or damages, it ordered a new trial on both issues. NBO Indus. Treadway Cos. v. Brunswick Corp., 523 F.2d 262 (3d Cir. 1975). Both parties then sought Supreme Court review. *Brunswick*, 429 U.S. at 484.

[144] *Id.* at 489.

[145] Jonathan M. Jacobson & Tracy Greer, *Twenty-One Years of Antitrust Injury: Down the Alley with* Brunswick v. Pueblo Bowl-O-Mat, 66 ANTITRUST L.J. 273, 285 (1998).

[146] Cargill, Inc. v. Monfort of Colo., Inc., 479 U.S. 104, 113 (1986) (quoting *Brunswick*, 429 U.S. at 489).

does not emanate from the anticompetitive aspects of defendant's conduct, the claim must be dismissed . . . ."[147]

In 1990 the Supreme Court rebuffed efforts to short-circuit the antitrust injury requirement,[148] specifically rejecting the contention that "no antitrust injury need be shown where a *per se* violation is involved."[149] The Court held that "[a]ntitrust injury does not arise . . . until a private party is adversely affected by an *anticompetitive* aspect of the defendant's conduct."[150] And it explained that: "The antitrust injury requirement ensures that a plaintiff can recover only if the loss stems from a competition-*reducing* aspect or effect of the defendant's behavior."[151]

The Areeda–Hovenkamp treatise observes that the antitrust injury concept adopted in *Brunswick* was an additional burden imposed on a plaintiff by a court that "assumed both injury-in-fact and an antitrust violation."[152] But the treatise notes that "numerous decisions find lack of 'antitrust injury' when they really mean that there was no injury to competition, which of course entails that there was no violation of the antitrust laws at all."[153] The reasoning of these decisions was explained by the Second Circuit: "Without harm to competition, there can be no antitrust injury and, consequently, no antitrust standing."[154]

The Areeda–Hovenkamp treatise also observes that the antitrust injury doctrine enables "antitrust courts to dispose of more claims at an early stage of litigation by simply examining the logic of the plaintiff's theory of injury."[155] Through adoption of the antitrust injury doctrine, the Supreme Court empowered district courts to weed out wrongheaded antitrust cases. As Professors John Lopatka and William Page explain, adopting the antitrust injury doctrine "was a more fundamental method of changing the law than explicitly changing the substantive rules. . . . By adding one new step to antitrust analysis in private litigation, the Court could change everything, a fittingly efficient method of instilling efficiency in antitrust policy."[156]

---

147 Jacobson & Greer, *supra* note 139, at 292.

148 Atl. Richfield v. USA Petroleum Co., 495 U.S. 328 (1990).

149 *Id.* at 341–45.

150 *Id.* at 339.

151 *Id.* at 344.

152 2A PHILLIP E. AREEDA ET AL., ANTITRUST LAW ¶ 337a, at 99–100 (4th ed. 2014).

153 *Id.* at 100 n.4.

154 Paycom Billing Servs., Inc. v. Mastercard Int'l, Inc., 467 F.3d 283, 294 (2d Cir. 2006). *See* Race Tires Am., Inc. v. Hoosier Racing Tire Corp., 614 F.3d 57, 83 (3d Cir. 2010) ("To establish antitrust injury, a plaintiff must show harm to competition . . . ."); Worldwide Basketball & Sports Tours, Inc. v. NCAA, 388 F.3d 955, 966 (6th Cir. 2004) ("Antitrust injuries encompass only those injuries that result from interference with the freedom to compete." (internal quotation marks omitted)); Johnson v. Univ. Health Servs., Inc., 161 F.3d 1334, 1338 (11th Cir. 1998) ("[A]ntitrust injuries include only those injuries that result from interference with the freedom to compete."); Legal Econ. Evaluations, Inc. v. Metro. Life Ins. Co., 39 F.3d 951, 954 (9th Cir. 1994); ("antitrust injury must flow . . . from the harm to competition"); Midwest Commc'ns, Inc. v. Minn. Twins, Inc., 779 F.2d 444, 453 (8th Cir. 1985) (injury that "entails no threatened injury to competition it is not an antitrust injury").

155 AREEDA ET AL., *supra* note 146, at 105.

156 Lopatka & Page, *supra* note 135, at 24.

Any attempt by an SEP implementer to turn a mere royalty dispute into an antitrust case is subject to dismissal on the pleadings. And if the implementer attempts to get past a dismissal motion by claiming a fraud that would strip the SEP holder of its immunity under antitrust law, Rule 9(b) of the Federal Rules of Civil Procedure requires the implementer to "state with particularity the circumstances constituting fraud."[157]

IV. Responses to Antitrust Intervention Advocates

A. Joseph Farrell, John Hayes, Carl Shapiro, and Theresa Sullivan

Farrell et al. argued that patent hold-up lessens consumer welfare by raising SEP royalties, which ultimately are paid by consumers.[158] Relying on the FTC's now-rejected theory in *Rambus*, they argued that "deceiving buyers or keeping them in the dark about the terms on which a technology will be available subverts the competitive process."[159] As examples of specific anticompetitive acts, they cited "fraud or breach of contract," "violat[ion] of SSO disclosure rules," and failure "to offer FRAND terms, after agreeing to do so."[160]

If an SEP holder did anything that could give an implementer a remedy at law, Farrell et al. urged that the implementer should also have antitrust remedies, and they contended that antitrust liability should extend still further. They would have imposed antitrust liability if the SEP holder's technology was clearly best, so there was no meaningful *ex interim* competition,[161] and if the only putative bad act was merely proposing a royalty that was too high.[162] But no court has imposed liability under such circumstances or even the possibility of doing so.

Farrell et al. did not propose to protect competition, but rather "to replicate [the] results" of a purely hypothetical competition,[163] that is, to achieve the royalties that would have been set in the benchmark model of *ex interim* bargaining.[164] Obligating SEP holders to behave as if they were engaged in *ex interim* bargaining comports with an offshoot from ordoliberal thinking[165] and turns the Sherman Act on its head. As the Supreme Court explained in *Northern Pacific*, the plan of the Sherman Act was to harness the power of competition among self-interested firms to promote

---

157 *See* Apple Inc. v. Samsung Elecs. Co., No. 11-CV-01846-LHK, 2011 WL 4948567 (N.D. Cal. Oct. 18, 2011) (refusing to consider a *Broadcom*-type Section 2 claim based on fraud because of failure to meet the Rule 9(b) standard).

158 Farrell et al., *supra* note 6, at 608, 644–47.

159 *Id.* at 609.

160 *Id.* at 656–59.

161 *Id.* at 657.

162 *Id.* at 659.

163 Farrell et al., *supra* note 6, at 609.

164 *Id.* at 612.

165 *See, e.g.*, DAVID J. GERBER, LAW AND COMPETITION IN TWENTIETH CENTURY EUROPE: PROTECTING PROMETHEUS 252–53 (1998); Ignacio Herrera Anchustegui, *Competition Law through an Ordoliberal Lens*, 2 OSLO L. REV. 139, 166–68 (2015); David J. Gerber, *Constitutionalizing the Economy: German Neo-liberalism, Competition Law and the "New" Europe*, 42 AM. J. COMP. L. 25, 52–53 (1994).

social goals.[166] Farrell et al. instead proposed to outlaw pursuit of self-interest by demanding that SEP holders engage in elaborate efforts to determine the FRAND royalty and seek no more.

B. George S. Cary, Mark W. Nelson, Steven J. Kaiser, and Alex R. Sista

Cary et al. advocated antitrust intervention in cases of patent hold-up only when "technology is incorporated into an industry standard without full disclosure."[167] They observed that an antitrust violation requires "anticompetitive" conduct[168] and were confident that courts could "sort out anticompetitive patent holdup from patent holdup that does not have such consequences,"[169] although they contended that the D.C. Circuit had failed to do so in *Rambus*.[170]

Cary et al. proclaimed that patent hold-up following deception of a standard setting organization "is, at its core, an antitrust problem."[171] They relied on *Walker Process*, asserting that it stood for the proposition that "acquisition of monopoly power through deception is and always has been a core antitrust concern."[172] *Walker Process*, however, merely held that the patent enforcement was not immune under antitrust law when the defendant knew that the patent was invalid because it was obtained through fraud.[173] Cary et al. did not suggest that any SEPs were known to be invalid and did not address cases holding that efforts to enforce presumably valid SEPs were lawful under antitrust law.

The only authority lending any support to the position taken by Cary et al. was *Broadcom*. It did not address mere deception of an SSO,[174] but rather allegations of a fraudulent FRAND commitment that altered a technology choice in a standard.[175] Such conduct has been alleged in other cases,[176] but we have been unable to locate

---

166 *See supra* text accompanying note 42.
167 Cary et al., *supra* note 7, at 914–15. Cary et al. indicate that no antitrust claim can be made if the SEP holder did not enter the standard-setting process with a plan to engage in opportunism after the standard is adopted. *Id.* at 943. If such a plan were subject to the pleading requirements for fraud in FRCP 9(b), few patent hold-up claims would survive motions to dismiss.
168 *Id.* at 914, 920, 926, 932, 937, 939, 945.
169 *Id.* at 939.
170 *Id.* at 922 (arguing that the court erred in five ways). *See also* George S. Cary, Larry C. Work-Dembowski & Paul S. Hayes, *Antitrust Implications of Abuse of Standard-Setting*, 15 GEO. MASON L. REV. 1241, 1252–54 (2008) (asserting "at least two fundamental flaws" in *Rambus*'s application of Section 2).
171 Cary et al., *supra* note 7, at 945.
172 *Id.* at 938.
173 *See supra* text accompanying notes 88–95.
174 Outside the patent hold-up context, courts are disinclined to find deception actionable under antitrust law. *See* E. R.R. Presidents Conference v. Noerr Motor Freight, Inc., 365 U.S. 127, 145 (1961) ("[D]eception, reprehensible as it is, can be of no consequence so far as the Sherman Act is concerned."); Eisai, Inc. v. Sanofi Aventis U.S., LLC, 821 F.3d 394, 407 n.40 (3d Cir. 2016) ("false or deceptive statements may violate the antitrust laws in rare circumstances" (internal quotation marks and alterations omitted)).
175 *See supra* text accompanying notes 103–106.
176 *See, e.g.*, Amphastar Pharm., Inc. v. Momenta Pharm., Inc., 287 F. Supp. 3d 222 (D. Mass. 2018); Research in Motion Ltd. v. Motorola, Inc., 644 F. Supp. 2d 788, 796 (N.D. Tex. 2008).

any decision documenting its occurrence. Moreover, the extraordinary conditions under which *Broadcom* imposes Section 2 liability are far from the mere royalty disputes generally characterized as patent hold-up.

C. Joseph Kattan

Consistent with *Broadcom* and *Rambus*, Kattan argued that the breach of a FRAND commitment did not violate Section 2 if "alternatives did not exist" when the standard was adopted because then "the SEP owner did not exclude a competing technology."[177] But if "alternatives [did] exist," he argued that breach of a FRAND commitment violated Section 2 absent any misconduct in the standard-setting process.[178] Kattan evidently found ample justification for concluding that an SEP holder undermined a competitive process whenever there was any process to undermine, even if the SEP holder faithfully followed the letter and spirit of the SSO's intellectual property policies.

Kattan provided no rationale for invoking antitrust remedies when the SEP holder's only putative bad act was breaching a contractual commitment and contract law provided a complete remedy. Yet when no competitive process has been interfered with, there can be no Sherman Act violation. Moreover, implementers must have anticipated that SEP holders would seek higher royalties than the implementers prefer to pay. When parties knowingly lock themselves into situations in which they might be exploited, courts find little scope for antitrust intervention.[179]

Kattan reasoned that the FRAND commitment effects "divestment of the monopoly power that an SEP owner would hold" otherwise, and that breach of the commitment therefore creates monopoly power.[180] Kattan claimed that his reasoning was a "straightforward application of the *General Dynamics* doctrine,"[181] but in that case, the Supreme Court held just that a meaningful basis for assigning market shares was essential if they were to be given weight.[182] Current coal production was not a useful indicator of "competitive power" because the "focus of competition" was "new long-term supply contracts,"[183] so "reserves rather than past production [were] the best measure of a company's ability to compete."[184] Kattan also presumed an erroneous definition of monopoly power. Regulatory and contractual pricing constraints are best viewed as preventing or mitigating the *exercise* of market power or monopoly power—not, as Kattan argued, as negating the *existence* of such

177 Kattan, *supra* note 7, at 32.
178 *Id.* at 32–33.
179 *See* Avays Inc., RP v. Telecom Labs, Inc., 838 F.3d 354, 400–02 (3d Cir. 2016); Rick-Mik Enters. Inc. v. Equilon Enters. LLC, 532 F.3d 963, 972–74 (9th Cir. 2008); Schlotzsky's, Ltd. v. Sterling Purchasing & Nat'l Distrib. Co., 520 F.3d 393, 406–08 (5th Cir. 2008); Maris Distrib. Co. v. Anheuser–Busch, Inc., 302 F.3d 1207, 1219–24 (11th Cir. 2002).
180 Kattan, *supra* note 7, at 33.
181 *Id.* at 33 (citing United States v. Gen. Dynamics Corp., 415 U.S. 486, 502–03 (1974)).
182 *See* Gregory J. Werden, *Assigning Market Shares*, 70 ANTITRUST L.J. 67, 82–83 (2002) (on making market shares meaningful).
183 United States v. Gen. Dynamics Corp., 415 U.S. 486, 501 (1974).
184 *Id.* at 502.

power.[185] Had courts adopted Kattan's argument, they could not have imposed liability for antitrust violations in regulated industries.[186]

D. A. Douglas Melamed and Carl Shapiro

Melamed and Shapiro argued that antitrust law provides an essential supplement to contract and patent law in dealing with "anticompetitive conduct" by SEP holders.[187] They contended that "an SSO that does not take effective measures to prevent or minimize . . . ex post opportunism engages in conduct that is more restrictive of competition than necessary. In that case, the SSO and, in appropriate cases, its members, may well violate Section 1 of the Sherman Act."[188] Melamed and Shapiro did not indicate what SSO rules would avoid liability, so they propose to create a risk of liability from which there is no safe harbor, a situation decried by the Supreme Court in *Pacific Bell Telephone Co.*[189] More importantly, they ignored the possibility that the inventor did nothing to undermine *ex interim* competition and simply equated "harm to competition" with "obtaining royalties in excess of the competitive, ex ante level."[190]

Melamed and Shapiro further observed that: "Implementers that paid supracompetitive royalties . . . would be entitled to damages and, in some cases, to treble damages."[191] But inventors would be unlikely to participate in an SSO with that threat hanging over them. And if that threat did not destroy standard setting, it would distort it. Melamed and Shapiro placed the onus on inventors to protect implementers, but having everyone look out for their own interests is the mechanism of competition and the plan of antitrust law.

Melamed and Shapiro argued that the notion of patent hold-out "rests on a fundamental misunderstanding of how the development of new technologies takes place in a market economy as well as how markets for the licensing of technology operate."[192] They made no attempt to identify any misunderstanding, however. And they betrayed a misunderstanding of the hold-out concern in equating it to a demand that inventors be "guarantee[d] an adequate return."[193] Only competition matters under the Sherman Act, so the inadequacy of inventor returns cannot be a

---

185 *Contra* Almeda Mall, Inc. v. Houston Lighting & Power Co., 615 F.2d 343, 353–54 (5th Cir. 1980).

186 *See* S. Pacific Commc'ns v. AT&T, 740 F.2d 980, 1001 (D.C. Cir. 1984); MCI Commc'ns Corp. v. AT&T, 708 F.2d 1081, 1106–07 (7th Cir. 1983); *see also* City of Anaheim v. S. Cal. Edison Co., 955 F.2d 1373, 1377–78 (9th Cir. 1992).

187 Melamed & Shapiro, *supra* note 7, at 2122, 2124.

188 *Id*. at 2134. A similar suggestion had been made by Robert A. Skitol, *Concerted Buying Power: Its Potential for Addressing the Patent Holdup Problem in Standard Setting*, 72 ANTITRUST L.J. 727, 729, 738, 742–43 (2005). Skitol's remarkable thesis was that collective action by implementers, effectively a buyers' cartel, would be a lawful joint purchasing arrangement and a good solution to patent hold-up.

189 *See supra* text accompanying note 57.

190 Melamed & Shapiro, *supra* note 7, at 2134.

191 *Id.* at 2136.

192 *Id.* at 2118.

193 *Id.* at 2119–20.

justification, as Melamed and Shapiro argue,[194] but the hold-out problem has not been asserted as a justification for otherwise unlawful conduct; inventors engaging in mere patent hold-up require none. The patent hold-out concern responds in kind to the antitrust interventionists' appeal to pathos.

Melamed and Shapiro contended that implementers are "vulnerable to a kind of ex post opportunism that is very different from the risk knowingly incurred by a technology developer,"[195] but they did not explain the difference. They did not catalogue "kinds" of opportunism or purport to show that one kind is worse than another. They merely asserted that the inventor's risk was "knowingly incurred" but the risk of hold-out was not. Melamed and Shapiro also contended that "[a]llowing SEP owners to engage in . . . opportunism would inhibit innovation and the adoption of new technologies by implementers."[196] But they provide no reason to doubt that allowing implementers to engage in hold-out inhibits innovation and the development of new technologies by inventers.

E. Michael A. Carrier, Timothy J. Muris et al.

Voices most recently added to the antitrust interventionist chorus specifically opposed the views of the Assistant Attorney General in charge of the Antitrust Division, Makan Delrahim.[197] A group mostly consisting of academics, led by Carrier and Muris, decried "the anticompetitive harms from patent holdup," evidently describing all instances in which SEP owners secure excessive royalties.[198] They contended that "patentees that obtain or maintain monopoly power as a result of breaching a FRAND commitment present a standard monopolization case."[199] But this contention is at odds with *Rambus*,[200] and it is difficult to square with the fact that breaching a FRAND commitment has never been held in violation of Section 2.

This group cited *Broadcom v. Qualcomm*[201] for the proposition that

FRAND breaches could satisfy the section 2 elements of exclusionary conduct by demonstrating an exclusion of competitors (the exclusion of rival competitive technologies not chosen by the SSO) that results in competitive injury (price increases and innovation harms from the breach) and acquisition or maintenance of monopoly

---

194 *Id.*

195 Melamed & Shapiro, *supra* note 7, at 2119.

196 *Id.* at 2120.

197 Makan Delrahim, Assistant Attorney General, Take It to the Limit: Respecting Innovation Incentives in the Application of Antitrust Law 7, Remarks at USC Gould School of Law (Nov. 10, 2017), https://www.justice.gov/opa/speech/file/1010746/download.

198 Michael A. Carrier *et al.*, *supra* note 1, at 1. FTC Commissioner McSweeny advocated only that "we should recognize the potential for harm from holdup and enforce on a case-by-case basis where appropriate." McSweeny, *supra* note 3, at 5. She identified no scenario in which an enforcement action would be warranted.

199 Michael A. Carrier *et al.*, *supra* note 1, at 1–2.

200 *See supra* text accompanying notes 110–20.

201 *See supra* text accompanying notes 103–06. They also cite an unpublished district court decision declining to dismiss a complaint modeled on the scenario sketched in *Broadcom v. Qualcomm*.

power (obtained through the breach).[202]

But price increases do not constitute harm to competition, and the scenario sketched by the Third Circuit in *Broadcom v. Qualcomm* employs a fraud to undermine *ex interim* competition, which sets it apart from mere patent hold-up.[203] On the other hand, the scenario sketched *Broadcom v. Qualcomm* has not yet been observed in the real world, so we infer that this scenario is not what the group was calling a "substantial problem."[204] And the group provided no basis for thinking that mere patent hold-up ever violates the Sherman Act, much less that such violations are a "substantial problem."

V. Conclusions

Nothing is more alien to antitrust than enquiring into the reasonableness of prices. When the Sherman Act was young, the Supreme Court recoiled at the notion that the reasonableness of railroads' rates could determine antitrust liability.[205] The Court did so again in first articulating the per se rule. It held that the Sherman Act judges the reasonableness of prices only examining the process through which they were determined:

> Our view of what is a reasonable restraint of commerce is controlled by the recognized purpose of the Sherman Law itself. Whether [a] restraint is reasonable or not must be judged in part at least in the light of its effect on competition, for . . . it cannot be doubted that the Sherman Law and the judicial decisions interpreting it are based upon the assumption that the public interest is best protected from the evils of monopoly and price control by the maintenance of competition.[206]

Conduct can be held to violate the Sherman Act only on the basis that it harms competition—not on the standalone basis that it produces the wrong prices.

The rubric of patent hold-up, as conventionally defined, does not involve the suppression of technology competition in the standard-setting process. The term describes the scenario in which inventors obtain higher royalties than they otherwise would because they bargain with implementers after they have sunk investments in the standard. Patent hold-up, so defined, does not harm competition and hence does not violate antitrust law.

To whatever extent *ex interim* competition among technologies exists in a standard-setting process, antitrust law protects it, as *Broadcom* suggests. But the possibility of *ex interim* competition is insufficient to invoke antitrust law, as *Rambus* holds. The Sherman Act's policy of competition is not served by giving a cause of action under Section 2 of the Sherman Act to every standard implementer unhappy with a royalty offer from an SEP holder.

---

202 Michael A. Carrier *et al.*, *supra* note 1, at 3.
203 *See supra* text accompanying notes 133–34.
204 Michael A. Carrier *et al.*, *supra* note 1, at 2.
205 United States v. Trans-Missouri Freight Ass'n, 166 U.S. 290, 331–32 (1897).
206 United States v. Trenton Potteries Co., 273 U.S. 392, 397 (1927).

Advocates of antitrust intervention in patent hold-up do not propose to target conduct that harms competition. They contrive to move royalty rates closer to a theoretical ideal. Yet no sound theoretical or empirical basis has been offered for believing that this ideal sufficiently rewards inventors. Advocates of antitrust intervention in patent hold-up either ignore or cheer the opportunistic behavior of implementers in taking advantage of inventors' sunk investments.

Advocates of antitrust intervention in patent hold-up also skip over the fact that the delicate balancing of incentives to promote technical progress is the province of intellectual property law. If inventors were systematically over-compensated for technology incorporated into standards, adjustments in patent law or its interpretation by the Federal Circuit could afford the proper solutions.

If a FRAND commitment is part of a bargain that was hammered out by inventors and implementers in properly constituted and well-functioning SSO, it should be enforced under contract law. And that is happening. Implementers do invoke the powers of the courts to obtain royalties commensurate with those in the competitive benchmark of *ex interim* bargaining. With more experience on the outcome of FRAND breach-of-contract litigation, the mere option to bring suit typically will achieve much the same result.