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FRAND and Antitrust

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I. Introduction

Standard Setting Organizations (SSOs) create technology standards in order to ensure product or service quality, promote compatibility and interoperability of networked products, and facilitate the competitive development of new technologies.[1] Standard-setting in patent rich environments often requires participants to disclose relevant patents that they own, and license patents essential to the standard to all participants on fair, reasonable, and nondiscriminatory (FRAND) terms. While governments can be heavily involved in standard setting,[2] the implementation of technical standards in information technologies is largely the work of private actors. Government involvement is limited mainly to enforcement of contract, intellectual property, or antitrust law.

This paper addresses one question: when is a patentee's violation of a FRAND commitment an antitrust violation, and if so, of what kind and what are the implications for remedies? It warns against two extremes. At one extreme is thinking that any violation of a FRAND commitment is an antitrust violation as well. In the first instance FRAND obligations are contractual, and most breaches of contract do not violate any antitrust law. The other extreme is thinking that, because a FRAND violation is a breach of contract, it cannot also be an antitrust violation. The question of an antitrust violation does not depend on whether the conduct breached a particular agreement

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[1]On the role of the general antitrust laws in standard setting, discussing the numerous cases, *see* 2 HERBERT HOVENKAMP, ET AL., IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW , Ch. 35 (3d ed. 2015 & 2019 Supp.); 13 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶¶2230-2235 (4th ed. 2019).

[2]2 HOVENKAMP, IP AND ANTITRUST, *id*., §35.01[C][1].

but rather on whether it restrained trade under §1 of the Sherman Act, was unreasonably exclusionary under §2 of the Sherman Act, or amounted to an anticompetitive condition or understanding as defined by §3 of the Clayton Act.[3]

Patent holders who participate in SSOs generally agree to provide timely disclosure of their patents or patent applications that are reasonably expected to read on the participants' technology.[4] They also agree in advance to license their patents thought to be essential to the standard on FRAND terms. The Patent Act itself does not impose this obligation. As a result, patentees who are not involved in SSOs have no obligation other than market pressures to submit their patents to a standard or engage in FRAND licensing. In networked technologies, however, these market pressures can be significant. For example, if a patentee refuses to commit its patented technology to an industry standard, the SSO may adopt a different standard that is not

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[3]*See* Clayton Act §3, 15 U.S.C. §15 (condemning certain sales "on the condition, agreement, or understanding" that the buyer will not deal in the goods of a competitor). Section 5 of the Federal Trade Commission Act, 15 U.S.C. §45, is said to reach everything that the Sherman Act reaches plus some additional conduct, but we look mainly at Sherman and Clayton Act standards. FTC v. Brown Shoe Co., Inc., 384 U.S. 316 (1966).

[4]On SSO members' duty to disclose, *see*, *e.g*., Qualcomm, Inc. v. Broadcom Corp., 548 F.3d 1004, 1015-1019 (Fed. Cir. 2008); Apple, Inc. v. Samsung Elect. Co., Ltd, 2012 WL 1672493, *13 (N.D. Ca. May 14, 2012); Peter S. Menell, *Economic Analysis of Network Effects and Intellectual Property*, 34 BERKELEY TECH. L.J. 219, 301-302 (2019); Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. 1889, 1919-1921 (2002); Joseph Farrell, John Hayes, Carol Shapiro, & Theresa Sullivan, *Standard Setting, Patents, and Hold-up*, 74 ANTITRUST L.J. 603 (2007).. However, establishing antitrust liability for failure to disclose has proven difficult. *See, e.g.*, Rambus, Inc. v. FTC, 522 F.3d 456 (D.C.Cir. 2008); Wi-LAN Electr., Inc., 382 F.Supp.3d 1012 (S.D.Cal. 2019).

believed to infringe those patents..[5] Or if a patentee refuses to commit to license a patent to all comers on a nondiscriminatory basis, then the SSO may respond in the same way.[6]

The FRAND obligation requires the patentee to licensee freely to all qualified participants, whether or not they are competitors of the patent holder.[7] Further, they must settle royalty disputes in a reasonable manner – if necessary, through a third party, such as a court

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[5] *See* D. Scott Bosworth, Russell W. Mangum III, & Eric C. Matolo, *FRAND Commitments and Royalties for Standard Essential Patents*, 19, in COMPLICATIONS AND QUANDARIES IN THE ICT SECTOR: STANDARD ESSENTIAL PATENTS AND COMPETITION ISSUES (2018).

[6] *See* Microsoft Corp. v. Motorola, Inc., 696 F.3d 872, 876 (9th Cir. 2012) ("Microsoft I"), citing Lemley, *Standard-Setting Organizations*, *supra* note __, 90 CALIF. L. REV. at 1902, 1906.

[7] *See, e.g.*, the IP policy of the Telecommunications Industry Association: ""A license under any Essential Patent(s), the license rights which are held by the undersigned Patent Holder, will be made available to all applicants under terms and conditions that are reasonable and non-discriminatory." In re Qualcomm, 2019 WL 5848999 (FTC, Nov. 6, 2018); accord *Microsoft II*, 696 F.3d at 876. *See also id.*, 696 F.3d at 884 (FRAND obligation requires firm to license to "all comers"); Accord Microsoft corp. v. Motorola, Inc., 795 F.3d 1024, 1031 (9th Cir. 2015) (": a "SEP holder *cannot* refuse a license to a manufacturer who commits to paying the RAND rate."). *See also* FTC v. Qualcomm, Inc., ___ F.Supp.3d, __, 2019 WL 2206013 (N.D. Cal. May 21, 2019), at *75:

> For example, under the intellectual property policy of TIA [Telecommunications Industry Association], a SEP holder like Qualcomm must commit to TIA that "A license under any Essential Patent(s), the license rights which are held by the undersigned Patent Holder, will be made available to all applicants under terms and conditions that are reasonable and non-discriminatory."
> (quoting Fed. Trade Comm'n v. Qualcomm, 2018 WL 5848999, at *3.).

or arbitrator.[8] Such agreements may also be subject to compulsory arbitration under the Federal Arbitration Act.[9]

The FRAND system facilitates competition by assuring new firms as well as existing ones that they will be able to operate on the networked technology. Royalties to the owners of these standard essential patents (SEPs) are generally measured by the value that the contributed patent makes to the standard.[10] Importantly, tribunals seek to measure these values "ex ante," or prior to the patent's adoption into a standard and at a time when there are a fuller range of

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[8]*See, e.g.*, Interdigital Tech. Corp. v. Pegatron Corp., 2016 WL 234433 (N.D. Cal. Jan. 20, 2016) (compelling arbitration); ASUS Computer Int'l v. Interdigital, Inc., 2015 WL 5186262 (N.D. Cal. Sep. 4 2015) (similar); HTC corp. v. Telefonaktiebolaget LM Ericsson, 2019 WL 277479 (E.D. Tex. Jan. 22, 2019), app. pending (5th Cir. Feb. 28, 2019) (discussing duty to arbitrate). *See* HOVENKAMP, ET AL., IP AND ANTITRUST, supra note __, §35.05; Mark A. Lemley & Carl Shapiro, *A Simple Approach to Setting Reasonable Royalties for Standard-Essential Patents*, 28 BERKELEY TECH. L.J. 1135 (2013); Jorge L. Contreras & David L. Newman, *Developing A Framework for Arbitrating Standard-Essential Patent Disputes*, 2014 J. DISP. RESOL. 23; J. Gregory Sidak, *Mandating Final-Offer Arbitration of FRAND Royalties for Standard-Essential Patents*, 18 STAN. TECH. L. REV. 1 (2014).

[9]9 U.S.C. §§1-2. See, e.g., ASUS *Computer, supra*; *and see* Jorge L. Contreras & David L. Newman, *Developing A Framework for Arbitrating Standards-Essential Patent Disputes*, 2014 J. DISP. RESOL. 23 (2014).

[10]*See, e.g.*, Microsoft Corp. v. Motorola, Inc., 795 F.3d 1024, 1041 (9th Cir. 2015) (considering "the objective value each [patent] contributed to each standard, given the quality of the technology and the available alternatives as well as the importance of those technologies to Microsoft's business"). *See* Thomas F. Cotter, Erik Hovenkamp, & Norman Siebrasse, *Demystifying Patent Holdup*, 76 Wash. & Lee L. Rev. ___ (2019) (forthcoming), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3338026.

competitive alternatives.[11] Once the standard is adopted and implementers have incorporated it into their own technologies, a standard essential patent is likely to be in a much stronger position, approaching monopoly in some cases.[12] Patents that are committed in this way are described as being "FRAND encumbered."[13]

Having a patent declared standard essential can increase its value considerably, mainly because it steers developmental decision making in favor of that particular technology. When a firm makes a commitment to develop its products under a particular standard, it wants assurance that it will have a durable right to operate under that standard at reasonable royalty rates. This process naturally leads to considerable path dependence in standards, as it encourages firms to develop their own technology in ways that ensure interoperability.[14]

This phenomenon of increased value for SEPs also motivates patent owning firms to "over-declare" – that is, to assert that patents are standard essential when subsequent litigation or analysis

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[11]*E.g.*, Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1325 (Fed. Cir. 2009) ("The hypothetical negotiation tries, as best as possible, to recreate the *ex ante* licensing negotiation scenario and to describe the resulting agreement. In other words, if infringement had not occurred, willing parties would have executed a license agreement specifying a certain royalty payment scheme."); Microsoft Corp. v. Motorola, Inc., 2013 WL 2111217 (W.D. Wa. Apr. 25, 2013);

[12] See Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting* 119, in 1 INNOVATION POLICY AND THE ECONOMY (Adam B. Jaffe, et al, eds., 2001).

[13]*E.g.*, FTC v. Qualcomm, Inc., *6, 2017 WL 2774406 (N.D. Cal. June 26, 2017).

[14]Cotter, Hovenkamp, and Siebrasse, *supra* note __. On path dependence, *see* Steven N. Durlauf, *Path Dependence*, in THE NEW PALGRAVE DICTIONARY OF ECONOMICS 10094 (3d ed. 2018); Douglas Puffert, *Path Dependence in Technical Standards*, in THE NEW PALGRAVE DICTIONARY OF ECONOMICS 10106 (3d ed. 2018). On standardization and path dependence, *see* Joseph Farrell and Garth Saloner, *Standardization, Compatibility, and Innovation*, 16 RAND J. ECON. 70 (1985).

determines that they are not. As many as one-third to more than half of declared SEPs are very likely not essential to the standard for which they were declared[15] In fact, overall infringement rates for SEP patents are not materially different from those for non-SEP patents.[16] A declaration of non-infringement means that, although the patent might be valid, it does not in fact read on the defendant's particular device or process. The problem is exacerbated by the fact that, for the most part SSOs have no process for reviewing or questioning individual participant's declarations that a patent they are offering is in fact standard essential.[17]

Ex ante, a patent may offer one of many technological paths to a certain goal. However, *ex post*, after a standard has been adopted and others have developed their technologies in reliance, the range of acceptable alternatives can decrease dramatically. As a result the

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[15]*See* Robin Stitzing, Pekka Saaskilahti, Jimmy Royer, and Marc Van Audenrode, *Over-Declaration of Standard Essential Patents and Determinants of Essentiality* (SSRN working paper, 11 Sep 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2951617. *See also* Cyber Creative Institute Co., Evaluation of LTE Essential Patents Declared to ETSI (Version 3.0, June 2013), available at http://www.cybersoken.com/file/lte03EN.pdf (concluding that roughly 56% of patents declared essential to ETSI standard were in fact so; there was also a wide range among individual companies). For good commentary, *see* Jorge L. Contreras, *Essentiality and Standards-Essential Patents* 209, in CAMBRIDGE HANDBOOK OF TECHNICAL STANDARDIZATION LAW – ANTITRUST, COMPETITION AND PATENT LAW (Jorge L. Contreras, ed., 2017).

[16] Mark A. Lemley & Timothy Simcoe, *How Essential are Standard-Essential Patents?*, 104 CORN. L. REV. 607, 527 (2019). The authors conclude that finding of infringement of SEP and non-SEP patents occur at about the same rate, roughly 30%. As a result, SEPs "don't seem to be all that essential, at least when they make it to court." Id. at 608.

[17]*See id*. at 610.

patents whose path is adopted become much more valuable.[18] In that case, a firm's ability to evade the FRAND obligation by charging selectively higher royalties to some licensees or conditioning licenses on the purchase of other technology can be extremely valuable to the patentee, but costly to implementers of the standard and disruptive of the SSO's developmental goals.[19] In general, the goal of FRAND is to make patents available to participants at a price equivalent to what the patent would have been worth in the market prior to the time it was declared essential. That is, the relevant question is What was the value of the patent's contribution to the standard at a time when competitive alternatives may have been available, as opposed to a later time when other firms have dedicated themselves to the standard.[20]

The standard essential patent process has produced several disputes. Sometimes patentees may attempt to evade the general FRAND requirements that a standard essential patent must be licensed without condition to all users of the standard and on nondiscriminatory terms. Some owners of standard essential patents who also make products that practice them may prefer not to license a particular patent to anyone. Or they may impose exclusive dealing or minimum market share requirements or discounts on licensees.[21] Alternatively, the owner of a FRAND-encumbered patent may tie it to an

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[18]*See* Jay P Kesan & Carol M. Hayes, *FRAND's Forever: Standards, Patent Transfers, and Licensing Commitments*, 89 IND. L.J. 231, 233-35 (2014).

9*See* William F. Lee & A. Douglas Melamed, *Breaking the Vicious Cycle of Patent Damages*, 101 CORN. L. REV. 385, 404-09 (2016); Mark A. Lemley & Carl Shapiro, Patent Holdup and Royalty Stacking, 85 TEX. L. REV. 1991, 1994-2010 (2007)

[19]*See, e.g.,* FTC v. Qualcomm, Inc., 2019 WL 2206013 (N. D. Cal. May 21, 2019), *106-107 (finding that Qualcomm attempted to leverage higher royalty rates by taking advantage of ex post SEP status plus its threat to withhold products from licensee who challenged the higher rates).

[20]*See* Cotter, Hovenkamp, & Siebrasse, *supra* note __.

[21]On these practices when involving standard essential patents, see *see* Erik Hovenkamp, *Tying, Exclusivity, and Standard-Essential Patents*, 19 COL. SCI. & TECH. L. REV. 79, 108-110 (2017).

unregulated device. While FRAND license rates are regulated by the SSO, product prices are not. By using a patent exclusively in its own manufactured device, the patentee might be able to obtain its full post-commitment monopoly return. In that case the seller can obtain an overcharge on the device that operates to offset the reduced FRAND royalty. This use of tying to avoid regulated rates is well known in antitrust.[22] The owner of a FRAND patent may also refuse to license it to competitors in the market for devices that practice the patent, once again in violation of its FRAND obligation to license to all qualified users on nondiscriminatory terms.[23] The result is reduced competition in the downstream market for devices or processes that employ the patent at issue, and in extreme cases even the creation of monopoly.

While these various attempts to evade FRAND obligations very likely breach the patentee's contractual obligations, only a subset also constitute antitrust violations. This does not mean that the standard-setting and FRAND process in which the conduct occurred is irrelevant. To the contrary, as in any antitrust case, it forms part of the market environment in which antitrust conduct must be evaluated. In her 2019 *Qualcomm* decision, Judge Koh addressed tying and exclusive dealing claims under general antitrust principles, and refusal to deal claims under the standards that the Supreme Court had developed in its *Aspen*[24] and *Trinko*[25] decisions.[26] Although her opinion devoted considerable space to the importance of standard essential patents and the relevance of FRAND commitments, she addressed the antitrust claims largely without reference to standard setting or FRAND. Qualcomm's refusals to license, selective

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[22]On the use of tying arrangements for rate regulation avoidance, *see* PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶1715b,c (4th ed. 2018). On this use in the context of FRAND, *see* Erik Hovenkamp, *Tying, Exclusivity*, *supra*, note __, 102-105.

[23] *See* note __, *supra*.

[24]Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585 (1985).

[25] Verizon Communic., Inc. v. Law Offices of Curtis V. Trinko, 540 U.S. 398 (2004).

[26] FTC v. Qualcomm Corp., 2019 WL 2206013 (N.D. Cal. May 21, 2019).

licensing that excluded competitors, or other discriminatory practices were unlawful under the antitrust laws in any event.[27] Nevertheless, their anticompetitive effects become more transparent when one views the extent to which they undermined an output- and innovation-enhancing joint enterprise whose social value was not being called into question.

SSOs operated by multiple firms are joint ventures.[28] For bona fide joint ventures,[29] the purpose of the antitrust laws is not to destroy the venture or undermine its principal purposes, but rather to evaluate how the challenged restraint operates within the venture and condemn unreasonably harmful restraints.[30] SSOs should be addressed in the same manner. The goal of the standard setting venture is to facilitate competitive operation and entry, interoperability, as well as preserve appropriate competitive incentives for research and development. Antitrust analysis necessarily involves testing conduct against these goals, but only to the extent of looking for practices that are anticompetitive. This means it must identify practices that reduce market wide output unreasonably or that are unnecessarily exclusionary or harmful to consumers in other ways, given that they occurred within the venture. Antitrust law has no statutory authorization to police the standard essential patent process aside from these goals.

A firm's violation of its FRAND commitment is very likely a breach of contract, as several decisions have held.[31] To be sure, the

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[27]*See* discussion *infra*, text at notes __; and see HOVENKAMP, ET AL., IP AND ANTITRUST, *supra* note __, §35.05.

[28] For treatment of SSOs as joint ventures, *see* 13 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW, Ch. 22B, C (4th ed. 2019).

[29]That is, claimed joint ventures that are not simple fronts for cartels.

[30]*See* 7 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW, Ch 15 (4th ed. 2017).

[31]*E.g.*, Microsoft Corp. v. Motorola, Inc., 696 F.3d 872 (9th Cir. 2012); Realtek Semiconductor corp. v. LSI Corp, 946 F. Supp.2d 998 (N.D.Cal. 2013); *In re* Innovatio IP Ventures, LLC Patent Litig., 921 F.Supp.2d 903, 923 (N.D.Il. 2013). *See also* Realtek Semiconductor Corp. v. LSI Corp., 2013 WL 2181717 (N.D. Cal. May 20, 2013)

FRAND contract is incomplete, in the sense that not every term is specified in detail. But participants are subject to a contractual duty to bargain in good faith, with some terms being filled in by the courts as necessary. The breach of contract question does not depend on whether the conduct reduced market output or excluded a rival unreasonably. It certainly does not depend on the existence of any party's market power. Remedies are ordinarily contract damages or an injunction. Nonparties to the contract will typically be able to obtain relief only to the extent that they are third-party beneficiaries. However, the courts have had little difficulty concluding that participating members of the SSO are third-party beneficiaries of FRAND commitments.[32] In all events, challengers will not be able to obtain antitrust law's treble damages unless they can prove an antitrust violation.

Whether a firm's breach of a FRAND commitment also violates the antitrust laws depends on whether the conduct in question causes competitive harm of a sort that the antitrust laws recognize.[33] In the case of §1 of the Sherman Act[34] this requires a showing of a relevant agreement that is reasonably calculated to reduce market output. If the conduct is reasonably ancillary to other arguably procompetitive activity, the court must also assess market power and anticompetitive effects. In the case of §2 of the Sherman Act or §3 of the Clayton Act, which reaches mainly tying and exclusive dealing, it will require a showing of conduct that is unreasonably exclusionary and has an anticompetitive effect.

(FRAND commitment was enforceable contract precluding patentee from bringing ITC claim for infringement before it offered a license).

[32]*See, e.g.*, Microsoft Corp. v. Motorola, Inc., 864 F.Supp.2d 1023 (W.D. Wa. 2012) (product developer was third party beneficiary entitled to enforce FRAND obligation); Realtek Semiconducor corp. v. LSI Corp., 946 F.Supp.2d 998 (N.D. Ca. 2013); Apple, Inc. v. Motorola Mobility, Inc., 2012 WL 5416941 (W.D. Wi. Oct. 29, 2012).

[33]*E.g.*, McGlinchy v. Shell Chemical Co., 845 F.2d 802 (9th Cir. 1988) (supplier's breach of contract not an antitrust violation because it did not cause competitive harm).

[34]15 U.S.C. §1.

II. FRAND Violations and Antitrust

A few FRAND violations that are also challengeable as antitrust violations involve royalty disputes or entitlement to an injunction.[35] Many fall into the general category of refusals to deal or discriminatory dealing. These come in many kinds, and the differences are important for antitrust purposes. Unilateral refusals – where one firm acting alone refuses to deal – are unlawful less frequently than concerted refusals to license, or boycotts, which occur when two or more firms acting in concert refuse to deal.[36] In addition, refusals to deal can be both simple and conditional.[37] Discriminatory dealing occurs when a firm deals under different terms with different contracting partners, such as competitors and noncompetitors, in a way that harms competition.

A. Refusals to Deal

Although the Patent Act has some provisions relevant to refusals to license,[38] in general a refusal to license a patent is simply a subset of refusals to deal A simple refusal is one where the holder refuses to deal no matter what, or where the refusal is conditioned on a firm's status that cannot readily be changed. For example, a firm might agree to sell to competitors but not noncompetitors. The only way a competing firm could obtain a deal in that case would be to exit from the market in which it was competing.

By contrast, conditional refusals to deal are actions in which the rights holder expresses a willingness to deal only if some condition is met. The basis for antitrust attacks on conditional refusals is much broader than for unconditional refusals. Tying and exclusive dealing are two common examples. Section 3 of the Clayton Act, the provision historically used to condemn tying and exclusive dealing, makes it

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[35]*See* discussion *infra*, text at notes __.
[36]On concerted refusals to deal, *see* 13 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶¶2201-2205 (4th ed. 2019).
[37] *See* discussion *infra*, text at notes __.
[38] *See* discussion *infra*, text at notes __.

unlawful to sell something only on the "condition, agreement, or understanding" that the purchaser not deal in the goods of a competitor.[39] In the only place where the Sherman and Clayton Acts mention patents, this provision makes clear that its refusal to deal rule applies to things "whether patented or unpatented."[40] Nevertheless, §3's coverage is limited to "goods, wares, merchandise, machinery, supplies, or other commodities."[41] Because FRAND obligations by design are not tied to any particular good, §3 of the Clayton Act presumably does not cover the conditional refusal to license a FRAND patent, unless the condition in question is tied to "goods, wares," etc.

In any event, these same requirements have largely been read into the more general language of the Sherman Act which contains no limitation on its coverage. This explains why cases such as *Qualcomm*, dealing with refusal to license FRAND patents, proceed largely under the Sherman Act[42] or perhaps in the case of FTC proceedings under §5 of the FTC Act.[43] Just as the Sherman Act, that statute's prohibition of unfair methods of competition contains no limitation respecting patents.

When the subject of the deal is a patent, the Patent Act itself may be relevant. The Patent Act does not create an antitrust immunity for unilateral refusals to license, although it does immunize certain "misuse" claims. The Patent Misuse Reform Act provides that:

> No patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having… (4) refused to license or use any rights to the patent….[44]

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[39] 15 U.S.C. §14.
[40] *Ibid*.
[41] *Ibid*.
[42] FTC v. Qualcomm, Inc., 2019 WL 2206013 (N.D.Cal. May 21, 2019).
[43] 15 U.S.C. §45.
[44] 35 U.S.C. §271(d)(4).

Patent "misuse" is a judge-made set of rules that emanated entirely from the Patent Act. While many of these resembled antitrust rules, they often reached beyond antitrust law.[45] The quoted provision, which is part of the 1988 Patent Misuse Reform Act,[46] was intended to limit the reach of patent misuse. Today patent misuse is in sharp decline and there are few recent cases finding misuse.[47]

Whether this provision of the Patent Misuse Reform Act should be read additionally to confer an antitrust immunity is doubtful. More realistically, it should be interpreted as an attempt to narrow misuse liability so as to bring it more in line with antitrust principles.[48] When Congress wants to create an antitrust immunity it knows how to do so. Several statutes provide that the antitrust laws "do not apply" to a particular type of conduct, or that particular conduct "shall not be unlawful under the antitrust laws."[49] Here, by contrast, the statutory

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[45]On patent "misuse," *see* 1 HERBERT HOVENKAMP, ET AL., IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW, Ch. 3 (3d ed. 2017 & Supp.); 10 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶¶1781-1782 (4th ed. 2018); DARYL LIM, PATENT MISUSE AND ANTITRUST LAW: EMPIRICAL, DOCTRINAL AND POLICY PERSPECTIVES (2013). On the reach of misuse beyond antitrust law, *see, e.g.*, Senza-Gel Corp. v. Seiffhart, 803 F.2d 661 (Fed. Cir. 1986) (tying arrangement could constitute misuse and be defense to infringement claim even though it did not constitute an antitrust violation).

[46]Codified at 35 U.S.C. § 271(d).

[47]*See* AREEDA & HOVENKAMP, *supra* note __, ¶1781.

[48]See Richard Calkins, *Patent Law: the Impact of the 1988 Patent Misuse Reform Act and Noerr-Pennington Doctrine on Misuse Defenses and Antitrust Counterclaims,* 38 DRAKE L. REV. 175 (1989) (making this argument).

[49]*See, e.g.*, Charitable Donation Antitrust Immmunity Act, 15 U.S.C. §37(b) ("the antitrust laws … shall not apply to charitable gift annuities…."); Confirmation of Antitrust Status of Graduate Medical Resident Matching Programs, 15 U.S.C. §37b(b)(2) (it "shall not be unlawful under the antitrust laws to sponsor…"). *See also* 1B PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶¶249-251 (4th

language removes liability for "misuse or illegal extension of the patent right," which is classical misuse language. Given the principle that immunities are construed narrowly, the statute should be construed as narrowing misuse doctrine but not antitrust rules.[50]

In any event, this statutory limitation applies only to *un*conditional refusals to license. The very next subsection of the same statute, passed at the same time, also states that misuse should not apply to a firm that:

> (5) *condition[s]* the license of any rights to the patent or the sale of the patented product on the acquisition of a license to rights in another patent or purchase of a separate product, unless, in view of the circumstances, the patent owner has market power in the relevant market for the patent or patented product on which the license or sale is conditioned.[51]

Far from exonerating conditional refusals, this subsection of the statute requires that conditional refusals involving tying be condemned only upon a finding of market power in the product upon which the condition is imposed – *i.e.*, the tying product. In its *Illinois Tool Works* decision the Supreme Court held that this provision, written as a limitation on the reach of misuse law, also served to establish a market power requirement in antitrust law.[52] Misuse law having been narrowed, it would be perverse to have antitrust reach more broadly.[53] As a result, the Court held, market power could not

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ed. 2013) (discussing other federal statutes with express immunity provisions).

[50]E.g., Group Life & Health Ins. Co. v. Royal Drug Co., 440 U.S. 205, 231 (1979) ("It is well settled that exemptions from the antitrust laws are to be narrowly construed"); Brown v. Pro Football, Inc., 518 U.S. 231, 258 (1996) (Stevens, J., dissenting).

[51]35 U.S.C. §271(d)(5) (emphasis added).

[52]Illinois Tool Works, Inc. v. Independent Ink, In., 547 U.S. 28 (2006).

[53]*See id.* at 38-39, 42.

be presumed in an antitrust tying case from the bare existence of a patent.[54]

Suppose the owner of a FRAND-encumbered patent conditions a license on some agreement or understanding that antitrust law deems anticompetitive; or else refuses to license it under any circumstances?

1. Conditional Refusals to License FRAND-encumbered Patents

An unlawful conditional refusal occurs when the defendant refuses to sell or license some interest unless the buyer agrees to a condition that is determined to be anticompetitive. Conditional refusal challenges usually involve tying, exclusive dealing, or a variety of practices sometimes described as "quasi" exclusive dealing, including conditional discounts, loyalty discounts, bundled discounts, most-favored nation clauses, and the like.[55] The purely vertical conditional refusal is addressed under ordinary rule of reason antitrust principles, which require a showing of market power and anticompetitive effects. These requirements apply whether any patents in question are FRAND encumbered or, indeed, whether there are any patents at all.[56]

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[54]*Id*. at 42 ("given the fact that the patent misuse doctrine provided the basis for the market power presumption, it would be anomalous to preserve the presumption in antitrust after Congress has eliminated its foundation," citing 10 AREEDA & HOVENKAMP, *supra* note __, ¶1737c).

[55]On tying, *see* 9 & 10 AREEDA & HOVENKAMP, *supra* note __, ch. 17; on exclusive dealing, see 11 id., Ch. 8; for conditional discounts and other practices sometimes analogized to tying or exclusive dealing, see 3A ANTITRUST LAW ¶749 (bundled discounts); 11 id., ¶1807 (various discounts conditioned on exclusivity or preferential treatment).

[56] *See* FTC v. Qualcomm, Inc., 2019 WL 2206013 (N.D.Cal. May 21, 2019) (conditional market share discounts in exchange for chip purchase commitments violated antitrust laws; in some cases, Qualcomm conditioned chip sales on patent licenses at supracompetitive rates).

In speaking of Qualcomm's practices targeting Apple, as well as other OEM's, the court concluded that in 2013 Qualcomm gave Apple rebates "in exchange for Apple's effective commitment to purchase modem chips exclusively from Qualcomm."[57] It was particularly important for Qualcomm to secure Apple's exclusive business, the court concluded, because of Apple's scale and prestige.[58] This condition foreclosed competitor Intel and other unnamed rivals from working with Apple for approximately three years.[59] That practice, it should be noted, falls literally within Clayton Act §3's prohibition of anticompetitive tying and exclusive dealing of products, even though the case at hand was brought under §5 of the FTC Act.[60] The Sherman Act condemns this conduct under more or less the same standard.[61]

Such a conditional refusal also violates a FRAND commitment. Here, FRAND obligations reach much more broadly than do antitrust obligations. For example, a refusal to license a FRAND patent to a qualified licensee unless that person also purchases the IP owner's hardware would very likely violate a FRAND commitment "per se," as a simple breach of contract. Breach of the agreement would be unlawful without any showing of market power or anticompetitive effects. The same refusal would violate the

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[57] Id. at *55.
[58] Ibid.
[59] Ibid.
[60] See Id. at *11. Section 3 of the Clayton Act provides that:

> it shall be unlawful… to lease or make a sale of goods …, or fix a price charged therefor, or discount from … such price, on the condition, agreement, or understanding that the lessee or purchaser thereof shall not use or deal in the goods .. of a competitors or competitors….

15 U.S.C. §14.
[61] *See* 11 ANTITRUST LAW, *supra* note __, ¶1800c4 (noting divisions among the lower courts as to whether the test of illegality is the same under the two statutes).

antitrust laws only if the market power and anticompetitive effects requirements for an antitrust tying violation were met.

In the case of a FRAND violation alone, the remedy could be a nonantitrust penalty for breach of contract, as well as a mandatory or prohibitory injunction under general equitable principles such as the Supreme Court applied in its *eBay* decision.[62] Absent a finding of an antitrust violation, they would not be amenable to antitrust's treble damages.[63] Nor would they be governed by the provisions that govern private equity relief from antitrust violations.[64] They would also not be governed by the very broad provision that gives the Attorney General the authority to obtain an injunction against an ongoing antitrust violation without making the usual showing that equitable principles favored the requested relief.[65]

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[62]eBay v. MercExhange, LLC, 547 U.S. 388 (2006), holding that the right to an injunction should be established by traditional equity principles, namely that:

> (1) that [the plaintiff] has suffered an irreparable injury; (2) that remedies available at law are inadequate to compensate for that injury; (3) that considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.

[63] 15 U.S.C. §15.

[64] Articulated in 15 U.S.C. §26:

> Any person, firm, corporation, or association shall be entitled to sue for and have injunctive relief … against threatened loss or damage by a violation of the antitrust laws,… when and under the same conditions and principles as injunctive relief against threatened conduct that will cause loss or damage is granted by courts of equity, under the rules governing such proceedings, and upon the execution of proper bond against damages for an injunction improvidently granted and a showing that the danger of irreparable loss or damage is immediate, a preliminary injunction may issue….

[65] 15 U.S.C. §25 (authorizing government to "prevent and restrain" future antitrust violations without a separate public interest showing).

Although the fact that a patent is FRAND-encumbered does not determine antitrust liability in either direction, it is hardly irrelevant. On the market power question, the fact that a patent has been declared standard essential and subjected to FRAND requirements is certainly important. Depending on the degree of path dependence,[66] a patent may have become essential to practicing a particular standard, or implementers may have invested substantial sunk costs into the technology it covers. In that case extraction may be more costly than simply paying more, or else the firm may exit from the market.[67]

Questions about the market power of individual SEP patents are also heavily derivative of questions about the power of the standard setting organization for which the patent is essential. If a patent is truly essential, then it has whatever power is enjoyed by the standard to which it is essential. Most large SSOs that employ SEPS presumably have significant power. In that case, an essential patent can be presumed to have market power as well. In many other settings, however, standards are less likely to have power for the simple reason that the organization is only one of many alternative standard setting organizations, or else because compliance with a standard is not all that valuable.[68]

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[66]*See* Cotter, Hovenkamp, and Siebrasse, *supra* note __.

[67]*See* Jorge L. Contreras, *Much Ado About Hold-up*, 2019 ILL. L. REV. 875; FTC, THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION 61 (2011); Anne Layne-Farrar, Gerard Llobet & A. Jorge Padilla, *Preventing Patent Hold Up: An Economic Assessment of Ex Ante Licensing Negotiations in Standard Setting*, 37 AIPLA Q.J. 445, 455 (2009). *See also* Douglas Melamed & Carl Shapiro, *How Antitrust Law Can Make FRAND Commitments More Effective*, 127 YALE L.J. 2110 (2018).

[68]*See, e.g.*, Brookins v. International Motor Contest Assn., 219 F.3d 849 (8th Cir. 2000) (defendant IMCA was one out of many racing bodies and its standard lacked power over the general market for oval track automobile racing); Sanjuan v. American Board of Psychiatry & Neurology, 40 F.3d 247 (7th Cir. 1994), cert. denied, 516 U.S. 1159 (1996) (physicians excluded from specialized professional association

SEP status is also important to questions about the breadth of a relevant antitrust market. For example, once a patent has been designated standard essential, substitute patents that are not essential are poor alternatives for technology operating on that network. This is simply a special case of the proposition that regulatory requirements or accepted business practices can serve to narrow the scope of relevant markets, thus giving firms greater power. If compliance with a standard is necessary to doing business in a market, then the market will necessarily be limited to complying producers.[69]

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could still practice their profession without difficulty where membership in the association was not necessary to practice); Clamp-All Corp. v. Cast Iron Soil Pipe Inst., 851 F.2d 478 (1st Cir. 1988), cert. denied, 488 U.S. 1007 (1989) (association that graded and approved underground plumbing fixtures lacked power when it appeared that few market participants paid much attention to their recommendations).

[69]*E.g.*, United States v. Phillipsburg Nat. Bank & Trust co.,399 U.S. 350, 361-362 (1970) (local regulatory requirements in effect at the time served to reduce the size of geographic markets); See *Hospital Corp. of Am. v. FTC*, 807 F.2d 1381, 1387 (7th Cir. 1986), cert. denied, 481 U.S. 1038 (1987) ("certificate of need" requirement served to protect incumbent hospitals from new competition); E.I. du Pont de Nemours and co. v. Kolon Indus., Inc., 637 F.3d 435, 443 (4th Cir. 2011) (noting relevance of regulatory requirements in determining size of geographic antitrust market); For example, the 2010 Horizontal Merger Guidelines call for narrower markets in case where some products but not others have regulatory approval. See United States Dept. of Justice and Federal Trade Commission, Horizontal Merger Guidelines §4.2.2 (2010), available at https://www.justice.gov/atr/horizontal-merger-guidelines-08192010. See also 2B PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶572b (4th ed. 2015) (on regulatory requirements as narrowing markets to as to include the range of products approved by the regulator). Barriers to entry, which enhance market power, also include regulatory requirements that give an advantage to incumbents. See Broadcom Corp. v. Qualcomm, Inc., 501 F.2d 297, 307 (3d Cir.

To be sure, the patent may have been mis-declared and not be essential at all to practice under a certain standard.[70] But given that declaration is a voluntary act of the patentee it seems wise to presume that a SEP_declared patent is essential and thus confers significant power. Important evidence that it is not essential is a finding that the implementers technology, while practicing the standard, does not infringe the patent. Such a patent may have no more power than the general run of non-SEP patents.

The market power query determines whether a firm (or cartel) has sufficient power to increase price to supracompetitive levels without losing so many sales that the increase is unprofitable?[71] Any factor that limits substitution, including SEP status, can result in a narrower market definition. To illustrate, absent an industry standard, builders might regard steel and plastic (PVC) conduit for electric wiring as effective substitutes. However, once a standard with market force approves only steel conduit, as happened in the *Allied Tube* case, a sole producer or cartel of producers of that conduit could have significant power.[72]

In sum, when an antitrust tribunal assesses an antitrust claim, two of the most important elements, power and anticompetitive effects, can be heavily driven by SEP status. Conditionally refusing to license a FRAND-encumbered patent when the relevant agreement

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1007); Rochester Drug Co-op, Inc. v. Braintree Labs., 712 f.Supp.2d 308 (D. Del. 2010).

[70] On the phenomenon of over-declaring standard essential patents, *see* discussion *supra*, text at notes __.

[71] *See* 2B PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶501 (4th ed. 2014).

[72] Once PVC conduit was approved, it became a market leader. See https://www.persistencemarketresearch.com/market-research/electrical-conduit-pipe-market.asp. However, PVC conduit had been the target of a standard-setting boycott organized by steel conduit manufacturers, organized as a cartel. *See* Allied Tube & Conduit Corp. v. Indian Head, Inc., 486 U.S. 492 (1988). If the boycott had succeeded it would very likely have excluded PVC from many building uses.

requires licensing is clearly a breach of contract, but it can also be an antitrust violation when these conditions are met.

Conditional dealing is unlawful under the antitrust laws only when both power and anticompetitive effects are shown. Conventionally, the relevant anticompetitive effect is market foreclosure. Here, the primary question is whether the condition made it more costly or impossible for a participating firm to operate on the network. Under the restraint of trade standard of §1 of the Sherman Act, antitrust harm also includes reduced output and higher prices in output markets. Depending on the facts, the victims could be either excluded rivals or those whose costs have been increased; or else downstream firms, including consumers, forced to pay higher prices.

2. Unconditional Refusals: FRAND Patents and Path Dependent Technologies

In *Aspen*, the Supreme Court unanimously upheld a plaintiff's jury verdict in a case involving an unconditional, unilateral refusal to deal.[73] Although criticism of *Aspen* has been widespread, much of it seems to be driven by a tendency to confuse the *Aspen* case with the very different essential facilities doctrine.[74] The essential facility doctrine is asset based. By contrast, *Aspen's* refusal to deal rule is conduct based. Further, the two rules are based on very different theories of incentives and competitive harm.[75]

Antitrust analysis of unconditional, unilateral refusals to deal is difficult for several reasons. *First*, an overly broad rule can facilitate competitor free riding on a dominant firm's investment. Smaller rivals might like nothing more than to have ready access to some input that the dominant firm has developed, thus avoiding the risk and development costs. In that case, forcing the dominant firm to supply them can reduce competitors' incentives to invest for

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[73]Aspen Skiing Co. v. Aspen Highland Skiing Corp., 472 U.S. 585 (1985). Justice White did not participate.
[74]*See* discussion *infra*, text at notes __.
[75]*See* discussion *infra* text at notes __.

themselves.[76] For similar reasons, sharing of an important input by two firms may facilitate collusion.[77] As a result, "essentiality" is a necessary condition for illegality.[78] If a competing firm can easily duplicate a particular input for itself, antitrust law should not require sharing.

Second, remedial problems can be formidable. In order to enforce a dealing order, the court must both identify the asset that is subject to compulsory dealing and determine the price.[79] Unless some mechanism is identified for establishing the price and other terms of sale, these tasks threaten to involve the antitrust tribunal in a form of price regulation. In *Aspen* itself, the antitrust litigation originated in a dispute about revenue sharing which the Supreme Court did not resolve.[80] As the Supreme Court later observed in its *Trinko* decision,

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[76]*See* AREEDA & HOVENKAMP, *supra* note __, ¶¶771-772.

[77]*See* discussion *infra*, text at notes __. (discussing 1975 Colorado Attorney General complaint of price fixing case against the ski companies).

[78]*See, e.g.*, Pittsburg County Rural Water Dist. No. 7 v. City of McAlester, 358 F.3d 694 (10th Cir. 2004), cert. denied, 543 U.S. 810 (2004) (municipal water supply not essential when other sources were available); Massachusetts School of Law at Andover v. ABA, 107 F.3d 1026 (3d Cir.), cert. denied, 522 U.S. 907 (1997) (law school hiring conference not essential when there was no showing that it could not be duplicated); Blue Cross & Blue Shield United of Wisconsin v. Marshfield Clinic, 65 F.3d 1406 (7th Cir. 1995), cert. denied, 516 U.S. 1184 (1996) (HMO not essential when there were existing, viable alternatives). Other decisions are discussed in 3B AREEDA & HOVENKAMP, ANTITRUST LAW, *supra* note __, ¶773b.

[79]By contrast, if the claim is of *concerted* refusal to deal the court may do no more than issue an injunction dissolving the agreement and permitting each firm to act independently. 3B AREEDA & HOVENKAMP *supra* note __, ¶774c, e.

[80]The jury approved a damage award based on a decline in the plaintiff's profits during the years that the parties were disputing the revenue sharing venture. The expert had done this essentially by comparing the plaintiff's share of revenues during this period with

which distinguished but did not overrule *Aspen*, the asset that the plaintiff is requesting may be one that was never separately placed on the market at all, but rather was simply some intermediate good in a production process.[81] That obligates the court to identify the scope of the good or service for which compulsory dealing is appropriate. For these reasons antitrust policy toward unilateral refusals to deal has always been conservative.

The same considerations that govern the market power issue in cases involving conditional refusals to deal and FRAND-encumbered patents at least presumptively apply to unconditional refusals.[82] Because they are unilateral and do not have a contractual condition attached to them, simple refusals to deal are generally addressed under §2 of the Sherman Act. The delimiting factors for identifying an anticompetitive unilateral refusal to deal are (1) a history of voluntary dealing; (2) an asset that can be separately identified and sold; (3) a mechanism for identifying the scope and terms of the dealing obligation; and (4) some basis for thinking that relief will make the market perform more competitively.[83]

In *Trinko* the Supreme Court affirmed a dismissal where most of these requirements were not met. First, there was no history of voluntary dealing between the ILEC and CLEC telephone exchange carriers.[84] To the contrary, the parent phone company, AT&T, had a

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revenues during the period prior to the dispute. *See* 738 F.2d 1509, 1523 (10th Cir. 1984)

[81]Verizon Communic., Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 409-410 (2004). *See* discussion *infra*, text at notes __.

[82]*See* discussion, *supra*, text at notes __.

[83]For the decisions, *see* 3B AREEDA & HOVENKAMP, ANTITRUST LAW, *supra* note __, ¶772.

[84]"ILEC," or Incumbent Local Exchange Carrier, refers to the telephone company established as the primary service provider for a particular region, and which owns and has responsibility for most of the infrastructure. By contrast, "CLEC," or Competitive Local Exchange Carrier, refers to a firm that is authorized under the 1996 Telecommunications Act to attach into the network at any feasible

long history of resisting attachment to its network.[85] Any cooperation that existed was solely by virtue of the Telecommunications Act, which compelled it under the supervision of the FCC and state regulatory agencies.[86]

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point in order to provide services in competition with the ILEC. *See* 47 U.S.C. §251(c) (2), which requires ILEC's to:

> ….provide for the facilities and equipment of any requesting telecommunications carrier, interconnection with the local exchange carrier's network--
>
> > **(A)** for the transmission and routing of telephone exchange service and exchange access;
> >
> > **(B)** at any technically feasible point within the carrier's network;
> >
> > **(C)** that is at least equal in quality to that provided by the local exchange carrier to itself or to any subsidiary, affiliate, or any other party to which the carrier provides interconnection; and
> >
> > **(D)** on rates, terms, and conditions that are just, reasonable, and nondiscriminatory….

[85]*See* MCI Communic. Corp. v. AT&T Co., 708 F.2d 1081 (7th Cir. 1981) (tracing history of AT&T's refusal to interconnect). *See, e.g.*, Hush-A-Phone Corp. v. United States, 238 F.2d 266, 269 (D.C.Cir.1956) (striking down extreme case of AT&T refusal to interconnect even to non-electronic listening device). *See* Joseph H. Weber, *The Bell System Divestiture: Background, Implementation, and Outcome*, 61 FED. COMM. L. J. 21 (2008); Herbert Hovenkamp, *Antitrust and the Regulatory Enterprise*, 2004 COL. BUS. L. REV. 335, 367-369 (2004).

[86]*See Trinko*, 540 U.S. at 409:

> The refusal to deal alleged in the present case does not fit within the limited exception recognized in *Aspen Skiing*. The complaint does not allege that Verizon voluntarily engaged in a course of dealing with its rivals, or would ever have done so absent statutory compulsion.

Second, the dealing obligations contained in the Telecommunications Act were not limited to discrete assets that had historically been bought and sold in an independent market. Many of them were "deep in the bowels" of Verizon, as Justice Scalia put it.[87] The 1996 Telecommunications Act permitted a CLEC to obtain interconnection at "any technically feasible point" in the incumbent carrier's network.[88] It did not matter whether the output at that point had ever been marketed to any third party. It is one thing to require dealing with respect to an identifiable asset that can be and has been sold separately; it is quite another to identify some intermediate step in a firm's own production process and require separate dealing at that point. By contrast, FRAND agreements apply to patents, which are distinct and freely licensable assets. Further, the FRAND agreement itself manifests a commitment to license them to a variety of takers.

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[87]Verizon Communic., Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 409-410 (2004) (distinguishing *Aspen*):

> In *Aspen Skiing*, what the defendant refused to provide to its competitor was a product that it already sold at retail—to oversimplify slightly, lift tickets representing a bundle of services to skiers…. In the present case, by contrast, the services allegedly withheld are not otherwise marketed or available to the public. The sharing obligation imposed by the 1996 [Telecommunications] Act created "something brand new"—"the wholesale market for leasing network elements." Verizon Communications Inc. v. FCC, 535 U.S., at 528, 122 S.Ct. 1646. The unbundled elements offered pursuant to § 251(c)(3) exist only deep within the bowels of Verizon; they are brought out on compulsion of the 1996 Act and offered not to consumers but to rivals, and at considerable expense and effort. New systems must be designed and implemented simply to make that access possible—indeed, it is the failure of one of those systems that prompted the present complaint.

[88] *See* note __, *supra*.

The third and fourth elements involved determination of the scope of dealing, as well as the mechanisms for assuring that dealing obligations would further competition. In *Trinko* these tasks were taken over by federal (FCC) and state (PSC)[89] regulators, who responded to and disciplined interconnection violations. The Court concluded that these agencies had been doing their job adequately, performing as "an effective steward of the antitrust function."[90] In fact, at the time of litigation the FCC had already disciplined the defendant for at least one refusal to interconnect.[91]

Aspen itself has been described as lying "at or near the outer boundary" of antitrust liability under §2 of the Sherman Act.[92] It certainly did stretch the doctrine very far. *Aspen* occurred in a poorly

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[89]Referring to the New York Public Service Commission, which has authority over the telephone system within that state.
[90]*Trinko*, 540 U.S. at 414.
[91]*Id*. at 413 (noting that FCC had investigated the complaint, imposed a "substantial fine," and set up monitoring to assess compliance with a remedy order).
[92]Id. at 409:

> *Aspen Skiing* is at or near the outer boundary of § 2 liability. The Court there found significance in the defendant's decision to cease participation in a cooperative venture. The unilateral termination of a voluntary *(and thus presumably profitable)* course of dealing suggested a willingness to forsake short-term profits to achieve an anticompetitive end.

defined market[93] with significant collusion risks.[94] By contrast, standard setting over patented technology in a many firm market need not pose similar risks, although they cannot entirely be ruled out. Further, the only network benefits that accrued to the firms in *Aspen* were economies of scale and scope from being able to market both of the parties' mountains together. By contrast, the network benefits that can accrue from multi-firm standard setting in a market requiring interoperability are substantial. Loss of these effects would result in higher prices or deficient service, both of which are within the boundaries of the Sherman Act's remedial concerns. While the *Antitrust Law* treatise generally defends a restrictive approach to unilateral duties to deal,[95] it has recognized an exception for refusals in networked industries in which coordination is required and a firm has significant market power:

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[93]Less than ten years after the decision the government permitted the two parties to merge, which was clearly inconsistent with the proposition that Aspen, Colorado, constituted a relevant geographic market. If it had, this would have been a merger to monopoly. *See* "Ski Merger May Perk Up Aspen," NEW YORK TIMES, Nov. 20, 1993). The market in question was for "destination" ski resorts, as the jury found, but it was also permitted to find a relevant *submarket* for downhill skiing in the Aspen area. See the Tenth Circuit's opinion, 738 F.2d 1509, 1513 (10th Cir. 1984). A "destination" ski resort is one that people travel too from long distances, and this suggested that a large group of Rocky Mountain resorts as well as skiing facilities elsewhere were in the geographic market. The defendant complained that there could not be both a relevant market and a relevant submarket, but the Tenth Circuit agreed with the plaintiff that this argument had been waived. On the general irrelevance of "submarkets," *see* 2B PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶533 (4th ed. 2015).

[94]*See Aspen*, 472 U.S. at 591 n. 9, noting that the Colorado Attorney General had filed a complaint that the collaboration on tickets facilitated price fixing. It was settled by a consent decree that permitted the venture to continue but with conditions.

[95]3B PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶771 (4th ed. 2015).

> Liability can make sense in network industries where the network has evolved with multifirm participation and cooperation is necessary for the network's continued efficient operation. The case for compelled dealing is stronger if the network developed in a cooperative regime and a dealing order serves mainly to preserve a preexisting practice rather than create a new one.[96]

The *Aspen* Court made clear that it was not applying the essential facility doctrine.[97] While the two rationales for compelling dealing under the antitrust laws are often confused, they rest on very different grounds. The essential facility doctrine is much more difficult to justify outside of the regulatory context. It is based on the idea that some "facilities," or assets, are so essential in and of themselves that the owner has a duty to share them. By contrast, the *Aspen* rule is based on induced reliance from a course of conduct.

Further, while the essential facility doctrine is conducive to competitor passivity, the *Aspen* rule does precisely the opposite: it serves to protect and thereby encourage reasonable investment. The idea that a facility is "essential" indicates that rivals are unable and need not bother to develop their own alternatives. Instead, they should seek a right to connect into the dominant firm's facility. By contrast, the *Aspen* rule is based on a premise of initial voluntary commitment to invest jointly. If one firm later repudiates that commitment in a way that threatens to undermine it, those investment backed expectations are lost. The *Aspen* rule thus serves to protect the integrity of investment in those circumstances where noncompetitive outcomes are threatened.

The premise of the *Aspen* rule is that the dominant firm is able to undermine settled and investment-backed expectations reasonably derived from a joint investment. For this reason, an Antitrust Division brief suggesting that the *Aspen* rule applies only where the original arrangement between the parties is noncontractual seems precisely

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[96]Id., ¶772.
[97]*Aspen*, 472 U.S. at 611 n. 44.

wrong.[98] While an enforceable contract may not be essential, there must be enough of a commitment to guide the parties' future investment decisions. If liability were to be relaxed on this issue it would be where the injured firm's reliance on settled expectations is not justified, perhaps because they initial agreement was incompletely specified or else where the firm based its investments on an unjustified understanding about the other firm's commitments. That is, the more certain and enforceable the initial agreement among the parties, the more the defendant's subsequent repudiation is likely to upset settled expectations.

Aspen has also been cited for the proposition that some kind of "sacrifice" is essential to liability. In *Aspen* itself, the facts indicated that, while the joint venture was apparently profitable, its termination led to the plaintiff's decline.[99] While the *Aspen* opinion appeared not to require a "sacrifice," it did observe that the defendant "was willing to sacrifice short-run benefits and consumer goodwill in exchange for a perceived long-run impact on its smaller rival."[100] One problem with such a test is that it fails to distinguish ordinary investment that involve costs up front and payoffs later.[101] A firm that builds a new plant knows that costs will come first, and gains only after the plant goes into production. If it also knows that the firm's production will injure a rival, does that mean we should condemn it as exclusionary?

In any event, whether or not Aspen requires some conception of "sacrifice," the facts of *Qualcomm* clearly met it. By refusing to license to competitors Qualcomm gave up short term licensing revenue from these firms, and this sacrifice was profitable only to the extent that it served to injure or exclude these competitors. Very

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[98]United States' Statement of Interest Concerning Qualcomm's Motion for Partial Stay of Injunction Pending Appeal, FTC v. Qualcomm (Case 19-16122, July 16, 2019), available at https://www.justice.gov/atr/case-document/file/1183936/

[99]*Aspen*, 472 U.S. at 608.

[100] Id. at 610-611.

[101] *See* Novell, Inc. v. Microsoft Corp., 731 F.3d 1064, 1079-1080 (10th Cir. 2013) (Gorsuch, Circuit Judge) (wrestling with this ambiguity).

largely the same thing can be said of its exclusionary discount campaigns involving firms such as Apple. It paid Apple significant rebates in exchange for a promise not to deal with Qualcomm's product market competitors.[102]

The essential facility doctrine is different, and the *Trinko* case was more consistent with its principles.[103] The Telecommunications Act at issue in *Trinko* permitted competitive exchange carriers to interconnect with the dominant firm's facility no matter how small their investment in infrastructure.[104] This was also true of the *Otter Tail Power* case, which interpreted antitrust law to require the defendant to "wheel" power for small utilities, whether or not they had their own generation capacity.[105] In contrast to *Trinko*, the Court found antitrust liability in *Otter Tail*. The important difference was that in the former case the then existing Federal Power Commission lacked the authority to compel wheeling of power in behalf of competing utilities.[106] Wheeling power for utilities that lacked their own generation capacity was a close equivalent to interconnection in the phone system. By contrast, in *Trinko* the relevant government agencies not only had the power to compel interconnection, the FCC had actually exercised that power in this very case.[107]

Aspen, in contrast to essential facility cases, was rooted in specific prior cooperation and investment by the plaintiff, reliance and path dependence, and subsequent repudiation. The Court held essentially that once the defendant had made a commitment to its rival

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[102] FTC v. Qualcomm, Inc., 2019 WL 2206013 (N.D.Cal. May 21, 2019), at *55.

[103] Verizon Communic., Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398 (2004).

[104] *See* discussion *supra* text at notes __.

[105] Otter Tail Power Co. v. United States, 410 U.S. 366 (1973).

[106] Id. at 375-376. Subsequent statutory amendments have authorized FERC, the FPA's successor agency, to compel wheeling. See 16 U.S.C. §824a-3. *See* Nicholas W. Fels & David N. Heap, *Compulsory Wheeling of Electric Power to Industrial Consumers*, 52 FORDHAM L. REV. 219 (1983).

[107] *See* discussion *supra*, text at notes __.

to develop a joint enterprise, it could not abandon that enterprise without an adequate business justification in those situations where the change in practice injured competition.[108]

Not only is the *Aspen* approach to unilateral dealing obligations easier to justify as an abstract proposition, it also contains inherent limitations that make it more manageable by an antitrust tribunal. As *Trinko* illustrates, the essential facility doctrine naturally invites questions about the scope of the property right that must be shared and the identification of those to whom the sharing obligation runs – both issues that are much better addressed by a regulatory agency applying an appropriate statute. By contrast, the *Aspen* duty to deal involves a specific voluntary commitment between specific parties and under stipulated terms that can be expected to produce reliance that results in redirection of investment.

Joint enterprises such as FRAND produce path dependence when they redirect the parties' investments in ways that are costly to change.[109] That is, the value of the firm becomes a function of its prior choices.[110] This is particularly true of networks, where the ability to operate on the network is often essential to a firm's survival. In *Aspen* the Supreme Court required that the dominant firm's subsequent withdraw from its contractual commitment be without an adequate business justification.[111] Not every joint enterprise is successful, and the law should not require a firm to continue in a venture that is no longer economically justified. At the same time, however, when it is

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[108]*Id*. at 608-609 ("…strongly supported by Ski Co.'s failure to offer any efficiency justification whatever for its pattern of conduct."

[109]The large literature on the subject includes OLIVER E. WILLIAMSON, THE ECONOMIC INSTITUTIONS OF CAPITALISM: FIRMS, MARKETS, RELATIONAL CONTRACTING 2 (1985); Victor P. Goldberg, *Regulation and Administered Contracts*, 7 BELL J. ECON. 426, 439-41 (1976); Benjamin Klein et al., *Vertical Integration, Appropriable Rents, and the Competitive Contracting Process*, 21 J.L. & ECON. 297 (1978).

[110] *See* Cotter, Hovenkamp, and Siebrasse, *supra* note __ [TAN 75-76]

[111]*Aspen*, 472 U.S. at 608-610, which includes a lengthy recitation of the defendant's proffered justifications and why the Court found them unacceptable.

clear that one party is undermining the other party's investment-specific transactions in a way that is conducive to reduced output and higher prices, antitrust intervention is appropriate.

Antitrust intervention also requires evidence that the refusal to continue an agreed upon course of conduct harms competition, and that intervention will make the market perform more competitively. One reason this might not be the case is that the market is competitive in any event. This is often true in bilateral monopoly situations in competitive markets. For example, two farmers might jointly develop an irrigation pond at great expense, and one might later withdraw, leaving the other in financial distress. The market remains competitive, however, even if the breakup ruins one of the two farmers. While the withdrawal might be a breach of contract or a tort, it would not violate the antitrust laws.

Another possibility is that the joint venture was simply an excuse for price fixing. For example, if the all-Aspen joint lift ticket was simply a way of setting the cartel price for downhill skiing in *Aspen*, then a breakup could well make the market perform better. The dangers of collusion in the *Aspen* case were certainly greater than the dangers of collusion in a FRAND case involving a large number of participants and differentiated output.[112] As the *Allied Tube* case suggests, however, collusion among standard setters cannot entirely be ruled out. In that case members of a large SSO with a substantial investment in the manufacturing of steel conduit collusively passed a rule outlawing PVC conduit, which threatened to be a major market disrupter.[113]

A FRAND obligation indicates that the patentee has made a prior voluntary commitment to share its technology on FRAND terms. In exchange it expects that others would rely on that commitment, designing their own technology around the expectation that FRAND-encumbered patents would be available to them for a FRAND royalty. The market shapes itself around the technologies contemplated by

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[112]*See* note __, *supra*, noting the government investigation into price-fixing. *Aspen*, 472 U.S. at 591 n. 9.
[113]Allied Tube & Conduit Corp. v. Indian Head, Inc., 486 U.S. 492 (1988).

standard essential patents. Indeed, that is the entire point of the SSO, and also serves to explain why a firm's later, unjustified withdrawal can damage competition.

The *Aspen* case certainly assumed some of this, although the case did not arise in the standard-setting context and the market as defined contained only two firms. Once the parties agreed on a joint marketing scheme, they adjusted their promotional efforts around that scheme. At the same time, it appears that the plaintiff did not redesign significant infrastructure around the joint venture. One fact that places *Aspen* near the outer boundaries of antitrust liability is that the Court permitted the jury to find a violation even though the amount of dedicated investment that Aspen lost when the skiing venture fall apart was relatively modest. Mainly, the two firms had agreed with each other to market an "All-Aspen" lift ticket jointly. They apparently did not redirect significant investment into infrastructure that would have been useless had the venture collapsed.

Aspen limited its reach to situations where the defendant had voluntarily cooperated with a rival in some setting and later reneged without an adequate explanation. In her *Qualcomm* decision, Judge Koh described a similar situation. Qualcomm or its predecessors voluntarily made FRAND commitments on its patents and then reneged on those commitments in various ways.[114] *Aspen's* limitation to repudiation of established arrangements speaks to the role of technological path dependence in the creation or maintenance of dominance.[115] For example, perhaps in addition to the technology subjected to FRAND there was an alternative unpatented technology, which was cheaper but somewhat inferior. The developer is induced by the FRAND commitment to develop around the patented technology, but it is later withdrawn.

Whatever one might think of an essential facility doctrine as a tool of antitrust rather than regulatory policy, the *Aspen* case rests on

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[114]FTC v. Qualcomm, Inc., 2019 WL 220613 (N.D. Cal. May 21, 2019), *83 ("Qualcomm Terminated a Voluntary and Profitable Course of Dealing").
[115]On this point, see Cotter, Hovenkamp, & Siebrasse, supra note __.

solid ground in situations that involve significant joint investments and path dependence. Joint ventures enable firms to combine complementary technologies or business models and thus facilitate growth. This has been true of some very prominent ventures, such as the GM-Toyota venture to design a single small car for production,[116] the joint venture between Kodak and GE to develop an electronic flash device for cameras,[117] or the venture between Sony and N.V. Philips to develop technology for rewritable compact discs.[118] Many joint ventures involve a significant sunk investment in assets that are dedicated to the venture. If one firm can later extract itself and commandeer the relevant technology, it can leave the remaining firms at a significant competitive disadvantage, with the effect of transferring market share, reducing output, and raising prices. In cases where interoperability is essential, it can exclude some firms from the network entirely.

The EU *Microsoft* server decision illustrates some of these propositions.[119] That decision also indicates the importance of path dependence in the maintenance of monopoly power, particularly in areas where technical compatibility is critical to the enterprise. Initially, Microsoft made its Windows operating system for desktop and laptop computers with active operators. It did not develop an operating system for servers, which are computers that are largely untended and that perform routine functions such as managing email or web traffic. Other firms, including Novell, developed operating systems for servers that were designed to operate on the networks of Windows machines. For these, Microsoft provided protocols essential

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[116]*See in re* General Motors Corp., 103 FTC 58 (1984). On competitive effects, *see* Kathryn M. Fenton, *GM/Toyota: Twenty Years Later*, 72 ANTITRUST L.J. 1013 (2005).
[117]*See* Berkey Photo, Inc. v. Eastman Kodak Co., 457 F.Supp. 404, 419 (S.D.N.Y. 1978), *aff'd in part, rev'd in part*, 603 F.2d 263 (2d Cir. 1979).
[118]*See* Princo Corp. v. ITC, 616 F.3d 1318 (Fed. Cir. 2010) (*en banc*).
[119]Case T-201/04, Microsoft Corp. v. Comm'n, 2007 E.C.R. II-3601. *See* Herbert Hovenkamp, *Antitrust and the Costs of Movement*, 78 ANTITRUST L.J. 67 (2012).

to keeping these firms abreast of updates in the Windows operating system. Later, however, Microsoft entered the server operating system business itself in competition with these licensees. At that point it began to degrade or delay the information that it provided to the competing sellers of server systems.[120] The effect was to make these competing systems less reliable. As a remedy, the EU tribunal required Microsoft to provide updated and adequate protocols.[121] Liability, as in *Aspen*, lay in a course of conduct, not in any finding that the Microsoft OS was an essential facility.

A compulsory dealing order is justified only if it creates a reasonable expectation that the market will become more competitive – that is, that output will be higher and prices lower than if relief were not provided. One common criticism of the "essential facility" doctrine, which *Aspen* did not involve, is that if a tribunal simply orders a dominant firm to share an asset the firm is likely to respond by setting its monopoly price.[122] As a result, output will not increase under dealing. The dealing order may benefit the rival who can now purchase the input, but customers will be no better off. Real relief that increases competition requires both recognition of a duty to deal and setting of the price.

In situations involving standard essential patents, these problems are largely addressed by the FRAND commitment itself, which includes a promise to submit the royalty question to an independent decision maker.[123] The antitrust tribunal may also issue an injunction interpreting the scope of the FRAND commitment, requiring arbitration with respect to every potential licensee who is covered. To the extent that the challenged FRAND violation results in less participation, lower production or higher prices than a FRAND tribunal would have permitted, antitrust relief should bring output and price into line.

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[120]*See id*., ¶575.
[121]*Id*., ¶1231 ("Microsoft is … required to ensure that the interoperability information disclosed is kept updated on an ongoing basis and in a timely manner").
[122]*See* 3A AREEDA & HOVENKAMP, *supra* note __, ¶¶773c., 774b.
[123]*See* discussion *supra*, text at notes __.

Antitrust dealing orders are well suited to remedy one of the practices at issue in the *Qualcomm* case – namely that the defendant selectively refused to deal with or discriminated against prospective FRAND-qualified licensees depending on whether they competed with Qualcomm in the product market.[124] The FRAND violation is clear without further market analysis to the extent that the FRAND obligation demands nondiscriminatory licensing to all parties practicing on the standard.[125]

A refusal to deal with competitors additionally violates the antitrust rule of reason only if it produces the requisite anticompetitive effects. Once again, that presents a fact question, and not every refusal to license in violation of a FRAND commitment will be an antitrust violation. A violation would occur if, for example, the defendant's selective denial of standard essential patents to market rivals serves to impede their growth, raises their costs, or perhaps exclude them from the market altogether. All of these concerns are conventional in the antitrust law of exclusive dealing and quasi-exclusive dealing.[126] Indeed, evading a FRAND requirement by licensing selectively only to noncompetitors threatens to undermine the entire competitive purpose of the joint venture. The purpose of standard setting is to design a standard so that goods can be produced competitively within a shared technology.

Antitrust also has a role to play in the case of tying or similar practices. To the extent the owner of a FRAND-encumbered patent licenses only on the condition that the implementer also purchases its hardware or other products or services, the firm undoubtedly is in breach of its FRAND commitments. Whether it also commits an antitrust violation depends on power and competitive effects. As noted

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[124]*See* FTC v. Qualcomm, Inc., 2019 WL 2206013, *85 et seq (N.D.Cal. May 21, 2019) (discussing Qualcomm's exclusive dealing).
[125]*E.g.*, Microsoft Corp. v. Motorola, Inc., 696 F.3d 872 (9th Cir. 2012).
[126]*See* 11 HERBERT HOVENKAMP, ANTITRUST LAW ¶1821 (4th ed. 2018).

previously,[127] tying a product to a FRAND-encumbered patent can be a way of FRAND royalty avoidance: the seller simply obtains an effectively higher price for the patent by attaching the increment to the product. Tying in order to evade a controlled price harms consumers by "extraction" rather than excluding. As such it would be reachable under §1 of the Sherman Act if it results in higher prices. A Sherman Act §2 violation would require a showing of market exclusion, most generally in the market occupied by tied product rivals.[128]

B. Collateral Issues Affecting Application of the Antitrust Laws

1. "Regulatory" Deference?

One common theme in antitrust cases involving regulated industries is that the role of the antitrust laws must be fashioned so as not to interfere excessively with the regulatory regime.[129] The doctrine of "implied immunity" expresses how the courts have given effect to that concern.[130] In *Trinko* the Court concluded that immunity did not apply because the 1996 Telecommunications Act contained an antitrust "saving" clause that preserved antitrust liability for disputes that were also covered by the Telecommunicatons Act.[131] Nevertheless the Court declined to find liability, reasoning essentially that the regulatory agencies were performing the antitrust function.[132]

Saving Clause issues aside, implied immunity is a narrowly construed doctrine that serves to immunize conduct where a regulatory agency has jurisdiction over it and has been actively

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[127] *See* discussion *supra*, text at notes __.
[128] *See* 9 PHILLIP E. AREEDA & HERBERT HOVENKAMP ANTITRUST LAW ¶¶1728-1729 (4th ed., 2016).
[129] *See* 1A PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶¶243-245 (4th ed. 2014).
[130] *See id.*, ¶243d,e.
[131] *See* 47 U.S.C. §152 "nothing in this Act … shall be construed to modify, impair, or supersede the applicability of any of the antitrust laws." See *Trinko*, 540 U.S. at 406-407.
[132] *See* discussion *supra*, text at notes __.

involved in regulating it.[133] Because federal agencies are staffed by professional government employees, their control is public. The antitrust "state action" doctrine operates to create an analogous immunity for conduct that has been regulated by state law, immunizing private acts only when they are clearly authorized by state law[134] and actively supervised by the state itself.[135] As a result, private market participants cannot be the final word in supervision.[136]

FRAND is not a government regulatory regime at all, but a set of private rules created and supervised by a joint venture of interested market participants. Should a set of purely private rules serve to immunize conduct that is addressed under the antitrust laws but that may also be a violation of private rule making? Of course, there could be issue preclusion, or collateral estoppel, in an appropriate situation involving both a FRAND contract dispute and an antitrust dispute. For example, a finding in a FRAND case that the licensing agreement was not violated, or that a patent in question was invalid, could be preclusive on some facts in subsequent litigation involving the same party under the antitrust laws or any other body of law.[137] Aside from that, no principle calls for antitrust deference to a private contractual regime.

One objection to finding an antitrust violation when the defendant's conduct has also violated its FRAND obligation is that this threatens a form of double liability, once for breach of the agreement and a second time for the antitrust violation. There is little basis in fact or law for this concern. Many federal antitrust violations are also breaches of contract, torts, or violations of some other body of law, including state antitrust law. The remedy in these cases is not to dismiss one or the other claim at the onset, but rather to avoid

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[133]1A AREEDA & HOVENKAMP, *supra* note __, ¶243e.
[134]1A *Id*., ¶¶224, 225.
[135] *Id*., ¶¶226, 227.
[136]*See, e.g.*, North Carolina State Board of Dental Examiners v. FTC, 135 S. Ct. 1101 (2015).
[137] E.g., Blonder-Tongue Labs., Inc. v. Univ. of Illinois Fdn., 402 U.S. 313 (1971); Ohio Willow Wood Co. v. Alp South, LLC, 735 F.3d 1333 (Fed. Cir 2013).

double counting of damages for the same harm. For example, if conduct is found to be both a violation of a federal statute and of a state common law contract rule, the damages remedy will include all elements available under each provision, but those that are duplicated must be remitted so that a plaintiff can collect only once for the same injury.[138] As a result, one cannot avoid an antitrust claim by showing that the conduct in question is also a breach of contract.[139]

One obvious difference between contract and antitrust damages is that the antitrust violation permits recovery of treble damages plus attorney fees, while breach of the FRAND agreement does not. In that case the appropriate outcome would be the antitrust

[138]*See, e.g.*, Martinez v. The Port Authority of New York and New Jersey, 445 F.3d 158 (2d Cir. 2006) (to the extent claims of malicious prosecution and false arrest produced the same injury lower court was correct not to permit recovery for both); Mailman's Steam Carpet Cleaning Corp. v. Lizotte, 415 Mass. 865, 870 (1993) (plaintiff who prevailed under both theories of breach of warranty and misrepresentation could have a single recovery for its injury); Martin v. Jones, 41 N.E.3d 123, 143 (Ohio App. 2015) (while plaintiff prevailed on both a breach of contract theory and a tort theory for the same injury, he would be permitted to recover only the amount of his actual injury); Weathers v. American Family Mut. Ins. Co., 793 F.Supp. 1002 (D. Kn. 1992) (plaintiff who brings claim on two different tort theory is entitled to only single compensatory damages). See also Clayton Brokerage Co. of St. Louis, Inc. v. Pilla, 632 S.W.2d 300 (Mo. App. 1982) (where plaintiff prevailed on both a fraud claim and a breach of contract claim and recovered precisely the same amount of damages for each of the two claims, the award effectively gave the plaintiff impermissible double damages).

[139]*See, e.g.*, Fineman v. Armstrong World Indus., Inc., 980 F.2d 171, 218 (9th Cir. 1992) (where both antitrust claims and common law tort and contract claims were predicated on the same loss of future profits, plaintiff must be limited to a single recovery; "Thus the district court may appropriately award a single compensatory damage figure, which might, upon retrial represent the jury award arising from the breach of contract claim, compensatory tort damages, or the antitrust damages prior to trebling.").

treble damages award but not an additional monetary award for breach of the FRAND obligation.

Injunctions generally do not present a problem of duplicative recovery as long as the scope of the injunction is the same for both causes of action. If a particular injury results from both breach of a FRAND agreement and an antitrust violation, the likely remedy is an injunction under either or both provisions for harm that is threatened to recur, and a *single* set of damages for any past losses.

2. Holding Up vs. Holding Out: Antitrust Liability? And for whom?

The familiar holdup story in patenting is that a patentee can strategically time its infringement suit in order to maximize the penalty it can extract from an infringer.[140] For example, if an infringer has made a $100,000,000 largely irreversible commitment to a particular technology it will be willing to pay any anything up to that amount in order to obtain a license.[141] The impact of the holdup literature has been significant and has undoubtedly influenced such

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[140] *See* Cotter, Hovenkamp, & Siebrasse, *supra* note __.

[141] *See, e.g.*, Broadcom Corp. v. Qualcomm, Inc., 501 F.3d 297, 300 (3d Cir. 2007):

> [A standard-setting organization] may complete its lengthy process of evaluating technologies and adopting a new standard, only to discover that certain technologies essential to implementing the standard are patented. When this occurs, the patent holder is in a position to "hold up" industry participants from implementing the standard. Industry participants who have invested significant resources developing products and technologies that conform to the standard will find it prohibitively expensive to abandon their investment and switch to another standard. They will have become "locked in" to the standard. In this unique position of bargaining power, the patent holder may be able to extract supracompetitive royalties from the industry participants.

decisions as eBay, Inc. v. MercExchange, LLC,[142] which took away the more-or-less automatic right to an injunction for patent infringement. The twin requirements of the SEP process can be viewed as addressing holdup by, *first*, requiring participants to provide timely notice of any IP rights that they plan to assert; and *second*, committing in advance to license their rights on a FRAND basis.

An alternative account of the process is that what is really occurring is "holding out" by standard implementers at the expense of inventors. In this account the implementers understand that only one among alternative technologies will be chosen, and they agree either to exclude a particular technology altogether, or else conditionally approve a particular technology in exchange for a below market royalty.[143]

Currently there is very little empirical support for the holding out explanation in the context of standard essential patents. The holding out theory also contains some important analytic and economic gaps. In the hold out scenario a cartel of purchasers refuses to buy from the owner of a SEP unless the owner reduces its price to meet their terms. Under FRAND, however, a royalty has not yet been determined when the FRAND commitment is made. Further, when the royalty is determined it is generally by a neutral third party such as a federal court or arbitrator, and in an adversarial proceeding. This leaves little basis for thinking that implementers are concertedly boycotting innovators in order to reduce their royalties to below market values. The holding out theory would additionally require some basis for thinking that FRAND royalty tribunals systematically undercompensate the owners of SEPS.

The fact of persistent overclaiming of SEP status also seems inconsistent with the holdout theory, which is that the standard setters are operating as a buyers' cartel in order to suppress royalties.[144] Buy-side cartels, just as sellers' cartels, succeed by suppressing output, and the targets naturally respond by trying to avoid the cartel. For

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[142] 547 U.S. 388 (2006).
[143] *See* Cotter, Hovenkamp, & Siebrasse, *supra* note __.
[144] On the extent of overclaiming, *see* discussion *supra*, text at notes __.

example, on the sell side, customers can be expected to resist a cartel of apple growers by switching from apples to pears. If there were a buyers' cartel of SEP patents, one would expect to see inventors attempting to avoid the cartel by declaring fewer of their patents to be standard essential. That way they could behave in the same way as patentees generally, either by licensing or else by suing a suspected infringer for damages or an injunction through the federal judicial system.

To put it differently, if the FRAND process is primarily a mechanism for suppressing patent royalties to below market levels, why do patentees persistently attempt to get patents declared as standard essential when in fact they are not? One would expect the opposite phenomenon, of patentees avoiding SEP status in order to be able freely to assert their own royalty demands.

Of course, participating members in SSOs are typically required by their membership agreements to declare patents that are reasonably thought to write on the standard.[145] But that hardly explains the extensive overclaiming that is in fact occurring. In the great majority of cases, it appears, it is more lucrative to claim and be included in the patent pool rather than subject one's patents to ordinary judicial testing via infringement suits.

One important difference between a buyers' cartel and efficient joint purchasing is that the latter is an output-increasing rather than output-reducing strategy.[146] The FRAND process does not bear the hallmarks of a buyers' cartel. Rather it is more consistent with the theory that generally supports FRAND in the first place. Namely, at an early stage when the future of a patent is uncertain and there are alternative technological paths to a standard, it is in a patentee's interest to have SEP status. Later, however, when development of technology under the standard has made that patent much more valuable, the SEP patentee would naturally prefer to be released from its FRAND obligations.

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[145]*See* discussion *supra*, text at notes ___.

[146]*See* 12 HERBERT HOVENKAMP, ANTITRUST LAW ¶2011 (4th ed. 2019)

Any serious evaluation of holding up vs. holding out as explanatory alternatives can be made only upon considering the impact of search costs, which in the case of patented information technologies are formidable.[147] High search costs explain why most SSOs require participants to make timely disclosure of IP rights. If they are not voluntarily disclosed the parties would be unlikely to find them on their own. Patent "ambush" refers to situations in which SSO participants are not forthcoming about their patents or patent applications. They lie in wait until after the SSO has adopted a standard, and then announce the patent. They will include a demand for very high royalties, limited by the sunk costs of the infringers.[148] By contrast, the holding out thesis is directed at known technologies.[149] The idea is that manufacturers or other implementers band together to condition their adoption of a particular patent or patents on the patent owner's willingness to accept a lower royalty or other unfavorable terms.

Finally, the holdout theory encounters the legal obstacle that patent infringement actions remain available in the event of infringement. Under the theory, implementers supposedly band together and force a patentee (through the process of SEP choice) to agree to sub-market royalties in exchange for selection of its patents. The patentee, having no alternative, agrees. But a patentee who chooses not to participate has a damage action for patent infringement against implementers who use its invention without a license.[150] Further, this would likely be an action for willful infringement,

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[147]*See* Herbert Hovenkamp, *Notice and Patent Remedies*, 88 TEX. L.REV. ONLINE 221 (2011).
[148]*See* Thomas F. Cotter, *Patent Holdup, Patent Remedies, and Antitrust Responses*, 34 J. CORP. L.1151, 1179-80 (2009). *See* the discussion of the *Rambus* decision, *infra* note __.
[149] E.g., TruePosition, Inc. v. LM Ericsson Tel. Co., 899 F.Supp.2d 356 (E.D.Pa. 2012) (sustaining complaint that defendant members of SSO agree with one another to exclude plaintiff's proffered technology).
[150]*See* Cotter, Hovenkamp, & Siebrasse, *supra* note __ [TAN 114-116]

leading to the possibility of multiple damages.[151] To be sure, in winner take all patent races losers may go uncompensated, but that occurs only if implementers do not infringe their patents.[152]

Most of the antitrust case law on standard setting and holdout involves disapproval of products or processes where patent coverage is not relevant.[153] Typically, the members decide not to use the plaintiff's product at all. For example, an SSO may refuse to approve a firm's plastic electrical conduit, hydraulic valve, or tail light.[154] Clearly these cases can rise to the level of an antitrust violation if the concerted exclusion is found to be anticompetitive. This occurs mainly when those setting the standard are in competition with the plaintiff and stand to gain from exclusion of a superior or lower cost product.[155]

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[151] On this point, *see* Jorge L. Contreras, *Much Ado About Hold-up*, 2019 U. ILL. L. REV. 875, 895 ("simply willful patent infringement"); accord A. Douglas Melamed & Carl Shapiro, *How Antitrust Law Can Make FRAND Commitments More Effective*, 127 YALE L.J. 2110, 2120 (2018). *See also* Colleen V. Chien, *Holding Up and Holding Out*, 21 MICH. TELECOMM. & TECH L. REV. 1, 20-21 (2014), who notes that one source of holdout is implementer use of patent owned by those who lack the resources to enforce them. On multiple damages for willful infringement, *see* Halo Elecs., Inc. v. Pulse Elecs., Inc., 136 S. Ct. 1923 (2016)

[152]*See* Golden Bridge Tech., Inc. v. Motorola, Inc., 547 F.3d 266 (5th Cir. 2008) (rejecting claim of patentee whose technology was not chosen). See HOVENKAMP, ET AL., IP AND ANTITRUST, supra note __, §35.02D.

[153]The many and great variety of cases are discussed in 13 HERBERT HOVENKAMP, ANTITRUST LAW ¶¶2231-2232 (4th ed. 2019).

[154] E.g., Allied Tube & Conduit Corp. v. Indian Head, Inc., 486 U.S. 492 (1988) (SSO's disapproval of plaintiff's conduit); Hydrolevel Corp. v. American Society of Mech. Eng'rs, Inc., 456 U.S. 556 (1982) (SSO's disapproval of plaintiff's valve). See also *Moore v. Boating Indus. Assns*., 819 F.2d 693 (7th Cir. 1987), cert. denied, 484 U.S. 854 (1987) (SSO's disapproval of boat trailer tail light).

[155]*See* 13 HOVENKAMP, *supra* note __, ¶2232. *Cf.*, *Moore*, *id*. (no antitrust liability where SSO of boat trailer manufacturers were

The theory of holding out may be called upon to explain a refusal by implementers to pay royalties to a particular patentee, or else to pay too low a royalty. Given the costs of patent infringement when it is found, a more likely explanation is serious doubts about patent validity or infringement. Patents in information technology markets – including standard-essential patents in networked industries involving electronics and telecommunications – are rife with these problems. In fact, patent infringement plaintiffs lose most cases, including those involving SEPs. Refusing to accept and pay for a license on an untested patent is not an abuse of the system. Rather, it is simply recognition of the fact there is a good chance that the patent that is being asserted is either invalid or not infringed.[156]

In any event, the holding up vs. holding out debate is of limited significance to the *general* antitrust question, although it could be relevant in clear cases, such as those involving an implementers' boycott of a known technology. For example, an SSO may boycott a superior technology because it competes with technology already used by the implementers in the organization. These were essentially the facts of the *Allied Tube* case, and have also been alleged in other cases.[157] A concerted and anticompetitive refusal of a group of implementers to stay with or adopt an inferior technology, or to use the process to suppress royalties would be addressable under the

purchasers of taillights, not competitors in production. As a result, they could not benefit from exclusion of a superior light.).

[156] *See*, e.g., John R. Allison et al., *Our Divided Patent System*, 82 U. CHI. L. REV. 1073, 1099–1100, 1124– 26 (2015) (reporting an overall invalidation rate of 42.6% of all patents litigated to judgment). See also Mark A. Lemley & Timothy Simcoe, *How Essential Are Standard Essential Patents?*, 104 CORNELL L. REV. 607 (2019) (although SEP patents are more likely to be held valid, they are less likely to be found to be infringed, indicating that they were not standard essential at all).

[157] Allied Tube & Conduit Corp. v. Indian Head, Inc., 486 U.S. 492 (1988). *See also* Golden Bridge Tech., Inc. v. Motorola, Inc., 547 F.3d 266 (5th Cir. 2008) (rejecting claim that standard setting association conspired to remove plaintiff's technology from standard).

antitrust laws, as it was in *Allied Tube*. The antitrust violators in that case would be the implementers rather than the SEP holders. Importantly, however, *Allied Tube* did not involve a collective refusal to license the plaintiff's patent. Rather, it involved a collective refusal not to approve the plaintiff's product at all and instead to limit the standard to an older technology (steel conduit). If the defendants had decided to use the plaintiff's technology without compensation, they would certainly have been liable for any patent infringement that occurred.[158]

3. *Rambus* and Nondisclosure

The *Rambus* decision, which involved patent ambush by nondisclosure,[159] declined to find antitrust liability when the only proven injury was that implementers had to pay more money.[160] Rambus had failed to disclose some of its patents and patent applications to an SSO in which it was participating, and then later surprised implementers with them after they had made significant commitments. The FTC assumed that the failures violated the SSO's disclosure requirements, although it conceded that these requirements were "not a model of clarity,"[161] did not clearly cover patent applications,[162] and in one important vote did not even ask members to list their intellectual property holdings.[163] The problem was not that Rambus had promised to license specific technology on specified terms, but rather that it withheld information about its patents,

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[158]The decision never discusses patents, and there was no reason for it, given the defendants' decision not to approve or use the plaintiff's product at all. *But cf.* Broadcom Corp. v. Qualcomm, Inc., 501 F.3d 297 (3d Cir. 2007) (discussing *Allied Tube* in context of disclosure of IP rights in standard setting process).

[159] On SSO disclosure requirements, *see* discussion *supra* text at notes __.

[160]Rambus, Inc. v. FTC, 522 F.3d 456 (D.C. Cir. 2008). For further discussion, *see* HOVENKAMP, ET AL., IP AND ANTITRUST, *supra* note __, §35.05B;

[161]*Rambus*, 522 F.3d at 461.

[162]*Ibid*.

[163]*Id*. at 469.

passively inducing implementers of the resulting standards to assume that the technology that they were adopting was in the public domain. Later, it surprised them by asserting infringement and demanding royalties.

The D.C. Circuit declined to find liability because the record did not establish that the implementers would have adopted a different, nonproprietary standard had they known about Rambus' intellectual property.[164] As a result the conduct was deceptive but it was not shown to be exclusionary under the standards required by §2 of the Sherman Act.[165] It might have caused the implementers to pay more for technology that they had adopted, because now they had to pay Rambus' royalty as well. But absent evidence that they would have adopted different technology the mere obligation to pay more did not exclude. As the court observed, "an otherwise lawful monopolist's use of deception simply to obtain higher prices normally has no particular tendency to exclude rivals and thus to diminish competition."[166] Rather, there must be some "effect on [the market's] competitive structure."[167] It contrasted *Conwood*, another §2 case where the defendant's deception had operated to shift market share away from plaintiff and toward the defendant.[168] In that case, "misrepresentations to retailers about the sales strength of its [the defendant's] products versus its competitors' strength" reduced competition in the monopolized market by increasing the display space devoted to U.S. Tobacco's products and decreasing that allotted to competing products.[169]

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164 *Id*. at 463-464.

165 Subsequent to *Rambus* the FTC itself has moved to exclusive use of §5 of the FTC Act, 15 U.S.C. §45, instead of the Sherman Act. *See* Maureen K. Ohlhausen, *The Elusive Role of Competition in the Standard-Setting Antitrust Debate*, 20 STAN. TECH. L. REV. 93 (2017). One important difference is that §5 of the FTC Act does not permit private damages actions.

166 *Id*. at 464.

167 *Id*. at 466.

168 *Ibid*., discussing Conwood Co. v. U.S. Tobacco Co., 290 F.3d 768 (6th Cir. 2002).

169 *Id*. at 464.

Rambus provides at least a partial rationale for distinguishing between a FRAND violation and an antitrust violation. More significantly, it distinguishes the types of conduct necessary to violate §2 of the Sherman Act, in contrast to §1. A firm's unilateral failure to disclose technology can certainly be a violation of its SSO participation agreement, provided that the commitment is stated with sufficient clarity. The remedy may be nonenforcement of the patent.[170] It will not violate §2 of the Sherman Act, however, unless the behavior is also exclusionary.[171] That is, §2 of the Sherman Act is not an appropriate vehicle for attacking conduct simply because it results in higher prices. That would be a case of extraction, but not obviously of exclusion. Even under §2 standards, however, *Rambus* permits challenges to practices that result in actual suppression of the sales of competitors or their exclusion from a market.[172]

Section 1 of the Sherman Act is another matter. The standard for illegality under §1, which applies only to multilateral conduct, is that it "restrain trade," which means that the conduct tends to produce higher prices and thus lower output.[173] Traditional ties and exclusive dealing are agreements in restraint of trade, although they are

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[170]*See, e.g.*, Qualcomm, Inc. v. Broadcom Corp., 548 F.3d 1004 (Fed. Cir. 2008) (refusing to enforce patent that was not properly disclosed). Subsequent to Rambus many SSOs strengthened and clarified their disclosure requirements. *See* HERBERT HOVENKAMP, ET AL., IP/ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW §35.05 (3d ed. 2015 & 2019 Supp.); Nicos L. Tsilas, *Toward Greater Clarity and Consistency in Patent Disclosure Policies in a Post-Rambus World*, 17 HARV. J. L. & TECH. 475 (2004).

[171]*See also* Townshend v. Rockwell Int'l Corp., 55 U.S.P.Q.2d 1011 (N.D. Cal. 2000) (simple nondisclosure does not violate antitrust laws).

[172]*E.g.*, Actividentity Corp. v. Intercede Group, PLC, 2009 WL 8674284 (N.D. Cal. Sep. 11, 2009) (distinguishing *Rambus* and finding a basis for antitrust violation when the failure to disclose did lead to market exclusion).

[173]15 U.S.C. §1.

sometimes also treated as acts of monopolization when the structural requirements are met.[174]

The ultimate concern of antitrust law is with conduct that reduces output and increases price. Section 2 of the Sherman Act takes a conservative approach to unilateral conduct because of its concern to avoid regulating unilaterally set prices in the guise of antitrust enforcement. Collaborative practices are generally not entitled to the same deference. For example, price-fixing is unlawful even if the agreement does not exclude anyone. Even under §1, however, the tendency in tying and exclusive dealing cases is to look for evidence that the higher prices was accompanied by suppression, or "foreclosure," of at least one significant rival. This is true of both tying and exclusive dealing under the rule of reason.[175]

4. Abuses of the Judicial Process

Should the owner of FRAND encumbered patents be accountable under the antitrust laws for the way it employs judicial processes? For example, suppose that the owner of a FRAND patent seeks an injunction against a manufacturer of a good that employs the patent and participates in the standard. Patentees have a statutory right to obtain an injunction against proven infringers.[176] As a result, seeking injunctive relief from a court should not ordinarily be an antitrust violation.

Nevertheless, there are important qualifications. If someone files a suit that no reasonable litigant would have brought with the

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[174]On the use of §2 to reach tying and exclusive dealing by monopolist, *see* HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE §7.6 (5th ed. 2015).
[175]*See, e.g.*, 9 AREEDA & HOVENKAMP, ANTITRUST LAW, *supra* note __, ¶1729 (tying under rule of reason). However, under United States antitrust law tying can still be condemned under an idiosyncratic per se rule that does not require proof of foreclosure. *See id*., ¶1720. On exclusive dealing, *see* 11 HOVENKAMP, ANTITRUST LAW, *supra* note __, ¶1821 (noting relevance of foreclosure of competitors).
[176]35 U.S.C. §283.

expectation of success, then antitrust liability can attach. In such cases the litigation plaintiff's expectation of success comes not from winning the lawsuit, but rather from depleting the defendant's assets, delaying its market entry, or otherwise injuring it in ways unrelated to the outcome of the litigation.

The grandparent of these cases is Walker Process Equip., Inc. v. Food Mach. & Chem. Corp.[177] The patentee had a patent that it knew to be unenforceable under the statutory on sale bar,[178] but it attempted to exclude a competitor from the market anyway via a patent infringement suit. The *Walker Process* case applied the so-called "sham" litigation exception that holds that the filing of a law suit loses its First Amendment protected status if the lawsuit is a "sham," which means that it was filed without a realistic prospect of success from the litigation itself, but rather to intimidate, harass, or deplete the resources of the litigation defendant.[179]

One important precondition to the sham litigation exception is that existing law be sufficiently "settled" that a lawsuit filed in conflict with it should be regarded as "objectively meritless."[180] That is, a reasonable person in the plaintiff's position should have known that the lawsuit would not succeed. For example, if there is a conflict in the Federal Circuit Courts of Appeal respecting a particular issue, a plaintiff should be entitled to convince the appellate courts to apply one interpretation rather than the other one.[181] Issues of first

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[177]382 U.S. 172 (1965).

[178]The on sale bar, 35 U.S.C. §102(a) & (b), makes a patent unenforceable if it was in public use of on sale more than one year prior to the filing date.

[179]On antitrust liability for "sham" litigation, *see* 1 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶¶201-208 (4th ed. 2013).

[180]*E.g.*, Professional Real Estate Investors, Inc. v. Columbia Pictures, Indus., Inc. 508 U.S. 49, 60 (1993).

[181]Id. at 65 (noting a Circuit split on the question whether charging money to show a movie in a hotel room was a "performance," and thus copyright infringement; as a result, "Any reasonable copyright owner

impression or those that could reasonably come out either way can of course be the subject of litigation.

There is no obvious reason that the sham litigation rule should not apply in the FRAND context, and under these same constraints. Once it has become a matter of settled law that a SEP owner is not entitled to an injunction under a given set of circumstances – that is, that a knowledgeable person would realize that there was no genuine prospect of relief -- then further lawsuits under those circumstances may give rise to antitrust liability.[182] If the lawsuit is plainly in violation of an enforceable contract obligation, *Walker Process* liability should be appropriate. On the other hand, if the issue remains open to legal doubt, then filing a lawsuit is appropriate, even if the suit is ultimately unsuccessful.

Sham litigation establishes the conduct element of an antitrust offense. In order to establish an antitrust violation, the challenger would still have to make out the other elements of an antitrust cause of action – namely, power and unreasonable exclusion for §2 cases, or a restraint of trade for §1 cases.[183]

For example, once the FRAND obligation for a patent or set of patents has been established to require licensing to all implementers operating on the standard, a firm that files infringement lawsuits seeking injunctions against firms simply because they are product market competitors should generate the conduct basis for antitrust liability. While this road to antitrust liability might seem narrow, it

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in Columbia's position could have believed that it had some chance of winning an infringement suit"…).

[182] *See* Microsoft Corp. v. Motorola, Inc., 795 F.3d 1024, 1048 (9th Cir. 2015) (approving jury conclusion that for a firm to seek injunctive relief on a FRAND-encumbered patent under the circumstances of that case did not enjoy antitrust immunity); Apple Corp. v. Motorola, Inc., 2012 WL 2276664, at *12 (N.D. Ill. June 22, 2012) (similar).

[183] *See* 3 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶706a3 (4th ed. 2015).

becomes broader as litigation clarifies issues so that they can be regarded as settled.

III. CONCLUSION

Among the various legal tools for policing the licensing process for standard essential patents, antitrust is only one, but it is an important one and has its own unique requirements and tools for analysis. This hardly means, however, that the existence of FRAND obligations is irrelevant to antitrust claims. Antitrust law takes markets as it finds them. For example, in the numerous antitrust decisions involving the NCAA,[184] a very large joint venture, the antitrust courts do not pretend that the joint venture does not exist. Rather, they assume that the venture itself performs a socially valuable function. Then they begin with its rules and the investments and commitments that its structure creates and considers how antitrust can be used to make the market function competitively on those assumptions.

FRAND is no different. While it has its flaws, the standard setting process and the use of standard essential patents is well settled and assumed to be socially and economically beneficial. In that case the best use of antitrust law is to police the competitive process within that system. The FRAND system has its own rules and regulations and in the first instance enforcing them is not an antitrust function. But neither does the system create an antitrust immunity.

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[184]AMERICAN LAW REPORTS maintains a comprehensive list of the dozens of antitrust cases against the NCAA. See Application of Federal Antitrust Laws to Collegiate Sports, 87 A.L.R. Fed.2d 43 (2014, & updated weekly)