

THE USE AND THREAT OF INJUNCTIONS IN THE RAND CONTEXT

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ABSTRACT

We model a dispute between the owner of a standard-essential patent and an implementer of the standard over whether the patentee's license offer is reasonable and non-discriminatory (RAND). An injunction is not ruled out, yet that threat does not lead to holdup. A key element is that the implementer always has a last-resort ability to accept license terms that are either certified by a court as RAND or mutually agreed upon by the patentee and implementer.

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I. INTRODUCTION

Remedies in patent litigation provide the framework for consensual license negotiation between patentees, who wish to extract their legally owned monopoly rents from innovation, and implementers, whose ability to offer competitive products and services at reasonable prices depends upon their input costs, including the costs of required patent licenses. Like any such bargaining done in the shadow of the law, the failure or success of the bargaining and the likely bargaining outcomes will be determined in substantial part by the legally mandated threat points of the parties.

This bargaining process is especially important when the litigation relates to the determination of whether licensing terms are RAND (reasonable and non-discriminatory) for patents that are essential to the implementation of standards established by collaborative standard-setting organizations (SSOs), known as standard-essential patents (SEPs). This is especially the case when those standards are themselves essential to the interoperability of devices and related software.

These issues have recently come to the forefront in the context of the smartphone patent wars, which have led some regulators to express concern about firms, such as Microsoft, Apple, and Google, potentially using the

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threat of injunctions on SEPs to disadvantage competing smartphone platforms. Indeed, these concerns led all three firms to write letters or statements setting forth their policy positions regarding the appropriateness of injunctive relief as a remedy for the infringement of SEPs.¹

In this article, we analyze and comment on the important policy issues that flow from decisions relating to the invocation of injunctive remedies and the timing of the imposition of those remedies. Given that all bargaining is necessarily done in the shadow of the law, the remedy-related decisions of courts can be expected to have an important effect on the IP-related behavior of the smartphone market participants.²

Policy issues surrounding the possible imposition of injunctions in SEP cases are vitally important because modern telecommunication and information technology standards are critical to interoperability. Moreover, their implementation may necessarily involve hundreds, if not thousands, of essential patents owned by many different parties. Given such a diversity of SEPs and SEP owners (let alone the diversity of standards that, for example, a single smartphone or computer might implement), patent holdup can have far-reaching consequences. If each of the many patent owners were to attempt to win a disproportionately large share of the patents' collective value, a patent-holdup problem could arise in which excessive licensing costs discourage reliance on an otherwise efficient standard.³ Conversely, if courts or regulators put substantial limitations on the ability of innovators to appropriate value from their investment in technologies that are essential to a standard, the incentives of firms either to invest in innovative technologies or to participate in the standard-setting process may be reduced.

This article proceeds as follows. In Part II, we describe the tension between patentees, who are incentivized by the royalties that they receive on their inventions, and the implementer-licensees, who develop products based on the patented technologies.⁴ Part III discusses the role that the potential for an injunction can play in disputes between patentees and

¹ These concerns are independent of other well-recognized types of anticompetitive abuse of the patent and standard-setting processes, such as the enforcement of patents obtained through fraud or the intentional failure to disclose the existence of essential patents until after a standard has been adopted in reliance on the assumption that such patents would have been disclosed.

² In the United States, the International Trade Commission is an often-chosen venue for cases in which injunctive remedies are sought.

³ Royalty stacking could augment this problem. See, e.g., Mark Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991 (2007). For a contrasting view, see Einer Elhauge, *Do Patent Holdup and Royalty Stacking Lead to Systematically Excessive Royalties?*, 4 J. COMPETITION L. & ECON. 535 (2008).

⁴ The owner of a patent need not be the innovator that created the invention; the patent rights could be acquired from the innovator by assignment. Indeed, this is the case with Google's acquisition of Motorola Mobility and its patent portfolio and the acquisition by the Rockstar Consortium (that includes Apple, Microsoft, RIM, Ericsson, and Sony) of the patent portfolio of the former Nortel Networks. Nevertheless, the possibility that an innovator could

implementers. Parts IV through VI contain the core economic analysis of the role of injunctions. In Part VII, we briefly explain why the tension between innovators and implementers is vital to understanding the current smartphone patent wars. Part VIII briefly concludes.

II. SEEKING *EX ANTE* COMMITMENTS FROM PATENTEES TO PREVENT *EX POST* OPPORTUNISM

A patent provides its owner (the patentee) the legal right to exclude all others from the practice of the patented invention for a specified period of time, which gives the patentee the right either to refuse to license the invention or to seek whatever royalty the market will bear.⁵

When a patented technology is incorporated as an essential element of a collaboratively developed industry standard, however, there is the risk that the patentee will threaten to use its statutory right to exclude others from practicing its patent to obtain not just the monopoly rent legitimately associated with its innovative invention but also to appropriate a much higher share of the entire value of the standard.

There may have been significant *ex ante* competition between alternative technologies to be incorporated into the standard. Once the SSO chooses an approach to incorporate into the standard, however, it may be impossible to implement the standard without infringing upon certain patents—that is, those that are essential to the standard. *Ex post* (that is, following adoption of a particular standard), the owners of such SEPs gain substantial power (relative to the pre-adoption world) as a result of an adoption decision itself that is not directly related to the incremental value of the technology vis-à-vis alternatives.⁶

profit from its invention either by directly exploiting and/or licensing the patent or by assigning its intellectual property rights to another provides incentives for innovation.

⁵ The U.S. Department of Justice and Federal Trade Commission have stated:

An intellectual property owner's rights to exclude are similar to the rights enjoyed by owners of other forms of private property. As with other forms of private property, certain types of conduct with respect to intellectual property may have anticompetitive effects against which the antitrust laws can and do protect. Intellectual property is thus neither particularly free from scrutiny under the antitrust laws, nor particularly suspect under them.

U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY § 2.1 (Apr. 6, 1995), available at <http://www.justice.gov/atr/public/guidelines/0558.htm>.

⁶ In the extreme case, consider a situation in which there are two means of accomplishing a particular goal: method *A*, which is subject to a patent, and method *B*, which is slightly less efficient, but unpatented. *Ex ante*, the royalties that the owner of the patent on method *A* can charge are constrained by the incremental value of the patented method *A* relative to the unpatented method *B*. If an SSO incorporates method *A* into the standard, however, to the

To avoid such patent holdup, standard-setting bodies often require as a condition for participation in the standard-setting process that—conditional on final adoption of a standard by the SSO—owners of patents that are essential to the final standard contractually limit their right to exclude and the license terms they can seek.⁷

In particular, SSOs typically require firms that want to participate in the standard-setting process to make two types of patent-related commitments: first, that they will disclose to the SSO and other participants in the process any patents (and frequently patent applications) of which they are aware that would be essential to the implementation of a proposed standard;⁸ and second, to the extent that they own such SEPs, that they will waive some of the statutory rights they would otherwise have as patent owners to unilaterally exclude others from practicing the patented technology such as the right to charge unlimited royalties. The latter typically takes the form of assurances that patent owners will license their SEPs to all willing applicants for use in implementing the standard on reasonable and non-discriminatory (RAND) terms.⁹

Because making a RAND pledge is ultimately voluntary (even if sometimes required for SSO participation, which is itself voluntary), a patentee that participates in the process must expect that the RAND pledge will be interpreted so that the participant expects it will be better off making the RAND pledge, thereby potentially accepting lower royalty rates on the higher volumes that result from standardization under RAND assurances, versus higher rates on lower volumes without the standard or at least without RAND assurances.

exclusion of method *B*, that pricing constraint disappears for licensees seeking to implement the standard.

⁷ The participation requirement arises first and foremost from the fact that an SSO's rules cannot bind third parties that are not members of the organization and have not agreed to its rules; if an SSO were to impose such requirements as a condition of mere use or implementation of a standard, it could raise antitrust concerns similar to those associated with group boycotts. Just as important, however, is the idea that monopolization law primarily, if not exclusively, regulates monopolists who have intentionally sought to gain, maintain, or expand their monopoly power and have used exclusionary means to do so, which would not apply to a non-participant whose patent is independently chosen for use in a standard on its technical merit.

⁸ Benjamin Chiao, Josh Lerner & Jean Tirole, *The Rules of Standard-Setting Organizations: An Empirical Analysis*, 38 RAND J. ECON. 905 (2007).

⁹ Anne Layne-Farrar, Jorge Padilla & Richard Schmalensee, *Pricing Patents for Licensing in Standard-Setting Organizations: Making Sense of FRAND Commitments*, 7 ANTITRUST L.J. 671 (2007). This concept is typically referred to as RAND in the United States and as FRAND ("Fair, Reasonable, and Non-Discriminatory") in Europe. See Douglas Lichtman, *Understanding the RAND Commitment*, 47 HOUS. L.J. 1023, n.6 (2010). None of our analysis will be sensitive to any differences between RAND and FRAND; for simplicity, we will consistently use RAND to refer to this concept.

Had the patentee retained its full statutory freedom to exclude others from the use of its innovation, it would have the ability to increase the expected royalty rate and appropriate a share of the sunk investments that implementers have made in building devices that incorporate the standard and/or the value associated with others' complementary patented innovations that are also incorporated into the standard. Though potentially privately profit-maximizing for a particular SEP owner, these higher royalty rates could impede the success of the standard, reducing profits for other SEP owners and for implementers and decreasing consumer surplus through higher prices and reduced output. Because many SEP owners have this private incentive to charge royalties that in aggregate lower the welfare of SEP owners and implementers alike, these parties find themselves in a prisoners' dilemma-like strategic situation in which they are likely to be worse off unless SEP owners can credibly commit *ex ante* to restrain their *ex post* opportunism.¹⁰ The RAND-licensing framework is meant in part to solve or at least ameliorate this collective strategic problem.¹¹

Thus, requiring participants in standard setting to license their SEPs on RAND terms attempts to create a win-win situation in which SEP owners, implementers of the standard, and end customers all benefit from widespread commercial adoption of the standard: SEP owners prefer to accept lower royalty rates on the higher volumes that result from standardization under RAND assurances; implementers find it profitable to produce and sell products compliant with the standard at prices attractive to end customers as a result of the RAND pledges by the relevant SEP owners; and end customers benefit from the standardization in general and, in particular, by the potential for lower royalty rates permitted by the RAND pledges.

III. THE ROLE OF THE THREAT OF INJUNCTIVE RELIEF

Each SEP owner is obligated to be willing to license its SEP on RAND terms. However, the lack of specificity of the RAND commitment means that this constraint does not pin down the terms of such a license with precision, leaving a range of good-faith beliefs an SEP owner and an implementer could

¹⁰ The prisoners' dilemma that arises in the context of licensing complementary patents is discussed in Anne Layne-Farrar & Klaus Schmidt, *Licensing Complementary Patents: 'Patent Trolls,' Market Structure, and 'Excessive' Royalties*, 25 BERKELEY TECH. L.J. 1121, 1132 (2009).

¹¹ Absent a RAND commitment, there would still exist a threat of *ex post* opportunism even if all the SEPs were owned by a single party (and thus the prisoners' dilemma between SEP owners would not exist) because the single SEP owner could have an incentive to take advantage of implementers' sunk investments. When there is only a single SEP owner, however, that patentee better internalizes the effect of its royalty demand on the success of the standard.

have about whether particular terms are or are not RAND.¹² The SEP owner and the implementer can have conflicting incentives about what terms to choose within a range. For example, a non-patentee implementer would prefer lower royalty rates to higher, and zero best of all. A non-implementer SEP owner will often prefer royalties at the higher end of the plausibly RAND range.¹³

When patentee and implementer negotiate over licensing terms, they engage in “a game played in the shadow of the law.”¹⁴ Michel explains that “[r]emedies for patent infringement are particularly important because they set the framework for licensing negotiations and provide the source of the patentee’s power to extract monopoly rents from standardized products.”¹⁵

While there is general consensus that a patentee is entitled to damages if an implementer practices an SEP without a license (a straightforward case of patent infringement), there is a diversity of opinion within the literature regarding whether and to what extent injunctive relief is or should be available to address infringement of an SEP, as it is generally for infringement of other patents. On one side is the view expressed by Joseph Farrell, John Hayes, Carl Shapiro, and Theresa Sullivan: “Our interpretation implies that a patent holder that has made a commitment to license on a FRAND basis should not be able to get (or threaten) an injunction against use of the technology to comply with the standard.”¹⁶ Mark Lemley offers a supporting view:

IP owners who join an SSO are committing themselves to important contractual obligations. In some cases they may have to give up their IP rights altogether, and, in any event, they generally are agreeing to give up their right to injunctive relief and extraordinary damages.¹⁷

Perhaps more vehemently, Miller asserts that: “the core meaning of the RAND promise [is] an irrevocable waiver of injunctive relief and other extraordinary remedies.”¹⁸ A central concern here is that the availability of

¹² See Layne-Farrar, Padilla & Schmalensee, *supra* note 9, at 671, n.1. (“Unfortunately, even though many are committed to FRAND licensing, there is no universally agreed upon operational definition of that commitment.”).

¹³ In some cases, innovators of a standard are also implementers of the standard, in which case they profit from the success of their products arising from success of the standard. This can be fostered by low or zero royalties on SEPs, because increases in royalty rates from positive or higher royalties can be more than offset from lower sales of its products at the higher royalty rates.

¹⁴ Robert Cooter, Stephen Marks & Robert Mnookin, *Bargaining in the Shadow of the Law: A Testable Model of Strategic Behavior*, 11 J. LEGAL STUD. 225, 225 (1982).

¹⁵ Suzanne Michel, *Bargaining for RAND Royalties in the Shadow of Patent Remedies Law*, 77 ANTITRUST L.J. 889, 889–90 (2011).

¹⁶ Joseph Farrell, John Hayes, Carl Shapiro & Theresa Sullivan, *Standard-Setting, Patents and Hold-Up*, 74 ANTITRUST L.J. 603, 638 (2007).

¹⁷ Mark Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CALIF. L. REV. 1889, 1967 (2002).

¹⁸ Joseph Miller, *Standard-Setting, Patents, and Access Lock-in: RAND Licensing and the Theory of the Firm*, 40 IND. L. REV. 351, 358 (2007). See also Lichtman, *supra* note 9.

injunctive relief will disadvantage implementers by allowing patentees to demand excessive royalties as the price of avoiding an injunction, particularly where the inability to “design around” the SEP (and thus the injunction) stemmed from the essential nature of the SEP.¹⁹ The views expressed by Farrell, Hayes, Shapiro, and Sullivan, Miller, and Lemley are not universal, however. For example, Damien Geradin and Miguel Rato argue:

The making of a FRAND commitment by an essential patent holder cannot be interpreted as an implicit waiver to its right to seek injunctive relief . . . when good-faith negotiations to agree on a FRAND license have failed. [Standard-setting organizations] only require patent holders to engage in good faith negotiations with a view to concluding a license on FRAND terms.²⁰

Relatedly, Qualcomm has argued: “European Telecommunications Standards Institute (ETSI) policies do not contain any provision precluding members from seeking injunctive relief when an infringer and potential licensee has rejected a FRAND licensing offer from the patent holder.”²¹

There is common ground that injunctive relief would be inappropriate where a patentee has failed to honor its RAND licensing commitment. The principal area of disagreement is how courts should address situations in which the patentee has acknowledged its obligation and willingness to offer a license on RAND terms, yet the parties have a dispute regarding whether given license terms are indeed RAND.²²

IV. ECONOMIC ANALYSIS OF THE ROLE OF INJUNCTIONS

We believe that at least some of the real or apparent diversity of stated opinions regarding the appropriate use of injunctions in an SEP context arises because there has been insufficient specificity in some of the assertions concerning the timing of the imposition of the contemplated injunctive relief

¹⁹ Lemley and Shapiro argue in general that a patentee’s negotiating power can be significantly enhanced by the threat of injunction. See Lemley & Shapiro, *supra* note 3. See also Richard Gilbert, *The Rising Tide of Patent Damages*, 3rd Lisbon Conference on Competition Law and Economics, Panel IV (2010). For a critical discussion of Lemley & Shapiro, *supra* note 3, see J. Gregory Sidak, *Patent Holdup and Oligopsonistic Collusion in Standard-Setting Organizations*, 5 J. COMPETITION L. & ECON. 123 (2009).

²⁰ Damien Geradin & Miguel Rato, *Can Standard-Setting Lead to Exploitative Abuse: A Dissonant View on Patent Hold-Up, Royalty Stacking and the Meaning of FRAND*, 3 EUR. COMPETITION J. 101, 118–19 (2007).

²¹ Qualcomm Incorporated’s Brief in Opposition to Plaintiffs’ Motion to Dismiss and/or Stay and in Support of its Renewed Motion to Dismiss Plaintiff’s Complaint, at 39, *Nokia v. Qualcomm*, C.A. No. 2330-VCS (Del. Ch. Sept. 24, 2007).

²² Without taking a stand on whether a RAND commitment is a waiver of a right to seek a permanent injunction or, conversely, that the threat of injunction can be necessary to bring implementers to the bargaining table, Michel discusses “how district courts can incorporate a patentee’s RAND commitment and the potential for holdup of a standard into the determination of whether to grant an injunction, while remaining sensitive to the patent system’s incentives to innovate.” See Michel, *supra* note 15, at 889–911.

and the form that the relief would take. In particular, we highlight the following points.

First, the interaction between an SEP owner and an implementer of a standard (whether a member of an SSO or not) can be seen as a multiplayer dynamic game, where one or more players have multiple choices available at each of several decision-making stages. This has two implications. First, any threat, such as the threat of an injunction, has both a hammer and a trigger. It is imprecise to speak only about the hammer of injunction without first specifying a particular trigger, for example, an action or choice by the standard implementer that would trigger the injunction. Second and relatedly, it is analytically imprecise to ask globally whether the SEP owner can seek an injunction. There are many different stages or “nodes” of the game tree, and this question needs to be asked independently for each one.

Second, there are important distinctions between (1) a license offer an SEP owner believes and asserts to be RAND, (2) a license offer that *is* RAND, and (3) a license offer that a court or other adjudicator has ruled is RAND (and therefore becomes known to be RAND). Sense (2) is effectively unobservable until both parties agree or (3) comes into being.²³

Third, there is an important distinction between (1) standards that have already been adopted and with respect to which SEP owners have already made commitments to license their SEPs on RAND terms (“RAND pledges”) and (2) standards that have not yet been adopted or technologies that have not even been invented. In the latter case, it is appropriate to ask questions such as: what kind of RAND pledges should SSOs seek and accept and how should courts interpret and enforce them? In the former case, it is too late for that: there is existing RAND-pledge language to which any particular SEP owner has voluntarily agreed. We are not free to impose new meaning not anticipated by the parties when the pledges were adopted; we are limited to inferences and identification of implicit features that clearly flow from, and exist within, the actual pledge. There exists a commercially very valuable body of adopted standards over which litigation is and will continue to be frequent. For this reason, we focus our enquiry on the interpretation and enforcement of existing RAND pledges and reference in passing a rich literature that looks prospectively at these questions from a policy perspective.²⁴

²³ The meaning of Qualcomm’s argument above (nothing prevents an injunction when “an infringer and potential licensee has rejected a RAND licensing offer from the patent holder”) depends crucially on whether (1) the FRAND offer is merely asserted, or (3) certified to be RAND by a court.

²⁴ For example, see Lemley, *supra* note 17; Mark Lemley, *Ten Things to Do About Patent Holdup of Standards (and One Not to)*, 48 B.C. L. REV. 149 (2007); Carl Shapiro, *Patent Reform: Aligning Reward and Contribution*, in ADAM JAFFE, JOSH LERNER & SCOTT STERN, INNOVATION POLICY AND THE ECONOMY 111 (Univ. of Chicago Press 2008); Carl Shapiro, *Injunctions, Hold-Up, and Patent Royalties*, 12 AM. L. & ECON. REV. 509 (2010).

The article continues as follows. In Part V, we describe the variety of RAND pledges that can be made in the context of patent litigation relating to SEPs. In Part VI, we present a stylized model of a dispute, between a RAND-pledging SEP owner and an implementer of the standard, over whether the SEP owner's outstanding license offer is RAND. A RAND set of terms is determined either by the court blessing the SEP owner's earlier license offer, by mutual agreement between the SEP owner and the implementer, or by the court arriving at its own judgment of RAND terms.

Although the model does not by assumption globally remove the threat of injunction, the existence of that threat does not lead to holdup as feared by those who propose that a RAND pledge implies (or should embody) a waiver of seeking injunctive relief. If RAND terms are reached by negotiation, the negotiation is not conducted in the shadow of an injunctive threat but rather in the shadow of knowledge that the court will impose a set of RAND terms if the parties do not reach agreement themselves. The crucial element of this model that substantially diminishes the likelihood that the injunctive threat will have real bite against an implementer willing to license on RAND terms is the assumption that an SEP owner maintains its obligation to offer a RAND license even if its initial offer is challenged by the implementer and, further, even if the court agrees with the SEP owner that its initial offer was indeed RAND. Thus any implementer that is willing to license on court-certified RAND terms can avoid an injunction by accepting those RAND terms without eschewing any of its challenges to the RANDness of the SEP owner's earlier offers.²⁵ In this model, the threat of injunctive relief, if available at all, serves to provide an incentive for an implementer to accept a certifiably RAND license once offered rather than infringe the patent without a license.

We then show that the assumptions of the model appear to be validated by recent U.S. case law involving such disputes, including the willingness of courts to use contract law to adjudicate alleged breaches of RAND licensing commitments and the Supreme Court's reaffirmance, in *eBay v. MercExchange*, that the district courts must consider traditional equitable factors in determining whether to issue permanent injunctions in patent-infringement cases.²⁶

²⁵ Lichtman, *supra* note 9, at 1048, discusses an interpretation of RAND

under which the patent holder would be required to continually extend a reasonable offer, even after a licensee has previously turned down that offer. The idea is that the would-be licensee's risk would be capped: the licensee would be exposed to exaggerated damages for as long as the dispute raged, but the licensee would end that exposure at any time by accepting the patent holder's always-open offer.

²⁶ *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006). The traditional equitable factors that must be satisfied for issuance of a permanent injunction are: (1) the risk of irreparable injury to the plaintiff; (2) the inability of monetary damages to adequately compensate the plaintiff for its injury; (3) the balance of the hardships supporting an injunctive remedy; and (4) an injunction not being against the public interest. We note that the courts have not yet

V. THE VARIETIES OF RAND PLEDGES

There is a significant literature discussing the RAND assurance, discussing what RAND means, what it should mean, how courts should interpret it, and what kinds of RAND assurances SSOs should seek or require prospectively.²⁷ The convenience of the RAND acronym can mislead the reader into believing that it means just one thing; that is, that there is a single formulation adopted by all patent owners within a standard and across all standards.

That is decidedly not the case. A RAND assurance from a patent owner may be implicit from the patentees' participation in a particular standard-setting process (which manifests its agreement with terms set forth in the SSOs' bylaws) or may come in the form of a written acknowledgement of such obligations or in a letter of assurance from the owner to the SSO. Such assurances, in turn, may require uniform commitments specified by the SSO or allow the patentee the freedom to express its willingness to license on its own terms. Even within a standard, the fundamentals of these letters can vary significantly from patent owner to patent owner (and even from patent to patent owned by a single owner).

Take as one example the Institute for Electrical and Electronics Engineers (IEEE) 802.11 family of standards that make "Wi-Fi" wireless networking both possible and ubiquitous and consider the letters of assurance from four different owners of essential intellectual property that relates to those standards. The UC Davis Electrical Engineering department identifies three applicable patents, plus one "potentially applicable" patent, and promises that "[t]he technology will be made available at nominal costs to all who seek to use it for compliance with an incorporated standard."²⁸

IBM, on the other hand, does not identify any of its patents that apply to these standards, saying that IBM "has not taken any study of this matter."²⁹

considered the specific application of the *eBay* framework to SEPs, nor have they addressed how, if at all, such factors should be considered by the International Trade Commission in applying its unique statutory scheme to claims involving SEPs.

²⁷ See, e.g., Michel, *supra* note 15, at 890; Daniel Swanson & William Baumol, *Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power*, 73 ANTITRUST L.J. 1, 10 (2005) ("If the primary goal of obtaining RAND licensing commitments is to prevent IP holders from setting royalties that exercise market power created by standardization, then the concept of a 'reasonable' royalty . . . must be defined and implemented by reference to *ex ante* competition"); CARL SHAPIRO & HAL VARIAN, *INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK* 241 (Harvard Business School Press 1999) ("Reasonable should mean the royalties that the patent holder could obtain in open, up-front competition with other technologies, not the royalties that the patent holder can extract once other participants are effectively locked in to use technology covered by the patent.").

²⁸ University of California, Davis, Notice of Patent Applicability (rev. July 1, 1994), *available at* <http://goo.gl/F0djs>.

²⁹ Letter from Walter Willigan, Program Director, Licensing, IBM, to Vic Hayes, Chairman, IEEE P802.11 (Oct. 10, 1995), *available at* <http://goo.gl/ioCp4>.

Notwithstanding this, if it turns out that any IBM patents are essential to the standards,

IBM agrees upon request to grant a non-exclusive license under such patent or patents on a non-discriminatory basis and on reasonable terms and conditions including its then current royalty rates and provided a similar grant under licensee's patents is made available to IBM.³⁰

Note that IBM's assurance provides some specificity of the royalty rates that IBM believes satisfy "reasonable terms and conditions"—that is, whatever IBM's then-current royalty rates are. Unlike the UC Davis letter, IBM requires a grantback covering relevant patents held by the licensee.³¹

AMD, like IBM, is unaware of any patents or pending applications it owns that relate to the standard. If the standard is adopted and

is covered by one or more of the claims of any AMD patents or of any patents maturing from pending or future applications, AMD agrees, upon written request, to negotiate a non-exclusive license under such patents or such patents maturing from such applications on a non-discriminatory basis and on terms and conditions which AMD deems reasonable.³²

AMD provides no benchmark to even approximately estimate the royalty rates it would charge. Although AMD references a reasonability standard, it is a subjective one: terms and conditions "which AMD deems reasonable." Note, too, that AMD is clear that its letter of assurance is not by itself an implicit license to any licensee; prospective licensees are on notice that a license needs to be negotiated. Unlike IBM's letter, there is no explicit requirement that a licensee grant back to AMD rights to the licensee's patents; however, since a license must be negotiated, AMD would be free to require such a grantback.

RSA is at the other end of the specificity spectrum from AMD. RSA promises that

[a] software license, for implementation in software or hardware, will be made available to applicants under fair, equitable and non-discriminatory term [sic] for the purpose of using the RC4 stream cipher in 802.11 LAN devices. The license terms will be according to RSA Data Security, Inc's [sic] standard OEM license agreement and will be offered uniformly to all applicants.³³

³⁰ *Id.*

³¹ For a discussion of grantbacks, see Richard Gilbert & Carl Shapiro, *Antitrust Issues in the Licensing of Intellectual Property: The Nine No-No's Meet the Nineties*, in LOUIS KAPLOW & ROBERT GERTNER, *BROOKINGS PAPERS ON ECONOMIC ACTIVITY, MICROECONOMICS* 283, 323-25 (Brookings Institution Press 1997).

³² Letter from Robert Krueger, VP, I/O and Networks Division, Advanced Micro Devices, Inc. to Victor Hayes, Chairman IEEE 802.11 (Mar. 1, 1996), available at <http://goo.gl/l7Uda>.

³³ Letter from Paul Gordon, Director of Sales, RSA Data Security, Inc. to Cheryl Rowden, IEEE Standards Department (June 14, 1995), available at <http://goo.gl/u3b82>.

RSA then specifies a menu from which the licensee can choose of five different combinations of (1) prepaid/one-time license fees and (2) per-unit running royalty. These range from (1) a \$5K prepaid license fee plus a \$1 per unit running royalty to (2) a \$125K one-time per-company license fee with no running royalty.

Just as importantly, with the notable exception of some SSOs that require royalty-free licensing of SEPs, many SSOs appear to expressly envision bilateral negotiation between the patentee and implementers of the specific terms that will apply to each license. While such license negotiations are constrained by the non-discrimination component of RAND, it is recognized that specific arrangements (including how much royalty is paid in cash, what cross-licenses are included, and other such terms) may vary not just from patentee to patentee, but even among different licensees of the same patent.

Notwithstanding this high degree of variability in the assurances within a single standard, we will for the most part, and out of necessity, follow the literature in discussing RAND as if it were a coherent concept. Nonetheless, the existence of these variable interpretations is a caution that the interpretation of a RAND pledge with respect to any particular SEP and standard will not be governed only by general principles but also crucially by the specific language used by the SEP's owner.

For the purposes of the remainder of this article, we consider the following hypothetical generic RAND pledge, which is representative and tractable: “[SEP owner] agrees, upon request, to grant a non-exclusive license under any patents owned that are essential to implement the standard under terms that are non-discriminatory and reasonable.”

Clearly “reasonable” and, to a lesser extent, “non-discriminatory” beg greater specificity.³⁴ For our purposes, however, we do not need to resolve the ambiguity. Instead, we assume that a court would eventually, if called upon to do so, give meaning to these terms in the context of determining whether a license offered by the SEP owner was indeed RAND.

VI. ADJUDICATING THE INTERACTION BETWEEN A RAND-PLEDGING SEP OWNER AND AN IMPLEMENTER OF THE STANDARD

Assume that an implementer of the standard has approached the owner of an SEP and requested a license. This event triggers the SEP owner's obligation under the above assumed generic RAND pledge to offer a RAND license to this implementer.³⁵

³⁴ This is a common refrain. See, e.g., Lemley, *supra* note 17, at 1906 (“while IP owners at many SSOs were required to license their rights on reasonable and nondiscriminatory terms, it isn't clear what those obligations mean in practice”).

³⁵ This formulation of the SEP owner's obligation assumes that it is reasonable for the SEP owner to unilaterally and spontaneously extend a license offer in the absence of any

Implicit in this pledge is that once the implementer has requested a license, the SEP owner cannot seek an injunction against the implementer before the SEP owner has offered a RAND license and the implementer has had a reasonable opportunity to accept, reject, or negotiate such a license. Note that the SEP owner's obligation is not merely to offer a license the SEP owner *claims* is RAND. The obligation is to offer a license that *is* RAND.

Suppose the SEP owner offers a license with terms r_0 to the implementer, claiming in good faith that the license terms are RAND. Further suppose the implementer disagrees, believing, also in good faith, that the terms are not RAND, and rejects the offered license. Suppose also that negotiations between the SEP owner and the implementer have failed to produce agreement on a RAND license. We use the flowchart in Figure 1 to depict a model of this dispute between the SEP owner and implementer over the RANDness of the SEP owner's offered license to the implementer.³⁶

From the SEP owner's perspective, (1) the SEP owner has fulfilled its RAND-pledge obligation to offer a RAND license and (2) the implementer is infringing the SEP owner's patent without a license. It would then be reasonable for the SEP owner to sue the implementer for infringement, including asking for an injunction. From its perspective, the SEP owner has exhausted its RAND-pledge obligation, so it should not be disadvantaged relative to any other IP owner.

From the implementer's perspective, on the other hand, the SEP owner has not offered a RAND license and therefore is in breach of its RAND-pledge contract with the SSO. Further, from the implementer's perspective, it is inappropriate for the SEP owner to sue for infringement and seek an injunction because the SEP owner has failed to offer a license on RAND terms. However, the implementer can sue the SEP owner for breach of contract.³⁷

At this point in this stylization of the litigation process, there are two concurrent legal actions: (1) the SEP owner has a patent-law claim against the implementer, and (2) the implementer has a state-law breach-of-contract

information exchange or negotiation with the implementer. While that assumption may be realistic in some cases, in other it may not. More generally, the SEP owner's obligation could be satisfied, for example, by being "willing to negotiate licenses with other parties on a non-discriminatory basis on reasonable terms and conditions," as per International Telecommunication Union (ITU), Common Patent Policy for ITU-T/ITU-R/ISO/IEC ¶ 2.2, available at <http://www.itu.int/en/ITU-T/ipr/Pages/policy.aspx>.

³⁶ For background on the game theoretic aspects of the litigation process, see Cooter, Marks & Mnookin, *supra* note 14, at 225; Robert Cooter & Daniel Rubinfeld, *Economic Analysis of Legal Disputes and Their Resolution*, 27 J. ECON. LIT. 1067 (1989).

³⁷ We assume that the implementer is found to have sufficient standing to enforce the SEP owner's RAND pledge to the SSO. For a discussion of implementers' standing in this regard, see Lemley, *supra* note 17, at 1914–15.

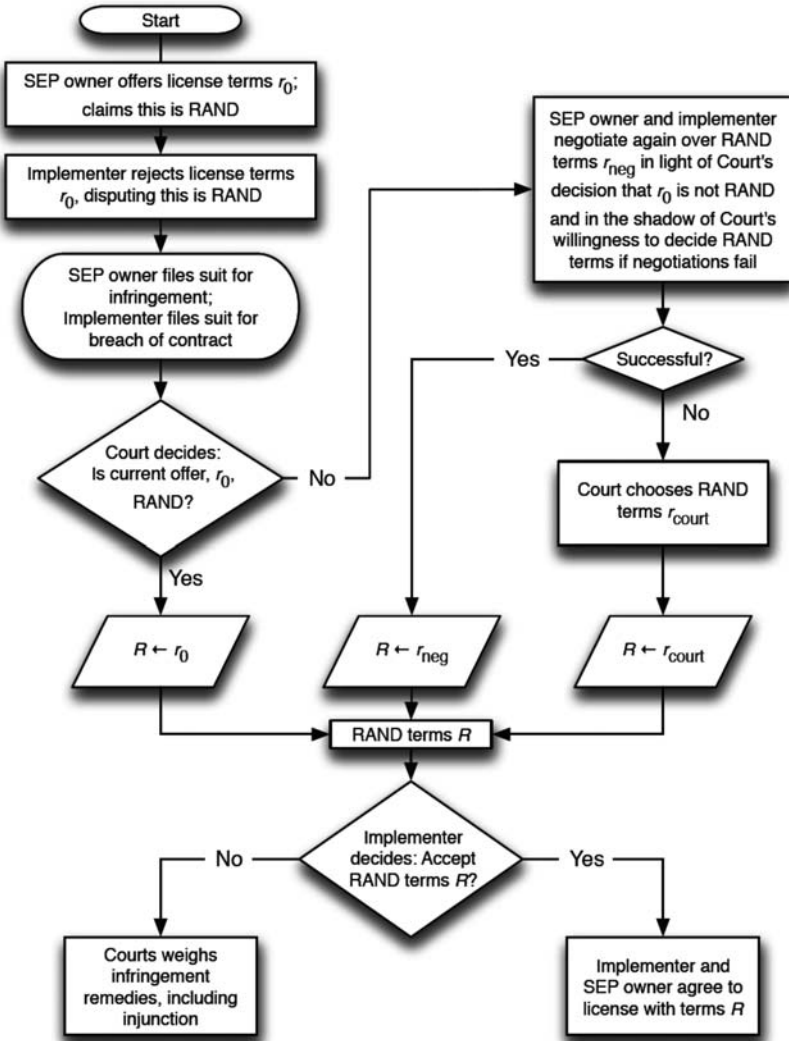


Figure 1. A dispute between a SEP owner and implementer over the RANDness of the patentee’s license offer

counterclaim against the SEP owner. Figure 1 illustrates this process. Although the subject matters of the two actions are distinct, they are closely linked. As a court explained, when (1) Microsoft sued Motorola Mobility for breach of its RAND promise, while (2) Motorola Mobility sued Microsoft for patent infringement:

[T]he result of the contract case could limit the damages available to Motorola in the patent infringement case if this Court determines that the royalty rate for licensing [the

patents at issue] were too high. Additionally, if the parties do not negotiate a RAND rate, this Court will need to issue a RAND rate to determine damages in both cases.³⁸

The next phase of the adjudication is devoted to arriving at a set of license terms R that is RAND. There are three possible paths to determine R : (1) the court can rule that the outstanding license offer is RAND; (2) the court can rule that the offer is not RAND but determine terms that are RAND; and (3) if the court decides the outstanding offer is not RAND, the parties can preempt the court's determination of RAND terms by negotiating RAND terms in the shadow of the court's willingness to determine RAND terms if the parties' negotiation fails.

A. The Court Rules Whether the Outstanding License Terms r_0 Are RAND

The first step is for the court to rule on whether the SEP owner's outstanding license offer is RAND. Our analysis bifurcates here depending on how the court rules.

1. Case 1: The SEP Owner's License Offer Is RAND

If the court finds that the SEP owner's outstanding offered license is RAND, then the implementer loses on its breach-of-contract claim. The SEP owner's offered terms r_0 are now known to be RAND; thus we set $R \leftarrow r_0$.

Assuming that the SEP owner prevails in the patent-infringement suit, the damages the implementer owes the SEP owner for infringement to date can be determined by a jury according to standard rules of patent damages (which incorporate notions of a reasonable royalty).

There is no *a priori* reason that retrospective damages must be calculated according to the same "reasonable royalty" that the SEP owner offered for a prospective license. This is particularly true in the case of willful infringement.³⁹ More generally, if implementers knew with certainty that the greatest royalty rate they would pay retrospectively if they delayed taking an offered RAND license until it had been found RAND by a court is the RAND rate they were originally offered, there would be little incentive for an implementer to take a license earlier. The implementer could litigate and hope for a finding that the patent is invalid, unenforceable, or not infringed. Failing that, the implementer would avail itself of the RAND license terms originally offered.

³⁸ Microsoft Corp. v. Motorola, Inc., No. 10-cv-1823-jlr, slip op. at 8 (W.D. Wash. May 31, 2011).

³⁹ A number of commentators have expressed concern that the criteria for willful infringement are too easily satisfied. See, e.g., Carl Shapiro, *Patent Reform: Aligning Reward and Contribution*, in ADAM JAFFE, JOSH LERNER & SCOTT STERN, INNOVATION POLICY AND THE ECONOMY 111 (Univ. of Chicago Press 2008).

On the other hand, it is socially beneficial to maintain incentives to challenge the validity of weak patents.⁴⁰ Similarly, an implementer should not be pressured into accepting license terms for an SEP that the implementer believes are not RAND because of the possibility that its objection would raise the royalty rate it would ultimately pay retrospectively if its challenge is unsuccessful.

2. Case 2: The SEP Owner's License Offer Is Not RAND

If the court finds that the SEP owner's license offer is not RAND, then we assume that (1) the implementer prevails on its breach-of-contract claim and (2) either the parties will find it in their interest to negotiate a RAND rate or the court will make the determination.⁴¹

The SEP owner and implementer now re-enter negotiations over a RAND license. If this negotiation is successful, we denote the resulting license terms by r_{neg} . This negotiation differs from the pre-litigation negotiation in two important ways. First, the SEP owner is on notice that the terms r_0 it originally offered to the implementer, and claimed were RAND, are *not* RAND. This restricts the range of license terms over which the parties negotiate to those terms more reasonable and/or less discriminatory than r_0 .

Second, both parties are aware that a failure to reach an agreement will result in the court imposing a RAND set of license terms, denoted r_{court} . Thus the parties at this stage are negotiating in the shadow of their expectations of the RAND terms the court would otherwise impose.

The fact that bargaining is undertaken in the shadow of the law is critical because concerns over the availability of injunctive relief are predicated on the adverse effect on a negotiated agreement of license terms that is conducted in the shadow of an injunction threat. However, this negotiation is not in the shadow of an injunction, but rather in the shadow of a court's possible ruling as to what constitutes RAND terms.

There are three possible benefits to the parties from reaching a negotiated set of terms r_{neg} rather than forcing the court to impose terms r_{court} . First, a negotiated agreement on license terms might be achieved more quickly and with lower legal costs than waiting for the court to determine RAND terms. Second, the parties might have greater flexibility in the terms they devise relative to the structure of terms a court would likely find feasible. This

⁴⁰ See, e.g., Joseph Farrell & Carl Shapiro, *How Strong Are Weak Patents?*, 98 AM. ECON. REV. 1347 (2008).

⁴¹ *Microsoft*, No. 10-cv-1823-jlr, slip op. at 8 ("if the parties do not negotiate a RAND rate, this Court will need to issue a RAND rate"). The procedural means by which a party might seek such a judicial determination are beyond the scope of this article. If nothing else, the assumptions of the model would be satisfied by a series of seriatim offers by the SEP owner, each of which was submitted to the court for evaluation as either a subsequent breach of contract or in the form of a renewed application for injunctive relief (as discussed below).

flexibility could lead to terms r_{neg} that are superior for both parties over the court-imposed terms in the sense that (1) the SEP owner would prefer r_{neg} over its expectation of r_{court} and (2) the implementer would prefer r_{neg} to its expectation of r_{court} .⁴² Third, to the extent that the parties are averse to risk and have substantial uncertainty over what terms r_{court} the court would choose, reaching an agreement insures against that risk. As shown in Figure 1 above, if the parties successfully reach an agreement on license terms r_{neg} , those become the RAND terms for the remainder of the model: $R \leftarrow r_{\text{neg}}$. As part of their agreement, the parties would be free to include a payment from the implementer to the SEP owner for royalties on past infringement. Finally, if the parties' negotiation fails, the court steps in and declares RAND license terms r_{court} ; thus, $R \leftarrow r_{\text{court}}$.⁴³

B. The SEP Owner Offers Certifiably RAND Terms and the Implementer Decides Whether to Accept

The previous phase of the dispute adjudication arrived at license terms R that are certifiably RAND because they are either (1) court-blessed (when the court finds that the originally offered terms r_0 are indeed RAND as claimed by the SEP owner) or (2) court-imposed (that is, $R = r_{\text{court}}$), or (3) both parties agree that their negotiated terms r_{neg} are RAND.

With the question of RANDness now disposed of, the SEP owner is obligated to offer a license on the certifiably RAND terms R to the implementer. Once the SEP owner has made the RAND offer, the SEP owner has fulfilled its RAND-pledge obligations to the implementer and retains all the rights of any other patent owner (other than the rights it waived *via* the RAND pledge). As a participant in Federal Trade Commission hearings relating to holdup expressed: “[Y]our obligation was to offer to license. If [the SEP owner’s offered license] is proved by a court to be an offer to license on RAND terms, then you should have your full rights and be able to exercise them.”⁴⁴

At this point, the implementer must decide whether to accept those terms. If the implementer accepts the license with terms R , the litigation is resolved. If the implementer decides not to accept the RAND-license offer, either the implementer decides to stop its infringement by ceasing to practice the patent (perhaps because the implementer decides the RAND terms

⁴² For example, the parties could strike a more comprehensive settlement across multiple issues, which could be more efficient because the set of instruments for agreement is larger.

⁴³ At this point the parties would be free to re-enter negotiations yet again to attempt to achieve a jointly-superior outcome relative to the now-known-with-certainty court-imposed license terms r_{court} .

⁴⁴ Comments by Earl Nied, Program Director, Intel Corp., Fed. Trade Comm’n, Tools to Prevent Patent Hold-up, at 224 (June 2011), available at <http://www.michiganlawreview.org/assets/pdfs/110/5/Speeple.pdf>.

are not sufficiently cost effective) or the implementer continues to infringe without a license and must face the legal and economic consequences.

If the implementer declines the offered, certifiably RAND, license and continues to infringe, the court would then consider appropriate patent remedies. The available remedies could, in theory, include the imposition of an injunction. Although authors, as explained above, have claimed that injunctions are antithetical to a RAND pledge, an implementer's decision to reject a certifiably RAND license and continue to infringe is contrary to the spirit of the RAND framework as well. The court may decide that absent the imposition of an injunction at this point in the litigation, the implementer will not have sufficient incentive to take a license on RAND terms.

C. The Availability of an Injunctive Remedy in the RAND Context Does Not Harm a Good-Faith Implementer

An implementer that is willing to accept a certifiably RAND license will accept it when offered and avoid court-imposed patent remedies, which could include an injunction. Thus an implementer can *always* avoid an injunction—and need not accept unreasonable license terms in order to do so. In this framework, the threat of injunction serves only to create an incentive for an implementer to take a certifiably RAND license when offered.

Nothing in this framework deters an implementer from contesting the SEP owner's original claim that its offer r_0 was RAND or from vigorously negotiating at later stages to reach new terms. The two key elements that drive this result are that, before an injunction could be imposed, (1) the implementer always has the option of accepting a certifiably RAND license, and (2) the court will not impose an injunction until the terms of such a license have been determined in fact to be RAND.

The assumed generic RAND pledge does not empower the SEP owner to retract the RAND license it is obligated to offer. Once the court has ruled the offered license was RAND, the implementer has no better course than to accept the license offered. The implementer is now licensed to use the SEP owner's patent, so there is no basis for the court to grant the request for an injunction.

In the above analysis, the SEP owner sued for infringement, including for an injunction. Yet in neither branch of the dichotomy (based on whether the court agreed with the SEP owner that its original license offer is RAND) did the threat of an injunction result in *post*-adoption opportunism or otherwise bias the royalty rate that the implementer ultimately pays.

This fortuitous outcome occurs because the implementer always has a last-resort escape hatch: to accept the SEP owner's offered RAND license made after suitable negotiations.⁴⁵ And the implementer never has to use

⁴⁵ We have assumed that the court will not rule on the patent-infringement motion for injunction until the court determines whether the offered license was RAND. In general, this

this escape hatch until the SEP owner's offered license is certified to indeed be RAND. Therefore there is no need for an implementer to fear an injunction as long as the implementer is willing to accept any license offer that a court has judged to be RAND. This is a reasonable expectation to hold about any implementer that chose voluntarily to implement the standard.

D. The Threat of Injunctive Relief Should Be Utilized Only when the Implementer Resists Accepting a Certifiably RAND License

Outside of the RAND setting, a patentee has the right to exclude others from exploiting the invention during the life of the patent. An injunction against an infringer is a mechanism by which a patentee's preference that the infringer not practice the patent can be enforced.

Judge Posner has argued that, in the RAND setting in particular, satisfaction of the equity standard in order to permit an injunction with respect to a standard-essential patent covered by a RAND pledge would be difficult. Observing that when a plaintiff is successful in obtaining an injunction it is "precisely because he cannot calculate the damages he suffers," Judge Posner went on to note: "A FRAND royalty would provide all the relief to which Motorola would be entitled if it proved infringement of the '898 patent, and thus is not entitled to an injunction."⁴⁶

In Judge Posner's view, even if the implementer balks at taking a license on RAND terms, the fact of the determination of the royalty removes a standard argument by which a patentee could ordinarily argue for an injunction. We do not see this as inconsistent with our view. It is the threat of the imposition of an injunction that can move the parties towards a joint determination of the RAND terms. Once those terms have been agreed on by the parties or imposed by the Court, the imposition of an injunction is unnecessary.

Additional concerns have been raised that the threat of an injunction will lead to hold-up. However, under our set of assumptions, those concerns do

assumption should hold, at least assuming that the defendant raises the question of compliance with the RAND pledge as either an equitable defense to infringement or a factor for consideration in determining the appropriateness of injunctive relief.

⁴⁶ Apple, Inc. v. Motorola, Inc., No. 1:11-cv-08540, 2012 WL 2376664 (N.D.Ill. June 22, 2012). Judge Posner notes that both Apple and Motorola "have deep pockets," removing any concern about the collectability of damages; *id.* at *14. Further, he states said that the law

does not deem damages an inadequate remedy just because, unless backed by a threat of injunction, it may induce a settlement for less than the damages rightly sought by the plaintiff. You can't obtain an injunction for a simple breach of contract on the ground that you need the injunction to pressure the defendant to settle your damages claim on terms more advantageous to you than if there were no such pressure.

Id. *13.

not carry over to the RAND setting, because an injunction is never the threat point in the license negotiation between patentee and implementer. In the RAND setting, the implementer always has an acceptable RAND safety net; implementers do not have that safety when negotiating for a license to a nonessential patent.

VII. THE CONCERNS ABOUT INJUNCTIONS IN THE SMARTPHONE PATENT WARS

The recent and ongoing flurry of patent litigation in the smartphone industry (commonly described as the mobile or smartphone “patent wars”) provides an important example of how patent licensing (including SEP licensing) and the role of injunctive relief is currently playing out in the case of complex modern technologies.

Smartphones and other smart mobile devices (such as tablet computers) combine two important streams of innovation: telecommunications and computer technology. As the industry has grown in recent years, it has seen vigorous competition among both smartphone “platforms” such as Apple’s iOS, Android, RIM’s Blackberry, and Microsoft’s mobile Windows operating systems and, at the device level, among the numerous OEMs who build devices for one or more platforms. In fact, one of the key competitive differences between smartphones and earlier, more basic phones is the competitive importance of complete “ecosystems,” incorporating operating system developers, device manufacturers, and third-party application developers. The competition between the devices powered by the open-source Android operating system, those manufactured by Apple, and those running Microsoft’s operating system has spread from the marketplace to the courts.

In February 2012, the U.S. Department of Justice’s Antitrust Division closed its investigations of three acquisitions of significant patent portfolios.⁴⁷ First, a partnership (Rockstar Bidco) that included Microsoft, Apple, and Research in Motion (RIM) acquired thousands of patents from Nortel; many were SEPs relating to wireless devices. Second, Apple acquired patents formerly owned by Novell (an important contributor to Linux). And, third, Google purchased Motorola Mobility and its thousands of patents, including hundreds of SEPs related to wireless devices.

The Department of Justice investigations focused generally “on whether the acquiring firms would have the incentive and ability to exploit ambiguities in the SSOs’ FRAND licensing commitments to hold up rivals, thus preventing or inhibiting innovation and competition,” calling out in

⁴⁷ Statement of the Dep’t of Justice’s Antitrust Div. on Its Decision to Close Its Investigations of Google Inc.’s Acquisition of Motorola Mobility Holdings Inc. and the Acquisitions of Certain Patents by Apple Inc., Microsoft Corp. and Research in Motion Ltd. (Feb. 13, 2012), *available at* http://www.justice.gov/atr/public/press_releases/2012/280190.htm

particular that “the critical issue is whether the patent holder has the incentive and ability to hold up its competitors, *particularly through the threat of an injunction or exclusion order*.”⁴⁸ Presumably in response to these concerns, Google, Apple, and Microsoft “made commitments concerning their SEP licensing policies”:

The division’s concerns about the potential anticompetitive use of SEPs was lessened by the clear commitments by Apple and Microsoft to license SEPs on fair, reasonable and non-discriminatory terms, as well as their commitments not to seek injunctions in disputes involving SEPs. Google’s commitments were more ambiguous and do not provide the same direct confirmation of its SEP licensing policies.⁴⁹

In a letter to the European Telecommunications Standards Institute (ETSI), Apple stated that:

A party who made a FRAND commitment to license its cellular standards essential patents or otherwise acquired assets/rights from a party who made the FRAND commitment must not seek injunctive relief on such patents. *Seeking an injunction would be a violation of the party’s commitment to FRAND licensing.*⁵⁰

Microsoft publicly stated that it “will not seek an injunction or exclusion order against any firm on the basis of those essential patents.”⁵¹

Finally, the Antitrust Division characterized Google’s commitments as “less clear”:

Google has stated to the IEEE and others on Feb. 8, 2012, that its policy is to refrain from seeking injunctive relief for the infringement of SEPs against a counter-party, but apparently only for disputes involving future license revenues, and only if the counter-party: forgoes certain defenses such as challenging the validity of the patent; pays the full disputed amount into escrow; and agrees to a reciprocal process regarding injunctions. Google’s statement therefore does not directly provide the same assurance as the other companies’ statements concerning the exercise of its newly acquired patent rights. Nonetheless, the division determined that the acquisition of the patents by Google did not substantially lessen competition, but how Google may exercise its patents in the future remains a significant concern.⁵²

VIII. CONCLUSION

We have presented a model of a dispute between the owner of a standard-essential patent and an implementer of the standard over whether

⁴⁸ *Id.* (emphasis added).

⁴⁹ *Id.*

⁵⁰ Letter from Bruce H. Watrous, Vice President and Chief IP Counsel Intellectual Property and Licensing, Apple Inc. to Luis Jorge Romero Saro, ETSI Director-General, ETSI (Nov. 11, 2011), *available at* <http://www.scribd.com/doc/80899178/11-11-11-Apple-Letter-to-ETSI-on-FRAND> (emphasis added).

⁵¹ Microsoft, Microsoft’s Support for Industry Standards (Feb. 8, 2012), *available at* <http://www.microsoft.com/about/legal/en/us/IntellectualProperty/iplicensing/ip2.aspx>.

⁵² DOJ Statement Closing Its Investigation of Google-Motorola, *supra* note 47.

the patentee's license offer is reasonable and non-discriminatory. The threat of an injunction is not by assumption globally taken off the table, yet that does not lead to the patentee extracting excessive royalties from the implementer, as the threat of an injunction can do in non-RAND contexts.

The key element of the model that allows this relatively benign impact of the injunctive threat is that the implementer always has a last-resort escape hatch to accept license terms that are either certified by a court as RAND or mutually agreed upon by the patentee and implementer.

In our model, an injunction could be granted, if at all, only if a licensee refuses to accept court-certified RAND terms, which is unlikely to occur in practice (that is, "along the equilibrium path"). If used judiciously by the courts, the threat of the imposition of an injunction can serve, when needed, to move patent disputes towards resolution. Whether through bargaining between the parties or by judicial determination, it is hoped that the resolution of these disputes will achieve a reasonable balance between the valued interests of innovator-patentees, while at the same time supporting the creation and development of standard-setting organizations and rewarding the technological and marketing investments of innovator-licensees.