The Comparative Law and Economics of Standard Essential Patents and FRAND Royalties

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Introduction

- Standard setting organizations (SSOs) often require members:
  - To disclose (prior to adoption of a standard) any patents or pending patent applications that might be relevant to the standard the adoption of which is under consideration.
  - To declare which of their patents are essential to the practice of the adopted standard.
  - To agree to license any such standard-essential patents (SEPs) on "fair, reasonable, and nondiscriminatory" (FRAND) terms.
- But SSO members generally are not obligated to, and do not, determine the meaning of FRAND terms in advance.
- Why not?
  - Ex ante transaction and information costs are high.
  - Therefore may be preferable to wait until after the standard is adopted.
  - See Doug Lichtman, *Understanding the RAND Commitment*, 47 HOUS. L. REV. 1023, 1027-29 (2010).

Introduction

- Many of the patents at issue in the “smartphone wars” are SEPs subject to FRAND commitments.
- Among the issues that have arisen, or that may arise, in Europe, the U.S., and elsewhere, are these:
  - 1. What are the legal consequences of a commitment to license on FRAND terms?
    - Does such a commitment create a binding contract, giving rise to third-party beneficiary rights?
    - Does it (or should it) deprive the SEP owner of a right to obtain an injunction against an alleged infringer?
  - 2. Regardless of whether patent or contract law plays a role here, does or should competition law limit the patentee’s ability to seek injunctive relief for the infringement of SEPs?
  - 3. If the patentee cannot obtain an injunction, what rights, if any, does the patentee have to some other form of relief?
    - If it is entitled to damages, what should those damages be?
    - Put another way, how do you calculate a FRAND royalty?

Introduction

- My response to questions of this nature is based upon a "comparative law and economics" approach.
- See THOMAS F. COTTER, COMPARATIVE PATENT REMEDIES: A LEGAL AND ECONOMIC ANALYSIS (Oxford Univ. Press 2013), and http://www.comparativepatentremedies.com.
- See also Francesco Parisi & Barbara Luppi, *Quantitative Methods in Comparative Law*, UNIVERSITY OF MINNESOTA LAW SCHOOL LEGAL STUDIES RESEARCH PAPER SERIES, RESEARCH PAPER NO. 12-20, at 2 (May 2, 2012), *available at* http://ssrn.com/abstract=2049907:
  - "Much of the work in comparative law and economics builds on the findings of comparative law by identifying interesting legal issues and analyzing them with an economic framework. Comparative law provides a very fertile ground for the economist in searching for interesting issues to analyze. The fact that legal systems choose different solutions to common legal problems indicates that there is no single best rule to resolve the issue in question. In situations like these economics provides valuable techniques for assessing the comparative advantages and effects of alternative legal rules. Methodologically, comparative law and economics applies the conceptual apparatus and empirical methods of economics to the study of comparative law and legal systems."

Legal consequences of a commitment to license on FRAND terms: Contract law

- Questions to consider:
  - Does a FRAND commitment constitute a binding contract?
  - If so, what does it obligate the SEP owner to do?
  - Do third parties (i.e., other SSO members) have a right to seek enforcement of those obligations?
- Doctrinally, the answers to these questions depend upon the language of the SSO IPR Policies to which the SEP owner consents, and applicable contract law principles.

Legal consequences of a commitment to license on FRAND terms: Contract law

- Some potentially relevant SSO IPR Policies:
  - ETSI IPR Policy Rule 6.1: "When an ESSENTIAL IPR relating to a particular STANDARD or TECHNICAL SPECIFICATION is brought to the attention of ETSI, the Director-General of ETSI shall immediately request the owner to give within three months an irrevocable undertaking in writing that it is prepared to grant irrevocable licences on fair, reasonable and non-discriminatory terms and conditions under such IPR . . . ."
  - IEEE-SA Rule 6.2: Requires SEP owner to submit a "Letter of Assurance" stating, inter alia, "that a license for a compliant implementation of the standard will be made available to an unrestricted number of applicants on a worldwide basis without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination."
  - Common Patent Policy for ITU-T/ITU-R/ISO/IEC: Requires SEP owner to, inter alia, agree that it is "willing to negotiate licences with other parties on a non-discriminatory basis on reasonable terms and conditions."
- So far, two courts in the U.S. have held that these types of SSO Policies create binding contracts, obligating the SEP owner to license on FRAND terms.

Legal consequences of a commitment to license on FRAND terms: Contract law

- Microsoft Corp. v. Motorola, Inc., 854 F. Supp. 2d 993 (W.D.Wash.2012) (Robart, J.):
  - Microsoft alleges that "Motorola entered into binding contractual commitments with the IEEE and the ITU, committing to license its declared-essential patents on RAND terms and conditions; and (2) Microsoft is a third-party beneficiary of Motorola's commitments to the SSOs."
  - The court, applying the law of the State of Washington, agrees.
  - The court rejects Motorola's argument that the IEEE and ITU commitments were merely unilateral offers to negotiate FRAND licenses.
  - Thus, Motorola was obligated to grant Microsoft a FRAND license, not merely "to engage in bilateral, good faith negotiations leading to [F]RAND terms."
  - The court also rejects Motorola's argument that the court lacked the power to create a FRAND agreement itself, stating that "[w]ithout the ability to create (or at the very least enforce creation of) the very license Motorola has promised to grant, Motorola's obligations would be illusory."
  - Motorola's commitments required that its initial offers to license its SEPs be made in good faith, but the "initial offers do not have to be on RAND terms so long as a RAND royalty eventually issues."

Legal consequences of a commitment to license on FRAND terms: Contract law

- Microsoft Corp. v. Motorola, Inc., 854 F. Supp. 2d 993, 999 (W.D. Wash. 2012):
  - In November 2012, Judge Robart held a bench trial to determine the "RAND royalty range for Motorola's SEPs" and "a specific RAND royalty rate for Motorola's SEPs."
  - In April 2013, he issued his findings of fact and conclusions of law on these two issues.
  - A jury trial is scheduled for August 2013 on the issue of whether Motorola breached its duty to negotiate in good faith.
- Apple, Inc. v. Motorola Mobility, Inc., 886 F. Supp. 2d 1061 (W.D. Wis. 2012) (Crabbe, J.):
  - Apple alleges that Motorola breached its contractual obligation to license certain patents on FRAND terms.
  - Wisconsin law applies to the breach of contract claim arising from Motorola's commitment to the IEEE, and French law to the contract claim arising from Motorola's commitment to ETSI.
  - Court concludes that
    - Motorola made a contractual commitment to license its patents on FRAND terms,
    - Apple was a third party beneficiary under both Wisconsin and French law.

Legal consequences of a commitment to license on FRAND terms: Contract law

- Apple, Inc. v. Motorola Mobility, Inc., 886 F. Supp. 2d 1061 (W.D. Wis. 2012) (Crabbe, J.):
  - In addition, “Apple must prove that Motorola's initial offer of a 2.25% royalty rate and attempts to negotiate were unfair, unreasonable or discriminatory and violated Motorola's commitments to ETSI and IEEE.”
  - In a subsequent ruling, Judge Crabbe concludes that “it makes sense to allow Apple to sue for specific performance of Motorola's contractual obligations and for the court to determine license terms, if necessary. In fact, in situations such as this in which the parties cannot agree on the terms of a fair, reasonable and nondiscriminatory license, the court may be the only forum to determine license terms.”
  - However, when Apple subsequently refused to declare that it would consider itself bound by Judge Crabbe’s determination of what a FRAND royalty would be, she dismissed Apple’s claims.
- In Germany, by contrast, case law to date holds that an SEP owner’s FRAND commitment does ***not*** invest third parties with a right to obtain a license, or constitute a waiver of the right to obtain an injunction. Rather, it merely amounts to an invitation for third parties to make offers.
  - See, e.g., LG Düsseldorf, Aug. 4, 2011, 4 b O 54/10, Mitt. Heft. 5/2012, 238.

Legal consequences of a commitment to license on FRAND terms: Contract law

- Some U.S. commentators have argued that a FRAND commitment constitutes an implied license for third parties to use the patented technology, subject to the obligation to pay a FRAND royalty; or that the patentee is equitably estopped from requesting an injunction.
- Roger G. Brooks & Damien Geradin, *Interpreting and Enforcing the Voluntary FRAND Commitment*, 9 INT'L J. IT STANDARDS & STANDARDIZATION RES. 1, 2 (2011), identify several other proposals, among them that a patent holder:
  - " • Must charge no more than the incremental value of his invention over the next best technical alternative (Lemley & Shapiro, 2007; Dolmans, 2008; Temple Lang, 2007);
  - " • Must not negotiate for a royalty-free cross licence as part of the consideration for a license (Dolmans, 2008);
  - " • Must set his royalty rate based on a mathematical proportion of all patents essential to the practice of a standard (Chappatte,2009; Temple Lang, 2007);
  - " • Must set his royalty rate in such a way as to prevent cumulative royalties on the standardised product from exceeding a low percentage of the total sale price of that product (Lemley & Shapiro, 2007);
  - " • Must not raise requested royalty rates after the standard has been adopted, or after the relevant market has grown to maturity (Chappatte, 2009; Shapiro & Varian, 1999; Swanson & Baumol, 2005);
  - " • Is not entitled to seek injunctive relief against a standard implementer should they fail to agree on licence terms (Farrell et al.,2007; Temple Lang, 2007)."

Legal consequences of a commitment to license on FRAND terms: Contract law

- Brooks & Geradin:
  - Concede that the preceding economic arguments "may well be useful in debating public policy and the proper application of antitrust rules," and may help "to better understand the course of the contract negotiations, or the contemporaneous industry practices" surrounding the drafting of IPR Policies.
  - Agree that some of these policies do create binding contractual obligations.
  - Nevertheless, they argue that the most relevant consideration for interpreting FRAND obligations is the intent of the parties (i.e., the SSO members).
  - Based on their review of the drafting history of ETSI Policy and other sources, they conclude that the intent of the parties was simply this:
    - ". . . if an offer has been made and refused, . . . the only contractual question to be adjudicated is whether the terms offered, taking into account all of the specific circumstances between the parties and prevailing market conditions, fall outside the *range* of reasonableness contemplated by the FRAND commitment."
  - In their view, a court considering a claim for breach of the FRAND commitment does not need to determine what a reasonable royalty would be.

Legal consequences of a commitment to license on FRAND terms: Patent law

- Until fairly recently, courts in the United States awarded the prevailing patent owner a permanent injunction absent "exceptional circumstances."
- In *eBay Inc. v. MercExchange, L.L.C,* 547 U.S. 388 (2006), however, the Supreme Court held that courts should instead consider four equitable factors.
- More specifically, the plaintiff must demonstrate:
  - (1) it has suffered an irreparable injury;
  - (2) remedies available at law, such as monetary damages, are inadequate to compensate for that injury;
  - (3) considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and
  - (4) the public interest would not be disserved by a permanent injunction
- Since *eBay*, prevailing patent owners have obtained permanent injunctions in about 75% of cases.

Legal consequences of a commitment to license on FRAND terms: Patent law

- After *eBay*, may a court enter a permanent injunctions against the infringement of an SEP subject to a FRAND commitment?
- So far, two courts have held (on the facts before them) that the answer was no:
  - Microsoft Corp. v. Motorola, Inc., No. C10–1823JLR, 2012 WL 5993202 (W.D. Wash. Nov. 30, 2012).
  - Apple, Inc. v. Motorola, Inc., 869 F. Supp. 2d 901, 913-15 (N.D. Ill. 2012) (Posner, J., sitting by designation).
- In terms of the *eBay* criteria, and absent countervailing factors such as the defendant's refusal to accept a reasonable license, this may be right:
  - No irreparable harm.
  - Monetary damages would be an adequate remedy.
  - Balance of conveniences favors defendant?
  - Public interest would be disserved by entry of an injunction?
- See also USDOJ and USPTO, *Policy Statement on Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments* (Jan. 8, 2013), *available at* www.justice.gov/atr/public/guidelines/290994.pdf.

Legal consequences of a commitment to license on FRAND terms: Patent law

- Note, however, that the *eBay* rule does not apply in proceedings before the U.S. International Trade Commission (ITC).
  - ITC hears complaints arising under § 337 of the Tariff Act of 1930, which declares unlawful, among other things, "the importation into the United States, the sale for importation, or the sale within the United States after importation . . . of articles that . . . infringe a valid and enforceable United States patent."
  - Remedy for a violation = order excluding goods from entry into the U.S.
  - ITC may deny an exclusion order in the public interest (rare) or the president may veto such an order (very rare).
- Recently, the ITC held that Samsung is entitled to an order excluding entry into the United States of certain Apple iPhones and iPads that infringe one of Samsung's patents, even though Samsung's patent is an SEP subject to a FRAND commitment.
  - *See* Notice of Final Determination, In the Matter of Certain Electronic Devices, Investigation No. 337-TA-794 (ITC June 4, 2013).
- Compare *Realtek Semiconductor Corp. v. LSI Corp*., No. C–12–03451 RMW (N.D. Cal. May 20, 2013) (Whyte, J.) (enjoining defendants from enforcing "any exclusion order or injunctive relief by the ITC," which obligation "shall remain in effect until this court has determined defendant's RAND obligations and defendants have complied therewith . . . .").

Legal consequences of a commitment to license on FRAND terms: Patent law

- In Europe, article 12 of the EC's 2004 Enforcement Directive states that members "may provide that, in appropriate cases," courts may order, in lieu of an injunction, "pecuniary compensation to be paid to the injured party instead of applying the measures provided for in this section if that person acted unintentionally and without negligence, if execution . . . would cause . . . disproportionate harm and if pecuniary compensation . . . appears reasonably satisfactory."
- Over the years, there have been a handful of decisions in the U.K. in which courts have denied prevailing patent owners injunctive relief.
- In 2012, for example, the English Patent Court denied a permanent injunction in an infringement action brought by IPCom against Nokia, reportedly on the ground that the patent in suit was standard-essential.
  - *See UK High Court Denies a Patent Injunction Against Nokia in Light of a FRAND Commitment*, Foss Patents (May 30, 2012), *available at* http://www.fosspatents.com/2012/05/uk-high-court-denies-patent-injunction.html.
  - Nevertheless, although U.K. law permits some flexibility, it places the burden of overcoming the presumption in favor of injunctive relief on the defendant, and it does not directly take into account the public interest or the balance of hardships.
  - See Robert Lundie-Smith and Gary Moss, *Bard v. Gore: To Injunct, or Not to Injunct, What Is the Question? Is It Right to Reward an Infringer for Successfully Exploiting a Patent?*, J. INTELL. PROP. L. & PRAC. (Apr. 2013).
- In Germany, an SEP owner is entitled to an injunction unless competition law, as interpreted in the *Orange-Book-Standard* decision, requires a different result . . .

Legal consequences of a commitment to license on FRAND terms: Competition law

- Article 102 TFEU provides that:
  - "Any abuse by one or more undertakings of a dominant position within the internal market or in a substantial part of it shall be prohibited as incompatible with the internal market in so far as it may affect trade between Member States.
  - "Such abuse may, in particular, consist in:
    - "(a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions;
    - "(b) limiting production, markets or technical development to the prejudice of consumers;
    - "(c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;
    - "(d) making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts."

Legal consequences of a commitment to license on FRAND terms: Competition law

- In 2009, the BGH in the *Orange-Book-Standard* case held that article 102 prevents a patent owner who occupies a dominant position in a relevant market from obtaining an injunction, if the following two conditions are met:
  - The infringer proves that it "made an offer, ready for acceptance, on contractual conditions, which the patent holder cannot refuse without thereby treating the party seeking a license unequally without good cause as compared with similar enterprises or impeding him inequitably"; and
  - It "behaves as if the patent holder had already accepted his offer" by paying "the consideration that the licensee would be obliged to pay according to a non-discriminatory or non-obstructive licence contract."
  - BGH May 6, 2009, GRUR INT. 747, 2009 (Ger.), *English translation available at* 41 IIC 369-75 (2010).
- In practice, it has proven extremely difficult to meet these conditions.
- In addition, German courts have held that for the defense to apply, the potential licensee also must agree not to challenge the patent's validity.
  - See, e.g., OLG Karlsruhe, Jan. 23, 2012, 6 U 136/11, Mitt. Heft 3/2012, 137.

Legal consequences of a commitment to license on FRAND terms: Competition law

- It is possible that the *Orange-Book-Standard* framework will have to be modified . . . .
- The European Commission has issued Statements of Objections against both Motorola and Samsung, based on these firms' requests for injunctive relief despite having committed to license their SEPs on FRAND terms, in possible violation of E.U. competition law.
  - *See* European Commission, *Press Release, Antitrust: Commission Sends Statement of Objections to Motorola Mobility on Potential Misuse of Mobile Phone Standard-Essential Patents* (May 6, 2013), *available at* http://europa.eu/rapid/press-release_IP-13-406_en.htm;
  - European Commission, *Press Release, Antitrust: Commission Sends Statement of Objections to Samsung on Potential Misuse of Mobile Phone Standard-Essential Patents* (Dec. 21, 2012), *available at* http://europa.eu/rapid/press-release_IP-12-1448_en.htm.
- And in March 2013, a German court referred to the Court of Justice for the European Union (CJEU) the question of whether it is an abuse of dominant position, in violation of E.U. competition law, for the owner of an SEP who has made a FRAND commitment to seek an injunction when the infringer has expressed its willingness to negotiate a FRAND license.
  - See LG Düsseldorf, March 21, 2013, Case No. 4 b O 104/12, GRUR-RR 196, 2013.

Legal consequences of a commitment to license on FRAND terms: Competition law

- In the U.S., competition law may play a role in some discrete circumstances.
- For example, the Federal Trade Commission (FTC) or Department of Justice (DOJ) may condition approval of a merger or acquisition on the parties' agreement to license their SEPs on FRAND terms.
  - Decision and Order, In the Matter of Robert Bosch GmbH (FTC Nov. 26, 2012), *available at* www.ftc.gov/os/caselist/1210081/121126boschdo.pdf.
- And the FTC, acting pursuant to § 5 of the FTC Act, required Google and Motorola to forgo injunctive relief, subject to some exceptions, if they pursue claims for the infringement of FRAND-encumbered patents.
  - Decision and Order, In the Matter of Motorola Mobility LLC and Google Inc. (FTC Jan. 3, 2013), *available at* www.ftc.gov/os/caselist/1210120/130103googlemotorolado.pdf.
- But as a general matter, U.S. competition law probably will not play a dominant role in preventing SEP owners from attempting to obtain injunctions.

Legal consequences of a commitment to license on FRAND terms: Competition law

- In the U.S., Sherman Act § 2 prohibits monopolization and attempted monopolization.
- Elements of a monopolization claim are (1) possession of monopoly power in a well-defined market, (2) willful acquisition or maintenance thereof, as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident.
- Even assuming element (1) is satisfied, element (2) is problematic for several reasons.
  - Unilateral refusals to deal are sometimes actionable under Sherman Act § 2 , but is an SEP owner who simply is insisting on a very high royalty refusing to deal?
  - Even if it is, liability for a unilateral refusals to deal is rare.
  - in general, there is no duty to deal, although a monopolist may be liable under § 2 if it lacks a legitimate business purpose for its refusal to deal—for example, if there was a prior course of dealing between the parties or if the monopolist appears to be forgoing the short-term benefits from continuing the relationship for the prospect of longer-term gain.
  - The Supreme Court nevertheless has cautioned against broad interpretations of § 2, stating among other things that forced sharing may reduce ex ante incentives to innovate; that courts are not well-positioned to regulate price and output, in the manner of central planners; and that forced sharing may encourage collusion between the monopolist and potential competitors.
  - *See* Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398 (2004).

Legal consequences of a commitment to license on FRAND terms: Competition law

- Moreover, liability for a unilateral refusals to license one's intellectual property is even more rare.
  - Widespread consensus that there is a presumptively legitimate business justification for a refusal to license.
  - According to some courts, the presumption can be rebutted only in rare circumstances where cooperation is "indispensable to effective competition."
    - Data Gen. Corp. v. Grumman Sys. Support Corp., 36 F.3d 1147, 1187 & n.64 (1st Cir. 1994).
  - Under another (highly criticized) approach, the presumption can be rebutted by proof that the refusal to license was a pretext.
    - Image Technical Servs. v. Eastman Kodak Co., 125 F.3d 1195, 1218-20 (9th Cir. 1997).
  - Under yet another approach, the presumption can be rebutted only if the patentee is enforcing a fraudulently procured patent, engaging in sham litigation, or the refusal is a means for gaining a monopoly beyond the scope of the patent.
    - In re Indep. Serv. Orgs. Antitrust Litig., 203 F.3d 1322, 1325-28 (Fed. Cir. 2000).

Legal consequences of a commitment to license on FRAND terms: Competition law

- The essential facilities doctrine—assuming it exists at all—is also narrowly construed.
  - Under one formulation of the doctrine, the plaintiff must prove four elements "(1) control of the essential facility by a monopolist; (2) a competitor's inability practically or reasonably to duplicate the essential facility; (3) the denial of the use of the facility to a competitor; and (4) the feasibility of providing the facility."
  - In addition, courts often require evidence that the defendant operates in both an upstream and a downstream market, and that the defendant is excluding competition in one or the other by refusing access.
  - And in *Intergraph Corp. v. Intel Corp*., 195 F.3d 1346, 1356-62 (Fed. Cir. 1999), the Federal Circuit held that the doctrine does not apply unless both plaintiff and defendant are competitors.
  - Moreover, proof that the defendant had a legitimate business justification for refusing access will suffice to defeat the claim.
    - *See* 3A PHILLIP AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW, ¶ 773e (2d ed. 2002)(collecting cases).
  - And is merely holding out for a larger royalty the equivalent of a denial?

Legal consequences of a commitment to license on FRAND terms: Competition law

- Yet another possibility—is an SEP owner's breach of a commitment to license on FRAND terms, even if it does not amount to an outright refusal to license, a willful maintenance of monopoly power in violation of Sherman Act § 2?
  - In *Broadcom Corp. v. Qualcomm Inc.,* 501 F.3d 297 (3d Cir. 2007), the Third Circuit held that deceptive conduct that results in an SSO's choice of a standard that otherwise would have been rejected can violate § 2.
  - But in *Rambus, Inc. v. FTC*, 522 F.3d 456 (D.C. Cir. 2008), the D.C. Circuit held that it is not a § 2 violation if the same or another proprietary standard would have been chosen anyway, and all the plaintiff is complaining about is that it would have negotiated a better deal.
  - The court distinguished between monopoly acquisition or expansion, which might be actionable, and monopoly exploitation on the part of a lawful monopolist, which is not.

Legal consequences of a commitment to license on FRAND terms: Competition law

- Two more possible wrinkles:
  - Causation:
    - Would a single lawsuit against a single firm contribute much to the SEP owner's acquisition or maintenance of monopoly power in the market defined by the SEP?
    - If a court is likely to deny the request for injunctive relief under *eBay*, is the SEP owner's filing of the lawsuit likely to enable it to acquire or maintain monopoly power?
  - *Noerr-Pennington* immunity:
    - The act of filing a lawsuit cannot be an antitrust violation, unless the lawsuit is a sham—both objectively and subjectively baseless—and all the other elements of the antitrust claim are present.
    - Merely filing a plausible claim for infringement therefore isn't an antitrust violation.
    - *See, e.g.*, Apple, Inc. v. Motorola Mobility, Inc., 886 F. Supp. 2d 1061, 1075-77 (W.D. Wis. 2012).
    - However, could the act of requesting an injunction, as opposed to merely damages, be an antitrust violation?
    - For discussion, see Thomas Dillickrath & David Emanuelson, *Injunctive Relief and the* Noerr-Pennington *Doctrine: The Search for Clarity on a Muddied Pitch*, CPI Antitrust Chronicle, March 2013 (1).

What courts should do: an economic analysis

- Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules and Inalienability: One View of the Cathedral,* 85 Harv. L. Rev. 1089 (1972), distinguish between property rules and liability rules.
  - Property rule = entitlement is backed up by a right to injunctive relief.
  - Liability rule = entitlement is backed up by a right to damages only; defendant can choose to breach and pay damages.
- Advantages of property rules, *generally*:
  - Parties can bargain around an injunction, e.g., agree to terms under which defendant can use the property.
    - Can be more creative than a court?
    - Parties likely to have better information than does a court about the value of the property and the contemplated use?

What courts should do: an economic analysis

- Advantages of liability rules, *generally*:
  - May work better when bargaining around is not feasible (e.g., large numbers of affected parties).
  - May not be all that difficult for court to assess damages.
  - May help to ensure that property owners do not abuse their rights?
- The law makes ample use of both property rules and liability rules.
  - Contract rights: mostly protected by liability rules, occasionally by property rules (specific performance).
  - Real property is often, but not always, protected by property rules.

What courts should do: an economic analysis

- Advantages of property rules in patent law:
  - Parties can bargain around an injunction, e.g., agree to terms under which defendant can use the property
    - Can be more creative than a court; property rules encourage the relevant actors to set up their own institutions for clearing rights (e.g., “patent pools”),
    - With respect to IP rights in particular, the parties likely to have better information than does a court about the value of the property and the contemplated use. IP rights are unique.
    - Typically, the number of directly affected parties is not large.
- Advantages of liability rules in patent law:
  - A necessary safety valve in some cases?
    - Compulsory licensing of essential medicines?
    - Government uses?
  - Prevents abusive exercise of patent rights: patent holdup, patent trolls?

What courts should do: an economic analysis

- In my view, courts generally should award injunctions, rather than ongoing damages, for patent infringement, because the parties have better information than the court concerning patent value—the patent's likely effect, over the next-best available alternative, on the user's profits or costs.
- Injunctions therefore conserve on adjudication and error costs
- However, this principle should give way in cases in which patent holdup is a serious risk.
- In such cases, the costs of injunctive relief, in terms of facilitating holdup, arguably outweigh the benefits.
- Holdup:
  - Patent reads on only a part of a complex device.
  - Injunction would enable patentee to extract a much higher royalty ex post than it could have negotiated ex ante, due to lock-in (costly or impossible to design around).
  - More of a problem where ex ante negotiations cannot easily avoid the problem.
    - I.e., where the number of patents in the field is very large and the risk of inadvertent infringement (independent invention) is high, as is the case in the IT sector.
- When these factors are present, injunctive relief would enable the patent owner to extract a royalty, ex post, that is substantially higher than the royalty it would have negotiated ex ante.
  - This ex post royalty will reflect not only the value of the patent—its contribution to the art—but also the cost of designing around and the value of complementary patents.
  - May harms consumers and competitors with little if any offsetting benefit, in terms of inducing more innovation.

What courts should do: an economic analysis

- Courts can address holdup by using any of the tools discussed today—contract law, patent law, or competition law.
- In my view, patent law has some advantages over competition law.
- In particular:
  - Denying injunctions, and awarding ongoing damages for infringement, makes sense when the risk of patent holdup is substantial.
  - This is a more straightforward solution to the holdup problem than is applying competition law, with all of its complexities.
  - Moreover, the presence of all of the elements of an abuse of dominant position or monopolization claim is not a necessary condition for the existence of patent holdup.
  - That said, the use of competition law to address the holdup problem may be a second-best solution if courts cannot modify the norm that favors injunctive relief.
  - Perhaps the application of competition law in this context has less potential for unintended harm in the E.U., which does not award treble damages or (so far) witness many private actions.

If a court must determine what a FRAND royalty is, how?

- Briefly, I think that Judge Robart's analysis, in his April 25, 2013 Findings of Fact and Conclusions of Law in *Microsoft Corp. v. Motorola Inc.*, is largely sound.
- Judge Robart applied a modified version of the factors that U.S. courts normally apply in determining reasonable royalties for patent infringement.
- In calculating reasonable royalties for patent infringement, a court normally tries to reconstruct the terms a willing licensor and willing licensee would have agreed to, as of the date the infringement began.
- Many factors are potentially relevant, among them the value of comparable licenses, the advantages of the patented invention in comparison with alternatives, and its contribution to the user's profits or costs.
- These would be relevant factors in most other countries' determinations of reasonable royalties.
- Economic analysis, however, suggests at least two modifications that courts should make in determining FRAND royalties.

If a court must determine what a FRAND royalty is, how?

- Modification # 1: Timing
  - Rather than determining what the willing licensor and licensee would have negotiated as of the date infringement began, the focus here should be on what they have would have negotiated as of a date *just before the standard was adopted*.
  - Using the date on which infringement began as the benchmark would allow the SEP owner to capture some of the holdup value.
  - See Apple, Inc. v. Motorola, Inc., 869 F. Supp. 2d 901, 913 (N.D. Ill. 2012) (Posner, J.).
- Modification # 2: Presumption of validity and infringement
  - In U.S. patent infringement litigation, a reasonable royalty is calculated based on what a willing licensor and willing licensee would have agreed to, *knowing the patent to be valid and infringed.*
  - Though counterintuitive, the use of this presumption to calculate a reasonable royalty avoids a double discounting problem that otherwise would arise.
  - See Stephen Kalos & Jonathan D. Putnam, *On the Incomparability of "Comparable": An Economic Interpretation of "Infringer's Royalties,* 9 J. Proprietary Rts. 2, 4-5 (1997).
  - When, however, as in *Microsoft v. Motorola*, the royalty is being calculated prior to any determination that the patent is valid and infringed, the presumption should not apply.
  - Judge Robart therefore was correct to discount the royalty based on the probability of noninfringement and invalidity.
  - This means that a RAND royalty calculated in a breach of contract action ought to be lower than a RAND royalty awarded for the very same patent or patents at the conclusion of an infringement action.