Antitrust and FRAND Bargaining: Rejecting the Invitation For Antitrust Overreach Into Royalty Disputes

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ALLEGATIONS OF *EX ANTE* "DECEPTION" committed by owners of patented technology that standard development organizations (SDOs) "relied upon" in selecting that technology for inclusion in the standard, thereby excluding alternative technologies, have long served as the theoretical linchpin for antitrust enforcement against holders of standard essential patents ("essential patent"). More recently, a growing chorus of commentators and litigants have espoused that "opportunism," in the form of excessive royalty demands for essential patent licenses, should also be sufficient to invoke Section 2 of the Sherman Act in the context of a FRAND commitment. In one variant of that excessive pricing argument, proponents of an opportunism standard have seized upon the emerging patent law concept of the smallest salable patent-practicing unit (SSPPU) to argue that "fair" and "reasonable" royalties must be calculated on the value the essential patent contributes to the SSPPU. Failure to do so, they contend, constitutes a breach of the FRAND commitment and amounts to an antitrust violation, at least where viable substitute technologies were available when the standard was adopted.

These theories that seek to impart antitrust significance to the terms "fair" and/or "reasonable" of a FRAND commitment in connection with proposed essential patent licenses are no longer confined to the academic pages of law journals or economic treatises. Cases based on these expansionist views of antitrust law are being filed both in the United States and abroad.[1] Allegations that a patent owner has engaged in unlawful monopolization by "demanding supra-competitive royalty rates and other unreasonable licensing terms for its purported SEPs"[2] and, similarly, demanding "excessive and discriminatory royalties"[3] are being asserted by litigants. Given the global nature of many standards, SDO participants, and antitrust regimes, we think the time is right to resync FRAND with fundamental antitrust principles.

In our view, there is nothing so unique about the nature of essential patents or FRAND assurances that warrants a radical departure from Section 2's traditional focus on competitive harm from exclusion, not the mere exercise of market power.[4] That an essential patent owner may seek an *ex post* royalty that may ultimately be found to exceed the FRAND rate should not be deemed exclusionary, whether in an upstream technology or a downstream device market. The notion that exploitation without exclusion was within the ambit of Sherman Act Section 2 was rejected in *Rambus*, where the D.C. Circuit held that "an otherwise lawful monopolist's end-run around price constraints," in the form of a FRAND commitment, "does not alone present a harm to competition in the monopolized market."[5]

Disputes regarding appropriate compensation for proprietary contributions to a standard are, we believe, best addressed by the laws applicable to contracts or patent damages. There is no basis to construe antitrust as a price-control or rate-regulation mechanism to fill any perceived gaps in the legal or contractual framework governing pricing disputes over licenses for particular essential patents. To introduce price regulation as a legitimate aim of antitrust policy is to risk chilling the incentives for innovative entities to undertake risky and expensive R&D efforts or to contribute the resulting technology to open standards.[6] In this respect, a newly proposed "opportunism standard" for antitrust would be far more detrimental to consumer welfare than the alleged instances of opportunistic behavior claimed to justify such an approach. We explain the evolution of this new (and we argue, erroneous) standard in the next section.

The Antitrust Coverage Argument

Collaboratively Set Standards and the Role of the FRAND Assurance. Those engaged in standards development efforts seek to "obtain best technology for standards." Because much of that technology is patented and valuable, standardization requires "a balance between the needs of standardization for public use . . . and the rights of the owners of IPRs" while ensuring that "IPR holders . . . [are] adequately and fairly rewarded for the use of their IPRs in the implementation of standards . . . ."[7]

In common practice, SDOs seek to achieve this balance through the use of voluntary assurances from an SDO participant that should their proprietary technology be incorporated into the standard, they will allow access to those essential patents on FRAND terms. Thus, where proprietary

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technology may be expected to read on a developing standard, an SDO will commonly require the technology owner to clarify its intentions with respect to its use, including whether or not it will make that technology accessible to all implementers of the standard on FRAND terms.

The patent owner's agreement to make its proprietary technology available to future users of the standard and to surrender some discretion in the exercise of its patent rights via a FRAND assurance is not a purely altruistic act. It is a contractual or quasi-contractual act.[8] Providing that assurance binds the essential patent owner, but, in return, improves the chances that its technology would be included in the standard and subject to widespread adoption. In the absence of such a FRAND assurance, the SDO *may* consider alternative technologies, if they exist and are available. A FRAND assurance is therefore a mechanism employed by SDOs *ex ante* to curtail the essential patent owner's theoretical ability, following standardization, to exclude downstream rivals or to demand royalties based on the switching costs of parties "locked in" to the use of the standardized technology, rather than the value of its patented contributions.[9]

FRAND Breaches and Antitrust. The principle that deceptive manipulation of a standards development process could violate the antitrust laws is well-established in U.S. jurisprudence. Over 25 years ago in *Allied Tube*, the Supreme Court ruled that a trade association member could be liable under the Sherman Act for improperly manipulating a standard-setting process to exclude competitive new technologies.[10] Although *Allied Tube* involved collusion, the Federal Trade Commission has since relied on that decision as authority to bring proceedings under Section 5 of the FTC Act based on a patent holder's alleged unilateral conduct in seeking to have its patented technology incorporated into a standard while intentionally failing to disclose its proprietary rights in that technology. Notably, in *Unocal* and *Rambus*, the FTC's theory of harm was that the parties had engaged in deliberate deception of the SDO so as to have their patented technology unknowingly incorporated into the standard.[11] While the precedential value of these FTC actions is uncertain,[12] the determination that *ex ante* deception allowed for the *acquisition* of post-standardization market power formed the basis for invoking the Sherman Act.[13]

Even this interpretation of Section 2 liability may have been an overreach based on *NYNEX*, at least where that deception merely allowed "exploitation" in the form of higher prices post-standardization, rather than exclusion of alternative technologies pre-standardization.[14] Indeed, in reversing the FTC's *Rambus* decision, the D.C. Circuit relied on the FTC's concession that it could not prove that Rambus's alleged deception caused the SDO to exclude viable alternative technologies, to conclude that "a supposition that there is a cognizable violation of the Sherman Act when a lawful monopolist's deceit has the effect of raising prices (without an effect on competitive structure) . . . conflicts with *NYNEX*."[15] The *Rambus* court reasoned that to focus on excessive pricing concerns is to focus on the effects of the monopoly, not its cause: higher prices and restricted output "tend to attract competitors, not to repel them."[16]

Before the D.C. Circuit's reversal of *Rambus*, the Third Circuit in *Broadcom* endorsed the FTC's *Rambus* decision and concluded that Section 2 claims were adequately stated based on allegations of the patent holder's deception during the standard-setting process and subsequent refusal to license on FRAND terms. The court held that the following requirements were sufficient:

> (1) in a consensus-oriented private standard-setting environment, (2) a patent holder's intentionally false promise to license essential proprietary technology on FRAND terms, (3) coupled with an SDO's reliance on that promise when including the technology in a standard, and (4) the patent holder's subsequent breach of that promise, is actionable anticompetitive conduct.[17]

While the Third Circuit did not directly address the need to show actual competitive harm as part of the showing of the SDO's "reliance" (i.e., in the words of the *Rambus* court, "that deceit lured the SSO away from non-proprietary technology"),[18] it placed heavy emphasis on the need to prove *ex ante* deception in the SDO process.

In subsequent "essential patent-abuse" enforcement actions, including *N-Data*[19] and *Google/MMI*, where the challenged conduct involved a "breach" of a FRAND licensing commitment by the essential patent's owners, but not deceptive conduct preceding the standardization decision, the FTC has gone to great lengths to justify its actions taken under its standalone Section 5 authority, not Section 2 of Sherman Act. As the agency explained in *Google/MMI*, courts "have found that patent holders may injure competition by breaching FRAND commitments" in cases "involv[ing] allegations of bad faith or deceptive conduct by the patent holder before the standard was adopted," but that Section 5 and by implication, *not* Section 2, is broadly applicable to "opportunistic conduct that takes place after a standard is adopted."[20]

The Emerging "Opportunism" Argument. With the passage of time, it appears that the requirements of deception, reliance, and the exclusion of viable, alternative technologies have proven serious hurdles to the application of antitrust to police alleged instances of "patent hold-up."[21] A number of recent publications and speeches by well-known commentators suggest, however, that Section 2 of the Sherman Act (not just Section 5 of the FTC Act) can reach instances of alleged post-contractual "opportunism" by essential patent holders in their licensing demands. For example: "[W]here a competing technology was excluded because of the breached commitment, the post-contractual *opportunism* represented by the breach is cognizable as exclusionary conduct."[22] Other commentators ask rhetorically "why antitrust law should not reach opportunism, whether it was the patent holder's intent all along or whether it occurred to the patent holder only after the standard was adopted."[23] Similarly, a former Antitrust Division Chief Economist has suggested that Section 2 could be a "powerful weapon" to address patent hold-up allegations.[24] Further, this is especially the case "given the market power inherent in an essential patent associated with a successful standard."[25]

In the same vein, a former FTC Bureau of Economics Director treats "opportunism" and "hold-up" as synonymous: "In very broad terms, opportunism or hold-up arises when a gap between economic commitments and subsequent commercial negotiations enables one party to capture part of the fruits of another's investment, broadly construed."[26] Notably, this definition of opportunism contains no reference to deception, which is explicitly disclaimed as unnecessary: "'Bad' behavior (such as deception) is not logically necessary for such inefficiency."[27]

Private litigants, moreover, have been even less reticent about asserting "opportunism" and "excessive pricing" in the FRAND licensing context as the basis for antitrust liability. Asus, for example, contends in a recent complaint that InterDigital violated Section 2, in part, by "demanding supra-competitive royalty rates and other unreasonable licensing terms" for its essential patents.[28] Microsoft has also sued Interdigital, complaining of alleged transgressions that include "demand[ing] excessive and discriminatory royalties from companies that sell 3G and 4G devices," and the "exploitation of SEPs to extract unreasonable or discriminatory royalties . . . ."[29] Microsoft goes even further by arguing that InterDigital illegally "ties its supra-competitive royalty demands to the entire value of the cellular devices."[30] Microsoft is asserting, therefore, that end product value pricing violates FRANDs and that chipset pricing is the royalty base required by FRAND.

Such treatments of "opportunism" cross the line between objectionable "opportunism" and the legitimate profit-maximizing behavior that drives risk-taking and innovative efforts. Section 2 liability based on *ex post* opportunism in the form of "excessive prices," when untethered from exclusionary conduct, risks over-deterrence and decreased innovation.

FRAND and the Royalty Base. In one variation on the argument to reach "excessive" essential patent royalties under the antitrust laws, some have asserted that by charging a royalty calculated on the value of the end-product device (e.g., the handset), rather than the SSPPU or chipset, that practices the technology, patentees are breaching their FRAND commitment by seeking to capture more than the value of their own technical contributions. In a recent article, Joseph Kattan writes that the "new FRAND battleground is the royalty base that may be used for calculating essential patent royalties."[31] This builds on Kattan's earlier work, where he describes a situation in which a breaching firm can secure higher royalties by refusing to license component suppliers and securing higher royalties from downstream customers by taxing a higher royalty base.[32]

The notion of "taxing a higher royalty base" as leading to unreasonably high compensation for the patentee has its origins in U.S.-specific patent damages jurisprudence. As explained by the Federal Circuit's recent *Ericsson* decision, in which the court upheld a jury award based on end device value, "A jury must ultimately 'apportion the defendant's profits and the patentee's damages between the patented feature and the unpatented features' using 'reliable and tangible' evidence.'"[33] This calculation is easy enough for "an economist [who] could do this in various ways—by careful selection of the royalty base to reflect the value added by the patented feature, where that differentiation is possible; by adjustment of the royalty rate so as to discount the value of a product's non-patented features; or by a combination thereof."[34] But, because patent damages in most cases are ultimately decided by juries, rather than trained economists, some courts have expressed concern that the inverse relationship between the royalty base and royalty rate may confuse juries and cause them to award too large a royalty that does not reflect the value of the patented invention.[35]

The Department of Justice has lent at least some credence to the argument that the SSPPU or chipset is the "correct" royalty base to calculate a FRAND royalty in most cases. Earlier this year, the DOJ responded favorably to proposed changes by the Institute of Electrical and Electronics Engineers, Inc. (IEEE) to its IP guidelines, including by defining a reasonable royalty as one that takes account of the invention's "contribut[ion] to the value of the relevant functionality of the smallest salable Complaint Implementation that practices the Essential Patent Claim."[36] The DOJ not only praised this change for providing additional clarity to negotiations, but also stated that it would "enable parties to reach mutually beneficial bargains that appropriately value the patented technology . . . ."[37]

The linchpin of "opportunism" liability, whether it is by a patent owner seeking an "excessive" royalty rate or the insistence on an "inappropriate" royalty base designed to generate higher royalties, is the claimed breach of FRAND expectations—not any *ex ante* deceptive conduct. As summarized by one commentator, "If the breach is so material that it *would have* caused the SSO . . . to choose a different technology had the SSO anticipated it, the resulting competitive harm is the same whether or not the essential patent owner originally intended to honor the commitment or not."[38]

For now, the Antitrust Division has expressed caution, with Deputy Assistant Attorney General Renata Hesse merely inviting alleged victims of "hold-up" in essential patent licensing to "bring us fact patterns [of FRAND violations in the absence of deception] that they think merit enforcement under Section 2."[39]

Rejecting Antitrust's Overreach into FRAND Bargaining

An Unprecedented and Unnecessary Expansion. While the scope of antitrust standards may be elastic, in our view it would require a huge and unwarranted stretch to bring patent royalty demands, rates, or royalty base within the ambit of

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exclusionary conduct. No U.S. case of which we are aware has found that seeking supra-FRAND royalties alone constitutes an antitrust violation. The D.C. Circuit's *Rambus* decision explained the doctrinal complications with conflating *ex post* opportunism with conduct injurious of competition that is properly reached by Section 2.[40] If alternative technologies were passed over for use in the standard, in the absence of *ex ante* deception, that outcome was the result of competition on the merits. And, if the essential patent owner overreaches in its royalty demands in violation of its FRAND commitment, neither exploitation ("hold-up") or exclusion are pervasive concerns. It is well established that licensees willing to pay a FRAND rate for a license to those patents may seek a judicial resolution of the royalty dispute without fear of exclusion. Some courts have even found that the absence of a credible threat of exclusion by an injunction order has shifted the bargaining power to the technology user, who by "holding out" can do no worse than an adjudicated FRAND rate.[41]

FTC Chairwoman Edith Ramirez, who is generally supportive of antitrust involvement in essential patent-related matters, also emphasized these concerns when she remarked that "royalty rates should not be negotiated under the threat of antitrust liability," and that "it is important to recognize that a contractual dispute over royalty terms, whether the rate or the base used, does not in itself raise antitrust concerns."[42] To reach a contrary result, the doctrinal building blocks of Sherman Act Section 2 that focus on exclusionary conduct would need to be disregarded to reach mere exploitation of market power in the "patent hold-up" context. As such, the DOJ is "skeptical when manufacturers complain to us about high royalty rates in the absence of bad conduct. We don't use antitrust enforcement to regulate royalties."[43]

Commentators who support expanding the role of antitrust to police FRAND bargaining have also, in our view, failed to show that other solutions to deter and remedy actual FRAND violations are unavailable or insufficient. Courts have held that a commitment to an SDO to assure access on FRAND terms constitutes a binding contract between the essential patents holder and the SDO and its members, and operates for the intended benefit of and is enforceable by the standard's implementers.[44] As with any negotiation, it is anticipated that the parties will bilaterally negotiate over FRAND terms, and that "a patent holder does not violate its RAND obligations by seeking a royalty greater than its potential licensee believes is reasonable . . . both sides' initial offers should be viewed as the starting point in negotiations."[45] As Bruce Kobayashi and Joshua Wright have argued, a FRAND commitment is best considered an incomplete contract (or pre-contract) and "the debate in the antitrust community has largely ignored the superiority of substantive contract doctrine."[46] Ignoring contract law is a mistake, as it is specifically geared towards identifying and enforcing the parties' intent where certain terms governing the relationship are missing or ambiguous.

The effectiveness of contract law as a remedy for FRAND violations was recently demonstrated by the Ninth Circuit in *Microsoft v. Motorola*. There, the court upheld the district court's FRAND rate determination of the jury's $14.5 million damages award for Motorola's breach of its duty of good faith and fair dealing in seeking non-FRAND licensing terms.[47] Other legal doctrines, including quasi-contract theories, promissory estoppel, and patent damages, may also be available to deter and remedy alleged instances of FRAND breaches in licensing contexts.[48] In the years since the *Rambus* decision, there is no record of essential patent holders behaving more opportunistically in seeking to evade their FRAND commitments when freed of concerns over treble-damages liability for hard-bargaining.[49]

The Chipset Base Fallacy. As outlined above, the proposed opportunism standard is starting to be used to challenge the selection of the end-device, rather than the chipset or SSPPU, as the "royalty base." Critics of a patentee basing the royalty on the patented technology's contribution to the end-device, point to patent law as establishing the SSPPU as the "appropriate" royalty base for FRAND licensing. As explained below, this misplaced insistence on an SSPPU royalty base reveals the dangers of substituting bright line rules for bilateral bargaining.

First, licensing based on the end-device value is by no means contrary to controlling patent law governing the valuation of patented contributions to complex products. As the *Ericsson* court explained:

> It is not that an appropriately apportioned royalty award could never be fashioned by starting with the entire market value of a multi-component product—by, for instance, dramatically reducing the royalty rate to be applied in those cases—it is that reliance on the entire market value might mislead the jury, who may be less equipped to understand the extent to which the royalty rate would need to do the work in such instances.[50]

In that case, after explaining that the SSPPU concept was developed to address jury confusion, the Federal Circuit rejected the argument that a FRAND royalty must always be based on the "smallest salable unit" and upheld a FRAND royalty based on the end-product value. There are good reasons to reject the chipset royalty base in many cases. As explained in the 2014 *CSIRO v. Cisco* decision:

> The benefit of the patent lies in the idea, not in the small amount of silicon that happens to be where that idea is physically implemented . . . Basing a royalty solely on chip price is like valuing a copyrighted book based only on the costs of the binding, paper, and ink needed to actually produce the physical product. While such a calculation captures the cost of the physical product, it provides no indication of its actual value.[51]

Thus, whether or not SSPPU or chipset pricing has value as a tool in jury trials in certain cases, it is by no means an established principle of patent law—in fact, in its only FRAND decision to date, the Federal Circuit makes clear that the "ultimate reasonable royalty award must be based on the incremental value that the patented invention adds to the *end product*."[52]

Equally important, as a tool to prevent jury confusion, the SSPPU doctrine is ill-suited to serve as the default royalty base for FRAND negotiations between sophisticated entities.[53] Industry practice and expectations are to calculate royalties on their contribution to the end device. As the judge in a recent International Trade Commission proceeding observed, "The record supports a conclusion that a common industry practice is to use the end-user device as a royalty base."[54] The Federal Circuit had reached a similar conclusion in *Lucent Technologies, Inc. v. Gateway, Inc.*,[55] explaining that using a product's end price as a royalty base makes sense as "sophisticated parties routinely enter into license agreements that base the value of the patented inventions as a percentage of the commercial products' sales price. There is nothing inherently wrong with using the market value of the entire product . . . so long as the multiplier accounts for the proportion of the base represented by the infringing component or feature."[56]

Finally, and perhaps most relevant to the practical difficulties—not just the doctrinal unsuitability—of imposing antitrust liability on the basis of breached FRAND expectations from the time of standardization, is that the *ex ante* licensing intentions of standards contributors were in many cases disclosed and well-known prior to standardization. For example, in 2008, before adoption of the LTE standard, a group of leading wireless companies and standards contributors published their commitment to a framework "to reasonable, maximum aggregate royalty rates based on the value added by the technology in the end product . . . ."[57] Similarly, a 2010 article reported on an initiative by leading telecommunication companies to develop a framework for "establishing predictable and more transparent maximum aggregate costs for licensing . . . . In particular, these companies stated 'support' for 'a reasonable maximum aggregate royalty for LTE essential IPR in handsets as a single digit percentage of the sales price.'"[58] There are numerous other examples of such *ex ante* disclosures. The point is that reliance on the end-product as the default royalty base was a known and accepted practice *before* those technology contributions were accepted into the standard, leaving little room for allegations of breach or hindsight speculation as to the choices the SDO "would have made" had they been aware of this licensing behavior.[59]

The Potential for Chilling Innovation and Standards Participation. Lost in the debate about whether Section 2 does or should reach allegations of post-standardization opportunistic conduct are the risks to consumer welfare that such a standard would bring about. The benefits to consumer welfare from dynamic competition and innovation are manifest, especially in high technology industries. Likewise, the enormous technological and competitive benefits of open standards are by now well-recognized and will not be repeated here.[60] Indeed, FTC cases premised on allegations of essential patent abuse unfailingly cite the harm to consumer welfare. For example, in *Google/MMI*, the FTC commented that "[w]hen participants breach their FRAND commitments by engaging in patent hold-up and threatening to keep products out of the market, consumers and the competitive process will likely be harmed."[61]

It comes as no surprise that to diminish the profit incentive is to diminish the incentives for innovation itself. In the words of *Trinko*:

> The opportunity to charge monopoly prices—at least for a short period—is what attracts "business acumen" in the first place; it induces risk taking that produces innovation and economic growth. To safeguard the incentive to innovate, the possession of monopoly power will not be found unlawful unless it is accompanied by an element of anticompetitive conduct.[62]

For that reason, the protection of those incentives to innovate are rightful concerns of antitrust laws and enforcers, including protection from misplaced intrusion of the antitrust laws into FRAND licensing negotiations. As Assistant Attorney General Baer explained last year:

> Pricing freedom in bilateral licensing negotiations is critical for intellectual property owners. . . . Using antitrust enforcement to reduce the price firms pay to license technology owned and developed by others is short-sighted. Any short-term gains derived from imposing what are effectively price controls will diminish incentives of existing and potential licensors to compete and innovate over the long term, depriving jurisdictions of the benefits of an innovation-based economy.[63]

In a thought-provoking article on the subject, Professors Froeb and Shor apply refereed research on hold up to the policy implications of the IEEE business review letter.[64] They emphasize the need to remain cognizant of the effects of any proposed FRAND policy changes on innovators as well as technology users. They explain that bargaining is not really *ex ante* but *ex interim* as it occurs after the innovators have irrevocably invested in research and development but before the implementer makes any irrevocable investments in the standard.[65] This *ex interim* bargaining, therefore, has more of an effect on investments by innovators as opposed to those of implementers. They conclude that the SSPPU rule, which shifts bargaining power and profit from innovators to implementers, "weakens the value of patents and can significantly reduce the incentive to innovate."[66]

In our view, a "no-fault" subjective opportunism standard for antitrust liability is fundamentally flawed as it ignores these risks of deterring innovation and standards participation by interjecting one-sided threats of antitrust liability into bilateral licensing negotiations whenever there is a disagreement as to "fair" and "reasonable" royalties.

Conclusion

Notions of excessive pricing and price regulation are incompatible with sound antitrust policy. Properly understood, this same concern with 'excessive pricing' of essential patents lies behind the drumbeat of advocacy focused on the selection of a supposedly uniform "appropriate" royalty base for licensing at the chipset or SSPPU level. Efforts to introduce "excessive pricing" as an element of U.S. antitrust enforcement or policy are misguided and may lead to an antitrust regime that aims to protect specific competitors to the detriment of dynamic competition and consumer welfare. These arguments signal the desperate need to resynch FRAND bargaining with fundamental antitrust principles. ■

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1 Complaint at 4, Asus Comput. Int'l v. Interdigital, Inc., No. 15-CV-01716 (N.D. Cal. Apr. 15, 2015); Complaint at 2, Microsoft Mobile, Inc. v. Interdigital, Inc., No. 15-cv-00723-RGA (D. Del. Aug. 20, 2015).

2 Complaint at 4, *Asus*, No. 15-CV-01716.

3 Complaint at 2, *Microsoft Mobile*, No. 15-cv-00723.

4 It is a near sacred tenet of U.S. antitrust law, that the mere exercise of lawfully acquired market power does not give rise to antitrust liability. *See* United States. v. Aluminum Co. of Am. (*Alcoa*), 148 F.2d 416, 430 (2d Cir. 1945) ("The successful competitor, having been urged to compete, must not be turned upon when he wins."). Likewise, the U.S. antitrust agencies note in their IP Guidelines that "[it] is well understood that exercise of monopoly power, including the charging of monopoly prices, through the exercise of a lawfully gained monopoly position will not run afoul of the antitrust laws." U.S. Dep't Of Justice & Fed. Trade Comm'n, Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation And Competition 1 (2007), https://www.ftc.gov/sites/default/files/documents/reports/antitrust-enforcement-and-intellectual-property-rights-promoting-innovation-and-competition-report.s.department-justice-and-federal-trade-commission/p040101promotinginnovationandcompetitionrpt0704.pdf.

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

6 On the significant procompetitive benefits of standardization, see Broadcom Corp. v. Qualcomm Inc., 501 F.3d 297, 308–09 (3d Cir. 2007).

7 *ETSI Rules of Procedure, Annex 6: ETSI Intellectual Property Rights Policy*, ETSI §§ 3.1–3.2 (Nov. 19, 2014), http://www.etsi.org/images/files/ipr/etsi-ipr-policy.pdf.

8 *See* Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 Calif. L. Rev. 1889, 1909 (2002) ("Because the IP policies are at base agreements by members of the SSO to abide by certain rules regarding IP ownership, their enforceability is initially a question of contract law."); Koefoot v. Am. Coll. of Surgeons, 692 F. Supp. 843, 860 (N.D. Ill. 1988) ("Under Illinois law the members of voluntary associations and the associations themselves are contractually bound to follow the bylaws, rules, and regulations of the association. By joining the association, a member accepts this obligation as a condition of membership. By accepting the member into the association, the association accepts this obligation as a limitation on its ability to impair the member's status.").

9 *See* Ericsson, Inc. v. D-Link Sys., Inc., 773 F.3d 1201, 1226 (Fed. Cir. 2014) ("The essential requirement is that the ultimate reasonable royalty award must be based on the incremental value that the patented invention adds to the end product.").

10 Allied Tube & Conduit Corp. v. Indian Head, Inc., 486 U.S. 492 (1988).

11 Complaint, Union Oil Co. of Cal. (*Unocal*), FTC Docket No. 9305, 2003 WL 1190102 (Mar. 4, 2003); Complaint, Rambus Inc., FTC Docket No. 9302, 2002 WL 1436415 (June 18, 2002).

12 *See* FTC Proposed Consent Agreement with Analysis to Aid Public Comment in J Walter Thompson U.S.A. Inc., 60 Fed. Reg. 39,396, 39,399 n.3 (Aug. 2, 1995) http://www.gpo.gov/fdsys/pkg/FR-1995-08-02/pdf/95-18954.pdf (noting the uncertainties concerning the precedential value of prior consent orders).

13 Joseph Farrell et al., *Standard Setting, Patents, and Hold-Up*, 74 Antitrust L.J. 603, 609 (2007) ("This is not merely a private contracting problem, but an antitrust problem. It concerns the inefficient acquisition of market power that harms consumers; more fundamentally, deceiving buyers or keeping them in the dark about the terms on which a technology will be available subverts the competitive process.").

14 In *NYNEX*, the Supreme Court unanimously held that the mere presence of an anticompetitive motive, even fraud that allowed a monopolist to raise prices, did not constitute a Sherman Act violation in the absence of harm to the competitive process. NYNEX Corp. v. Discon, Inc., 525 U.S. 128, 135 (1998). Based largely on the reasoning in *NYNEX*, the D.C. Circuit reversed the FTC's *Rambus* finding and held that both deception during the standard-setting process and harm to competition were requisite elements of an antitrust violation. *Rambus*, 522 F.3d at 464 ("Deceptive conduct—like any other kind—must have an anticompetitive effect in order to form the basis of a monopolization claim. . . . Even if deception raises the price secured by a seller, but does so without harming competition, it is beyond the antitrust laws' reach.").

15 *Rambus*, 522 F.3d at 466.

16 *Id.*

17 *Broadcom*, 501 F.3d at 314.

18 *Rambus*, 522 F.3d at 466.

19 Negotiated Data Solutions LLC (*N-Data*), FTC File No. 051-0094, 2008 WL 258308 (Jan. 22, 2008). *N-Data* involved an alleged breach by an acquirer of SEPs of the ex ante licensing commitments made by their earlier patent owner in an effort to increase royalty rates. The dissents of Chairman Majoras and Commissioner Kovacic made clear that there was no allegation of deceit during the standard-setting process. Dissenting Statement of Chairman Deborah P. Majoras, *N-Data*, FTC File No. 051-0094, 2008 WL 258308 (Jan. 22, 2008); Dissenting Statement of Commissioner William E. Kovacic, *N-Data*, FTC File No. 051-0094, 2008 WL 258308.

20 Analysis of Proposed Consent Order to Aid Public Comment at 45, Motorola Mobility LLC and Google Inc., FTC File No. 121-0120, 2013 WL 124100 (Jan. 3, 2013) (emphasis added). Notably, while the term "opportunistic conduct" was left undefined, it is apparent from the facts of that case that it *did not* include Motorola/Google's practice of seeking royalties on the end-device product.

21 *See also* ChriMar Sys., Inc. v. Cisco Sys., Inc., 72 F. Supp. 3d 1012, 1018–19 (N.D. Cal. 2014); Apple Inc. v. Samsung Elecs. Co., No. 11-CV-01846-LHK, 2011 WL 4948567, at *6 (N.D. Cal. Oct. 18, 2011).

22 Joseph Kattan, *FRAND Wars and Section 2*, Antitrust, Summer 2013, at 32 (emphasis added).

23 George S. Cary et al., *The Case for Antitrust Law to Police the Patent Holdup Problem in Standard Setting*, 77 Antitrust L.J. 913, 943 (2011).

24 Fiona M. Scott-Morton, Deputy Ass't Att'y Gen., Antitrust Div., U.S. Dep't of Justice, Remarks at the Charles River Associates Annual Brussels Conference: The Role of Standards in the Current Patent Wars 5 (Dec. 5, 2012), http://www.justice.gov/atr/public/speeches/289708.pdf.

25 Fiona Scott Morton & Carl Shapiro, Patent Assertions: Are We Any Closer to Aligning Reward to Contribution?, 25 (May 31, 2015), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2613189.

26 Farrell et al., *supra* note 13, at 603–04.

27 *Id.* at 604.

28 Complaint at 4, *Asus*, No. 15-CV-01716.

29 Complaint at 2 & 9, *Microsoft Mobile*, No. 15-cv-00723-RGA.

30 *Id.* at 17.

31 Joseph Kattan, *The Next FRAND Battle: Why the Royalty Base Matters*, CPI Antitrust Chron., Winter 2015, Vol. 3, No. 1, at 2.

32 Kattan, *supra* note 22, at 31–32.

33 *Ericsson*, 773 F.3d at 1226.

34 *Id.*

35 LaserDynamics, Inc. v. Quanta Computer Inc., 694 F.3d 51, 67–68 (Fed. Cir. 2012), which did not involve standard essential patents, is generally recognized as the leading case barring the use of too high a royalty base—even if mathematically offset by a "low enough royalty rate." The Court accepted the concern that use of the end product as the royalty base "carries a considerable risk" of misleading a jury into overcompensating, stating that such a base "cannot help but skew the damages horizon for the jury" and "make a patentee's proffered damages amount appear modest by comparison."

36 IEEE-SA Standards Board Bylaws, § 6.1, http://standards.ieee.org/develop/policies/bylaws/sect6-7.html.

37 DOJ Business Review Letter to Michael A. Lindsay, Esq. on Behalf of IEEE 12, 14 (Feb. 2, 2015), http://www.justice.gov/atr/public/busreview/311470.pdf [hereinafter 2015 IEEE Letter]. The DOJ explained that "[t]he Update's Reasonable Rate definition provides additional clarity regarding the IEEE RAND Commitment, which could help speed licensing negotiations, limit patent infringement litigation, enable parties to reach mutually beneficial bargains that appropriately value the patented technology, and lead to increased competition among technologies for inclusion in IEEE standards."

38 Kattan, *supra* note 22, at 32 (emphasis added).

39 *Interview with Renata Hesse, Deputy Ass't Att'y Gen., Antitrust Div., U.S. Dep't of Justice* 2, Antitrust Source (Apr. 2015), http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/apr15_hesse_intrvw_4_22f.authcheckdam.pdf; *see also* Bill Baer, Ass't Att'y. Gen., Antitrust Div., U.S. Dep't of Justice, Remarks as Prepared for Delivery at the 41st Annual Conference on International Antitrust Law and Policy: International Antitrust Enforcement: Progress Made; Work to Be Done 7–8 (Sept. 12, 2014), http://www.justice.gov/atr/file/517736/download.

40 *Rambus Inc.*, 522 F.3d 456.

41 *In re* Certain Wireless Devices with 3G and/or 4G Capabilities and Components Thereof, Inv. No. 337-TA-868, 114 (June 13, 2014), http://essentialpatentblog.wp.lexblogs.com/wp-content/uploads/sites/234/2014/07/2014.06.26-Initial-Determination-on-Violation-PUBLIC-337-TA-868smMRC.pdf (ALJ Initial Determination) ("There is no risk to the exploiter of the technology in not taking a license before they exhaust their litigation options if the only risk to them for violating the agreement is to pay a FRAND based royalty or fee. This puts the risk of loss entirely on the side of the patent holder, and encourages patent hold-out, which is as unsettling to a fair solution as any patent hold up might be.").

42 Edith Ramirez, Chairwoman, Fed. Trade Comm'n, Address at 8th Annual Global Antitrust Enforcement Symposium: Standard-Essential Patents and Licensing: An Antitrust Enforcement Perspective 9–11 (Sept. 10, 2014).

43 *See* Bill Baer, Ass't Att'y Gen., Antitrust Div., U.S. Dep't of Justice, Remarks at the 19th Annual International Bar Association Competition Conference: Reflections on the Role of Competition Agencies When Patents Become Essential (Sept. 11, 2015), http://www.justice.gov/opa/speech/assistant-attorney-general-bill-baer-delivers-remarks-19th-annual-international-bar.

44 *See, e.g.*, *In re* Innovatio IP Ventures, LLC Patent Litig., No. 11 C 9308, 2013 WL 5593609, at *4 (N.D. Ill. Oct. 3, 2013) (citing *In re* Innovatio IP Ventures, LLC Patent Litig., 921 F. Supp. 2d 903, 907 (N.D. Ill. 2013)); Microsoft Corp. v. Motorola, Inc., 854 F. Supp. 2d 993, 999 (W.D. Wash. 2012); Apple, Inc. v. Motorola, 886 F. Supp. 2d 1061, 1083–84 (W.D. Wis. 2012).

45 Ericsson Inc. v. D-Link Sys., Inc. (Ericsson JMOL Order), No. 6:10-cv-473, 2013 WL 4046225, at *25 (E.D. Tex. Aug. 6, 2013) (reversed on other grounds). *See* U.S. District Judge Robart's comments in *Microsoft v. Motorola* that "initial offers do not have to be on RAND terms so long as a RAND license eventually issues." Microsoft Corp. v. Motorola, Inc., No. 2:10-cv-01823JLR, 2013 WL 2111217, at *2 (W.D. Wash. Aug. 12, 2013).

46 Bruce H. Kobayashi & Joshua D. Wright, *Federalism, Substantive Preemption, and Limits on Antitrust: An Application to Patent Holdup*, 5 J. Competition L. & Econ. 469, 510 (2009).

47 Microsoft Corp. v. Motorola, Inc., 795 F.3d 1034 (9th Cir. 2015).

48 Kobayashi & Wright, *supra* note 46, at 511.

49 Anne Layne-Farrar, *Patent Holdup and Royalty Stacking Theory and Evidence: Where Do We Stand After 15 Years of History?*, OECD 2 (Dec. 2014), http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DAF/COMP/WD(2014)84&doclanguage=en ("Despite the 15 years proponents of the theories have had to amass evidence, the empirical studies conducted thus far have not shown that holdup or royalty stacking is a common problem in practice.").

50 *Ericsson*, 773 F.3d at 1227 (emphasis added).

51 Commonwealth Sci. and Indus. Research Org. v. Cisco Sys., Inc., No.6:11-cv-343, 2014 WL 3805817, at *11 (E.D. Tex. July 23, 2014).

52 *Ericsson*, 773 F.3d at 1226 (emphasis added).

53 Fed. Trade Comm'n, The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition 212 (2011) (recommending that "Courts should identify as the appropriate base that which the parties would have chosen in the hypothetical negotiation as best suited for accurately valuing the invention.").

54 *In re* Certain Electronic Devices with 3G and/or 4G Capabilities and Components Thereof, Inv. No. 337-TA-794, 60 n.19 (July 5, 2013), http://www.essentialpatentblog.com/wp-content/uploads/sites/234/2013/07/337-TA-794-Comm-Opinion-Public-ANNOTATED.pdf (Comm'n Opinion). Note that the later Office of the U.S. Trade Representative policy letter in August 2013 clarified that it did not "revisit the Commission's legal analysis or its findings based on its record" and that the letter was "not an endorsement or a criticism of the Commission's decision or analysis." Therefore, the above quote was untouched by the letter. Letter from Michael B.G. Froman, Ambassador, U.S. Trade Rep., to Irving A. Williamson, Chairman, U.S. Int'l Trade Comm'n (Aug. 3, 2013), https://ustr.gov/sites/default/files/08032013%20Letter_1.PDF. *See also Ericsson JMOL Order*, no. 6:10-cv-473, 2013 WL 4046225, at *24 ("There is nothing inherently wrong or unfair with Ericsson's practice of licensing 'fully compliant' products, and they gave notice of this position in their initial letter of assurance. Further, other large companies have adopted similar policies of only licensing fully compliant products.").

55 Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301 (Fed. Cir. 2009).

56 *Id.* at 1339.

57 Press Release, Ericsson, Wireless Industry Leaders commit to framework for LTE technology IPR licensing (Apr. 14, 2008), http://www.ericsson.com/news/1209031.

58 Eric Stasik, *Royalty Rates and Licensing Strategies for Essential Patents on LTE (4G) Telecommunication Standards* 114–19, Les Noucelles, Sept. 2010, http://www.investorvillage.com/uploads/82827/files/LESI-Royalty-Rates.pdf.

59 Although beyond the scope of this article, it should also be noted that end-device licensing makes rational business sense for both licensor and licensee and, thus, grew to become standard industry practice. As Richard Stark explains, end product licensing is also more economically efficient: "[t]he reasons are simple. Device makers want freedom of action, and thus it makes sense, especially when dealing with a major patent holder, to insist on a license to all patents that could conceivably read on any aspect of the manufacturer's devices. The simplest and most expedient way to achieve this is . . . in an exchange for an agreed-upon price, the licensor include all his patents." Richard Stark, *Debunking the Smallest Salable Unit Theory*, CPI Antitrust Chron., Summer 2015, Vol. 7, No. 2, at 6.

60 Julio Bezerra et al., *The Mobile Revolution: How Mobile Technologies Drive a Trillion-Dollar Impact*, Boston Consulting Grp. (Jan. 15, 2015), https://www.bcgperspectives.com/content/articles/telecommunications_technology_business_transformation_mobile_revolution/ ("To ensure that the mobile revolution continues and expands, policymakers must support an environment that fosters innovation and investment . . . . Strong patent pro-

tection is needed to encourage large and risky investments in mobile technology innovation. Market-driven licensing is vital in order to ensure that technology innovations can be widely shared with others in the industry . . . . Weakening patent protection, intervening in the industry-driven standards-setting process, or curtailing technology licensing will jeopardize the future of mobile.").

[61] Complaint at 1, Motorola Mobility LLC, FTC File No. 121-0120, 2013 WL 3944149; *see also* Complaint at 5, *N-Data*, FTC No. 051-0094, 2008 WL 2583082 ("acts and practices . . . were and are to the prejudice and injury of consumers . . . .").

[62] Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 407 (2004) (emphasis added).

[63] *See* Baer, *supra* note 39, at 7–8.

[64] Bernhard Ganglmair, Luke M. Froeb & Gregory J. Werden, *Patent Hold Up and Antitrust: How a Well-Intentioned Rule Could Retard Innovation*, 60 J. Indus. Econ. 2, 249 (2012); *see also* Luke Froeb & Mikhael Shor, *Innovators, Implementers, and Two-Sided Hold-Up*, Antitrust Source, Aug. 2015, http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/aug15_froeb_7_21f.authcheckdam.pdf.

[65] Froeb & Shor, *supra* note 64, at 3.

[66] *Id.*