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### Restoring Deterrence: The Case for Enhanced Damages in a No-Injunction Patent System

(Forthcoming in *5G and Beyond: Intellectual Property and Competition Policy in the Internet of Things* (eds. Jonathan M. Barnett and Sean M. O'Connor, Cambridge University Press 2022))

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RESTORING DETERRENCE: THE CASE FOR ENHANCED DAMAGES  
IN A NO-INJUNCTION PATENT SYSTEM

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**ABSTRACT.** Since the Supreme Court's 2006 decision in *eBay, Inc. v. MercExchange, LLC*, increasingly large portions of the patentee population have no realistic expectation of securing injunctive relief against adjudicated infringers. This judicially imposed quasi-compulsory licensing regime induces well-resourced infringers to decline a license, appropriate patented technology, and negotiate the terms of use through litigation. Costly and protracted litigation is unlikely to adequately remunerate the patent owner whenever infringers have greater litigation resources, lower opportunity costs, and limited expectations of enhanced damages, which can induce the patent owner to settle for an amount that undervalues its technology. These litigation and settlement dynamics are illustrated through case studies of "holdout" tactics employed by well-resourced infringers in recent litigations involving standard-essential patents. To correct for the underdeterrence and undercompensation effects inherent to a no-injunction regime, it is proposed that courts enhance damages by an appropriately calibrated multiplier in all infringement litigations in which injunctive relief is not a practically available remedy.

**KEYWORDS:** Patents; standard-essential patents; injunctions; patent hold-out; enhanced damages; willful infringement.

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## I. INTRODUCTION

In May 2006, the U.S. Supreme Court issued a decision that dramatically changed the landscape of patent enforcement, and with it the respect paid to patent rights. In *eBay, Inc. v. MercExchange, LLC*<sup>1</sup>, the Court departed from the long-standing principle that a patent owner is presumptively entitled to an injunction once it defends validity and demonstrates infringement. While the decision was unanimous, it produced two concurring opinions, one of which (authored by Chief Justice Roberts) emphasized the historical practice of usually granting injunctions to prevailing patentees and the other of which (authored by Justice Kennedy) emphasized that non-practicing entities (“NPEs”) abuse patent litigation to “hold up” users<sup>2</sup> for windfall payouts. In post-*eBay* case law, the latter opinion has not only prevailed but been applied expansively. As a result, proliferating categories of patent owners, extending significantly beyond NPEs, no longer have any reasonable expectation of securing an injunction against infringers.

In this contribution, we ask a simple question. If a patent owner has no or a low expectation of securing injunctive relief against infringers, is it necessary to enhance damages for infringement to fully compensate the patent owner and deter infringement?

The Kennedy concurrence, and the bulk of the post-*eBay* case law, has implicitly answered this question in the negative. Courts have generally adopted the view that a patent licensing entity (or even an operational entity in certain circumstances) is made whole by monetary damages appropriately calculated based on the “reasonable royalty” standard. We contest this reasoning. For patent owners that have no realistic expectation of securing injunctive relief, reasonable royalty damages must be enhanced to achieve full compensation and deter infringement. This is true even if a court could calculate without error reasonable royalty damages in a hypothetical willing buyer-willing seller negotiation. So long as the infringer is sufficiently well-resourced (and can therefore fund a prolonged litigation), and there is a sufficiently low likelihood that the court will shift attorneys’ fees or award treble damages, the infringer will usually find that agreeing to pay a license fee for use of a patented technology is economically irrational. Absent concerns about preserving goodwill with business partners, the infringer is better off using the technology and effectively negotiating the royalty rate through the litigation and settlement process, with some possibility that the patent will be invalidated altogether.

This reasoning is not merely theoretical. As we show through case studies of selected litigations involving owners of standard-essential patents (“SEPs”), for whom the likelihood of securing injunctive relief approaches zero, device makers and other intermediate users adopt the “use, then litigate” strategy, rather than paying a license fee up front. This behavior has an important implication. Rather than reducing patent litigation, a judicial standard that eliminates or significantly limits the availability of injunctive relief encourages infringement, promotes stalling tactics by users, and therefore *increases* litigation. These counterproductive effects are exacerbated in cases where infringers have greater litigation funding and lower opportunity costs than patent owners, who may settle for an amount that undervalues the patented technology or, by anticipation, never bother to enter the market at all. Contrary to the Kennedy concurrence and much of the post-*eBay* case law, a no-injunction regime is unlikely to leave patent owners—even a patent owner that relies

principally on licensing revenues—in an economically equivalent position. So long as litigation is costly and uncertain and the risks of fee-shifting and treble damages are low, infringers have weak incentives to agree to a license and, depending on litigation resources and opportunity costs, patent owners are likely to agree to undercompensatory settlements. Given that all licensing takes place “in the shadow” of potential infringement remedies, a no-injunction regime with a low likelihood of enhanced damages is prone to distort even negotiated royalty rates to the advantage of licensees.

To translate our analysis into an immediately actionable policy proposal, we assume that neither the Supreme Court nor Congress is likely to take action to restore the historical presumption favoring injunctive relief for prevailing patent owners. Given this background assumption, we propose that, in any infringement litigation in which the injunction remedy is unlikely to be granted as a matter of law or practice, courts should apply a multiplier to enhance the monetary damages owing to the patentee under the reasonable royalty standard. The multiplier is designed to mitigate or correct the underdeterrence and undercompensation effects of a no-injunction regime by making even a well-resourced infringer worse off by electing to infringe (and invite litigation) rather than negotiating a license fee up-front. Additionally, we discuss how courts can set the multiplier at an appropriate level to minimize any overcompensation and overdeterrence effects under an enhanced-damages regime. While this proposal departs from current doctrine by using a damages multiplier in the conventional rather than exceptional case (in infringement litigation without an injunction option), it is consistent (as we explain in Section 3) with the original purpose of treble damages in U.S. patent law—namely, to compensate patentees who were unable to petition for injunctive relief (due to procedural reasons that are now obsolete). Post-*eBay* case law has placed increasingly large portions of the patentee population in the same position.

Our discussion is organized as follows. In Section 2, we discuss in theory how a no-injunction regime induces “efficient infringement” by users, resulting in undercompensation and underdeterrence effects in a wide range of circumstances. In Section 3, we provide brief case studies of selected litigations, showing how well-resourced infringers act strategically to defer negotiation and payment of license fees to patent owners that cannot credibly threaten to secure an injunction remedy. In Section 4, we present our proposed adjustment to patent remedies to mitigate undercompensation and underdeterrence effects in a no-injunction regime.

## II. *EBAY* AND “EFFICIENT” INFRINGEMENT

### A. *The Disappearance of the Patent Injunction*

To fully appreciate the *eBay* decision, it is helpful to recall the context in which it was rendered.

A few months prior to the *eBay* decision, Research in Motion (more commonly known as “RIM”), the maker of the then-ubiquitous Blackberry device, had agreed to a \$612 million settlement of a patent infringement litigation brought by NTP, Inc. a NPE co-founded by an individual inventor. The litigation and settlement had been widely reported as a windfall for the patent owner who reportedly “held up” RIM by threatening to shut down the Blackberry

network given the lack of an immediately available design-around for the infringing component. Given this characterization, it might naturally follow that, at least in certain circumstances, injunctions should be limited in order to deter patent owners from engaging in opportunistic litigation and settlement strategies. This was precisely the motivating principle behind the *eBay* decision, issued later that same year.

Following the law of unintended consequences (at least for the four Justices who supported the decision but did not sign on to the Kennedy concurrence), the *eBay* decision has been applied expansively by the lower courts to encompass proliferating categories of patent owners that are perceived to pose an elevated hold-up risk. With some qualification in specific cases, there is now generally a low likelihood that NPEs, SEP owners, and the owners of patents on components of a larger complex product can secure injunctive relief. It should be noted that the latter two categories encompass significant portions of the information technology markets. Even in a patent infringement litigation involving Apple and Samsung, two operating companies in head-to-head competition, the district court initially denied Apple even a phased-in “sunset” injunction on the grounds that, under the *eBay* test, “the principles of equity do not support an injunction.” While the district court’s decision was ultimately overturned by the Federal Circuit, it nonetheless illustrates the extent to which *eBay* has been applied well beyond the limited circumstances in which at least some members of the Court most likely envisioned their decision would alter patent remedies.

#### B. *The Normalization of Patent Infringement*

Any license can be understood as a preemptive settlement of a potential infringement litigation. Hence the impact of *eBay* (or more precisely, post-*eBay* case law) extends well beyond the remedies issued in infringement litigation and permeates everyday licensing and other transactions involving patent-protected assets. Even if litigation is infrequent, sophisticated business parties must take into account whether there is any credible threat that the patent owner could ultimately secure an injunction against an infringing user. Generally speaking, the greater the threat of an injunction, the greater the bargaining leverage enjoyed by the patent owner in negotiating license terms, and *vice versa*. Given the limited availability of injunctive relief under post-*eBay* case law (and assuming that treble damages are a low-probability outcome), firms that are primarily users of patented technology may often, if not typically, conclude that the expected net payoff from infringement exceeds the expected net payoff from negotiating and paying an up-front license fee. While eliminating injunctive relief may deter patent owners from adopting hold-up strategies that can yield settlement payouts that overvalue the relevant technology, it encourages well-resourced users to adopt hold-out strategies that lead to license fees that undervalue the relevant technology. In effect, *eBay* has rendered patent infringement a rational business strategy for significant categories of intermediate users.

We can identify more precisely the conditions under which this “use, then maybe litigate” strategy will be preferred by users versus a “license, then use” strategy in a no-injunction regime. These conditions are as follows:

1. It is costly for the user to acquire or develop a design-around substitute for the patented technology.

2. The user has sufficient resources to fund a prolonged infringement litigation.
3. The user will retain access to, and therefore derive revenues or other economic benefits from use of, the patented technology during the litigation.
4. There is a sufficiently low likelihood that a court would award attorneys' fees or treble damages.
5. Reasonable royalty damages are likely to approximate, or at least will not exceed significantly, the royalty that the user and the patent owner would likely negotiate prior to entering into litigation.

If at least some of these conditions are satisfied, the user is likely to conclude that infringement delivers a higher expected net payoff than agreeing to a license and avoiding the risks and costs of an extended litigation with the patent owner. The rationale is as follows. By electing to invite litigation, rather than settle it preemptively through a negotiated license, the user incurs the direct and indirect costs of litigation but, in exchange, “purchases” the opportunity to either invalidate the patent entirely (in which case the royalty falls to zero) or negotiate a reduced or equivalent royalty rate. Even in the scenario in which the patent owner ultimately prevails on liability, the conditions above (in particular, the low likelihood of treble damages and fee-shifting) imply that the user can expect to pay a damages award equal to the royalty fee it would have incurred initially, plus pre-judgment interest (if included<sup>3</sup>). The only incremental cost incurred by the infringer are attorneys' fees, which constitute a fee paid by the user for the opportunity to reduce or eliminate the royalty rate through the litigation and settlement process.

The likelihood that infringement outperforms licensing increases if the user is a more “patient” litigator than the patent owner. This will be the case if the user has substantially greater resources to fund litigation as compared to the patent owner and the patent owner relies substantially on licensing revenues from the patented technology. Moreover, given the absence of any risk of preliminary injunctive relief, the infringer extracts revenues and other economic benefits from use of the patented technology while the patent owner, who incurred the costs of developing the technology (or acquiring the patent covering the technology), receives nothing. Assuming this asymmetry in both litigation resources and opportunity costs—up to and including insolvency on the part of the patent owner—bargaining leverage shifts to the infringer in any settlement discussions that take place concurrently with litigation, likely resulting in a negotiated royalty that is lower than the amount that would be awarded in a fully adjudicated litigation or would have been awarded in a pre-litigation negotiation.

These observations have an important implication for the ultimate consequences of the limitations on injunctive relief that have arisen in post-*eBay* case law. While *eBay* may have identified a situation in which the availability of injunctive relief can enable a patent owner to secure an “overvalued” royalty from a well-resourced user, the *unavailability* of injunctive relief sometimes enables a well-resourced user to negotiate an “undervalued” royalty with the patent owner. Unless there is reason to believe that patent owners are systematically securing royalty rates that are excessive relative to a socially optimal royalty rate<sup>4</sup>, this is clearly an inefficient state of affairs that runs counter to the public interest in providing a level playing

field for open-market negotiation of royalty rates for IP assets among willing licensors and licensees.

### C. Existing Damages Enhancements

The likelihood that infringement will be privately efficient for the user, as compared to negotiating and paying a license fee up-front, depends whether a user has a sufficiently low expectation of being held liable for damages enhancements, such as a court shifting attorney fees or applying a multiplier to a reasonable royalty damages award. As discussed below, this result is consistent with applicable case law, which emphasizes that these tools are reserved for exceptional cases, and available data, which shows that an informed infringer should anticipate a low likelihood of financial exposure to damages enhancements.

#### 1. Attorney Fees

Civil litigation in U.S. courts has a long-standing commitment against shifting attorney fees to the losing party. Patent law shares this commitment. The patent statute provides that “the court in *exceptional* cases may award reasonable attorney fees to the prevailing party” (35 U.S.C. §285, our emphasis). In 2005, the Federal Circuit set a high bar for shifting fees. Specifically, the court held that a court may only award attorney fees “if both (1) the litigation is brought in subjective bad faith, and (2) the litigation is objectively baseless.”<sup>5</sup> Additionally, the court clarified that litigation is objectively baseless only if it is “so unreasonable that no reasonable litigant could believe it would succeed,” and that litigation is made in subjective bad faith if the plaintiff “actually know[s] that it is objectively baseless.”<sup>6</sup> In *Octane Fitness, LLC v. Icon Health & Fitness, Inc.*, decided in 2014, the Supreme Court rejected this standard, holding that a case is “exceptional” and therefore merits fee-shifting when the case “stands out from others with respect to the substantive strength of a party’s litigating position . . . or the unreasonable manner in which the case was litigated.”<sup>7</sup> While the Court’s decision provides courts with some additional latitude to award attorney fees, a prevailing litigant seeking to shift its fees to the other litigant still faces significant hurdles and fee-shifting remains an atypical outcome in patent infringement litigation. Moreover, fee-shifting is most often applied in favor of prevailing defendants, so if anything, in the aggregate it would tend to encourage users to litigate rather than take licenses.<sup>8</sup>

#### 2. Treble Damages

The patent statute provides that a “court *may* increase the damages up to three times the amount found or assessed” (35 U.S.C. §284, our emphasis).<sup>9</sup> While not stated in the statute, courts have widely required a finding of willfulness as a predicate condition for even considering whether to exercise the statutory option to award enhanced damages.<sup>10</sup> Critically, a willfulness finding is a predicate condition for *considering*, not *awarding*, enhanced damages. Hence, it is entirely possible (and common) that a court may decline to award enhanced damages even if willfulness has been found. Moreover, as discussed below, it is entirely possible (and again common) that a court may select a damages multiplier that is *less than* three times the damages amount.

The evidentiary threshold for showing willfulness has varied. In a 1983 opinion, *Underwater Devices Inc. v. Morrison-Knudsen Co.*, the Federal Circuit lowered the threshold by holding that the willfulness standard implied that a potential infringer had “an affirmative duty to exercise due care to determine whether or not he is infringing.”<sup>11</sup> In a 2007 opinion, *In re Seagate Tech LLC*, the Federal Circuit rejected this standard and raised the bar for finding willfulness, adopting a two-part test that required patentees to show that (1) “the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent” and (2) the risk of infringement “was either known or so obvious that it should have been known to the accused infringer.”<sup>12</sup> In 2016, the Supreme Court rejected the *Seagate* test in *Halo Electronics, Inc. v. Pulse Electronics, Inc.*, emphasizing that the statute “gives district courts the discretion to award enhanced damages against those guilty of patent infringement.”<sup>13</sup> Yet the shift put in place by the *Halo* decision should not be exaggerated. Addressing arguments that the *Seagate* standard had protected inadvertent infringers from treble damages, the Court emphasized that the lower courts’ exercise of discretion under §284 should be guided by the “sound legal principles developed over nearly two centuries of application and interpretation of the Patent Act.”<sup>14</sup> Additionally, the Court emphasized that treble damages “are not to be meted out in a typical infringement case, but are instead designed as a ‘punitive’ or ‘vindictive’ sanction for egregious infringement behavior.”<sup>15</sup> As we discuss subsequently, a 2021 Federal Circuit decision, *SRI International Inc. v. Cisco Systems*<sup>16</sup>, appears to heighten the standard for finding willfulness consistent with the guidance set forth in *Halo*.

Empirical studies of judicial determinations of willfulness and enhanced damages in infringement litigation show that these determinations are sensitive to the governing threshold for finding willfulness.<sup>17</sup> During 1983 to 1999, when willful infringement was determined under the plaintiff-friendly “affirmative duty” standard, juries found willfulness in 71% of litigations in which they considered the issue and judges found willfulness in 53% of litigations in which they considered the issue.<sup>18</sup> Among litigations that found willfulness, enhanced damages were awarded 63% of the time if a jury found willfulness and 95% of the time if a judge found willfulness.<sup>19</sup> In the aggregate, this data implies that, out of all fully adjudicated infringement trials during this period, 18% reached a positive willfulness determination and 12% then resulted in enhanced damages.<sup>20</sup> In the three years prior to the 2007 *Seagate* decision (September 2004 to August 2007), which adopted the more demanding “objective recklessness” standard, courts had found willfulness in 48.2% of litigations in which they considered the issue, compared to 37.2% in the three years after *Seagate* (August 2007 to July 2010).<sup>21</sup> Following the 2016 *Halo* decision, which rejected *Seagate* and lowered the threshold for finding willfulness (but without reverting to the *Underwater Devices* “affirmative duty” standard), there was again an increase in willfulness findings and enhanced damages awards. Out of all district-court litigations that determined willfulness and enhanced damages during December 2013 to December 2018, the percentage of such decisions that found willfulness increased after *Halo* (decided in June 2016) from 22.8% to 55.7% and the percentage of such decisions that awarded enhanced damages increased from 10.1% to 29%.<sup>22</sup>

It is important to emphasize that the likelihood that a *fully adjudicated infringement suit* will result in an enhanced damages award is inherently greater, and almost certainly



significantly greater, than the likelihood that a *filed infringement suit* or a *particular act of infringement* will ultimately result in enhanced damages. There are several reasons why this would be the case: (1) the patent owner may not bring suit due to lack of knowledge, resources, or economic interest, (2) the patent owner brings suit but the parties settle (probably the most common outcome), or (3) the parties do not settle but the defendant prevails on invalidity, non-infringement, or other grounds so damages are a moot issue.<sup>23</sup> Even among cases that do not settle, the likelihood of enhanced damages is limited since adjudicated patent litigations only result in a finding of infringement liability about one-third of the time on average. During 1998-2017, only 34% of all patent litigations that proceeded to a final decision resulted in a finding of infringement<sup>24</sup>, of which (as shown by the data discussed above) a minority then resulted in both a willfulness finding and enhanced damages. Since the vast majority of filed infringement suits never reach adjudication (approximately 94% based on one estimate)<sup>25</sup>, an infringer faces an insignificant likelihood of incurring an enhanced damages award at the time an infringement suit is filed (even without discounting for the less than certain likelihood that a patent owner will detect infringement and elect to bring suit in response).

While these estimates are necessarily imprecise to some extent and may vary on a case-specific basis depending on the strength of a particular infringement claim and the litigation resources available to a patent owner, it is nonetheless clear that informed infringers can in general anticipate a low likelihood of enhanced damages liability when electing whether to infringe upon, or take a license to, a patented technology, or to settle a patent infringement suit. Those expectations are consistent with our theoretical analysis that a prospective licensee in a no-injunction environment will expect that an infringement litigation would most likely result in either (1) zero liability (due to a finding of invalidity or noninfringement) or (2) a damages award approximately equivalent to the royalty rate that would have been paid in a negotiated transaction (plus prejudgment interest if awarded), in each case, excluding the infringer's legal fees. These anticipated outcomes of a fully adjudicated litigation in turn impact settlement outcomes, which can even result in a settlement amount that leaves the infringer better off than if it had agreed initially to pay a royalty, given the fact that settlements do not typically include pre-judgment interest to reflect the time value of money.<sup>26</sup> So long as the infringer is willing to bear the expected legal fees (which deliver a potential gain in the form of a zero royalty rate due to a finding of invalidity or noninfringement or a reduced royalty rate by settlement), the incentive to infringe is self-evident.

### III. EFFICIENT INFRINGEMENT IN ACTION

Standard-essential patents (“SEPs”) cover critical technologies behind 3G, 4G/LTE, and now 5G mobile communication standards. It is widely asserted that SEP owners have incentives to “hold-up” potential licensees by demanding exorbitant royalty rates, which would in turn inflate retail prices for consumers at the end of the technology supply chain. To remedy this purported risk (which has yet to be empirically demonstrated), courts and regulators in the U.S., E.U. and other jurisdictions have construed an SEP owner's commitment to “fair, reasonable and nondiscriminatory” (“FRAND”) licensing as implying a

waiver by the SEP owner of its right to seek injunctive relief against infringers in most circumstances. As a result, SEP owners can only credibly threaten infringers with the prospect of monetary damages determined by a court based on a “reasonable royalty” standard (for which there are in turn a variety of calculation methodologies). Hence, SEP owners operate under the equivalent of the no-injunction regime imposed by *eBay* and post-*eBay* case law.

This nearly complete ban on injunctive relief for SEP owners logically incents well-resourced users to “hold -out” by stalling licensing negotiations and compelling patentees to bear the costs and delay involved in pursuing litigation as a means of securing remuneration for use of their technology. The business case for infringement in a no-injunction environment is compelling. The former head of patent licensing at Apple has explained the logic, stating that “efficient infringement, where the benefits outweigh the legal costs of defending against a suit, could almost be viewed as a ‘fiduciary responsibility,’ at least for cash-rich firms that can afford to litigate without end.”<sup>27</sup>

To explore these strategies in more detail (within the scope of this contribution), we describe below four selected litigations between SEP owners and alleged infringers in U.S. and U.K. courts. In each case, we indicate in parentheses the principal court and the period during which the litigation took place, which provides a sense of the delay involved when pursuing a royalty through infringement proceedings (which in turn often follows a substantial period of licensing negotiations). Each litigation provides qualitative evidence illustrating how the absence of injunctive relief leads device manufacturers to engage in stalling tactics that require patent owners to undertake costly and protracted litigation in an effort to secure a royalty through settlement or adjudication.

#### A. *Core Wireless v. LG* (E.D. Tex., 2014-2016)

In 2014, Core Wireless (a subsidiary of Conversant Intellectual Property Management), the holder of patents relating to user interfaces, battery life, and voice recognition in smartphone devices, brought two infringement suits against LG, a leading manufacturer of tablets, handsets and other electronic devices.<sup>28</sup> When each of the cases went to trial in 2016, Core Wireless prevailed on patent validity and infringement in both litigations and juries awarded Core Wireless \$3.5 and \$2.28 million in damages, respectively.<sup>29</sup> In the second of the two trials, the judge awarded enhanced damages of \$456,000 in light of evidence that LG had “undisputed” knowledge of Core Wireless’s patents and “abruptly terminated” licensing discussions.<sup>30</sup> Specifically, the judge cited weak invalidity and non-infringement defenses and evidence that, after an extended negotiation period, LG had invited Core Wireless representatives to its offices in South Korea purportedly to resolve the matter, but “[r]ather than make an offer or engage in serious, good faith negotiations, LG delivered a terse one-page document stating that a lawsuit at that time between the parties was ‘preferable’ to a license.”<sup>31</sup> Among recent SEP litigations, this is perhaps the only case in which a prospective licensee explicitly adopted a policy of ignoring the patent and inviting litigation, even arguing in court that “infringement is an expected part of the standard-setting model.”<sup>32</sup> This may explain why, to our knowledge, it is the only SEP litigation in which the court awarded enhanced damages. Few implementers are likely to repeat this mistake.

B. *Qualcomm v. Apple* (S.D. Cal., 2017-2019)

This complex sequence of litigations involved Qualcomm, the leading chip supplier and innovator in the wireless communications market, and Apple, one of the world's leading handset device manufacturers and the most valuable brand in this market. In the context of a dispute over "rebate" payments allegedly owed by Qualcomm, Apple sued Qualcomm in January 2017 for engaging in licensing practices that allegedly violated the antitrust laws.<sup>33</sup> In response, Qualcomm filed in May 2017 a breach of contract suit against Apple's contract manufacturers, which had stopped paying fees under their licensing agreements with Qualcomm, purportedly at Apple's direction.<sup>34</sup> In July 2017, Qualcomm filed a patent infringement suit against Apple for use of its patents in certain Apple devices.<sup>35</sup> These litigations took place while the Federal Trade Commission concurrently pursued an antitrust suit against Qualcomm, seeking a dramatic remedy that purported to operate on a worldwide basis and would have required Qualcomm to renegotiate virtually all of its licensing agreements. The result would have been a reengineering of a critical element of the contractual infrastructure behind the global wireless communications industry.

To appreciate the dynamics in the Apple/Qualcomm litigation, it is important to note three key facts. First, the size of Apple, which is regularly ranked as the world's largest or second-largest company by market capitalization, means that it faced virtually no constraints on litigation funding. Second, while Qualcomm derived no revenue from Apple's use of its patent-protected assets during the two-year litigation, Apple enjoyed billions of dollars in revenue through the sale of devices that used and relied upon Qualcomm's technology. Third, given the low likelihood of an injunction, Apple never faced any material prospect that it would be forced to withdraw devices for which it had already incurred the costs of manufacture and distribution.

These factors naturally tilted bargaining leverage in favor of Apple, which effectively made a litigation "investment" in an effort to reduce its input costs (and increase its profit margins) from a technology supplier through the vehicle of an antitrust litigation.<sup>36</sup> For Apple, the costs of the litigation were nominal relative to the potential benefits in the form of reduced royalty fees during the lifetime of the current wireless technology generation. This was not true for Qualcomm, which was deprived during the litigation of a principal revenue stream and, together with the antitrust suit brought against it concurrently by the FTC, faced legal challenges that, if successful, would have threatened the viability of its business model. This asymmetry can be observed in the fact that, following settlement of the Apple/Qualcomm litigation on April 16, 2019, Qualcomm's stock rose 23%, while Apple's stock only rose 1%.<sup>37</sup>

To be clear, Apple's actions are neither nefarious nor surprising; rather, they represent a rational business response to a truncated property-rights environment that favors users over originators of IP assets. As observed by Apple's former head of licensing<sup>38</sup>, a well-resourced user that faces no real threat of injunctive relief is best off infringing and then litigating the royalty rate in court (or settling the rate in the context of litigation), rather than entering initially into a license. In a post-*Ebay* environment, Apple (and any other sufficiently resourced user) would be foolish to do otherwise.

### C. *Unwired Planet v. Huawei* (U.K., 2014-2020)

In 2013, Unwired Planet, the owners of patents relating to wireless communications, approached Huawei, a leading handset manufacturer, to enter into discussions concerning a license agreement for use of Unwired Planet's SEP-protected technology. After several inquiries, Huawei's IP department entered into protracted discussions with Unwired Planet over the terms of a non-disclosure agreement (a straightforward document that is typically uncontroversial). Unable to conduct constructive negotiations with Huawei, Unwired Planet elected to file an infringement suit in March 2014 against Huawei, Samsung and Google for the infringement of six UK-issued patents, including five claimed SEPs. During the litigation, Unwired Planet made several license offers to the defendants. Google and Samsung settled while Huawei made counteroffers but the parties were unable to resolve the dispute.<sup>39</sup>

The court ultimately held that Huawei had infringed two valid patents held by Unwired Planet and, for purposes of damages, calculated the FRAND royalty to which the patent owner was entitled. The court also rejected the view that Unwired Planet had breached its FRAND commitment by initiating infringement litigation and seeking injunctive relief. Most importantly, the court held that, while the FRAND commitment in general precludes SEP owners from seeking injunctive relief, this bar is lifted once the alleged infringer is deemed to be an "unwilling licensee" who acts opportunistically to prolong licensing negotiations.<sup>40</sup> On the basis of this principle (which refines a holding by the European Court of Justice in a 2015 decision<sup>41</sup>), the court issued an injunction against further use by Huawei of the infringed patents, unless Huawei elected to enter into a license based on the FRAND royalty as determined by the court. Upon appeal, the U.K. Supreme Court upheld the lower court's royalty determination and agreed that Unwired Planet had not acted "abusively" given its stated willingness to license upon FRAND-compliant terms.<sup>42</sup> This decision represents one of the few cases in which a court has appreciated seriously the "hold-out" risk faced by innovators that are practically precluded from seeking a legal order to block infringement.

### D. *Optis Wireless v. Apple* (U.K., 2017-present; E.D. Tex. 2019-2021)

Optis Wireless holds patents that have been declared essential to the 4G LTE standard. In 2017, Optis had approached Apple offering a license for use of the patented technology. In February 2019, after two years of unresolved negotiations, Optis Wireless filed suit against Apple for infringement based on alleged use of the patented technology in Apple's iPhone, iPad, and Apple Watch devices.<sup>43</sup> In August 2020, a jury reached a finding of willful infringement and awarded Optis \$506 million in reasonable royalty damages, which did not include a damages enhancement.<sup>44</sup> In light of jury instructions concerning the "FRAND" obligation that were deemed to be defective, the court subsequently ordered a new damages proceeding.<sup>45</sup> In August 2021, that proceeding resulted in a reduced award of \$300 million.<sup>46</sup> The judge declined to award enhanced damages.<sup>47</sup>

Optis concurrently filed infringement suits against Apple in the United Kingdom. In one of these suits, the court found in October 2020 that Optis's patent claims were valid and infringed.<sup>48</sup> Additionally, the court granted Optis's motion for a separate proceeding to determine whether Apple is an "unwilling licensee," on the ground that it has purportedly declined to commit to pay a FRAND-compliant royalty once that royalty is determined

through litigation.<sup>49</sup> Under the *Unwired Planet* decision described above, an “unwilling licensee” finding is the only circumstance in which SEP owners under British law may be entitled to injunctive relief. In September 2021, the High Court stated that Apple may be enjoined from selling the infringing products in the UK market unless it commits up-front to taking a FRAND-compliant license from Optis, the terms of which will be determined at trial.<sup>50</sup> (Apple had previously threatened to withdraw its products out of the British market if the trial resulted in a “commercially unacceptable” royalty award.<sup>51</sup>) As of this writing, this litigation remains pending.

#### IV. HOW TO MAKE EFFICIENT INFRINGEMENT INEFFICIENT

As apparent from both our theoretical analysis and our summary of exemplary cases, a patent regime that eliminates the possibility of injunctive relief but makes no offsetting change in the customary menu of patent remedies—namely, a reasonable royalty award that includes damages enhancement—will inherently result in a combination of undercompensation and underdeterrence effects in a wide range of circumstances. As discussed, qualitative evidence from selected infringement litigations, in which the likelihood of injunctive relief was essentially zero, is consistent with these expectations. In the discussion below, we show that these adverse effects can be significantly mitigated by mandating enhanced damages in cases where patent owners have no realistic expectation of injunctive relief. While the prospect of enhanced damages can give rise to windfall awards that invite opportunistic litigation in specialized circumstances, we show that this adverse effect can be mitigated through appropriate adjustment of the damages multiplier based on existing case law.

##### A. *Historical Background*

The notion that infringers should be subject to enhanced damages is not new.<sup>52</sup> In an amendment made in 1793 to the patent statute (only three years after its original enactment), Congress required that infringers pay damages *at least* equal to three times “the amount the patentee usually received for either selling the patented invention or licensing the invention.”<sup>53</sup> That is: treble damages were mandatory and judges had authority to select an even higher damages multiplier. The amendment is thought to have reflected the fact that injunctions were rarely awarded by federal courts (due in part to the Anti-Injunction Act, which generally precluded federal courts from exercising equitable powers reserved for state courts) and therefore treble damages were deemed necessary to correct for undercompensation.<sup>54</sup> In 1800, the statute was amended to set treble damages as the maximum multiplier. In 1819, Congress allowed federal courts to exercise equitable jurisdiction in all patent cases and, in 1836, the patent statute was amended so that treble damages became a discretionary, rather than mandatory, component of patent damages, as remains the law today. Since that time, changes in the incidence of enhanced damages have arisen as a result of changes in the standards adopted by courts to determine the threshold for finding willfulness and awarding enhanced damages, as discussed above in Section 1.

## B. Mandating Enhanced Damages

Legal scholars have long recognized that supercompensatory damages can be a sound policy tool in cases where the identification and prosecution of individual legal violations is sufficiently costly and would not meet a cost-benefit test. In these circumstances, the “windfall” enjoyed by any individual plaintiff is the price paid to maintain deterrence generally since, without a credible threat of supercompensatory damages, prospective violators would have no rational incentive to comply with the relevant legal obligation. Under a patent regime in which injunctive relief is unavailable and infringers’ maximum “downside” is a reasonable royalty damages award (plus interest if awarded), the patent regime is unlikely to deter infringers with sufficient litigation resources. Absent concerns about preserving goodwill with actual or potential business partners (including the necessity of securing complementary know-how from the patentee), a well-resourced party will rationally choose to use the patented technology and invite the patentee to initiate infringement litigation. As discussed above, this underdeterrence effect is likely to lead to undercompensation where patentees with limited litigation funding or high opportunity costs are prone to agree to royalty rates that undervalue the relevant technology. This is especially likely to be the case with smaller entrants, including disruptive start-ups, universities, and independent inventors. As a broader consequence, a downward distortion in royalty rates would then be expected to arise in *all* licensing negotiations involving patent owners that are effectively ineligible for injunctive relief. This effectively transfers wealth from entities that specialize in generating innovations to well-resourced entities that specialize in using them, a result that runs counter to the policy objective behind the patent system.

Assuming it is not feasible to institute a legal presumption favoring injunctive relief for prevailing patentees (which would require overturning *eBay* by judicial or legislative action), the deterrence and compensatory functions of the patent system can be restored (at least in part) by requiring that courts award enhanced damages in any litigation in which injunctive relief is highly unlikely as a matter of case law or judicial practice. Courts would then select a multiplier based on an adaptation of the “*Read*” factors that courts already use to determine the “egregiousness” of the defendant’s conduct, which in turn impacts whether enhanced damages are awarded and, if so, the size of the selected multiplier.

Some of the most relevant *Read* factors in this context include “whether the infringer deliberately copied the ideas or design of another; whether the infringer, when he knew of the other’s patent protection, investigated the scope of the patent and formed a good-faith belief that it was invalid or that it was not infringed; . . . [d]efendant’s size and financial condition; [and] [c]loseness of the case.”<sup>55</sup> In a typical “efficient infringement” scenario, at least two of these factors would favor selecting a high multiplier for purposes of enhanced damages: the infringer is well-resourced financially and deliberately copies the patentee’s patented technology. The court could then adjust the multiplier upward or downward depending on the extent to which the facts indicated whether the infringer had investigated the scope of the patent and formed a good-faith belief that the patent was invalid. While our proposal goes beyond existing statutory and case law in mandating enhanced damages in all cases in which injunctive relief is not practically available, the factors that would be used to calibrate the multiplier largely track the existing *Read* factors and arguably encompass the “affirmative

duty” standard that, as discussed above<sup>56</sup>, courts had used to assess willfulness following the *Underwater Devices* decision in 1983 until the *Seagate* decision in 2007.

Enabling patentees to credibly threaten infringers with the prospect of enhanced damages in lieu of injunctive relief would discourage well-resourced users from infringing by increasing the user’s anticipated “downside” losses in the event the patentee prevailed in an infringement litigation. This would correct for the underdeterrence and undercompensation effects that arise in a legal environment in which patent owners cannot credibly threaten to deny access to their patented technology. Whether or not a user would determine that negotiating a license outperforms infringing and litigating would then depend on its level of confidence in being able to show that the patent is invalid or not infringed, rather than being dependent on the user’s litigation resources and opportunity costs relative to the patent owner. This would constructively lead potential infringers to proactively invest resources in investigating the validity and scope of relevant patents, which may often lead infringers to conclude that negotiating a license, rather than expending funds on litigators, is the preferred business option. Hence, our proposal has the virtuous effect that it renders the user’s *license v. infringe* decision dependent on the strength of the patent, rather than the relative litigation resources available to the user and patent owner. This levels the playing field by precluding well-resourced implementers from leveraging the costs and delay of the litigation and settlement process to secure a downward adjustment in the royalty rate from a less well-resourced innovator, irrespective of the value of the underlying patent.

The prospect of enhanced damages (and, in particular, courts’ ability to adjust the multiplier upward in response to infringer opportunism) would also unwind the distortionary effects that the current “almost no” injunction patent regime exerts in the patent licensing market. Negotiated royalty rates would more closely track a patent’s economic value since those rates would no longer reflect the artificially depressed levels that can arise under the threat of protracted litigation with well-resourced infringers. Over time, improved accuracy in negotiated royalties would likely improve the accuracy of judicially determined royalty awards since courts could more confidently rely on established royalties as an accurate measure of economic value.<sup>57</sup>

### C. *Calibrating Enhanced Damages*

It can nonetheless be objected that awarding enhanced damages would invite a return to opportunistic litigation from certain patent owners for the purpose of securing enhanced damages or favorable settlement payouts from cash-rich users. That is: while substituting enhanced damages for injunctive relief mitigates “hold-out” behavior by prospective licensees, it restores the risk of “hold-up” behavior by patent owners. To be clear, we do not expect that mandating enhanced damages would give rise to hold-up behavior in general. Insisting on exorbitant royalty rates would be a self-defeating strategy for repeat-play innovators that seek to maximize returns by inducing adoption of their existing technology and accruing reputational goodwill to induce adoption of their future technologies.<sup>58</sup> Hold-up incentives may arise, however, in the case of certain patent owners that do not have R&D investments at stake, hold a patented technology to which there is no cost-feasible substitute, and are not repeat players in the technology ecosystem. In that specific set of circumstances, long-term incentives to maintain reputational goodwill might not discourage the short-term

use of opportunistic litigation strategies and hence, mandating enhanced damages could invite entry by opportunistic litigants, resulting in overcompensation and overdeterrence effects.

These concerns are addressed by design through our proposal, which mandates enhanced damages in “almost no” injunction scenarios but always invests courts with discretion to select the specific multiplier.<sup>59</sup> We anticipate that courts would calibrate the multiplier to achieve a rough tradeoff between correcting undercompensation and underdeterrence effects (which favor a higher multiplier) and overcompensation and overdeterrence effects (which favor a lower multiplier), which would in turn depend on the facts demonstrated in any particular litigation. This concept is already reflected in the patent statute, which empowers courts to select a multiplier within a bounded range, and case law outcomes, which exhibit variation in the multipliers used by courts when awarding enhanced damages and show that courts infrequently reach the upper bound.

More specifically, as noted above, courts already use the “*Read*” factors to determine the size of the damages multiplier and our proposal would build upon this existing framework. Specifically, one of the *Read* factors takes into account whether the infringer “investigated the scope of the patent and formed a good-faith belief that it was invalid or that it was not infringed.”<sup>60</sup> Courts could apply a lower damages multiplier if an infringer showed that it had satisfied this factor. Additionally, we anticipate that courts would select lower damages multipliers if the infringer could demonstrate that it was unaware of the contested patent after due diligence or was aware of the patent and had made good-faith efforts to negotiate a license from the patent owner. This would also preserve incentives for good-faith users to *reject* a license when, after due diligence, they are reasonably confident that the patent owner would be unlikely to defend validity and demonstrate infringement (in which case the probability that the patent owner would secure a liability finding, a willfulness finding, and a meaningful enhanced damages award would most likely reach asymptotic levels).<sup>61</sup>

Another *Read* factor is the duration of the defendant’s misconduct.<sup>62</sup> The longer the duration of the defendant’s misconduct, the higher the enhanced damages. In the context of our proposal for mandatory enhanced damages, courts may take into account the period of time during which negotiations and litigation have played out, enhancing damages to account for the increasing hold-out costs borne by the patentee during a protracted negotiation and litigation process. These costs extend beyond mere attorney fees, as the delays incurred by negotiation and litigation can have dramatic adverse effects on a firm’s position in the market (for example, it can forfeit the first mover advantage that is often critical in technology markets).

Closely related to the duration of negotiations and litigation and the defendant’s good-faith belief is whether one of the parties made a credible offer of arbitration as to either the entire dispute or the royalty determination. Arbitration is less time-consuming and costly than litigation, so a defendant’s refusal to participate in arbitration may be grounds to increase the enhanced damages multiplier, and a plaintiff’s refusal may be grounds to decrease the enhanced damages multiplier. Of course, a party may have a legitimate reason for preferring federal court litigation, and showing a legitimate reason (such as a defendant’s good-faith belief that the patent was invalid or not infringed) can rebut any increase or decrease in enhanced damages.



Appropriately applied, mandating enhanced damages subject to a judicially applied multiplier (in the absence of injunctive relief) would not only deter litigations induced by bad-faith users that infringe against likely valid patents but also, litigations brought by bad-faith *holders* of likely invalid patents. The net result would likely be a reduction in the quantity, and an improvement in the “quality”, of patent infringement litigation on the judicial docket, offsetting some of the unintended consequences of the *eBay* decision.

#### D. *The Legislative Fix*

There is no perfect solution to the inevitable tradeoff between undercompensation and underdeterrence effects, which can arise in certain circumstances when courts infrequently award enhanced damages or typically apply low damage multipliers, and overcompensation and overdeterrence effects, which can arise in certain circumstances when courts regularly award enhanced damages or typically apply high multipliers. Following our proposal, courts can roughly balance these effects by combining mandatory enhanced damages with variable damages multipliers, which courts can adjust downward if there is sufficient evidence of good-faith motivations behind the infringer’s action or upward if there is sufficient evidence of bad-faith motivations behind the infringer’s conduct. Courts already have authority to make these adjustments under the enabling language in the patent statute, which provides that courts “*may* increase the damages *up to* three times” (our emphasis). These discretionary powers are illustrated by the district court’s decision in *Core Wireless Licensing S.A.R.L. v. LG Electronics, Inc.*<sup>63</sup>, a litigation brought by a SEP owner and therefore without any prospect of injunctive relief. Following the jury’s finding of willfulness, the judge elected to impose a 20% damages enhancement based on evidence of bad-faith negotiation conduct by the infringer and weak patent invalidity and non-infringement defenses. In *SRI International Inc. v. Cisco Systems*<sup>64</sup>, the Federal Circuit upheld an enhanced damages award on the ground that the defendant not only had infringed willfully but had engaged at trial in “aggressive tactics,” such as making dubious arguments that appeared to be contradicted by the infringer’s internal documents.

These decisions might suggest that our proposal could be largely implemented through increased judicial willingness to apply the existing damages multiplier for purposes of awarding enhanced damages following a finding of willfulness. *SRI International* shows why this would not be sufficient to restore the missing deterrence effects in the current patent system. In that case, the Federal Circuit clarified that enhanced damages can only be awarded based on a finding that the defendant had engaged in *both* willful infringement and “wanton and malicious” conduct. Given this arguably heightened threshold for awarding enhanced damages, meaningful implementation of our proposal could not rely on courts’ discretion under existing case law to award enhanced damages for the simple reason that courts would often never have the opportunity to exercise such discretion. Our proposal therefore requires amending the patent statute to clarify that courts *must* select a damages enhancement, subject to the existing statutory maximum of treble damages, in any infringement litigation in which the patent owner prevails on validity and infringement *and* there is no reasonable likelihood of injunctive relief.<sup>65</sup>

Interestingly, German legislators have recently implemented a version of our proposal. A recent statutory amendment to the German Patent Act precludes injunctive relief “if the claim would lead to disproportionate hardship for the infringer or third parties.”<sup>66</sup> This amendment, which codifies German case law (FCJ (decision of 10 May 2016, docket no. X ZR 114/13 – “Heat Exchanger”)), allows courts to deny injunctive relief in special circumstances—injunctive relief is no longer “automatic.” While the German Patent Act amendment does not go as far as *eBay*, which (as interpreted by the lower courts) flipped the U.S. from an “automatic” injunction regime to an “almost no” injunction regime, the German Patent Act amendment does play a similar role by making injunctive relief more difficult to obtain. What is significant, however, is that, the shift in the German patent injunction regime is paired—as this paper proposes—with an increased ability to obtain enhanced damages. In the same amendment making injunctive relief more difficult to obtain, the German Patent Act was amended to provide “[i]n th[e] case [where injunctive relief is denied], the injured party shall be granted appropriate financial compensation [that] shall not affect the claim for damages pursuant to Paragraph 2 [traditional patent remedies of actual damages, unjust enrichment and reasonable royalties].”<sup>67</sup> Thus, as the German system transitions away from an “automatic” injunction regime, legislators had the foresight to implement an enhanced damages regime to deter infringers from engaging in hold-out tactics. Hopefully, Congress can look to Germany as an example of our proposal in action.

Absent restoration of the historical presumption favoring injunctive relief for prevailing patentees (which would more directly correct the underdeterrence effect), we encourage Congress to consider making this adjustment to the patent statute. In 1793, Congress recognized the necessity for mandating enhanced damages for patent owners when injunctive relief is unavailable; today that same rationale applies once again.

## CONCLUSION

The signature element of a property right is the ability to have effective legal recourse to maintain exclusivity of the underlying asset in response to unauthorized users. This principle is as true in intangible goods markets as in tangible goods markets. Contrary to widespread characterizations, the fundamental effect of a robust IP regime is not to entrench “idea monopolists” and enable them to extract maximal rents from intermediate and end-users. In most cases, that would be an ill-advised business strategy that would invite some combination of infringing use, underuse, or competitive entry. Rather, the property-rights “backstop” supplies a legal platform on which business parties can engineer a myriad of value-creating transactional arrangements that structure licensing, joint-venture, and other relationships between parties that hold complementary assets and capacities. While the *eBay* decision may have targeted a specific type of opportunistic litigation, its effects have reverberated across the IP ecosystem, converting patents in many sectors from a property right priced by the market to a quasi-compulsory license priced in court. Absent legislative intervention to correct the “*eBay* effect,” we have proposed a simple remedy. If patentees have no realistic expectation of securing injunctive relief, even after having incurred the significant costs and delay involved in defending validity and demonstrating infringement, then the infringer must

pay enhanced damages to restore in part the deterrence and compensation effects that have been eroded under the current patent regime.

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<sup>1</sup> 547 U.S. 388.

<sup>2</sup> Throughout this contribution, “users” refers to intermediate users of patent rights, such as manufacturers, distributors, telecom carriers or other entities that occupy intermediate positions in a technology supply chain.

<sup>3</sup> Prejudgment interest is contemplated by the Patent Act, see 35 U.S.C. § 284 (stating that a successful patentee is entitled to “damages adequate to compensate for the infringement, but in no event less than a reasonable royalty . . . together with interest and costs as fixed by the court”). In interpreting the statute, the Supreme Court has held that “prejudgment interest should ordinarily be awarded” but also stated that courts had discretion not to do so when appropriate, see *General Motors Corp. v. Devex Corp.*, 461 U.S. 648, 657 (1983).

<sup>4</sup> This would arise if either (i) patentees were acting collusively in setting licensing rates, or (ii) patents were being consistently issued that were excessively large in scope, duration or other parameters relative to the hypothetical patents that would be issued by an omniscient and benevolent social planner. There is no evidence to support either scenario on a systematic basis.

<sup>5</sup> *Brooks Furniture Mfg., Inc. v. Dutailier Int’l, Inc.*, 393 F.3d 1378, 1381 (Fed. Cir. 2005).

<sup>6</sup> *Id.*, at 1377.

<sup>7</sup> *Octane Fitness, LLC v. Icon Health & Fitness, Inc.*, 572 U.S. 545, 554 (2014).

<sup>8</sup> Scott M. Flanz, *Octane Fitness: The Shifting of Patent Attorneys’ Fees Moves into High Gear*, 19 STAN. TECH. L. REV. 329, 353 (2016).

<sup>9</sup> 35 U.S.C. § 284.

<sup>10</sup> *Eko Brands, LLC v. Adrian Rivera Maynez Enters., Inc.*, 946 F.3d 1367, 1378 (Fed. Cir. 2020) (stating that a district court may consider awarding enhanced damages “once an affirmative finding of willfulness has been made”).

<sup>11</sup> *Underwater Devices Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1389 (Fed. Cir. 1983).

<sup>12</sup> 497 F.3d 1360, 1371 (Fed. Cir. 2007).

<sup>13</sup> 136 S. Ct. 1923, 1935 (2016).

<sup>14</sup> *Id.*, at 1935.

<sup>15</sup> *Id.*, at 1932.

<sup>16</sup> No. 20-1685 (Fed. Cir. Sept. 28, 2021).

<sup>17</sup> For purposes of this discussion, we do not take into account “selection effects” that may qualify the interpretation of changes in willfulness findings following changes in the governing legal standard. However, we note that, due to the time lag inherent to the litigation process, any such selection effects cannot plausibly impact the interpretation of changes in willfulness findings shortly following any such change in the governing legal standard. For further discussion of this point, see Christopher B. Seaman, *Willful Patent Infringement and Enhanced Damages After In re Seagate: An Empirical Study*, 97 IOWA L. REV. 417, 442-43 (2012).

<sup>18</sup> Kimberly A. Moore, *Judges, Juries, and Patent Cases—An Empirical Peek Inside the Black Box*, 99 MICH. L. REV. 365, 391 (2000).

<sup>19</sup> *Id.*, at 394.

<sup>20</sup> These figures were derived by the authors based on data in the 2000 Moore study (*see id.*, at 383 n.76, which provides the number of fully adjudicated patent trials, and 394, Tbl. 5, which provides the percentages of such trials in which willfulness was found and enhanced damages were awarded).

<sup>21</sup> Seaman, *supra* note 17, at 444, Tbl. 2. Other commentators observed that the *Seagate* decision enabled infringers to defeat willfulness claims by finding an “objectively reasonable” legal theory that the contested patent was invalid or had not been infringed, *see* Dmitry Karshtedt, *Enhancing Patent Damages*, 51 U.C. DAVIS L. REV. 1427, 1459 (2018).

- <sup>22</sup> Veena Tripathi, *Halo from the Other Side: An Empirical Study of District Court Findings of Willful Infringement and Enhanced Damages Post-Halo*, 103 MINN. L. REV. 2617, 2637-40 (2019).
- <sup>23</sup> For similar views, *see id.*, at 2636.
- <sup>24</sup> PWC, 2018 PATENT LITIGATION STUDY 13, 18 (2018).
- <sup>25</sup> Kimberly A. Moore, *Empirical Statistics on Willful Patent Infringement*, 14 FED. CIR. BAR. J. 227, 234 (2004) (based on patent infringement litigations during 1999-2000). For the period 1983-1999, the same author found that 6.9% of all patent infringement suits went to trial, *see Moore, supra* note 18, at 383.
- <sup>26</sup> Based on one of the authors' personal experience in practice. On this point, *see also Sanofi-Aventis, et al. v. Apotex Inc. and Apotex Corp.*, Case No. 2011-1048 (Fed. Cir. 2011) (upholding a patent litigation settlement agreement that barred the patent owner from seeking prejudgment interest).
- <sup>27</sup> *The trouble with patent-troll hunting*, ECONOMIST, Dec. 14, 2019 (citing Boris Teksler, described as "Apple's former patent chief").
- <sup>28</sup> Complaint for Patent Infringement, *Core Wireless Licensing S.A.R.L v. LG Elec., Inc.*, No. 2:14-cv-00911 (E.D. Tex. Sep. 26, 2014); Complaint for Breach of Contract, Declaratory Relief, and Patent Infringement, *Core Wireless Licensing S.A.R.L v. LG Elec., Inc.*, No. 2:14-cv-00912-RSP (E.D. Tex. Sep. 26, 2014).
- <sup>29</sup> Verdict Form, *Core Wireless Licensing S.A.R.L v. LG Elec., Inc.*, No. 2:14-cv-00911-RSP (E.D. Tex. Mar. 24, 2016) (finding infringement and awarding \$3.5 million in damages); Verdict Form, *Core Wireless Licensing S.A.R.L v. LG Elec., Inc.*, No. 2:14-cv-911-JRG-RSP (E.D. Tex. Sep. 16, 2016) (finding infringement and awarding \$2.28 million in damages). The \$3.5 million damages award was relitigated in a second trial, which upheld the award, *see Verdict Form, Core Wireless Licensing S.A.R.L v. LG Elec., Inc.*, No. 2:14-cv-00912-JRG (E.D. Tex. Feb. 27, 2019).
- <sup>30</sup> Final Judgment, *Core Wireless Licensing S.A.R.L v. LG Elec., Inc.*, No. 2:14-cv-912-JRG (E.D. Tex. Nov. 01, 2016).
- <sup>31</sup> *Id.*
- <sup>32</sup> *Core Wireless Licensing S.A.R.L v. LG Elecs., Inc.*, No. 2:14-cv-911, 2016 WL 4596118, at \*2 (E.D. Tex. Sept. 3, 2016) (Gilstrap, C.J.).
- <sup>33</sup> Redacted Complaint, *Apple Inc. v. Qualcomm Inc.*, No. 17CV0108GPCNLS (S.D. Cal. Jan. 20, 2017).
- <sup>34</sup> Redacted Complaint, *Qualcomm Inc. v. Compal Electronics, Inc. et al.* (S.D. Cal. May 17, 2017).
- <sup>35</sup> Complaint for Patent Infringement, *Qualcomm Inc. v. Apple Inc.*, No. 17CV1375JAHAGS (S.D. Cal. July 06, 2017).
- <sup>36</sup> This strategy is not a hypothetical construct. In an internal Apple slide deck that Qualcomm presented in oral arguments at trial (immediately prior to settlement), one slide stated "Goal: Reduce Apple's Net Royalty to Qualcomm," other slides listed goals such as "Devalue SEPs," "Limit Injunction," "leverage our purchasing power," and "captur[e] IP value with purchase price". Other documents evidenced a strategy of negotiating agreements in which Qualcomm's obligation to supply Apple with modems applies irrespective of whether Apple's contract manufacturers were still making royalty payments to Qualcomm for licensing its patents. On this evidence, *see J. Gregory Sidak, Monopoly, Innovation, and Due Process: FTC v. Qualcomm and the Imperative to Destroy*, 6 CRITERION J. ON INNOVATION 1, 125-26 (2020).
- <sup>37</sup> Kif Leswing, *Why Apple was so upset with Qualcomm—and why it finally had to give in*, CNBC, Apr. 17, 2019.
- <sup>38</sup> *See note 27.*
- <sup>39</sup> This description is largely based on *Unwired Planet International Ltd v Huawei Technologies Co Ltd et al.*, [2017] EWHC 711 (Pat).
- <sup>40</sup> *Id.*
- <sup>41</sup> *Huawei Technologies Co. Ltd. v. ZTE Corp. and ZTE Deutschland GmbH*, Case C-170/12 (Court of Justice of the European Union 2015)
- <sup>42</sup> *Unwired Planet International Ltd v Huawei Technologies (UK) Co Ltd*, [2020] UKSC 37, at 53.
- <sup>43</sup> Original Complaint, *Optis Wireless Technology, LLC et al. v. Apple Inc.*, No. 2:19-cv-66 (E.D. Tex. Feb. 25, 2019).
- <sup>44</sup> Verdict Form, *Optis Wireless Technology, LLC et al. v. Apple Inc.*, No. 2:19-cv-66 (E.D. Tex. Aug. 11, 2020). The jury's findings were upheld by the court, *see Final Judgment, Optis Wireless Technology, LLC v. Apple Inc.*, No. 2:19-cv-66 (E.D. Tex. Feb. 26, 2021).
- <sup>45</sup> Order Granting New Trial, *Optis Wireless Technology, LLC et al. v. Apple Inc.*, No. 2:19-cv-66 - JRG (E.D. Tex. Apr. 14, 2021), at 9.
- <sup>46</sup> Verdict Form, *Optis Wireless Technology, LLC et al. v. Apple Inc.*, No. 2:19-cv-00066 - JRG (E.D. Tex. Aug. 13, 2021).

- <sup>47</sup> Caleb Drickey, “Gilstrap Won’t Triple \$300M 4G Patent Verdict Against Apple,” LAW360, Sept. 9, 2021.
- <sup>48</sup> *Optis Cellular Technology LLC et al. v. Apple Retail UK Limited*, Case No. HP-2019-000006, [2020] EWHC 2746 (Pat).
- <sup>49</sup> *Optis Cellular Technology LLC et al. v. Apple Retail UK Limited*, Case No. HP-2019-000006, [2020] EWHC 2425 (Pat).
- <sup>50</sup> *Optis Cellular Technology LLC et al. v. Apple Retail UK Limited*, Case No. HP-2019-000006, [2021] EWHC 2464 (Pat).
- <sup>51</sup> Joff Wild, “Apple’s threat to leave British market over FRAND royalty is not credible, says judge,” IAM, Sept. 28, 2021.
- <sup>52</sup> This paragraph is based largely on James Ryan, *A Short History of Patent Remedies*, 6 CYBARIS 150 (2015).
- <sup>53</sup> *Id.*, at 156.
- <sup>54</sup> *Id.*, at 158-59 (stating that “[t]he purpose of the treble damages provision was to provide adequate remedies to those who do not have access to equity”).
- <sup>55</sup> *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 826-27 (Fed. Cir. 1992). Internal citations are omitted from the quotation above.
- <sup>56</sup> See note 11 and accompanying discussion.
- <sup>57</sup> Currently courts sometimes adjust reasonable royalties upward to account for the possibility that “comparable” royalties in the market are distorted by the anticipated costs and risks of litigation. See, e.g., *ResQNet.com, Inc. v. Lansa, Inc.*, 594 F.3d 860, 972 (Fed. Cir. 2010), citing *Fromson v. W. Litho Plate & Supply Co.*, 853 F.2d 1568, 1577 (Fed. Cir. 1988) (stating that “this court has long recognized that a reasonable royalty can be different than a given royalty when, for example, widespread infringement artificially depressed past licenses”).
- <sup>58</sup> On the reputational feedback effects that constrain patent licensing and litigation strategies, see Jonathan M. Barnett, *The “License as Tax” Fallacy*, MICH. TECH. L. REV. (forthcoming 2022).
- <sup>59</sup> While it lies outside the scope of this contribution, we note that courts already have several tools to deter opportunistic use of the civil litigation process, including shifting attorneys’ fees to losing plaintiffs in the case of frivolous litigation.
- <sup>60</sup> *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 827 (Fed. Cir. 1992).
- <sup>61</sup> Interestingly, in response to the *Halo* decision (which, as discussed above, lowered the threshold for finding willfulness), instances of willfulness and enhanced damages findings increased but the average damages multiplier declined (from 2.5 before *Halo* to slightly more than 2.0 after *Halo*). See PRICEWATERHOUSECOOPERS, 2018 PATENT LITIGATION STUDY 17 (2018) (based on a study of district court decisions in patent infringement litigation from 1998 through 2018). This illustrates how courts can adjust the multiplier to mitigate potential overcompensation and overdeterrence effects that can arise with a change in legal standards that increases the likelihood of enhanced damages.
- <sup>62</sup> *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 827 (Fed. Cir. 1992).
- <sup>63</sup> Final Judgment, *Core Wireless Licensing, S.A.R.L. v. LG Elecs., Inc.*, No. 2:14-cv-912 (E.D. Tex. Nov. 4, 2016). The district court also rejected the argument that SEPs should never give rise to enhanced damages. For further discussion of the decision, see J. Gregory Sidak, *Enhanced Damages for Infringement of Standard-Essential Patents*, 1 CRITERION J. INNOVATION 1101 (2016).
- <sup>64</sup> No. 20-1685 (Fed. Cir. Sept. 28, 2021).
- <sup>65</sup> This view is confirmed by a Federal Circuit decision that specifically precludes courts from awarding enhanced damages solely to rectify what is perceived to be inadequate damages, absent a finding of willfulness, see *Jurgens v. CBK, Ltd.*, 80 F.3d 1566, 1570 (Fed. Cir. 1996), citing *Beatrice Foods Co. v. New England Printing & Lithographing Co.*, 923 F.2d 1576, 1579 (Fed. Cir. 1991).
- <sup>66</sup> Translated from original Patentgesetz [Patents Act] § 139(1) (“soweit die Inanspruchnahme aufgrund der besonderen Umstände des Einzelfalls für den Verletzer oder Dritte zu einer unverhältnismäßigen”).
- <sup>67</sup> Translated from original Patentgesetz [Patents Act] § 139(1) (“In diesem Fall kann der Verletzte einen Ausgleich in Geld verlangen, soweit dies angemessen erscheint. Der Schadensersatzanspruch nach Absatz 2 bleibt hiervon unberührt.”).