

# “Excessive Royalty” Prohibitions and the Dangers of Punishing Vigorous Competition and Harming Incentives to Innovate



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In the last several years, competition agencies across Asia, including those in China, Korea, and India, have issued decisions and draft guidelines that prohibit the holder of an intellectual property right (“IPR”) from charging “unfairly high” or “excessive” royalties. In addition to the inherent problems with price regulation (such as harming incentives to compete and to innovate and the difficulties of determining whether a particular price is “excessive”), these decisions and guidelines are highly problematic in that they provide little to no guidance on how the agencies determine whether a particular royalty is too high. Indeed, they would allow the agencies to find an excessive pricing violation based on such vague or impractical standards as:

- whether the royalty “obviously does not match the value” of the IPR, which provides no concrete guidance at all;
- whether an IPR holder charges for expired or invalid patents, which ignores practical and commercial realities, including the impracticality of renegotiating licenses every time a patent expires and the reality that parties assess generally the value of the licensed portfolio and determine a royalty that accounts for the possibility that some of the portfolio’s patents may be invalid or expired; and,
- in the case of standard-essential patents (SEPs), concerns about royalty stacking, which should not be a concern unless there is evidence that royalty stacking would have a severely adverse effect on the product market or, at a minimum, would substantially restrict output.

This article discusses the dangers of regulating royalties, including the difficult — if not impossible — task of determining whether a particular royalty is “excessive,” and suggest that agencies not apply to IPRs,

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including SEPs, their laws prohibiting excessive pricing. Should an agency be required by law to apply the prohibition to IPRs, then at the very least it should focus primarily upon the prices of comparable licenses, which are the best available evidence of the market value of a patent.

## I. RECENT DECISIONS AND DRAFT GUIDELINES PROHIBITING CHARGING “EXCESSIVE ROYALTIES”

In February 2015, China’s National Development and Reform Commission issued a \$975 million fine against Qualcomm based, in large part, upon findings that the company charged “excessive” royalties because it charged for expired patents, required royalty-free grantbacks, bundled SEPs and non-SEPs, and based its royalties on the wholesale net sales price of the end product as opposed to a percentage of the price of a smaller component part.<sup>2</sup> Similarly, the Competition Commission of India recently issued investigation orders against Ericsson alleging the company charged “excessive and unfair royalty rates” because it based royalties on sales of the end-user device as opposed to sales of a component part.<sup>3</sup> Most recently, the Chinese and Korean competition agencies issued draft guidelines that would apply excessive pricing prohibitions to IPRs, focusing upon factors such as charging for expired or invalid patents.<sup>4</sup> One favorable development (at least in the draft IP guidelines) is the apparent shift away from basing an excessive royalty violation on the common industry practice of using the end-user device as the royalty base. This is a favorable development because there are numerous legitimate business reasons for selecting the end-user device as the royalty base, including the reduction of administrative costs and the relative ease of monitoring or verifying the number of units sold. And, of course, mathematically and in terms of the royalty actually charged, the selection of the royalty base is irrelevant as it is the simultaneous relationship between the royalty base and the royalty rate that matters.<sup>5</sup>

## II. THE U.S. APPROACH AND THE DANGERS OF REGULATING PRICE

The U.S. antitrust agencies do not regulate price.<sup>6</sup> Rather, in the United States, firms are free unilaterally to set or privately to negotiate their prices; it follows that a IPR holder is free to charge a

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<sup>2</sup> See Koren W. Wong-Ervin, *Antitrust and IP in China: Quo Vadis?* 5-6 (Apr. 16, 2015), [https://www.ftc.gov/system/files/attachments/key-speeches-presentations/wong-erwin\\_-\\_2015\\_aba\\_spring\\_meeting\\_4-16-15.pdf](https://www.ftc.gov/system/files/attachments/key-speeches-presentations/wong-erwin_-_2015_aba_spring_meeting_4-16-15.pdf).

<sup>3</sup> See Koren W. Wong-Ervin, *Standard-Essential Patents: The International Landscape*, Am. Bar Ass’n Intellectual Prop. Comm. Newsletter, Spring 2014, at 13-14, [https://www.ftc.gov/system/files/attachments/key-speeches-presentations/standard-essential\\_patents\\_the\\_intl\\_landscape.pdf](https://www.ftc.gov/system/files/attachments/key-speeches-presentations/standard-essential_patents_the_intl_landscape.pdf).

<sup>4</sup> For a summary of China’s draft guidelines, see Koren W. Wong-Ervin, *An Update On China’s Anti-Monopoly Law Guidelines On IP*, LAW360 (Dec. 15, 2015), <http://www.law360.com/competition/articles/737570/an-update-on-china-s-anti-monopoly-law-guidelines-on-ip>. For the GAI’s comments to China and Korea on their draft IPR guidelines, see GLOBAL ANTITRUST INSTITUTE COMPETITION ADVOCACY PROGRAM, <http://masonlec.org/programs/692>.

<sup>5</sup> See, e.g., *Ericsson v. D-Link*, 773 F.3d 1201, 1226 (Fed. Cir. 2014).

<sup>6</sup> See, e.g., Bill Baer, Assistant Att’y Gen., Antitrust Division, Prepared Remarks at the 19th Annual International Bar Association Competition Conference (Sept. 11, 2015), <http://www.justice.gov/opa/speech/assistant-attorney-general-bill-baer-delivers-remarks-19th-annual-international-bar> (“We don’t use antitrust enforcement to regulate royalties. That notion of price controls





monopoly price, which rewards the very risk-taking and entrepreneurial behavior that lead to innovation and economic growth.<sup>7</sup> This hands-off approach applies to all IPRs, including SEPs.

Requiring by law that prices be “fair” or “reasonable,” or prohibiting a firm from charging “unfairly high” prices risks punishing vigorous competition. In general, competition policy should not prohibit a monopolist from charging whatever price for its products, including its IPRs, it believes will maximize its profits. It is axiomatic in economics and in antitrust law that the “charging of monopoly prices ... is ... what attracts ‘business acumen’ in the first place; it induces risk taking that produces innovation and economic growth.”<sup>8</sup> This is particularly important in the case of IPRs; the very purpose for which nations create and protect IPRs is to induce investment in risky and costly research and development. To achieve a balance between innovation and the protection of competition, monopoly prices should be unlawful only if they are the result of conduct that is unlawful on other grounds.

Moreover, economics teaches that, absent information about the prices of unconstrained market transactions, it can be particularly difficult to identify a “fair” price. Indeed, it is even more difficult to assess the “fairness” of prices associated with licensing IPRs both because the fixed costs of innovation require prices well above marginal cost in order to secure an adequate return on investments in innovation, and because IPRs themselves are highly differentiated products, which makes reliable price comparisons difficult, if not impossible. The risk of placing overly strict limitations upon IPR prices is that the return to innovative behavior is reduced, which means firms will reduce their investment in further innovations, to the detriment of consumers. Compounding the problem, with such limits in place, IPR holders will face significant uncertainty in determining whether their licensing practices violate competition laws, and legal uncertainty is the enemy of financial investment.

In addition, in order to determine whether a particular price is excessive, the competition agency would need to calculate a reasonable royalty range as a baseline against which to compare the allegedly excessive price. In our experience, competition agencies will not possess the requisite information necessary to determine market prices generally, and royalty rates for inventions in particular. This is a task that is best left to the market or, as a last resort, to the courts in those limited cases when the parties cannot reach agreement.<sup>9</sup>

### III. POSSIBLE METHODOLOGIES FOR CALCULATING A REASONABLE ROYALTY RANGE

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interferes with free market competition and blunts incentives to innovate. For this reason, U.S. antitrust law does not bar ‘excessive pricing’ in and of itself. Rather, lawful monopolists are perfectly free to charge monopoly prices if they choose to do so. This approach promotes innovation from rivals or new entrants drawn by the lure of large rewards.”); Edith Ramirez, Chairwoman, Fed. Trade Comm’n, Address at 8th Annual Global Antitrust Enforcement Symposium: Standard-Essential Patents and Licensing: An Antitrust Enforcement Perspective 8 (Sept. 10, 2014), [https://www.ftc.gov/system/files/documents/public\\_statements/582451/140915georgetownlaw.pdf](https://www.ftc.gov/system/files/documents/public_statements/582451/140915georgetownlaw.pdf) (“In contrast to the FTC’s and EC’s approach, media reports indicate that China’s antitrust authorities may be willing to impose liability solely on the royalty terms that a patent owner demands for a license to its FRAND-encumbered SEPs, as well as royalty demands for licenses for other patents that may not be subject to a voluntary FRAND commitment.”); Keith N. Hylton, *Antitrust Snoops on the Loose*, WALL ST. J., Apr. 3, 2015, at A9.

<sup>7</sup> See, e.g., *Verizon Commc’ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407 (2004).

<sup>8</sup> *Id.*; see also JOSEPH A. SCHUMPETER, CAPITALISM, SOCIALISM, AND DEMOCRACY 89-90 (George Allen & Unwin 1976).

<sup>9</sup> For a discussion of the difficulties of court-determined rate setting, see Anne Layne-Farrar & Koren W. Wong-Ervin, *Methodologies For Calculating FRAND Damages*, LAW360 (Oct. 8-10, 2014), [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2668623](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2668623).





Should an agency insist upon applying an excessive pricing prohibition to IPRs, it could use the hypothetical negotiation framework developed under U.S. patent law to determine the *minimum* reasonable royalty. This, however, is a complex methodology intended for use by the courts upon development of a full record, which usually includes detailed expert reports and opportunities for witnesses to testify and be subjected to cross-examination. In addition, it is essential to keep in mind that a reasonable royalty calculation using the hypothetical negotiation framework sets a *minimum* royalty; the patentee should have the opportunity to prove its lost-profits as part of its damages. In an excessive pricing case, these lost profits equal the profits denied by the “unfairly high” pricing provision.<sup>10</sup> As such, when used in an “unfairly high” pricing investigation, a reasonable royalty calculation should likewise be treated as a minimum starting point to avoid imposing a royalty that undercompensates the patentee—a result that would significantly reduce the patentee’s incentives to innovate.

In an action for damages resulting from patent infringement, the goal of a reasonable royalty calculation is to determine the market price the infringer would have paid if it had licensed rather than infringed the patent. Accordingly, that amount should depend upon what a willing licensee and a willing licensor would have agreed to in a hypothetical negotiation. The seminal case in the United States, *Georgia-Pacific Corp. v. United States Plywood Corp.*, describes the proper measure of damages as “[t]he amount that a licensor (such as the patentee) and the licensee (such as the infringer) would have agreed upon (at the time the infringement began) if both had been trying in good faith to reach an agreement.”<sup>11</sup> The central tenet of this framework is the willing licensor/willing licensee model, under which the amount awarded must be acceptable to both parties.

U.S. district courts have recent adopted modified versions of the *Georgia Pacific* framework in determining prospective royalties in cases involving FRAND encumbered standard essential patents. The U.S. Court of Appeals for the Federal Circuit in *Ericsson, Inc. v. D-Link Systems, Inc.* held that “[t]here is no *Georgia-Pacific*-like list of factors that district courts can parrot for every case involving [F]RAND-encumbered patents.”<sup>12</sup> Instead, courts must instruct the jury only on factors that are relevant to the record developed at trial, and must instruct the jury on the actual FRAND commitment at issue. Because each technology and market is different, the evidence considered and the weight placed on each factor will vary based upon the circumstances.

In constructing the hypothetical negotiation, U.S. courts consider evidence of market factors that the negotiating parties would consider in determining the royalty rate. Often comparable licenses are the best available evidence of the market value of the patent. Accordingly, the Federal Circuit recently held in *Ericsson v. D-Link* that evidence about comparable licenses based upon the end product should properly be considered by the jury in determining patent damages. The court reasoned that “[m]aking real world, relevant licenses inadmissible ... would often make it impossible for a patentee to resort to license-based evidence.”<sup>13</sup> Indeed, as a practical matter, most licenses in many high-tech markets, including smartphones, are negotiated on a patent portfolio basis using the end-user device as the royalty base. A number of considerations may dictate private parties’ selection of a royalty base in a freely negotiated license agreement. Industry practice

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<sup>10</sup> Specifically, U.S. patent law provides that “[u]pon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.” 35 U.S.C. §284 (2014).

<sup>11</sup> *Georgia-Pacific Corp., v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970), *modified and aff’d*, 446 F.2d 295 (2d Cir. 1971).

<sup>12</sup> 773 F.3d 1201, 1235 (Fed. Cir. 2014).

<sup>13</sup> *Id.* at 1228.





and the convenience of the parties is one such consideration; other commercial dealings between the parties is another.

The Federal Circuit also explained that, while prior licenses “are almost never perfectly analogous to the [licenses at issue in a later] infringement action,” that “generally goes to the weight of the evidence, not its admissibility.”<sup>14</sup> For example, allegedly comparable licenses may cover more patents than are at issue in the current action, or include cross-licensing terms, or cover foreign intellectual property rights, or be calculated as some percentage of the value of a multi-component product. “Testimony relying on comparable licenses must account for such distinguishing facts when invoking them to value the patented invention.”<sup>15</sup> When considering comparable licenses, it is also important to consider factors such as the circumstances, timing, and relative bargaining position of the parties to those licenses. For example, a license entered when the commercial viability of the technology is still uncertain will, in general, result in a lower royalty than a license entered into when the commercial viability of the technology is established or has increased.

Excessive pricing violations should not, however, turn upon there being expired or invalid patents in a portfolio. Not only is this not an antitrust issue, but it would be impractical, if not impossible, for portfolio owners to renegotiate licenses every time an IPR in a licensed portfolio expires or, conversely, every time a new IPR is added to the portfolio, both of which occur frequently. Indeed, the common industry practice of portfolio “rebalancing” (i.e., periodically removing expired or invalid patents and adding new patents) further reduces the risk that the presence of a few invalid or expired patents would impose any significant cost upon the licensee.<sup>16</sup> In our experience, we have found that portfolio licenses in which individual patents have a variety of expiration dates are common industry practice that reduces transactions costs and facilitates licensing.<sup>17</sup>

Similarly, with respect to invalid patents, when a licensor and a licensee negotiate a license for a large portfolio, both parties understand that some of the hundreds or thousands of patents in the portfolio may be invalid. The parties do not invest resources in identifying those invalid patents, which would make the transaction prohibitively costly. Instead, they assess generally the value of the licensed portfolio and determine a royalty that accounts for the possibility that some of the portfolio’s patents may be invalid.<sup>18</sup>

Likewise, excessive pricing violations should not turn upon a concern about royalty stacking. The aggregate royalty should be considered, if at all, only when there is evidence that it would have a severely adverse effect upon the product market, or at a minimum substantially restrict output. Some claim that devices like mobile phones, which implement thousands of patents, are subject to royalty stacking concerns. The evidence, however, is not consistent with these theoretical claims. For example, a recent empirical study shows that, contrary to the predictions of the royalty stacking theory, between 1994 and 2013, the non-quality adjusted average selling price of a mobile device fell 8.1 percent per year on average; the number of devices sold each year rose 62 times or 20.1 percent per year on average; the number of device manufactures grew

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<sup>14</sup> *Id.* at 1227.

<sup>15</sup> *Id.*

<sup>16</sup> See J. Gregory Sidak, *Evading Portfolio Royalties For Standard-Essential Patents Through Validity Challenges*, 39 WORLD COMPETITION (forthcoming 2016) [hereinafter Sidak], <https://www.criterioneconomics.com/docs/evading-portfolio-royalties-for-seps.pdf>.

<sup>17</sup> In *Kimble v. Marvel Entm’t, LLC*, a recent patent misuse case, the U.S. Supreme Court seemed to endorse **package or portfolio licenses without requiring a step-down, stating that, with respect to “licensing agreements [that cover] either multiple patents or additional non-patent rights, . . . royalties may run until the latest-running patent covered in the parties’ agreement expires.”** 135 S. Ct. 2401, 2408 (2015), [http://www.supremecourt.gov/opinions/14pdf/13-720\\_jiel.pdf](http://www.supremecourt.gov/opinions/14pdf/13-720_jiel.pdf).

<sup>18</sup> See Sidak, *supra* note 16.





from one in 1994 to 43 in 2003; and since 2001, concentration fell consistently and the average gross margin of SEP holders remained constant.<sup>19</sup>

As the U.S. Court of Appeals for the Federal Circuit explained in *Ericsson v. D-Link*, the burden is on the implementer (or, in an excessive pricing enforcement action, the agency) to provide evidence establishing the actual cumulative royalty, and that royalty must be assessed to determine whether it is excessive.<sup>20</sup> The court of appeals rejected the approach taken by some U.S. district courts of considering the aggregate royalties that would apply if one assumed that all SEP holders charged the same or similar rates. The problem with that approach is that not all patents are created equal and FRAND rates should reflect the value of the particular SEPs at issue. In addition, many licensees do not pay cash royalties for every SEP. Instead, there may be cross-licenses or other business relationships that allow for royalty-free exploitation of some SEPs.

There are several other important principles to keep in mind. First, it is important to distinguish between, on the one hand, an aggregate royalty that reflects the cumulative value of the various SEPs included in a given standard and, on the other hand, an aggregate royalty burden that includes at least some supra-FRAND rates, i.e., individual hold-up rates. The former is simply the cost of making products that benefit from valuable IP, analogous to any other cost of doing business. For example, automakers face an aggregate input cost covering all of the many components needed to produce a car. There is nothing inherently anticompetitive in needing multiple inputs to produce a particular good, nor in each of those input suppliers charging the market price for its contribution.<sup>21</sup>

Second, proper apportionment can eliminate the risks of both hold-up and royalty stacking. As long as the inputs for multi-component products are priced according to the value of each patent's contribution to the end product, no SEP holder can be faulted for either hold-up or stacking. Proper apportionment is a reasonable means to accomplish this goal.<sup>22</sup>

Third, it is critical to distinguish between the number of SEPs and the number of SEP holders. Given the prevalence of portfolio licensing, it is the number of SEP holders and not the number of SEPs that is relevant. Even if a license to 1,000 SEPs were required to implement a given standard, if all of those SEPs were held by a single entity that licensed on a portfolio basis, there would be no stack at all.<sup>23</sup>

Fourth, for a variety of reasons, not all SEP holders seek license payments. As the Federal Circuit pointed out in *Ericsson v. D-Link*, “[t]he mere fact that thousands of patents are declared to be essential to a standard does not mean that a standard-compliant company will necessarily have to pay a royalty to each SEP holder.”<sup>24</sup>

Lastly, one of the assumptions underlying the Cournot complements problem (the theory upon which the concern with royalty stacking is based) is that each input supplier will price its inputs without regard to the

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<sup>19</sup> Alexander Galetovic & Kirti Gupta, *Royalty Stacking and Standard Essential Patents: Theory and Evidence from the World Mobile Wireless Industry* (Stanford Univ. Hoover Institution Working Grp. on Intellectual Property, Innovation, and Prosperity, Working Paper Series No. 15012, 2015), <http://hooverip2.org/wp-content/uploads/ip2-wp15012-paper.pdf>.

<sup>20</sup> *Ericsson*, 773 F.3d at 1234.

<sup>21</sup> Anne Layne-Farrar & Koren W. Wong-Ervin, *An Analysis of the Federal Circuit's Decision in Ericsson v. D-Link*, CPI ANTITRUST CHRONICLE, Mar. 2015, at 4-5 [hereinafter Layne-Farrar & Wong-Ervin], <http://www.crai.com/sites/default/files/publications/An-Analysis-of-the-Federal-Circuits-Decision-in-Ericsson-v-D-Link.pdf>.

<sup>22</sup> *Id.* at 5.

<sup>23</sup> *Id.* at 6.

<sup>24</sup> 773 F.3d at 1234.





prices charged for other needed inputs.<sup>25</sup> But there is no reason to assume that will necessarily be the case in a standard-setting context. For example, SEP holders will be cooperating with one another (and with all other standard-setting organization members) in the development of the standard, and are therefore likely to know what patents are expected to be asserted and by whom. As a result, there is no reason to presume that SEP holders will set rates without regard to the full complement of known SEPs.<sup>26</sup>

#### IV. CONCLUSION

Given the dangers and difficulties of regulating prices, agencies should exercise their prosecutorial discretion to refrain from applying excessive pricing prohibitions to IPRs in order to avoid punishing rigorous competition and diminishing the incentive to innovate. If an agency is required by law to apply an excessive pricing prohibition to IPRs, then it should focus upon comparable licenses, which will often be the best available evidence of the market value of the IPR at issue. Whether a portfolio includes expired or invalid patents should not be considered as proxies for “excessive pricing,” particularly given the commercial reality that parties generally determine a royalty that accounts for the possibility that some of the IPRs in a portfolio may be invalid or expired.

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<sup>25</sup> AUGUSTIN COURNOT, RESEARCHES INTO THE MATHEMATICAL PRINCIPLES OF THE THEORY OF WEALTH 99-116 (Nathaniel T. Bacon trans., MacMillan Co. 1897) (1838); see also Bruce H. Kobayashi, *Does Economics Provide a Reliable Guide to Regulating Commodity Bundling by Firms? A Survey of the Economic Literature*, 1 J. COMP. L. & ECON 707, 714 (2005).

<sup>26</sup> Layne-Farrar & Wong-Ervin, *supra* note 21, at 5.

