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The Future of IP Licensing

CPI COMPETITION POLICY INTERNATIONAL

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LETTER FROM THE EDITOR

Dear Readers,

Standard Essential Patents ("SEPs") have been at the center of a controversial debate for almost two decades. Most recently, a flurry of cases over 2020 from appellate courts in the United States, Germany, and the United Kingdom significantly advanced and harmonized the law around global FRAND litigation. These three judgments by the Federal Court of Justice of Germany (*Sisvel v. Haier*), the Supreme Court of the UK (*Unwired Planet v. Huawei*), and the U.S. Court of Appeals for the 9th Circuit (*FTC v. Qualcomm*) may have changed the landscape in international FRAND litigation.

The papers in this edition of the Chronicle discuss and analyze these recent developments and address the possible future outlooks for thing to come in IP licensing internationally.

In September 2020, LeadershIP held an event titled *Innovation Policy & the Role of Standards, IP, and Antitrust:* a discussion between **Walter Copan**, Under Secretary of Commerce for Standards and Technology and Director of the National Institute of Standards and Technology, **Andrei Iancu**, Undersecretary of Commerce for Intellectual Property and Director of the U.S. Patent Trademark Office, and **Makan Delrahim**, Assistant Attorney General at the Antitrust Division of the U.S. Department of Justice. The panel discussed the role of IP, Antitrust, and Standards policies towards a broader innovation policy framework, highlighted recent developments such as the Joint PTO-DOJ-NIST Policy Statement on Remedies for Standards Essential Patents, and new initiatives within their respective agencies. We are pleased to kick off this final 2020 edition of the Chronicle with some highlights from this discussion.

We hope this collection of papers adds to the rich debate on the future of IP licensing.

As always, thank you to our great panel of authors.

Sincerely,

CPI Team[1]

1 CPI thanks Qualcomm Inc. for their sponsorship of this issue of the Antitrust Chronicle. Sponsoring an issue of the Chronicle entails the suggestion of a specific topic or theme for discussion in a given publication. CPI determines whether the suggestion merits a dedicated conversation, as is the case with the current issue of the Chronicle, and takes steps to ensure that the viewpoints relevant to a balanced debate are invited to participate.

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Non-Discrimination – FRAND's Last Stand?

By Jorge L. Contreras & Richard J. Gilbert

Compliance with FRAND commitments by holders of standard-essential patents has largely focused on the "fair and reasonable" component of the commitment. This essay explores the interpretation of the "non-discrimination" component of FRAND. Two court cases that have recently addressed the non-discrimination commitment reach similar interpretations of its meaning but disagree on its enforcement, with one court embracing competition law as the governing principle. We argue that the FRAND commitment should not allow materially different royalty rates for similarly situated licensees. We also propose that standard development organizations encourage their members to disclose royalty rates early in the development of a standard and include measures to limit future royalty increases.

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The DOJ 2020 Business Review Letter to IEEE: Balance Restored

By Dina Kallay

In September 2020, the DOJ updated its 2015 business review letter to the Institute of Electrical and Electronics Engineers ("IEEE") standard development organization ("SDO") that evaluated the IEEE then-imminent revision of its patent policy. The Division undertook this "extraordinary step" in light of an extraordinary and unprecedented set of circumstances, that included systematic misrepresentation and mischaracterization of the Division's 2015 business review letter ("2015 BRL"), as well as developments that showed the 2015 BRL's factual and legal predictions did not materialize. This paper reviews the updated 2020 Division business review letter to IEEE ("2020 BRL" or "BRL") and the circumstances against which it was issued. It then reviews and analyses certain aspects of the BRL, including ongoing bipartisan concern over the impact of the 2015 BRL and underlying policy, and the need for caution in similar future contexts.

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Standards, Patents, and Antitrust Policy: The Road Ahead

By Kirti Gupta & Urska Petrovcic

Standard Essential Patents ("SEPs") have been at the center of a controversial debate for almost two decades. Recent developments have provided clarity on some of the most disputed issues. Courts and agencies across various jurisdictions have recognized that opportunism may occur both on the side of the SEP holder and on the side of the implementer. They have also reached consensus on issues such as the availability of injunctive relief for SEPs and the limited role of antitrust in addressing what are essentially contract disputes. In addition, courts have adopted market driven approaches when valuating SEPs, such as relying on comparable licenses, as well as when addressing questions regarding a patent holder's freedom to select the most efficient licensing level for its patent portfolio. The convergence in approaches adopted across different jurisdictions provides the much needed clarity in a field that, for a long time, has been characterized by a divided and polarized debate.

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The UK's Role as a Venue for FRAND Litigation: Have the UK Courts Gone Far Enough?

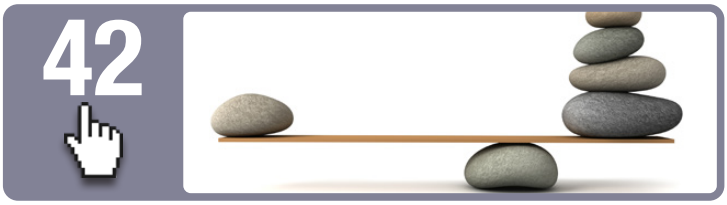
By Kalyan Dasgupta & David J. Teece

The licensing of SEPs for cellular mobile technology is a global matter — standards, technologies, and the scope of many licensees' operations are global or at least multi-national. Unfortunately, there is no unified global adjudicatory system that would enforce the rights of IP owners when licensing negotiations fail. Patent owners must enforce their patent rights by litigating over specific patents in specific jurisdictions. This raises the costs of enforcement and favors hold-out strategies by implementers. The *Unwired Planet* series of judgments upholding UK courts' ability to determine FRAND terms for global licenses, offers some hope that courts could provide something close to the unitary global adjudicatory mechanism that matches the global nature of the technology market. However, some implementers have reacted to this development by submitting themselves to injunctions on their relatively modest UK sales in order to avoid taking a license on court determined FRAND terms, and have argued that they are then at best liable for damages on past sales in the UK only. If the courts agree that damages should be metered only on UK past sales and at a rate close to the FRAND rate for global licenses, this will give implementers strong incentives to engage in such strategies.

What's Next for FRAND?

By Laura Goold & Richard Vary

A flurry of cases over the summer of 2020 from appellate courts in the United States, Germany, and the United Kingdom significantly advanced and harmonized the law around the ETSI FRAND commitment, competition or antitrust law surrounding standards-essential patents, and the jurisdictional limits of courts dealing with these. However, just when things seemed clear, in November 2020 a Duesseldorf court referred questions to the Court of Justice of the European Union on issues that had appeared to be settled. This article examines what we do know from recent decisions, and what remains to be decided.



Parallels and Diverging Approaches in the UK and German Supreme Courts' Decisions on FRAND

By Justus A. Baron

In this paper, I discuss the German Federal Court of Justice's decision in *Sisvel v. Haier* and the UK Supreme Court decision in *Unwired Planet v. Huawei* as well as *Huawei and ZTE v. Conversant Wireless*. I identify three levels at which the different decisions intersect. The German and UK Supreme Courts have adopted converging approaches to individual topics of controversy, such as portfolio licensing and non-discrimination. Nevertheless, the different courts' decisions reflect a fundamentally different interpretation of the meaning of the Fair, Reasonable, and Non-Discriminatory ("FRAND") licensing obligation. While the UK Supreme Court validated the decisions of English courts to determine FRAND royalties for the licenses under dispute, the German Federal Court of Justice gave priority to bilateral negotiations as the primary means for setting licensing terms and conditions. At the same time, the different cases share a common recognition of increasing Chinese influence over global SEP licensing disputes, challenging the delicate balance between the rights and interests of patent holders and implementers. While both decisions strengthen the position of SEP holders in light of these challenges, the *Sisvel v. Haier* decision provides a more suitable template for a balanced and market-driven European approach to FRAND.

How and Why Almost Every Competition Regulator Was Wrong About Standard-Essential Patents

By Jonathan M. Barnett

Since approximately the mid-2000s, competition regulators have largely adhered to a consensus according to which standard-essential patents pose an inherently high risk of anticompetitive effects in wireless communications markets. Based on this theoretical possibility, regulators have pursued far-reaching changes in the licensing relationships between innovators and implementers. Regulators have largely failed to secure these objectives due to difficulties in satisfying courts' demands for evidence of actual or likely anticompetitive effects to warrant intervention in apparently thriving markets. These litigation setbacks (which have accelerated since 2019) reflect a fundamental discrepancy between the theory driving regulators' actions, which predicts slow adoption and delayed innovation due to patent holdup, and actual performance, which exhibits rapid adoption and continuous innovation.

SUMMARIES

WHAT'S NEXT?

For January 2021, we will feature Chronicles focused on issues related to (1) **GDPR v. CCPA**; and (2) **Telecommunications**.

ANNOUNCEMENTS

CPI wants to hear from our subscribers. In 2021, we will be reaching out to members of our community for your feedback and ideas. Let us know what you want (or don't want) to see, at: antitrustchronicle@competitionpolicyinternational.com.

CPI ANTITRUST CHRONICLES FEBRUARY 2021

For February 2021, we will feature Chronicles focused on issues related to (1) **Gatekeepers**; and (2) **The Music Industry**.

Contributions to the Antitrust Chronicle are about 2,500 – 4,000 words long. They should be lightly cited and not be written as long law-review articles with many in-depth footnotes. As with all CPI publications, articles for the CPI Antitrust Chronicle should be written clearly and with the reader always in mind.

Interested authors should send their contributions to Sam Sadden (ssadden@competitionpolicyinternational.com) with the subject line "Antitrust Chronicle," a short bio and picture(s) of the author(s).

The CPI Editorial Team will evaluate all submissions and will publish the best papers. Authors can submit papers on any topic related to competition and regulation, however, priority will be given to articles addressing the abovementioned topics. Co-authors are always welcome.

HIGHLIGHTS FROM THE 2020 LEADERSHIP VIRTUAL EVENT

LEADERSHIP

DISCUSS. DEBATE. UNITE. LEAD.

WALTER COPAN, MAKAN DELRAHIM & ANDREI IANCU



On September 10, 2020, LeadershIP launched a series of virtual events. The first event, titled *Innovation Policy & the Role of Standards, IP, and Antitrust*, involved a discussion between **Walter Copan**, Under Secretary of Commerce for Standards and Technology and Director of the National Institute of Standards and Technology ("NIST"); **Makan Delrahim**, Assistant Attorney General at the Antitrust Division of the U.S. Department of Justice ("USDOJ"); and **Andrei Iancu**, Undersecretary of Commerce for Intellectual Property and Director of the US Patent Trademark Office ("USPTO"). **David J. Kappos**, partner at Cravath Swaine & Moore LLP and Former Under Secretary of Commerce and Director of the USPTO, moderated the discussion. The panel discussed the role of IP, Antitrust, and Standards policies towards a broader innovation policy framework, highlighted recent developments such as the Joint PTO-DOJ-NIST Policy Statement on Remedies for Standards Essential Patents ("SEPs"), and new initiatives within their respective agencies. Below are the main highlights from the event. The full recording of the event can be found here.

Walter Copan:

"A strong reliable intellectual property system is the bedrock upon which U.S. innovation is built. This mission for innovation and standards of course connects us to the role of standards essential patents and the standards process itself provides a foundation of trust in emerging technologies and enables interoperability and security. There is a special commitment that's made by innovators to license standards essential patents with fair, reasonable and nondiscriminatory terms, but standards essential patents are simply patents and they deserve the protections, they deserve the capabilities that intellectual property protections provide, including all elements of relief such as injunctive relief."

"In recent years the United States' share of worldwide R&D has declined from 37 percent of the global investment in 2000 to 25 percent in 2017. Meanwhile, China has dramatically increased its investments and outputs, including papers, patents, but also in standards participation, and particularly we are seeing hyper-competition in high value technology areas including artificial intelligence and quantum science. In the face of increasing global competition, NIST research and work in standards development are critical for keeping the United States at the forefront of emerging technology areas including quantum science and AI, but also advanced manufacturing, biotechnology, advanced communications, cybersecurity, resilience, and microelectronics to name just a few."

"U.S. standards leadership and engagement is an absolutely essential part of that foundation of trust in new technologies as well as the ability to enable global trade and to provide a revenue stream for innovators who have invested in the development of the technologies that are recognized as part of the standard system and as the standards essential process and we are excited about the ramifications of the new policy paper that has come out. This is an attempt to provide new balance in the United States for adopters of technology, for users of technology and for inventors of technology where standards are part of the process. U.S. standards leadership relies on ongoing R&D investments and we are looking forward to the United States' continued investment and to remove the acknowledged barriers that we have seen to innovation and to rightly restore the U.S. to that position of intellectual property licensing and commercialization leadership with the technologies that will define tomorrow's landscape."

"All three of our agencies agree…that good faith licensing negotiations between standard-essential patent owners and implementers are absolutely appropriate and necessary to promote technology innovation for this consumer choice and enables industry competitiveness by providing the right kinds of incentives on both sides of a negotiating table."

Makan Delrahim:

"Our New Madison Approach has had four core premises. First, holdup is fundamentally not an antitrust injury to be addressed by antitrust law, but rather, it could be a contract or a fraud injury where it is proven. Second, the standard-setting organizations should not become vehicles for concerted action by competitors and market participants to favor either implementers or patent holders over the other. Third, the fundamental feature of patent rights is the right to exclude and courts should be hesitant to limit that right by, say, disfavoring injunctive remedies absent specific congressional direction, which would not be necessarily consistent with the framework that we have. Fourth, consistent with this right to exclude that our intellectual property laws provide, the antitrust laws ought to regard unilateral decisions not to license a patent as *per se* legal, under the antitrust laws."

"Negotiating [IP licenses] in the shadows of dubious antitrust liability is not only unnecessary, it dramatically shifts the bargaining power between patent holders and implementers in a way that distorts being selected for real competition on the merits through innovation. Giving implementers the threat of treble damages in antirust increases perverse likelihood of holdout, which is the other side of the holdup point and of course, none of this undermines the importance of the negotiations that took place at the time that in the standards for organizations elected competing technologies for inclusion in the standard. In the extent that implementers bargained for some benefit, contract law already provides a solution to the problem of any failure to live up to that contractual bargain. Parties on equal terms get in the shadows of contract law because there's no threat of treble damages skewing the negotiations in favor of an implementor."

"I'm just going to mention a couple of cases without getting further into detail but you'll see international recognition of a lot of the principles of the New Madison Approach and this past FRAND [cases]. We saw *Sisvel v. Haier* decision in the German Federal Court of Justice which was I think a great result for pro-innovation policies. And then, more recently, we saw in the UK Supreme Court the *Unwired Planet v. Huawei Technologies* as yet another decision that aligns perfectly with the New Madison Approach's principles."

"The intersection of patent law and antitrust is a highly technical area of the law. . . . What's important is that the courts have been echoing our concerns with the proper balancing of the interest of patent holders and implementors."

Andrei Iancu:

"Obviously with a strong IP system, inventors are willing to make the investment of time, energy, and resources needed to develop commercial products, methods including the critically important tests and treatments and vaccines that are needed to solve this pandemic, and future pandemics. And in fact, it is these prior investments and inventions that have made possible everything that we see today, including the rapid response with respect to a lot of these technologies; in fact, an unprecedented response when it comes to the development of some of these technologies. But I want to emphasize that the decisions we make today will impact the investments and inventions that will be needed during the next pandemic as well, as well as other humanitarian crises. Inventors and investors are obviously watching what's happening and they need to know that the IP they generate is respected when it is actually needed. They need to know that their IP protections are reliable, because if we do not respect IP rights during the crisis when the technologies they protect are most needed, inventors will not put in the time and resources to develop technologies that will be important to have in the next crisis; and not just a crisis, just everyday life as well."

"We have only one patent system. We have only one trademark, one copyright system. It needs to serve all of our stakeholders in the United States, all industries. It needs to serve the inventors and those who need to use the inventions and implement them in commercial products. So, the system must be balanced, and we always have to be vigilant that the appropriate balance is maintained."

"There is a significant degree of convergence towards a more unified view across the world as to the importance of standard-essential patents, and the innovation policies that are driven by those policies surrounding standard-essential patents…. [T]here's a lot of common language between what the UK has said, what Germany has said, and what we said when it comes to the incentives given to the various parties to negotiate in good faith, for example, and not create perverse incentives, you know, just like the various courts in Europe. Our joint statement said that we encourage good faith licensing negotiations between the standard-essential patent owners and the implementers, and I think there is a general recognition now that whatever policies we put in place should not have these absolute rules on remedies or whatever that creates negative incentives to reach a negotiated resolution."

NON-DISCRIMINATION – FRAND'S LAST STAND?

BY JORGE L. CONTRERAS & RICHARD J. GILBERT[1]

1 Respectively Presidential Scholar and Professor of Law, University of Utah S.J. Quinney College of Law and Emeritus Professor of Economics, University of California, Berkeley. During the past 3 years, the authors have not consulted on any antitrust matters or received outside compensation related to the issues addressed in this essay.

I. INTRODUCTION

A significant number of technical interoperability standards today are developed under the auspices of standards development organizations ("SDOs") that require their participants to license patents that are essential to the implementation of those standards (standards-essential patents or "SEPs") on terms that are "fair, reasonable and nondiscriminatory" ("FRAND"). With few exceptions, SDOs fail to define these terms with any degree of detail. As a result, the meaning of FRAND has been the subject of litigation in jurisdictions around the world, and each new case seems to increase the divergence of opinions over the appropriate manner of calculating FRAND royalties. One SDO's attempt to establish guidelines for FRAND royalty calculations has been attacked as unfair to SEP holders and a potential violation of antitrust laws.[2] The result has been a general failure of the FRAND commitment to establish meaningful limits on royalties charged for SEPs or the manner of calculating these royalties.

Less attention has been paid to the "non-discrimination" or ND prong of FRAND. In this essay, we explore possible interpretations of this component of the FRAND commitment and the conclusions of two courts that have examined this issue.[3] Enforcement of the ND prong enables a level playing field for competition and investment by SEP licensees. Moreover, enforcement of the ND prong can be an effective means to assess fair and reasonable royalty rates in the fractious environment of FRAND compliance under some circumstances. If SEP holders commit to royalty terms before a standard is approved and released by the SDO, and if the ND prong of the FRAND commitment requires that such terms apply to future licensing negotiations, this would have the ancillary benefit of mitigating concerns about holdup that might arise after firms and consumers have committed to the standard.

For the ND prong to accomplish this latter purpose, SDOs must specify that a nondiscrimination commitment applies to licensing negotiations that occur at different times, as well as to negotiations between different licensees. The presiding judges in the two court cases reviewed in this essay concluded that the relevant FRAND obligation was not a most-favored customer requirement that gives every licensee the benefit of the most favorable licensing terms ever granted to another party. This suggests that, unless SDOs state otherwise, a similar FRAND commitment would not obligate SEP holders to extend the same terms to future licensees. Such an interpretation would undermine the value of the ND prong in mitigating holdup in future licensing negotiations.

Enforcement of a non-discrimination commitment in bilateral market negotiations requires transparency about royalties that SEP holders have negotiated in the past and are likely to obtain in the future. We propose that SDOs encourage or require their participants to post a binding royalty schedule for their SEPs covering a given standard for all licensees as early in the standard development process as possible and include measures to limit future royalty increases. This obligation, which parallels the posting of royalty schedules by most patent pools, would allow the ND prong of the FRAND commitment to constrain opportunistic licensing demands by SEP holders that might occur after firms and consumers have made investments that are specific to a standard.

II. UNDERSTANDING THE ND PRONG OF FRAND

Absent SDO guidance, the meaning of the ND prong of the FRAND commitment must be derived from the understanding of SEP holders, licensees and enforcers. There are several possible interpretations of this commitment:[4]

(i) Every licensee pays the same royalty;

(ii) Royalties may differ, but they do not violate an ND commitment unless they harm competition among licensees;

(iii) Royalties may differ if they promote the adoption of the standard for which the licensed patent is essential;

(iv) Royalties may differ if licensees do not compete with each other.

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2 In 2015, the Department of Justice issued a Business Review Letter ("BRL") that did not object to a revision in the IEEE patent policy that limited the ability of SEP holders that make FRAND commitments to demand injunctive relief. In 2020, the Department of Justice provided supplementary advice that effectively reversed this conclusion. Updated Response to IEEE's Request for Business Review Letter, Makan Delrahim, Ass't Att'y Gen., Antitrust Div., U.S. Dep't of Justice (Sep. 10, 2020).

3 We disagree with the UK Supreme Court, which recently held that the non-discrimination prong of the FRAND commitment was not a separate commitment at all, but merely "gives colour to the whole and … provides focus and narrows down the scope for argument about what might count as 'fair' or 'reasonable.'" *Unwired Planet v. Huawei*, [2020] UKSC 37, Para. 114.

4 We focus on the assessment of nondiscriminatory royalties. Discrimination can involve other dimensions of SEP licensees, such as products that must be licensed, availability of injunctions, geographical scope, or reciprocal licensing obligations.

We discuss each of these possible criteria and evaluate whether they are economically sensible interpretations of the FRAND non-discrimination commitment.

A. Every Licensee Pays the Same Royalty

The apparently simple criterion that every licensee should pay the same royalty has practical difficulties. The rule does not specify whether "the same royalty" should be interpreted as the same amount for every unit of product sold by each licensee, the same running royalty paid as a percentage of the sale price of a product that implements the standard, or perhaps some other measure.

"The same royalty" is an ambiguous concept if SEP holders charge a menu of prices that include fixed fees and per-unit or running royalties, royalties that vary with the number of units sold, or royalties that have caps or floors. Total licensing fees under royalty schedules that include these common components depend on the numbers or prices of units sold by the licensees and may involve discounting of expected future sales, which makes a comparison of amounts paid by different licensees the result of a complicated and necessarily imperfect estimation. Many SEP holders charge a running royalty that is a percentage of a base price that is related to the price of a product that implements the standard covered by the patent, but if two licensees sell the same number of products, they would pay different royalties under these schemes if their products have different prices.

B. Royalties May Differ, But They do not Violate an ND Commitment Unless They Harm Competition Among Licensees

An alternative approach to the definition and enforcement of an ND commitment applies the analytical framework of competition law to identify royalties that materially discriminate among licensees. Competition law would apply if SEP holders have substantial market power. That is likely if they hold patents that are essential to a standard that has wide acceptance, the patents have no close substitutes, and firms or consumers that implement the standard have high cost to switch to an alternative. In that event, competition law may limit discriminatory licensing arrangements if they are likely to distort competition and harm consumers.

The UK High Court (Patents) embraced the use of competition law to evaluate the non-discrimination prong of a FRAND commitment in *Unwired Planet v. Huawei*, a decision that was ultimately affirmed by the UK Supreme Court.[5] The application of competition law to assess and enforce compliance with a non-discrimination commitment has several drawbacks, which we discuss in Section III below.

C. Royalties May Differ if They Promote the Adoption of the Standard for Which the Licensed Patent is Essential

An alternative criterion to evaluate compliance with an ND commitment is whether differential royalties promote the adoption and use of the standard for which the licensed patent is essential. In some respects, this is the converse of applying competition law to evaluate ND compliance. Whereas competition law may condemn licenses that are excessively discriminatory, a promotion criterion would permit a degree of discrimination notwithstanding an ND commitment if the discrimination is likely to facilitate the adoption and use of the standard.

Economists have long recognized that price discrimination can enhance economic efficiency by increasing sales of a product. Bilateral bargaining that extracts the most that every licensee is willing to pay is an example of first-degree price discrimination. First-degree price discrimination can promote the adoption and use of a standard by allowing licensors to reach agreements with every licensee that is willing to pay for a license to implement the standard. Royalty schedules that include fixed fees or lower payments for higher sales are examples of second-degree price discrimination. Compared to a uniform rate for every unit of a product that implements a standard, a royalty schedule that practices second-degree price discrimination can increase the adoption and use of a standard by allowing licensors to charge prices for additional utilization of licensed patents that are closer to the incremental cost of another licensed unit.

Although price discrimination may promote adoption and use of a standard under some circumstances, it can have the opposite effect. Permitting rival licensees to negotiate differential licensing terms can result in royalties that cause consumers to pay higher prices for the licensees' products and reduce incentives for licensees to innovate.[6] Price discrimination can harm *dynamic* economic efficiency, even if it improves *static* economic efficiency, because licensees have less surplus available to cover the costs incurred to improve their products or develop new

5 [2017] EWHC 711 (Pat), aff'd [2018] EWCA Civ 2344, aff'd [2020] UKSC 37.

6 Compare, e.g. Michael L. Katz. *The Welfare Effects of Third-Degree Price Discrimination in Intermediate Good Markets*, 77 Am. Econ. Rev. 154 (1987) (price discrimination can raise prices) and Roman Inderst & Tommaso Valletti, *Price discrimination in input markets*, 40 RAND J. Econ. 1 (2009) (price discrimination can lower innovation incentives) *with* Daniel P. O'Brien, *The welfare effects of third-degree price discrimination in intermediate good markets: the case of bargaining*, 45 RAND J. Econ 92 (2014) (price discrimination can lower prices).

products. Differential royalties can harm smaller rivals and new entrants in markets where established firms already benefit from network effects and brand reputation, thereby diminishing the ability of competitors to disrupt industries with dominant firms.

D. Royalties May Differ if Licensees Sell Products that do not Compete with Each Other

Third-degree price discrimination occurs when a firm charges different prices to different types of users. A SEP holder engages in third-degree price discrimination if it charges different royalties for a patent that is used in different applications – such as mobile phones versus cellular base stations or DVD players versus discs – or for use of the same product in distinct geographies.

Third-degree price discrimination has no adverse competitive effect if the differential royalties are for applications that do not compete with each other or are for use of the licensed technology in separate geographies. Furthermore, third-degree price discrimination can have pro-competitive benefits for the adoption and use of a standard, including encouraging use of the standard in new markets. For example, Avanci, a patent licensing platform that licenses patents on 3G, 4G, and 5G cellular technologies for use in non-telecommunications applications such as vehicles, charges royalties that differ from those charged under licenses that cover mobile phones and other devices.

We believe that a FRAND commitment should allow licensees to pay different royalties if they operate in different markets or distinct geographies. That is, absent contrary evidence, third-degree price discrimination should not violate the ND prong of a FRAND commitment. At the same time, we believe that the ND prong should prevent similarly-situated licensees from paying significantly different royalties for patents encumbered with a FRAND commitment if the licensees sell similar products in the same region.

We now turn to how courts have evaluated the meaning of the ND prong of the FRAND commitment. We focus on two judicial decisions that considered this question in detail.[7] While they agree that the ND prong should apply to similarly-situated licensees, at least one of the decisions is clouded by factors that leave governance of the ND commitment open to some uncertainty.

III. NON-DISCRIMINATION AND THE COURTS

A. TCL v. Ericsson

In *TCL v. Ericsson*,[8] the U.S. District Court for the Central District of California considered whether Ericsson complied with a FRAND commitment to the European Telecommunications Standards Institute ("ETSI"). The court noted with regard to ETSI's patent policies that "[T]he precise contours of the FRAND obligation were never crystalized in a definitive formulation. … Neither the history of ETSI's policy development nor the meager case law development of the FRAND concept provides the Court definitive guidance in assessing whether Ericsson's offers have been non-discriminatory."[9]

The Court rejected Ericsson's argument that unlawful discrimination must harm competition in a market for the adoption or use of a standard. Instead, the Court found that harm to a licensee offered discriminatory rates is sufficient to violate the ETSI ND commitment. The Court reasoned:

To be sure, one of the goals of ETSI is to foster standardization and its resultant benefits to all firms, but that is not to the exclusion of protecting individually harmed firms. Indeed, Ericsson would engraft into the FRAND analysis the distinction which American antitrust law makes between the harm to competition, which is actionable, and mere harm to a competitor which is not. … The Sherman Act and its long history provide no guide to understanding ETSI's non-discrimination under FRAND.[10]

The Court concluded that the ND prong of the FRAND commitment required that the SEP holder offer rates to firms that are "like, or close to like."[11] For purposes of comparing Ericsson's FRAND-encumbered cellular royalties, the Court included all cellular firms that are well-estab-

7 In addition to the two decisions discussed below, we note that the district court in FTC v. Qualcomm ruled on the requirements of the ND prong of the FRAND commitment made to two SDOs. The issue addressed by the court, however, related to whether the ND commitment permitted a SEP holder to refuse to license certain rival firms under its SEPs. We do not address this issue, referred to in the literature at "level discrimination" or "license to all."

8 TCL Commun. Tech. Holdings, Ltd. v. Telefonaktiebolaget LM Ericsson, 2017 U.S. Dist. LEXIS 214003 (C.D. Cal. 2017), rev'd on other grounds, 955 F.3d 1317 (Fed. Cir. 2020).

9 *Id.* at *23.

10 *Id.* at *122.

11 *Id.* at *94.

lished in the world market, which includes many firms with much higher sales than TCL. The Court rejected the notion that SEP holders can justify differential royalty terms because they differ in overall financial success or risk, brand recognition, efficiency, the operating system of their devices, or the existence of retail stores, and emphasized that sales volume alone does not justify giving lower rates to otherwise similar firms. The Court did, however, allow for differential rates for firms that operated exclusively in separate geographies. Without directly saying so, the Court implicitly recognized that third-degree price discrimination based on geography does not violate ETSI's FRAND commitment.

Citing evidence from the history of ETSI's patent policies, the Court rejected the notion that the non-discrimination commitment was a most-favored licensee provision that would give every licensee the benefit of any more favorable terms and conditions granted to another licensee for the same intellectual property rights under comparable circumstances.

B. Unwired Planet v. Huawei

The UK High Court (Patents) considered the requirements of ETSI's non-discrimination commitment in *Unwired Planet v. Huawei*.[12] The Court concluded that the ETSI FRAND undertaking should be interpreted as establishing a benchmark FRAND rate applicable to all licensees seeking the same kind of license. The Court said that this rate is non-discriminatory because it is a measure of the intrinsic value of the portfolio being licensed but it does not depend on the identity of the licensee.

The characterization of the non-discrimination requirement of a FRAND commitment adopted by the UK court is broadly similar to the conclusion reached by the U.S. District Court in *TCL*. The judges in both cases adopted the view that royalty terms should be similar for similarly-situated licensees. Both courts also rejected the notion that the ND prong should act as a most-favored-licensee commitment, which would automatically give a licensee the benefit of a lower rate if such a rate were granted to a different licensee. The UK court characterized such a most-favored approach as "hard-edged" non-discrimination and distinguished it from "general" non-discrimination, which the court concluded was consistent with the ETSI FRAND commitment.

Although the UK court concluded that the non-discrimination commitment prohibits size-based discrimination, it also held that a licensee cannot challenge a license allegedly granted on FRAND terms if it later discovers that a similarly-situated licensee received a lower royalty rate unless the difference would distort competition between the two licensees, and thereby violate applicable competition law.

We do not believe that compliance with the ND prong of a FRAND commitment should be assessed on the basis of compliance with competition law unless the SDO's patent policy includes an affirmative statement to this effect, for two main reasons. First, since competition law already applies to all arrangements between licensors and licensees, an ND commitment would have no incremental effect if it means nothing more than a requirement that licensing should not violate applicable competition law. We believe that most SDO participants intend an ND commitment to mean something more, otherwise there would be no need for it.

Second, most FRAND commitments are for non-exclusive world-wide licenses, but national competition laws have different tolerances for discriminatory conduct. In the U.S., the Robinson-Patman Act can condemn differential pricing, but only for commodities of like grade and quality (not patent licenses). Differential pricing can be addressed under Section 2 of the Sherman Act, the Clayton Act, or Section 5 of the Federal Trade Commission Act. However, these laws do not condemn differential royalties without additional evidence of antitrust injury.

In contrast, Article 102(c) of the Treaty on the Functioning of the European Union specifically notes that it is a violation for a dominant firm to apply "dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage." Both U.S. and European competition laws require evidence of substantial market power to challenge licensing conduct, but their thresholds for substantial market power differ, as can the means by which they evaluate market power. Competition laws differ in other respects, such as requirements for bringing actions and for proving injury. We believe it is unlikely that SDO members intended competition law to be the measure by which FRAND licensing is evaluated, given that licensing is often world-wide, competition laws differ substantially across jurisdictions, and SDOs and their members are required to comply with the applicable competition laws in any event.

The *TCL* and *Unwired Planet* cases suggest that FRAND commitments would not prohibit intertemporal price discrimination unless they specifically grant licensees the benefit of more favorable terms and conditions that may be negotiated in the future. We believe that an interpretation of the ND prong that constrains intertemporal price discrimination for similarly-situated firms would have important pro-competitive benefits by limiting the ability of SEP holders to raise royalties after firms and consumers have made investments that are specific to the patented technology. This most-favored licensee interpretation is not inconsistent with a FRAND commitment, but SDOs would have to specify that the ND prong applies to licenses negotiated at different points in time as well as across similarly-situated licensees.

12 [2017] EWHC 711 (Pat), aff'd [2018] EWCA Civ 2344, aff'd [2020] UKSC 37.

IV. A NOT SO MODEST PROPOSAL

To effectuate such a policy, we propose that SDOs adopt measures to disclose royalty terms early in the development of a standard and limit rate escalation.

Non-discrimination cannot be enforced without information about the royalty terms and conditions negotiated by other similarly-situated licensees. Licensing negotiations are often confidential. Consequently, licensees often cannot assess – let alone challenge – compliance with a non-discrimination commitment without requesting a court to require discovery of other relevant FRAND-encumbered licenses. Transparent disclosure of licensing terms is also indispensable to enforce intertemporal non-discrimination and mitigate opportunistic conduct.

Intertemporal enforcement of the ND prong can help a FRAND commitment to prevent conduct that may disadvantage licensees. Indeed, litigated evaluations of compliance with the FR prong often rely on comparisons with other comparable licenses, which is effectively a study of compliance with the ND prong. We can do better if the ND prong is interpreted to prevent intertemporal discrimination and SDOs require SEP holders that make FRAND commitments to disclose their licensing terms and conditions early in the development of a standard, before firms and consumers have made decisions that create the opportunity for holdup.

Early disclosure requirements would not address potential opportunistic conduct if holders of FRAND-encumbered patents have no limitations on changes to future licensing terms and conditions. We propose that SDOs also impose caps on the rate at which royalties can increase for FRAND-encumbered patents.

The idea of a published royalty schedule for SEPs is not new, and a number of SEP holders have voluntarily published royalty rates in the past.[13] In 2006, the VMEbus International Trade Association (VITA), an SDO that develops standards in the aviation and defense electronics sector, amended its patent policy to require that VITA participants disclose the maximum royalty rates that they will charge for SEPs covering a VITA standard in advance of the voting on that standard ("*ex ante*").[14] Around the same time, IEEE and ETSI amended their patent policies to permit the voluntary *ex ante* disclosure of SEP licensing terms, but did not follow VITA's lead in mandating such disclosure.[15]

We propose that SDOs encourage their participants to post a royalty schedule for all patents that they declare essential to a standard early in the development of said standard. Ideally, the posting would apply to the portfolio of standard-essential patents declared by their members, much as patent pools publish schedules for licenses to their relevant portfolios, and would include caps on future rate increases. In addition to providing transparency and limiting the potential for *holdup*, such posting may also limit the potential for *holdout*.

Holdout occurs when technology users delay or refuse payment of lawful royalties. Potential licensees of FRAND-encumbered patents sometimes allege that they are entitled to delay or refuse payment because the requested royalties do not comply with the patent holder's FRAND obligations. The existence of a transparent royalty schedule that is applicable before firms and consumers make investments that are specific to the relevant standard would help to validate compliance with FRAND commitments and would undermine allegations that the requested royalties are not FRAND.

V. PRACTICAL AND IMPLEMENTATION CONSIDERATIONS

We do not underestimate the difficulty that an SDO today may face in gaining membership approval for our proposal. Moreover, we note that despite the DOJ's positive review of VITA's 2007 policy amendment, no other SDOs of which we are aware have adopted a mandatory *ex ante* disclosure policy in the thirteen years since. Numerous reasons for this reluctance have been proposed, including determined opposition by large SEP holders, the unwillingness of SDO participants to develop detailed licensing programs before the value of standards is known, competition from other SDOs with intellectual property licensing policies that afford greater discretion to patent holders, and the desire of SDO participants to "let sleeping dogs lie."

13 See Jorge L. Contreras, *Patent Pledges*, 47 Ariz. St. L.J. 543, 559-61, Table 4 (2015) (examples of rate disclosures by Nokia, Ericsson, Qualcomm and others).

14 See Jorge L. Contreras, *Technical Standards and Ex Ante Disclosure: Results and Analysis of an Empirical Study*, 53 Jurimetrics 163, 172-75 (2013) (discussing VITA policy amendment).

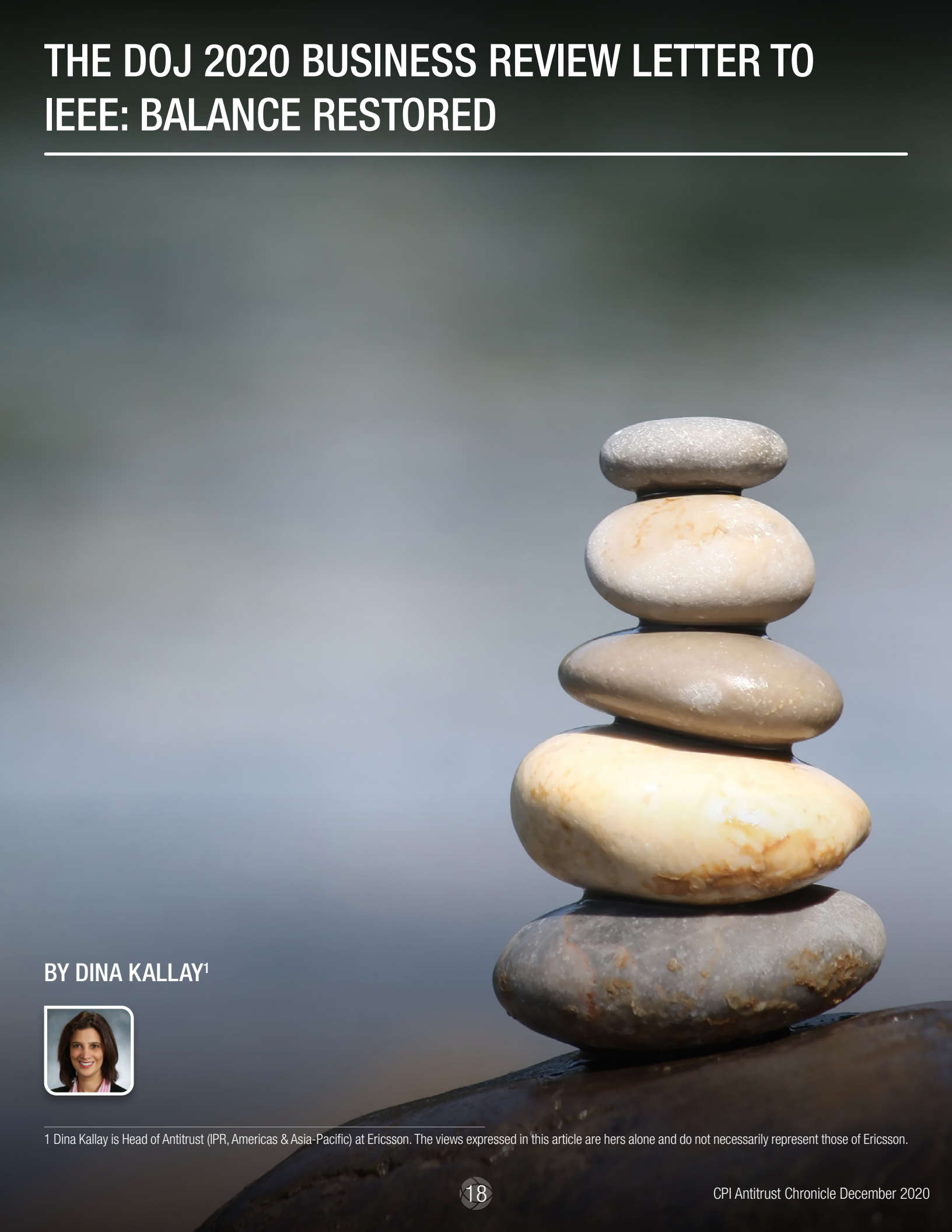
15 See *id.* at 175-77.

VI. CONCLUSIONS

We believe that there are sound economic reasons to allow owners of standard-essential patents to offer royalty schedules that depart from uniform royalties and include terms such as volume discounts or royalties that depend on the devices that employ the licensed technology. However, these reasons do not justify an interpretation of the non-discrimination prong of a FRAND commitment and that allows SEP holders to negotiate agreements with licensees that are constrained only by the relative bargaining power of the parties or relevant competition law and allows the terms of these agreements to be concealed from public view. That lack of discipline invites opportunistic pricing that can limit competition and harm incentives for innovation.

The not-so-modest proposal we advance in this note would facilitate enforcement the ND prong of a FRAND commitment by requiring SEP holders to disclose their licensing terms. Furthermore, if SEP holders are required to offer similar licensing terms at different points in time as well as to different but similarly-situated licensees, this would go far to mitigate both opportunistic holdup by licensors and opportunistic holdout by licensees.

THE DOJ 2020 BUSINESS REVIEW LETTER TO IEEE: BALANCE RESTORED



BY DINA KALLAY[1]

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I. INTRODUCTION

On September 10, 2020, the United States Department of Justice Antitrust Division ("DOJ," "Division," or "Department") updated its 2015 business review letter[2] to the Institute of Electrical and Electronics Engineers ("IEEE") standard development organization ("SDO") that evaluated the IEEE's then-imminent revision of its patent policy.[3] The Division undertook this "extraordinary step"[4] in light of an extraordinary and unprecedented set of circumstances, that included systematic misrepresentation of the Division's 2015 business review letter ("2015 BRL"), as well as developments that showed the 2015 BRL's factual and legal predictions did not materialize.

This paper reviews the supplemental 2020 Division business review letter to IEEE ("2020 BRL" or "BRL") and the circumstances against which it was issued. It then analyses certain related aspects, including ongoing bipartisan concern over the impact of the 2015 BRL and its underlying policy, and the need for caution in similar future contexts.

II. THE 2015 BUSINESS REVIEW LETTER TO IEEE

In 2015, the IEEE Standards Association[5] concluded an unusual and controversial process of rewriting its prior 2007 patent policy. Among other things, the revisions:

1. Included, for the first time, a defined term "Compliant Implementation." This provision effectively instilled a compulsory license regime to the benefit of component makers, contrary to existing industry practice, including under the 2007 patent policy;[6]

2. Created a definition of "reasonable rate" that significantly devalued standard essential patents, including by analyzing their value in connection with the "smallest saleable patent practicing unit" and by eliminating the evidentiary value of comparable licenses;[7] and

3. Severely limited the injunctive remedies available to standard essential patent owners in response to infringement, regardless of the behavior of the infringers.[8]

Prior to formally adopting the new patent policy, the IEEE requested a business review letter from the Antitrust Division.[9] The Division applied a quick rule of reason analysis that was hinged on a number of elements, including:

(1) a prediction that the revisions would bring about procompetitive benefits likely to outweigh anticompetitive harms;[10] and

(2) a prediction that anticompetitive effects are unlikely because, among other things, the revisions "[we]re not out of step with the direction of [2015] U.S. law interpreting RAND commitments"[11]

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2 Letter from Renata B. Hesse, Acting Asst. Att'y Gen., U.S. Dep't of Justice, to Michael A. Lindsay, Esq., Dorsey & Whitney LLP (Feb. 2, 2015), https://www.justice.gov/file/1315431/download [hereinafter "2015 BRL"].

3 Letter from Makan Delrahim, Asst. Att'y Gen., U.S. Dep't of Justice, Antitrust Div., to Sophia A. Muirhead, Gen. Counsel & Chief Compliance Officer, IEEE re: Business Review Letter to IEEE (Sept. 10, 2020) https://www.justice.gov/atr/page/file/1315291/download [hereinafter "2020 BRL"].

4 *Id.* at 1.

5 For ease of reference, this paper uses the acronym IEEE to also refer to the IEEE Standards Association which is the standards development arm of the IEEE.

6 See redline showing the 2015 IEEE patent policy revisions, page 1 lines 19-20, 25-26, 39 and page 3 lines 104-105 http://grouper.ieee.org/groups/pp-dialog/drafts_comments/SBBylaws_100614_redline_current.pdf [hereinafter: "2015 Revision Redline"].

7 *Id.* at 2, lines 49-64.

8 2015 Revision Redline *supra* note 6, at 1, lines 37-39, 3 lines 108-109, and 4 lines 147-156.

9 Michael A. Lindsay, Dorsey & Whitney LLP Letter to The Honorable William J. Baer, Ass't Att'y Gen., U.S. Dep't of Justice, Antitrust Div. (Sep. 30, 2014) (published Feb. 2, 2015) https://www.justice.gov/sites/default/files/atr/legacy/2015/02/17/311483.pdf [hereinafter: "IEEE BRL Request Letter"].

10 2015 BRL, *supra* note 2, at 16.

11 2015 BRL, *supra* note 2, at 8.

The 2015 BRL addressed the significant development process concerns raised with respect to the patent policy revisions, noting contentions that "parties desiring lower royalty rates commandeered IEEE-SA and that the Update was the product of a closed and biased process antithetical to the consensus-based goals of open SSOs."[12] The letter notes that "many of these concerns centered on the composition, formation, and conduct of the Ad Hoc, which was responsible for generating the Update." It nonetheless concluded its analysis with a positive outcome, indicating "no [February 2015] intention to take antitrust enforcement action against the conduct" described, based on the information provided by IEEE.[13]

The 2015 BRL's analysis was critiqued by multiple antitrust experts, who noted its analytical shortcomings[14] as well as its lack of serious consideration of the legality and propriety of the underlying policy revision process.[15]

III. THE 2020 DOJ BUSINESS REVIEW LETTER TO IEEE

DOJ's recent 2020 BRL to IEEE is premised on four elements, as follows:

(1) **Correcting a longtime misapplication of the 2015 BRL**. The 2020 BRL expresses regret that the 2015 BRL "has been cited, frequently and incorrectly, as an endorsement of the IEEE Policy, which was not [the Division's] purpose or intent."[16] The BRL and public sources reveal that such mischaracterization began soon after the 2015 BRL's issuance, and that Division officials tried to stop such mischaracterization already in 2015.[17] The 2020 BRL also explains that the mischaracterization was especially targeted at the Chinese government and audience,[18] and clarifies that "[a]ny representation by IEEE – or other[s]… - that the Department has endorsed the [2015 IEEE patent] Policy is wrong, causes confusion, and must stop;"[19]

(2) **Noting that the 2015 BRL predictions regarding legal and policy developments for licensing of essential patents have proven incorrect**. The BRL explains that the 2015 BRL's predictions that the IEEE revised policy positions for injunctive relief against infringers and reasonable rate calculation were "not out of step with the direction of [2015] U.S. law interpreting RAND commitments" have proven incorrect or inaccurate through case law and policy developments.[20]

(3) **Providing balance by noting neglect to consider risk of hold-out**. By "focus[ing] on the risk of so-called "hold up" by patent-holders without considering the possibility of "hold out" by patent implementers or the Policy's effect on patent holders' innovation incentives" the

12 2015 BRL, *supra* note 2, at 7.

13 2015 BRL, *supra* note 2, at 16 ("Accordingly, the Department has no present intention to take antitrust enforcement action against the conduct you have described. … This letter expresses the Department's current enforcement intention and is predicated on the accuracy of the information you have provided").

14 Critics noted Division's failure to conduct a full rule of reason analysis or consider adequately the impact of IEEE-SA policy changes on hold-out, innovation and dynamic competition. See for example, Lisa Kimmel, *Standards, Patent Policies, and Antitrust: A Critique of IEEE-II*, Am. Bar Ass'n Antitrust Magazine, Summer 2015; Stuart M. Chemtob, *Carte Blanche for SSOs? The Antitrust Division's Business Review Letter On The IEEE's Patent Policy Update*, 2 Competition Pol'y Int'l Antitrust Chron., March 2015, https://www.wsgr.com/publications/PDFSearch/chemtob-0315.pdf; Marco Lo Bue, *Are These Cartels? Price Guidelines Adopted by Standard Setting Organisations*, 7(8) J. of Eur. Competition L. & Practice, 537–43 (2016); Nicolas Petit, *The IEEE-SA Revised Patent Policy and Its Definition of 'Reasonable' Rates: A Transatlantic Antitrust Divide?*, 27 Fordham Intell. Prop., Media & Entertainment L.J. 211 (2017); J. Gregory Sidak, *The Antitrust Division's Devaluation of Standard-Essential Patents*, 104 Geo. L.J. Online 48 (2015); Luke Froeb and Mikhael Shor, *Innovators, Implementers, and Two-Sided Hold-Up*, Am. Bar Ass'n Antitrust Source, August 2015, http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/aug15_froeb_7_21f.authcheckdam.pdf; Roy E. Hoffinger, *The 2015 DOJ IEEE Business Review Letter: The Triumph of Industrial Policy Preferences Over Law and Evidence*, 2 Competition Pol'y Int'l Antitrust Chron., March 2015, https://www.competitionpolicyinternational.com/assets/Uploads/HoffingerMar-152.pdf; Hugh M. Hollman, *IEEE Business Review Letter: The DOJ Reveals Its Hand*, 2 Competition Pol'y Int'l Antitrust Chron., March 2015, https://www.competitionpolicyinternational.com/assets/Uploads/HollmanMar-152.pdf.

15 See, e.g. Nicolo Zingales & Olia Kanevskaia, *The IEEE-SA patent policy update under the lens of EU competition law*, 12 Eur. Competition J. no. 2–3, 2016, at 195–235; Nicolas Petit, *The IEEE-SA Revised Patent Policy and Its Definition of 'Reasonable' Rates: A Transatlantic Antitrust Divide?*, 27 Fordham Intell. Prop., Media & Entertainment L.J. 211 (2017); Sidak, *Id.*; Hoffinger *Id.*

16 2020 BRL, *supra* note 3, at 1.

17 2020 BRL, *supra* note 3, at 2, note 5, citing to a former Head of Antitrust Division, Renata Hesse, April 2015 statement attempting to stop such mischaracterization.

18 2020 BRL at 3, note 11, referencing an IEEE article in Mandarin, and at 9 note 47, referencing a blog post with links to a May 2016 Beijing meeting between an IEEE delegation and China's National Development and Reform Commission (NDRC) government agency. According to the press release, at the meeting "IEEE introduced its newly revised standard patent policy and its relationship with antitrust" https://web.archive.org/web/20160525162349/http://jjs.ndrc.gov.cn/gzdt/201605/t20160517_801932.html. See also MLEX – Statement, NDRC Antitrust Chief Meets with IEEE Director (May 17, 2016).

19 2020 BRL, *supra* note 3, at 2-3.

20 2020 BRL, *supra* note 3, at 3-8.

2015 BRL "did not dedicate attention to potentially harmful implementer conduct seeking to undermine the bargaining position of patent owners in the standards development process." The 2020 BRL notes that "hold out can significantly undermine innovation incentives and deserves consideration in SDO licensing policies."[21]

(4) **Finding that the 2015 BRL's prediction of procompetitive benefits did not materialize; instead, the reviewed policy harmed innovation and the IEEE process**. The 2020 BRL explains that the 2015 BRL assumption that the reviewed patent "would create greater clarity and certainty in licensing negotiations and thereby yield procompetitive benefits… do[es] not appear to have materialized and the Policy seems instead to have dampened enthusiasm for the IEEE process." The 2020 BRL describes these negative consequences as follows:

> "Since the Policy went into effect, reports show that negative assurances—those in which a technology contributor declines to give a RAND assurance—have increased significantly, comprising 77% of the total WiFi Letters of Assurance at IEEE between January 2016 and June 2019. As a result, in 2019, the American National Standards Institute—a leading nongovernmental body that accredits US standards—declined to approve two proposed IEEE standards amending the 802.11 WiFi standard. The Policy also appears to have led to delays in disclosures of licensing intentions, reducing the overall clarity of patents potentially relevant to standards under development."[22]

For these reasons, in its 2020 BRL the Division recommends that IEEE reevaluate its policy. "Given the important issues and potential harms identified in th[e BRL] the Department… encourage[s] IEEE to consider whether changes to its Policy may now be warranted"[23]

The analysis of the 2020 BRL letter governs to the extent there are any disparities between its legal analysis and that of the 2015 BRL.[24]

IV. ANALYSIS

A. The DOJ Business Review Process and 2020 BRL

The Antitrust Division's business reviews process provides stakeholders with a tool to predict the Division's likely response to proposed business conduct.[25] Division Business review letters convey the "enforcement intention of the Division *as of the date of the letter, and the Division remains completely free to bring whatever action or proceeding* it subsequently comes to believe is required by the public interest.[26] In addition, even when issuing a positive BRL, the Division always "reserves the right to bring an enforcement action in the future if the actual operation of the proposed conduct proves to be anticompetitive in purpose or effect."[27]

The business review procedure is not intended to offer endorsement of any given business arrangement. Indeed, in the context of another business review letter, the Division recently explained that BRLs are not to be interpreted as opinion on 'the ideal process for the development of standards,' nor as an endorsement of any given SDO policy.[28]

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21 2020 BRL, *supra* note 3, at 8-9.

22 2020 BRL, *supra* note 3, at 9, see text around notes 47-49 [footnotes omitted].

23 2020 BRL, *supra* note 3, at 9.

24 2020 BRL, *supra* note 3, at 2.

25 28 C.F.R. § 50.6, see Dep't of Justice, Antitrust Div., *Introduction to Antitrust Division Business Reviews*, https://www.justice.gov/sites/default/files/atr/legacy/2011/11/03/276833.pdf.

26 Antitrust Division Business Review Procedure, 28 C.F.R. § 50.6, Section 9 ('[a] business review letter states only the enforcement intention of the Division *as of the date of the letter, and the Division remains completely free to bring whatever action or proceeding* it subsequently comes to believe is required by the public interest') (emphasis added).

27 See e.g. 2015 BRL, *supra* note 2, at 16 ("In accordance with our normal practices, the Department reserves the right to bring an enforcement action in the future if the actual operation of the proposed conduct proves to be anticompetitive"). The Division has held this position for decades, see, *e.g.*, Letter from Joel I. Klein, Asst. Att'y Gen., U.S. Dep't of Justice, Antitrust Div., to Garrard R. Beeney, Esq. (Dec. 16, 1998) at 15 https://www.justice.gov/sites/default/files/atr/legacy/2006/04/27/2121.pdf ("In accordance with our normal practices, the Department reserves the right to bring an enforcement action in the future if the actual operation of the proposed conduct proves to be anticompetitive in purpose or effect").

28 Letter from Makan Delrahim, Asst. Att'y Gen., U.S. Dep't of Justice, Antitrust Div., to Timothy Cornell, Esq. re: GSMA Business Review Letter Request (Nov. 27, 2019) at 2 https://www.justice.gov/atr/page/file/1221321/download ("[i]t is not the Department's role to assess whether AA.35 is the ideal process for the development of standards nor should this letter be read to suggest that the Department endorses any specific process as the correct approach to standards development"); Letter from Makan Delrahim, Asst. Att'y Gen., U.S. Dep't of Justice, Antitrust Div., to Mark H. Hamer, Esq. (July 28, 2020) https://www.justice.gov/atr/page/file/1298626/download ("To be clear, the Department makes no assessment of whether end-device licensing will be successful in the automotive industry or whether it is the correct approach to licensing in this space").

In light of the above, the Division was correct and well within its authority to issue the 2020 supplemental BRL. Continuous misrepresentations of a DOJ BRL as a supposed endorsement of the reviewed conduct, despite the Division's repeated pleas, dating as far back as 2015, to stop such misrepresentation or "overreading"[29] is probably unprecedented, and surely unusual. Such misapplication "could undermine the value of the Business Review process to the business and legal communities."[30] Furthermore, the fact that such misrepresentation took place around the world and apparently influenced antitrust enforcement proceedings overseas is highly concerning.[31] A December 2020 speech by Deputy Assistant Attorney General for Antitrust, Alexander Okuliar, expands on these and other public interest considerations surrounding the issuance of the 2020 BRL.[32]

B. Concerns over the 2015 BRL and Underlying IEEE Policy Are Bipartisan and Widespread

Concerns over the 2015 BRL and underlying IEEE policy have been bipartisan, widespread, and have been expressed for years. In January 2015, U.S. Senator Christopher A. Coons wrote to DOJ "express[ing] serious concerns" about the proposed IEEE patent policy changes and "encourag[ing] DOJ to consider the broader impact of such policies when crafting a BRL [on the policy change]."[33] Senator Coons was not the only one to raise concerns. Since 2014, the extensive and radical nature of IEEE's 2015 patent policy revision — unprecedented at other SDOs[34] — has led others, including the European Commission,[35] and the IEEE's own policy arm,[36] to express concerns about their potential negative implications for competition, standard development, and innovation.[37]

In 2019 a bipartisan follow-up letter from Senators Thom Tillis and Christopher A. Coons, respective Chair and Ranking Member of the Senate Intellectual Property Subcommittee of Judiciary.[38] The letter expressed "serious concerns with the [2015] BRL and its negative impact on standards development." Such concerns included reports of reduced clarity; misrepresentation of the 2015 BRL overseas (especially in China); and inconsistency between current U.S. law and the 2015 predictions of how the law would develop. In addition to this bipartisan senators' letter, the 2020 BRL also references a bipartisan letter from multiple former leaders of the Antitrust Division, Federal Trade Commission, U.S. Patent and Trademark Office and Court of Appeals for the Federal Circuit that have urged the Division to revisit its 2015 BRL.[39]

These long-standing bipartisan and global concerns should undercut efforts to characterize the 2020 BRL's analysis as partisan, imbalanced, or somehow tied to Assistant Attorney General Delrahim's own policy views. A solid body of evidence gathered between 2015 and 2020

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29 Leah Nylen, 'Don't Overread' DOJ Letter to IEEE, Top Official Says (MLex, Apr. 15, 2015) ("[w]e went to great pains to have the letter reflect that it was not endorsement of the policy"; "a lot of the controversy, most of it is out of people overreading the contents of the letter […] Don't overread it"); Charles McConnell, Delrahim hints at IEEE Probe (Global Competition Review January 2018) ("some interpretations of th[e 2015 BRL] seem to be totally inconsistent with antitrust law"); Max Fillion, DOJ's [2015] IEEE letter shouldn't be viewed as broad policy statement, Delrahim says (MLEX, Mar. 16, 2020).

30 2020 BRL, *supra* note 3, at 2.

31 2020 BRL, *supra* note 3, at 2-3 ("the misinterpretation of the 2015 Letter appears to extend around the world and may have influenced foreign enforcement activity. Over the last several years, some foreign competition authorities have misapplied the 2015 Letter in support of enforcement actions against essential patent holders that have no basis under U.S law, raising the prospect that the business review process could be subject to intentional manipulation abroad").

32 Alexander Okuliar, Deputy Asst. Att'y Gen., Dep't of Justice, Antitrust Div., Promoting Predictability and Transparency in Antitrust Enforcement and Standards Essential Patents (Remarks to the Telecommunications Industry Association, Dec. 8, 2020) at 5-7, https://www.justice.gov/opa/speech/file/1344721/download.

33 Letter from Sen. Chris Coons to Eric Holder, U.S. Att'y Gen., and Renata Hesse, Assistant U.S. Att'y Gen. (Jan. 14, 2015), https://www.ipwatchdog.com/materials/1-14-2015-Coons-IEEE.pdf.

34 For example, three European SDOs have explicitly stayed out of commercial negotiations of FRAND rates. See CEN-CENELEC, CEN AND CENELEC POSITION ON STANDARD ESSENTIAL PATENTS AND FAIR, REASONABLE AND NON-DISCRIMINATORY (FRAND) COMMITMENTS (September 2016), https://www.cencenelec.eu/News/Policy_Opinions/PolicyOpinions/EssentialPatents.pdf; Sophia Antipolis, *ETSI's Director General issues public statement on IPR policy*, ETSI (Dec. 3, 2018), https://www.etsi.org/newsroom/news/1458-etsi-s-director-general-issues-public-statement-on-ipr-policy.

35 Leah Nylen and Lewis Crofts, *EU Warns of Impact of IEEE Patent Policy Change*, MLEX (Jan. 27, 2015) (describing a Jan. 5, 2015 letter by European Commission Director Gerard De Graaf warning that the "change in the IEEE policy...may risk having a significant impact" and calling for the new policy to be "carefully examined" before its adoption).

36 MLEX - Official Statement, IEEE-USA passes motion expressing concerns about changes to intellectual property policy (MLEX, Nov. 21, 2014).

37 See e.g. Adam Mossoff, *Reality Check: Weakening wireless technology patents hurts everyone*, RCR WIRELESS NEWS (Jan. 28, 2015), https://www.rcrwireless.com/20150128/opinion/reality-check-weakening-wireless-technology-patents-hurts-everyone-tag10; David Long, *IEEE's controversial proposed Intellectual Property Rights ("IPR") Policy Amendments*, ESSENTIAL PATENT BLOG (Feb. 3, 2015), https://www.essentialpatentblog.com/2015/02/ieee/; Letter from J. Gregory Sidak, Chairman, Criterion Economics, to Renata Hesse, Deputy Assistant Att'y Gen. (Jan. 28, 2015), https://www.criterioneconomics.com/docs/proposed_ieee_bylaw_amendments_affecting_frand_licensing_of_seps.pdf; Lee Terry, *Don't Stop WiFi*, THE HILL (Jan. 8, 2015), https://thehill.com/blogs/congress-blog/technology/228817-dont-turn-off-wi-fi.

38 2020 BRL, *supra* note 3, at 3, note 11.

39 Letter from James F. Rill, et al., to The Honorable Makan Delrahim, RE: The Antitrust Division's 2015 Business Review Letter to IEEE-SA (Feb. 7, 2020), *Id.*

shows that the procompetitive benefits predicted in the 2015 BRL have not materialized. Instead, as predicted by multiple commentators, the new policy resulted in negative consequences including the deterioration of standards development at IEEE, with increased inefficiencies in the standards development process and a reduction in clarity of FRAND assurances and standard quality.

Furthermore, the Division's position regarding balanced SDO patent policies, as expressed in the 2020 BRL, is consistent with the long-time broad U.S. government positions expressed in OMB Circular A-119, as revised in 2016. In particular, the circular states that SDO intellectual property rights policies "should . . . take into account the interests of all stakeholders, including the IPR holders and those seeking to implement the standard."[40]

C. IEEE Never Alleged a Hold-Up Problem

As the 2020 BRL observes, the "2015 [BRL] focused on the risk of so-called "hold up" by patent-holders without considering the possibility of "hold out" by patent implementers or the Policy's effect on patent holders' innovation incentives.[41] Given that observation, it is significant to note that the IEEE letter to DOJ that requested the BRL, in and of itself, did not describe or argue a problem of hold-up even once.[42] Furthermore, a November 2014 motion by IEEE-USA, IEEE's policy arm, "convey[ed] the concerns of IEEE-USA… regarding the…patent policy changes" and requested evidence or identification of problems that needed to be corrected.[43] There is nothing to suggest that such problems or evidence were ever conveyed in response to the motion. In other words, the underlying information provided by IEEE to DOJ did not include evidence of a hold-up problem, nor allege such problem existed.

D. Evidence of Negative IEEE Patent Policy Effects Postdates the 2015 BRL

Although obvious, it is worth highlighting that the 2015 BRL was issued before the 2015 IEEE patent policy took effect. Therefore, its analysis relied on predictions about the future ramifications of the policy and future developments of U.S. law.[44] While, in hindsight, it is easy to see that these predictions did not materialize, such 2020 observations should not be taken as criticism of the 2015 BRL.

Management guru Peter Drucker is credited with the saying "trying to predict the future is like trying to drive down a country road at night with no lights while looking out the back window." While opining on this metaphor without undertaking such driving exercise would be imprudent, it is clear that a rule of reason analysis of proposed future conduct is an exercise at predicting the future, and thus no easy feat. Such prediction is even more challenging when a patent policy is extreme and unprecedented. The 2015 BRL predicted the 2015 IEEE patent policy revision would bring about procompetitive ramifications, while other commentators and policy makers predicted negative implications from same. Both predictions were feasible when made. However, having the benefit of hindsight, five and half years after the policy took effect, the 2020 BRL's recount of the policy's actual effects is in the best public interest because of these unusual circumstances whereby subsequent events demonstrate that the Division's predictions did not materialize.

E. Proceed with Caution

The Division may respond to a business review request, in one of the following three ways: (a) stating it has no present intent to challenge the conduct under review; (b) declining to issue a BRL; or (c) informing the requesting party of its intent to challenge the proposed conduct if the requester chooses to purse it.[45]

The history of the IEEE 2015 patent policy – an unprecedented policy developed through a process characterized by many as closed and imbalanced – serves as a cautionary tale. In the future, the Division would be well advised to take a more cautious approach in matters involving unprecedented circumstances that are very different from industry practice or that involve novel issues whose outcome is unpredictable. To avoid

40 2020 BRL, *supra* note 3, at 11, note 55, referencing Off. of Mgmt. and Budget, Exec. Off. of the President, Revision of OMB Circular A-119, "Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities," 81 Fed. Reg. 4673 (Jan. 27, 2016) https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/circulars/A119/revised_circular_a-119_as_of_1_22.pdf.

41 2020 BRL, *supra* note 3, at 8.

42 IEEE BRL Request Letter, *supra* note 9.

43 See Official Statement, *IEEE-USA passes motion expressing concerns about changes to intellectual property policy* (MLEX, Nov. 21, 2014) (containing a link to a Nov. 21 IEEE-USA motion approved by the IEEE-USA Board of Directors).

44 See *supra* notes 11 and 12.

45 *Introduction to Antitrust Division Business Reviews*, *supra* note 24.

errors, the Department should decline to issue BRLs for untested conduct whose implications are unclear at the time of the request for business review, as it has done in the past.[46] Furthermore, where the Division does issue a BRL, it should use careful language that curtails misunderstanding or later attempts to misrepresent it as going beyond what a BRL is. Such helpful language has been used in other Division BRLs over the past year.[47]

V. CONCLUSION

The 2020 BRL is a welcome step towards a well-balanced antitrust policy on SDOs and SDO patent policies. It reflects longstanding bipartisan U.S. government consensus on U.S. standardization policy and the need for balance and due process, as described in OMB Circular A-119. It also unveils broad bipartisan concerns over the 2015 BRL and underlying IEEE policy, and over systematic IEEE misrepresentation and other "overreading" of the 2015 BRL. The Division makes it clear that such misrepresentation is "wrong, causes confusion, and must stop."

Finally, the 2020 BRL demonstrates that the 2015 BRL's prediction that the IEEE 2015 patent policy would bring about procompetitive benefits did not materialize. Instead, it describes evidence that the revised IEEE patent policy harmed innovation and the IEEE process, and therefore encourages IEEE to consider whether changes to its policy may now be warranted.

46 See e.g. Letter from Asst. Att'y Gen., U.S. Dep't of Justice, Antitrust Div., William J. Baer to Garrard R. Beeney re: Intellectual Policy Exchange International Inc. Business Review Request (Mar. 26. 2013) https://www.justice.gov/sites/default/files/atr/legacy/2013/03/28/295151.pdf.

47 See *supra* note 28.

STANDARDS, PATENTS, AND ANTITRUST POLICY: THE ROAD AHEAD

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I. INTRODUCTION

The last decade has seen an increasing and evolving focus on technology standards, the licensing of patented technologies related to these standards, and the role of antitrust in patent licensing disputes. The debate has been a lively one – fraught with conflicts over the most fundamental issues and significant changes in policy. Several theories dictated the early debate. Some were empirically tested and rejected. What has emerged, hopefully, is a more enlightened and balanced approach.

This article analyses the guidance from recent global court decisions and policy statements from agencies in the US and EU for disputes involving Standards Essential Patents ("SEPs") that are licensed on Fair Reasonable and Non-Discriminatory ("FRAND") terms. These include the inter-agency joint statement from the US Patent and Trademark Office ("USPTO"), the Antitrust Division of the U.S. Department of Justice ("DOJ"), and the National Institute of Standards and Technology ("NIST") on remedies available for SEPs;[2] the DOJ's updated Business Review Letter to the Institute of Electrical and Electronics Engineers ("2020 IEEE BRL");[3] and global court rulings, including the decision of the UK Supreme Court in *Unwired Planet v. Huawei*,[4] the German Federal Court of Justice's decision in *Sisvel v. Haier*,[5] the Mannheim Regional court's opinion in *Nokia v. Daimler*,[6] and the decision of the Court of Appeals for the Ninth Circuit in *FTC v. Qualcomm*, among others.[7] These developments together provide important and much needed guidance to some of the long-standing issues in the debate on SEPs and FRAND commitments.

The clarification on SEP policy and licensing is timely, considering the accelerated deployment of 5G around the globe. This new generation of wireless communications technology is far more pervasive than any other generation (or "G"), and is expected to be utilized not only by the traditional mobile industry but by other sectors of the economy, including automotive, health, retail, agriculture, manufacturing, and more. The global commerce enabled and supported by wireless technologies has grown rapidly. The number of mobile subscriptions has surpassed the number of people on the planet, the price per unit of data-usage has plummeted, and the number of products and brands available to consumers have skyrocketed. By any measure, wireless technology has been revolutionary, intensely competitive, and welfare enhancing for consumers. It is thus imperative to have clear guidance on policies enabling investment into the development of these technologies, which begins with the standards bodies.

This article is organized as follows: Section II discusses the theories of patent holdup and patent holdout. Section III analyzes the guidance courts and antitrust agencies have provided regarding the scope of antitrust in FRAND-related disputes. Section IV examines the availability of injunctive relief, and Section V summarizes the guiding principles of SEP valuation, and Section VI examines the existing jurisprudence regarding the licensing levels for FRAND-committed patents. Section VII concludes.

II. PATENT HOLD-UP AND HOLD-OUT

Beginning in the mid-2000s, some economists, regulators, and commercial parties theorized that patent owners can "hold up" product manufacturers after they have sunk investment in developing and selling products that put a patented technology into practice.[8] They argued that the potential for such "patent holdup" is particularly high in the context of SEPs, as manufacturers of standard-compliant products are "locked-in" (have no design-around alternatives) once a standard is set. "Patent holdup" became a common argument raised in patent–infringement litigation, typically used to either reduce the damages award or to discourage the issuance of injunctions. It was used also in the context of antitrust, as commentators suggested that inclusion in a standard confers market power upon the owners of SEPs which may be abused and must therefore be restrained through antitrust enforcement.[9]

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2 U.S. Dep't of Justice, U.S, Patent & Trademark Office & Nat'l Inst. of Standards & Tech., Policy Statement on Remedies for Standards-Essential Patents Subject to Voluntary F/Rand Commitments (Dec. 2019) [hereinafter *2019* Policy Statement on Remedies for Standards-Essential Patents].

3 Letter from Makan Delrahim, Assistant Attorney General, Gen., U.S. Dep't of Justice, to Sophia A. Muirhead, Gen. Counsel & Chief Compliance Officer Ins. of Elec. & Elec. Eng'rs at (Sept. 10, 2020) [hereinafter 2020 IEEE BRL].

4 *Unwired Planet Int'l v. Huawei Technologies Ltd.*, [2020] UKSC.

5 Bundesgerichtshof [BGH] [Federal Court of Justice], May 5, 2020, KZR 36/17, at 81 (Ger.) [hereinafter *Sisvel v. Haier*].

6 Landgericht Mannheim [Regional Court of Manheim], Aug. 18, 2020, 2 O 34/19 (Ger.) [hereinafter *Nokia v. Daimler*].

7 *FTC v. Qualcomm Inc.*, 969 F.3d 974 (9th Cir. 2020).

8 See, e.g. Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 Tex. L. Rev. 1991 (2007); Joseph Farrell, John Hayes, Carl Shapiro & Theresa Sullivan, *Standard Setting, Patents, and Hold-Up: A Troublesome Mix*, 74 Antitrust L.J. 603 (2007).

9 See, e.g. Farrell, Hayes, Shapiro & Sullivan, *supra* note 8, at 607.

In the years that followed, several economists criticized the patent hold-up conjecture both on theoretical and empirical grounds.[10] They also observed that opportunism might arise on both sides. A patent owner can opportunistically increase the price of its technology after the standard is set and implementers have sunk costs into adopting the standard and prepared to manufacture and market standard-compliant-devices. Similarly, an implementer can refuse to pay licensing fees after the standard is set and the patent owner has invested significant sunk costs in R&D, a behavior referred to as "patent holdout."

Indeed, the DOJ and other scholars have indicated that "patent holdout" is potentially a greater risk than "patent holdup." In explaining why the hold-up and hold-out problems are not symmetric, Assistant Attorney General Makan Delrahim said:

> "It is important to recognize that innovators make an investment before they know whether that investment will ever pay off. If the implementers hold out, the innovator has no recourse, even if the innovation is successful. In contrast, the implementer has some buffer against the risk of hold-up because at least some of its investments occur after royalty rates for new technology could have been determined. Because this asymmetry exists, under-investment by the innovator should be of greater concern than under-investment by the implementer.[11]

Scholarly work has also pointed to the outsized danger of patent holdout. Epstein & Noroozi find that courts' failure to recognize the symmetry of the FRAND principle, combined with their overreliance on liability rules (i.e., damages over injunctions), incentivizes the very patent holdout problem that FRAND was intended to avoid.[12] Layne-Farrar describes important differences between traditional patent litigation and litigation over SEPs that make holdout more common in the SEP licensing context.[13] Langus, Lipatov & Neven show that even if injunctions are available, SEP owners will sometimes accept below-FRAND rates, especially when litigation costs are high.[14] Jacobson states that a concern for SEP owners is that greater difficulty in obtaining an injunction, and the concomitant reduction in bargaining leverage, creates a "costless option" for a potential licensee: negotiating in bad faith in an attempt to obtain a below(F)RAND royalty, with the worst-case- outcome being the (F)RAND royalty if litigation results.[15]

Courts and public agencies across the globe have gradually recognized that opportunism might occur both on the side of the SEP holder and on the side of the implementer. They have consequently refused to base their decisions on theoretical conjectures and have opted instead for a more fact-based analysis. This has been reflected in a variety of issues, including antitrust and the availability of injunctions.

III. ROLE OF ANTITRUST IN FRAND DISPUTES

The patent holdup theory has led to a lengthy debate about the role of antitrust in FRAND disputes. Over time, however, courts and antitrust agencies have clarified that in the absence of *exclusionary* effects, an SEP holder's conduct, even if in violation of the FRAND commitment, falls outside the domain of antitrust law.

The initial antitrust scrutiny of SEPs gained momentum in the late 2000s. It was triggered by SEP holders' alleged deceptive practices during the standardization process. Cases like *Rambus* and *Qualcomm* established that an SEP holder's deceptive conduct during the standardization process might be actionable under antitrust law if it has an exclusionary effect — that is, if it harms competition among technologies that compete for the implementation in the standard.[16] With time, however, there has been an increase in cases challenging an SEP holder's conduct under antitrust law, even where there was no evidence (or even an allegation) of deception.[17] Firms argued that, because of the special nature of SEPs, charging an "above FRAND-" royalty or otherwise engaging in conduct that violates the FRAND commitment should be considered an antitrust violation.

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10 See, e.g. Alexander Galetovic & Stephen Haber, *The Fallacies of Patent-Holdup Theory*, 13 J. Competition L. & Econ. 1 (2017); J. Gregory Sidak, *Is Patent Holdup a Hoax?*, 3 Criterion J. on Innovation 401 (2018).

11 Makan Delrahim, Assistant Attorney General, Gen., U.S. Dep't of Justice, *Take It to the Limit: Respecting Innovation Incentives in the Application of Antitrust Law*, USC Gould School of Law, Los Angeles, California, (Nov. 10, 2017). https://www.justice.gov/opa/speech/file/1010746/download.

12 Richard Epstein & Noroozi Kayvan, *Why Incentives for Patent Holdout Threaten to Dismantle FRAND, and Why It Matters*, 32 Berkeley Tech. L.J. 1381.(2017).

13 Anne Layne-Farrar, *Why Patent Holdout is Not Just a Fancy Name for Plain Old Patent Infringement*, CPI 1-4 (2016).

14 Gregor Langus, Lipatov Vilen & Neven Damien, *Standard-essential Patents: Who Is Really Holding Up (and When)?*, 9 J. of Competition L. & Econ. 253-2849 (2013).

15 Jonathan Jacobson, *Another Take on the Relevant Welfare Standard for Antitrust*, Antitrust Source (Aug. 2015).

16 *Rambus Inc. v. FTC*, 522 F.3d 456, 466-67 (D.C. Cir. 2008); *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 314 (3d Cir. 2007).

17 See, e.g. *Vizio, Inc. v. Funai Elec. Co.*, No. CV 09-0174, 2010 U.S. Dist. LEXIS 30850 (C.D. Cal. Feb. 3, 2010); *Godo Kaisha IP Bridge 1 v. TCL Commun. Tech. Holdings Ltd.*, No. CV 15-634, 2017 U.S. Dist. LEXIS 26824, *15 (D. Del. Feb. 27, 2017).

However, U.S. courts have refused to use antitrust as a tool to enforce the obligations pursuant to a FRAND commitment. This was perhaps most clearly stated in 2020, in *FTC v. Qualcomm*, when the Ninth Circuit rejected the allegations that the FRAND commitment Qualcomm made to two standard-development organizations ("SDOs") created an antitrust duty to license chip manufacturers.[18] The Ninth Circuit did not determine the exact contractual obligations arising from the FRAND commitments.[19] Instead, it said that showing a breach of those obligations would not suffice to establish a violation of antitrust law. The court emphasized that to succeed in its antitrust claim, the Federal Trade Commission ("FTC") would have to explain how the breach of a FRAND commitment harmed competition. Ultimately, it failed to do so.[20] In refusing to use antitrust as a tool to enforce the FRAND commitment, the Ninth Circuit emphasized that there are "persuasive policy arguments [for] . . . caution about using the antitrust laws to remedy what are essentially contractual disputes between private parties engaged in the pursuit of technological innovation."[21] A few months later, in *Continental v. Avanci*, the court for the Northern District of Texas reached a similar conclusion.[22] It emphasized that "[a]n SEP holder may choose to contractually limit its right to license the SEP through a FRAND obligation, but a violation of this contractual obligation is not an antitrust violation."[23] The court reasoned that to be unlawful under antitrust laws, a conduct must harm the competitive process, but found no evidence that a violation of a FRAND commitment would have such an effect.[24]

Although both the DOJ and the FTC were initially receptive towards suggestions that antitrust laws should play a more active role in the context of SEPs,[25] they have gradually revised their position, recognizing that a violation of a FRAND commitment is in itself not an antitrust violation. The "New Madison Approach" that the DOJ announced in 2018 states that "antitrust law should not be used as a tool to police FRAND commitments that patent-holders make to standard setting organizations."[26] The DOJ emphasized that antitrust aims to address practices that harm the competitive process, but most FRAND disputes do not allege, let alone show, such harm. The FTC expressed a similar view. During a speech at Georgetown University Law Center in 2018, the FTC Chairman Joseph Simons said: "We agree with the leadership of the DOJ Antitrust Division that a breach of a FRAND commitment, standing alone, is not sufficient to support a Sherman Act case, and the same is true even for a fraudulent promise to abide by a FRAND commitment. More is needed."[27] Chairman Simons repeated this view during the Senate Antitrust Oversight hearings in 2019.

In sum, U.S. courts and antitrust agencies have largely recognized that antitrust law is not a tool to police FRAND commitment compliance. Although SEP holders are in no way immune from antitrust law, a FRAND commitment does not alter the elements that the plaintiff must show to establish an antitrust violation. To be actionable under antitrust law, the SEP holder's conduct must have an exclusionary effect. In the absence of such an effect, an SEP holder's conduct falls outside the domain of antitrust law, even if in breach of the contractual obligations of the FRAND commitment.

18 *FTC v. Qualcomm Inc.*, 969 F.3d 974, 997 (9th Cir. 2020).

19 *Id.*

20 *Id.*

21 *Id.*

22 *Cont'l Auto. Sys. v. Avanci*, No. 3:19-cv-02933, 2020 U.S. Dist. LEXIS 173799 (N.D. Tex. Sept. 10, 2020).

23 *Id.* at *32-33.

24 *Id.*; see also *id.* at *30.

25 See, e.g. Renata Hesse, Deputy Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, IP, Antitrust and Looking Back on the Last Four Years, Address at the Global Competition Review 2nd Annual Antitrust Law Leaders Forum (Feb. 8, 2013), https://www.justice.gov/atr/file/518361/download.

26 Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, Keynote Address at University of Pennsylvania Law School, The "New Madison" Approach to Antitrust and Intellectual Property Law at 2 (Mar. 16, 2018) [hereinafter *The "New Madison" Approach*], https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-keynote-address-university.

27 Prepared Remarks of Chairman Joseph Simons Georgetown Law Global Antitrust Enforcement Symposium (Sept. 25, 2018), https://www.ftc.gov/system/files/documents/public_statements/1413340/simons_georgetown_lunch_address_9-25-18.pdf.

IV. AVAILABILITY OF INJUNCTIVE RELIEF

Recent legal developments have provided important guidance regarding the availability of injunctive relief. Although concerns over the SEP holder's opportunism have initially led to a restrictive approach towards injunctions, courts and antitrust agencies have gradually recognized that a patent is fundamentally an exclusive right, and that all remedies, including injunctive relief should remain available to all patent holders.

Injunctions play a fundamental role in the functioning of the patent system. Because patents are intangible assets, patent holders must turn to the courts to prevent a patent infringement and/or to be appropriately compensated for the use of their patented technology. Injunctions are not only important for patent holders seeking to exclude others from using their patented technology, but also when patent holders seek to license their patents for monetary compensation. If injunctions are not available and the only remedy that a court will grant is monetary damages in the form of reasonable royalties (as lost profits are difficult to calculate and uncommon), an infringer will have little incentive to enter into a voluntary licensing agreement. Under this regime, it would be rational strategy for an infringer to hold-out and litigate, and only pay reasonable royalties in the case of a loss after years of delay.

Despite the essential role that injunctions have for the functioning of the patent system, in the mid-2010s, U.S. antitrust agencies engaged in enforcement and advocacy actions that sought to limit SEP holders' ability to obtain such a remedy.[28] Although there has been no decision in which an SEP holder's request for an injunction was found to violate U.S. antitrust laws, the agencies' actions had significant implications. Several foreign competition agencies relied on their national antitrust provisions to challenge or limit the SEP holder's use of injunctions. For example, in 2014, the European Commission brought two investigations, one against Motorola and one against Samsung, in which it alleged that an SEP holder's request for an injunction against a "willing licensee" constitutes an abuse of a dominant position.[29] Other antitrust agencies adopted guidelines stating that seeking injunctive relief for SEPs against willing licensees might constitute an antitrust violation.[30]

However, guidance from courts as well as policy makers has seen a course correction. The first step toward a more balanced approach in addressing injunctions for SEPs was the decision that the Court of Justice of the European Union ("CJEU") adopted in *Huawei v. ZTE* in 2014.[31] The CJEU did not categorically exclude an antitrust liability for an SEP holder's request for an injunction, but confirmed that if specific circumstances are met, a request for such a remedy raises no concerns under EU competition law. In providing the reasoning for its conclusion, the CJEU emphasized that although a FRAND commitment justifies imposing some obligations on the SEP holder, it cannot deprive it from the ability to enforce its "exclusive right."[32]

In 2020, two landmark decisions further confirmed the availability of injunctions for SEPs. First, in May 2020, the German Federal Court of Justice, Germany's highest court of civil jurisdiction, issued a decision in *Sisvel v. Haier*, in which it reiterated that even an SEP holder that has committed to offer a license to its patents on FRAND terms might be entitled to an injunction.[33] Indeed, the court found that the facts of the case supported the issuance of such a remedy.[34] A few months later, in August 2020, the UK Supreme Court issued a decision in *Unwired Planet v. Huawei*, in which it also found that the issuance of an injunction was appropriate.[35] The UK Supreme Court explicitly rejected the argument that a FRAND commitment "removes the SEP owner's right to obtain an injunction and limits its remedy to monetary compensation."[36] It said that such an argument "runs counter" to the balance between the protection of the interest of implementers and the interests of SEPs holders that a FRAND commitment seeks to achieve.[37]

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28 See, e.g. Statement of the Federal Trade Commission *In the Matter of Robert Bosch GmbH*, FTC File Number 121-0081 at 1 (Apr. 23, 2013); see also Complaint, *In the Matter of Robert Bosch GmbH*, Docket No. C-4377 (Nov. 26, 2012); Renata B. Hesse, Assistant Att'y Gen., U.S. Dep't of Justice, *Six "Small" Proposals for SSOs Before Lunch*, ITU Patent Roundtable (Oct. 12, 2010).

29 Press Release, European Commission, Antitrust: Commission Accepts Legally Binding Commitments by Samsung Electronics on Standard Essential Patent Injunctions (Apr. 29, 2014).

30 See, e.g. Japan Fair Trade Comm'n, Guidelines for the Use of Intellectual Property Under the Antimonopoly Act. Part 3 (1) (i)(e) (2016) (Japan).

31 C-170/13, *Huawei v. ZTE* (2015), ECLI:EU:C:2015:477.

32 *Id.* at ¶¶58-59.

33 *Sisvel v. Haier*, *supra* note 5, at ¶67.

34 *Id.* at ¶69.

35 *Unwired Planet Int'l v. Huawei Technologies Ltd.*, [2020] UKSC, at 37.

36 *Id.* at ¶54.

37 *Id.* at ¶59.

A similar shift toward a less antagonistic view of injunctions for SEPs also emerged in the United States. Already in 2014, in *Apple v. Motorola*, the Federal Circuit rejected the notion that a FRAND commitment categorically precludes an SEP holder from obtaining an injunction. The Federal Circuit said that although "FRAND commitments are certainly criteria relevant to its entitlement to an injunction, we see no reason to create . . . a separate rule or analytical framework for addressing injunctions for FRAND-committed patents."[38] In 2019, the DOJ, the USPTO, and NIST issued a *Policy Statement on Remedies for Standards-Essential Patents Subject to Voluntary F/Rand Commitments*, which reiterated that "all remedies available under national law, including injunctive relief and adequate damages, should be available for infringement of standards-essential patents subject to a F/RAND commitment, if the facts of a given case warrant them."[39] Finally, the DOJ's New Madison approach recognized that antitrust law should not be used to limit the SEP holders' use of injunctions. The DOJ noted that "[i]f a patent holder effectively loses its right to an injunction whenever a licensing dispute arises, or is deterred from seeking an injunction due to the prospect of treble damages, an implementer can freely infringe, knowing that the most he or she will eventually have to pay is a reasonable royalty rate."[40]

Therefore, courts and agencies across the globe have recognized that an SEP holder that has committed to offer a license to its SEPs on FRAND terms has the right to request (and sometime obtain) an injunction.

V. VALUATION OF SEPS

Courts across jurisdictions have provided important guidance also for the valuation of SEPs. Two issues deserve particular emphasis.

First, courts across multiple jurisdictions have recognized that the analysis of comparable licenses provides a reliable methodology for determining FRAND terms and conditions.[41] From an economic perspective, comparable licenses provide the best evidence of what market participants consider to be a FRAND compensation for the use of a licensed portfolio. It should consequently come as no surprise that several courts have relied on evidence from existing license agreement to identify FRAND royalties. Some U.S. courts have opted for nonmarket-based methodologies, such as the "topdown" analysis.[42] Nonetheless, courts outside the United States have been more reluctant to second guess the outcome of real-world negotiations, and have limited the use of the topdown approach to "cross-check" the results of a comparable licenses- analysis.[43]

Second, courts have clarified that damages for FRAND-committed SEPs need not use the smallest, salable, patent practicing unit ("SSPPU") as a royalty base. The Court of Appeals for the Federal Circuit said that the essential requirement in calculating damages for patent infringement is that "the ultimate reasonable royalty award [is] . . . based on the incremental value that the patented invention adds to the end product."[44] It emphasized that this goal can be achieved by relying on different apportionment methodologies, not merely the use of the SSPPU as a royalty base. In 2014, in *Ericsson v. D-Link*, the Federal Circuit found reliable a methodology that used the royalties specified in comparable license agreements to calculate damages for the infringement of FRAND-committed SEPs.[45] Notably, the court found those licenses to be reliable even if they did not use the SSPPU as a royalty base. In 2015, the Federal Circuit confirmed the same principle in *CSIRO v. Cisco*, when it emphasized that a rule that would require all damages models to begin with the SSPPU would be "untenable" because in conflict with the Federal Circuit's "prior approvals of a methodology that values asserted patents based on comparable licenses."[46]

Other courts have similarly confirmed that parties might use a different royalty base than an SSPPU when executing FRAND license agreements. In *HTC v. Ericsson*, the court explicitly rejected the contention that a FRAND commitment made to the European Telecommunications Standards Institute ("ETSI"), a leading SDO developing wireless cellular standards, requires the use of the SSPPU as a royalty base.[47] In *FTC v.*

38 *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1331-32 (Fed. Cir. 2014).

39 *2019* Policy Statement on Remedies for Standards-Essential Patents, *supra* note 2, at 4-5.

40 *The "New Madison" Approach*, *supra* note 26, at 13.

41 See, e.g. *Ericsson Inc. v. D-Link Sys.*, 773 F.3d 1201, 1227 (Fed. Cir. 2014); *Unwired Planet Int'l Ltd v. Huawei Techs. Co.* [2017] EWHC (Pat) 711 (Eng.) [170]; Sisvel v. Haier, *supra* note 5, at 81 (although the court did not explicitly discuss the methodologies to determine a FRAND royalty it recognized that FRAND terms "can only be determined as the result of . . . . negotiated market processes").

42 See, e.g. *In re Innovatio IP Ventures, LLC* Patent Litig., No. 11 C 9308, 2013 WL 5593609, at *37–39 (N.D. Ill. Oct. 3, 2013).

43 *Unwired Planet* [2017] EWHC (Pat) 2988 [263, 269].

44 See, e.g. *Ericsson Inc. v. D-Link Sys.*, 773 F.3d 1201, 1226 (Fed. Cir. 2014).

45 *Id.* at 1227.

46 *Commonwealth Sci. & Indus. Research Org. v. Cisco Sys., Inc.*, 809 F.3d 1295, 1303 (Fed. Cir. 2015).

47 *HTC, Corp. v. Telefonaktiebolaget LM Ericsson*, No. 6:18-CV-00243, 2019 U.S. Dist. LEXIS 2872, at *18 (E.D. Tex. Jan. 7, 2019).

Qualcomm the Ninth Circuit rejected the district court's conclusion that Qualcomm's licensing rates were "unreasonable" because they used the price of the end-product as the royalty base.[48] Quoting a decision by the Federal Circuit, the court noted that "sophisticated parties routinely enter into license agreements that base the value of the patented inventions as a percentage of the commercial products' sales price," and added that "[t]here is nothing inherently wrong with [that]."[49] The revised DOJ BRL issued to the IEEE similarly noted that "real-world licenses often set royalties based on end-product revenue" and added that those licenses often provide an effective method for estimating the patent's value.[50] Across the Atlantic, in *Nokia v. Daimler*, the Mannheim Regional Court also found that the price of the end -product was the correct royalty base for a FRAND license.[51] The court said that the patent act confers to a patent holder a right to participate in the economic benefit that its patented technology contributes to the end product.[52] The court found that the SEPs in suit contributed importantly to the value of connected cars and said that that must be considered when determining the SEP holder's compensation.[53]

VI. LEVEL OF LICENSING

A recurring question in FRAND disputes is whether an SEP holder shall be able to choose the level of the value chain at which to license its patent portfolio. Some firms have argued that a FRAND commitment contractually restricts an SEP holder's freedom to choose the licensing level.[54] They have also argued that an SEP holder's decision to license only firms that operate at one level of the value chain violates antitrust law.[55] A question regarding the limits that antitrust law poses on the SEP holder's ability to select the licensing level is currently pending in front of the CJEU.[56] Yet, as of December 2020, courts in the US and in the EU have consistently rejected those arguments, confirming that neither the contractual obligations pursuant to a FRAND commitment nor antitrust law limit an SEP holder's right to select the licensing level for its patents.

U.S. courts rejected the allegation that antitrust law imposes a duty to license SEPs to component manufacturers on two separate occasions. In *FTC v. Qualcomm*, the Ninth Circuit rejected the argument that the practice of licensing end-product manufacturers, rather than component manufacturers, violated antitrust law. The court emphasized that the Sherman Act does not restrict a firm's right "to exercise his own independent discretion as to parties with whom he will deal.'"[57] The court recognized that the Supreme Court created an exception to this general rule in *Aspen Skiing*, but found that the challenged practice of licensing only end-product manufacturers did not fit within this rare exception.[58] As explained earlier, the Ninth Circuit found that the existence of a FRAND commitment did not support the creation of an additional exception to the rule that firms have no antitrust duty to deal with their rivals. In *Continental v. Avanci*, the district court reached a similar conclusion when it rejected the allegation that the practice of licensing SEPs to car manufacturers, rather than component manufacturers, violated antitrust laws.[59] Notably, in both cases, the courts questioned whether the practice of licensing end component manufacturers could have any effect on competition, considering that component manufacturers can manufacture their products, perhaps "at a lower cost, since [they do] . . .- not have to pay a license for an SEP."[60]

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48 *FTC v. Qualcomm Inc.*, 969 F.3d 974, 998 (9th Cir. 2020).

49 *Id.* (internal quotation omitted) (some alteration in original).

50 2020 IEEE BRL, *supra* note 3, at 7.

51 *Nokia v. Daimler*, *supra* note 6, at 54.

52 *Id.*

53 *Id.* at 55-56.

54 See, e.g. Apple Inc. Response to DG Enterprise and Industry Consultation on Patents and Standards 19-20 (Feb. 14, 2015), https://www.apple.com/legal/intellectual-property/frand/Apple-Inc.-Submission-to-EC-Public-Consultation-on-Patents-and-Standards.pdf; Complaint, *U-Blox AG, v. Sisvel Inten'l S.A.*, No. 20 cv-0494, at *26-26 (S.D. Cal. Mar. 16, 2020).

55 See, e.g. Brief of Amicus Curiae ACT | The App Association Brief in Support of Appellee at 16-18, *FTC v. Qualcomm, Inc.*, No. 19-16122, 2019 WL 6715328 (9th Cir. Nov. 27, 2019).

56 *All Eyes on Luxembourg - Düsseldorf Refers Nokia v. Daimler FRAND Dispute to CJEU*, Lexology (Nov. 30, 2020), https://www.lexology.com/library/detail.aspx?g=794b-9c0c-5454-49a7-9017-937b0ffaf299.

57 *FTC v. Qualcomm Inc.*, 969 F.3d 974, 994 (9th Cir. 2020) (quoting *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 408 (2004)).

58 *Id.* at 995.

59 *Cont'l Auto. Sys. v. Avanci*, No. 3:19-cv-02933, 2020 U.S. Dist. LEXIS 173799 (N.D. Tex. Sept. 10, 2020).

60 *Id.* at *23; see also *Qualcomm*, 969 F.3d at 996.

In the European Union, in *Nokia v. Daimler*, the Regional Court of Mannheim emphasized that "[i]n principle, it is up to the patent proprietor to choose the sales level at which it enforces its property right."[61] The court added that "[t]he right of the patent proprietor to decide against which patent infringer to take action is not restricted *per se* by antitrust law, even in the case of a dominant position."[62] Put differently, the court rejected the argument that the SEP holder abused its dominant position by refusing to license its patents to the component manufacturers and opting instead to license them to car manufacturers.

Courts have been skeptical also of the argument that a FRAND commitment contractually restricts an SEP holder's right to freely select the licensing level for its patent portfolio. Because SDOs have different FRAND commitments, it is necessary to examine the exact language of each specific commitment to correctly identify the SEP holder's contractual obligations. Yet, to our knowledge, there is no valid legal precedent suggesting that a FRAND commitment contractually restricts an SEP holder's ability to choose the level of the value chain at which to license its SEPs. The only decision in which a court found that a FRAND commitment created a duty for an SEP holder to license component manufacturers was ultimately vacated on appeal.[63] Therefore, the existing jurisprudence offers little, if any, support for the argument that a FRAND commitment contractually restricts an SEP holder's right to freely choose the level of the value chain at which to license its SEPs.

Therefore, even when it comes to the question of licensing level, courts have provided uniform guidance, finding that that neither antitrust law nor the FRAND commitment limit an SEP holder's freedom to choose the licensing level.

VII. CONCLUSION

Recent developments across various jurisdictions have provided much needed clarity for some of the most disputed issues related to the licensing of SEPs. The outcome of various court decisions and the policy positions expressed by several agencies have provided the following key takeaways. First, after a singular focus on concerns related to potential patent hold-up, courts and agencies around the world have recognized concerns related to patent hold-out (*Sisvel v. Haier, Unwired Planet v. Huawei, Nokia v. Daimler*, Joint PTO-DOJ-NIST Statement, 2020 IEEE BRL). Second, they have clarified that in the absence of exclusionary effects, an alleged breach of a FRAND commitment is not an actionable offence under antitrust law, but it is instead an issue of contract or patent law (*FTC v. Qualcomm, Continental v. Avanci*). Third, courts have emphasized that SEP holders have the right to seek injunctive relief against infringers of FRAND-committed SEPs and a request for such a remedy does not automatically trigger antitrust concerns (*Sisvel v. Haier*, *Nokia v. Daimler, Unwired Planet v. Huawei*, Joint PTO-DOJ-NIST Statement). Fourth, the analysis of comparable licenses provides the most reliable methodology for the valuation of SEPs (*Ericsson v. D-Link*, *Sisvel v. Haier*, *Unwired Planet v. Huawei*), and neither court awarded damages nor voluntarily executed license agreements need to use the SSSPU as a royalty base (*FTC v. Qualcomm, Nokia v. Daimler*). Fifth, an SEP holder has the freedom to choose at which level to license its SEPs (*Nokia v. Daimler, FTC v. Qualcomm, Continental v. Avanci*). These conclusions stand upon over a decade of deliberation and debate in the legal, economic, academic, and judicial community. Multiple court decisions and policy outcomes have led to a point where we finally have convergence on some of the key issues related to standards, patents, and the role of antitrust in resolving licensing disputes.

61 *Nokia v. Daimler*, *supra* note 6, at 62.

62 *Id.*

63 *FTC v. Qualcomm Inc., 969 F.3d 974, 988 (9th Cir. 2020).*

THE UK'S ROLE AS A VENUE FOR FRAND LITIGATION: HAVE THE UK COURTS GONE FAR ENOUGH?

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I. INTRODUCTION

For more than two decades, the system of licensing standards-essential technology pertaining to mobile cellular devices has skirted around the awkward fact that the business and the technology are global in scope, but the only way for IP rights-holders to enforce their rights is through national courts. A typical pattern observed in the industry is that licensees[2] continue to use an individual licensor's portfolio of standards-essential patents without payment, until the licensor puts them on notice. Ultimately, the threat of litigation is a critical cudgel that licensors can use to guide licensees towards a negotiated settlement. However, putative licensees can potentially pursue a "divide and conquer" strategy in litigation — i.e. use the limitations of national patent law to restrict the scope of the payments they make to licensees by attempting to tie court awards to national patents. If successful, licensees can force licensors into pursuing numerous litigations in numerous jurisdictions, with each litigation involving significant costs and risks to the licensor (which is the party on which the burden of pursuing enforcement falls).

This is, of course, a highly inefficient outcome. Where licenses are willingly agreed, in good faith, they are almost inevitably global or at least multi-territorial.[3] Both licensee and licensor will prefer global licenses, as these are better for both parties. Put differently, attempts to goad national courts into viewing licensing issues — which include awards for past use as well as a license for ongoing use — through the prism of patents in suit in a particular country are purely the products of litigation strategy. One would never expect to see such licenses arise organically. Issues such as licenses for single territories, or licenses limited to just patents-in-suit, or damages awards for past infringement based only on sales made in a particular jurisdiction only arise because no multi-jurisdictional enforcement institution exists that reflects the inextricably global nature of the technology market.

Recent decisions in the UK courts[4] appear to offer something of a solution. The UK courts have recognized that the FRAND commitment that guides the licensing of mobile SEPs is an internationally effective one. Thus, UK courts can adjudicate the terms of a global license pursuant to the FRAND commitment by virtue of the fact that UK patents are among those included in the license. The UK courts have also taken, in our view, a highly balanced position on the determination of FRAND terms. These decisions offer hope that the UK courts can serve as an avenue through which consistent, balanced decisions on global FRAND licenses can be reached. We believe that this is important to maintaining the credibility of FRAND licensing and to protecting the generation and adoption of new technologies.

However, the UK's status as a venue for FRAND litigation suffers from the fact that the UK is not necessarily a large market for many licensees. In particular, recent cases show that it may be attractive for many licensees to submit to an injunction in the UK and forego future UK sales. In this event, licensees have argued that they are only liable for damages on past UK sales. If courts permit this strategy, then it creates an obvious attraction for licensees to evade the UK courts' power to adjudicate global FRAND licenses — the attraction is measured by the potentially enormous difference between paying up for a global license (including many years of past use on a global basis) and paying only for past sales in the UK. Thus, the proper scope and basis of damages — whether these should be awarded on UK sales or global sales, or (alternatively) whether they should be at all constrained by FRAND — is a critical one for courts to think through. Two recent summary judgment rulings in the UK courts appear to point in potentially different directions on this issue.

From an economic viewpoint, it would be unfortunate if licensees were allowed to drastically reduce what they pay for their past use of a SEP portfolio based primarily on whether their forward-looking UK sales were low enough that they could afford to take a UK injunction instead of a global license. This would resurrect the inefficiency created by the "divide and conquer" tactics discussed above. We also believe that the frictions, uncertainties and costs of the enforcement process — which we think fall asymmetrically on licensors who cannot exclude licensees from using their patents absent the threat of enforcement action — should be more fully factored into the analysis of comparable licenses. Observed rates in such licenses may reflect the bargaining power that licensees have via the threat of raising the costs and risks of enforcement by licensors, including via exploiting the global fragmentation of enforcement.

2 The term "licensees" is used to encompass both implementers who actually take a license and implementers who are negotiating over license terms or litigating over license terms. Likewise, the term "licensors" encompasses potential licensors as well as actual licensors.

3 Smaller licenses might be agreed in cases where the geographic scope of the licensee's activity is limited and is likely to stay that way. Many licensees may value the freedom to operate that is inherent in a global license, however.

4 The term "UK courts" is used in this paper, although of course, the initial decisions in Unwired Planet were made by English courts and then upheld by the UK Supreme Court.

II. A WELCOME STEP TOWARDS ALIGNING THE JURISPRUDENCE WITH ECONOMIC THINKING

In October 2020, the UK Supreme Court affirmed[5] the decision of the Court of Appeals to affirm the decision of Mr. Justice Birss in *Huawei versus Unwired Planet*. ("Unwired Planet.")[6] After all of this lengthy litigation, Birss J's original judgment[7] has stood up remarkably well, with all of its fundamental aspects surviving prolonged review by the higher courts. The most commented-on aspect of Birrs' judgement was that an English court could set rates for a global FRAND license. On the face of it, this is a significant step in aligning the jurisprudence with economic reality and the economic policy-making inherent in the FRAND commitment. As Birss J recognized in Unwired Planet, licensing of SEPs is inherently global in its nature, even though the mechanisms for enforcing patent rights are resolutely national.[8]

A. The Importance of Recognizing the Reality of Global Licensing

Birss J and the justices involved with the subsequent appeals have recognized the enormous inefficiencies in patent-by-patent, country-by-country licensing. They have also recognized that no "market" for such patent-by-patent or country-by-country license exists. As we pointed out in our introduction to this article, the series of judgments by the British courts correct an important distortion that exists in the current global landscape for licensing SEP patents. In an idealized world, responsible licensees would seek to negotiate licenses with at least those licensors whose portfolios were well-established (e.g. because they had been litigated or because they had already consummated several existing portfolio licenses with important industry actors) and which would almost certainly contain at least some valid and infringed patents. Further, broad-scope licenses (e.g. global or significantly multi-territorial and multi-standard in their nature) carry obvious efficiencies for licensor and licensee alike, not just in terms of reducing the transactions costs of licensing, but also in providing freedom to operate for the licensee.

In the real world, however, licensees know that patents are not self-enforcing and might try to place the burden of enforcing patent rights upon the licensor. The process of enforcement is itself costly and may create asymmetric risks for the licensor. Forcing licensors to litigate on a country-by-country (and patent-by-patent) basis is an obvious way to raise the patent owners' enforcement costs. In turn, the additional costs and risks created by this much more arduous enforcement process will reduce the attractiveness of litigation for the licensor and might reduce its bargaining power in negotiations with licensees.[9] The potential availability of "one-stop shopping" for a global license thus corrects this imbalance in bargaining power and reduces the potential inefficiencies and rent-seeking opportunities created by the threat that courts will limit themselves to country-specific licenses. The UK judgments in the wake of Unwired Planet are an important step in recognizing that disputes around the value of SEP portfolios are disputes about globally-relevant portfolios of patents, not disputes about specific national patents (even if these specific national patents are what are "in suit.")

B. The Importance of Recognizing that FRAND Addresses Hold-up and Hold-out

There are other aspects of the Unwired Planet suite of decisions that might be seen as "pro-licensor." These are, in our view, pro-licensor only to the extent that they mitigate imbalances that had become embedded in conventional perspectives on SEP licensing (which to a substantial degree stem from the failure to recognize that a major source of bargaining power for licensees of SEPs is the difficulty and effort of enforcing patent rights in the first place).[10] The UK court decisions appear to pay about as much attention to the dangers of hold-out or reverse hold-up of licensors by licensees as they do to the possibility of hold-up of licensees by licensors.[11] FRAND rates are (implicitly) defined in reference to the objectives of avoiding both hold-up and hold-out. This appears to comport with the objectives set out in ETSI Intellectual Property Rights ("IPR") policy, which emphasizes that the objectives of the IPR policy are to ensure a balance of interests between downstream users and upstream

5 [2020] UKSC 37.

6 [2018] EWCA Civ 2344.

7 [2017]] EWHC 711 (Pat).

8 The Courts have not, however, ruled out the possibility that single-territory or national licenses could be FRAND in some circumstances.

9 These costs and risks are inherent in the non-self-enforcing nature of patent rights. In the SEP arena, we particularly note that licensors monetized their SEP portfolios through multiple license agreements with multiple licensees. In this context, there is substantial scope for "externalities" across different licensing situations. For example, different courts can and do come to different verdicts on the validity and essentiality of the same patent. Thus, an adverse ruling on validity (or indeed even on FRAND) might result in significant problems licensing a portfolio to future licensees. Conversely, a positive verdict on validity may create some positive momentum for a licensing programme, but it is always subject to subsequent challenge and it does not ensure that subsequent putative licensees will take licenses.

10 See Melamed, A. Douglas and Carl Shapiro (2018), "How Antitrust Law Can Make FRAND Commitments More Effective", *Yale Law Journal*, Volume 127, Number 7, pp. 2110-2119., which expresses the once-conventional view emphasizing the "hold up" of licensees by SEP holders.

11 See, for example, the UKSC decision at paragraph 10 and paragraph 59.

implementers. [12] ETSI was rightfully focused on advancing a robust telecommunications ecosystem that supported both the generation and utilization of advanced mobile technologies.

The Unwired Planet judgments also introduce the concept of a benchmark FRAND rate.[13] In economic terms, this benchmark FRAND rate appears to correspond to the incremental surplus that the licensor's technology creates for the licensee, including value that is created by virtue of its inclusion in the standard. The Court of Appeal and Supreme Court judgments allow for the possibility that there are potentially many divisions of this incremental surplus that are consistent with a "FRAND"-like balance of interests between licensors and licensees, i.e. FRAND is in a range. The FRAND benchmark rate appears to be the upper bound of the FRAND range. The licensor has an obligation to make licenses available on FRAND terms, but this obligation is met so long as the licensor is prepared to offer at least the FRAND benchmark rate to the licensee. What the judgments collectively make clear, however, is that the licensor has no obligation to offer a "best price" to all licensees, and differences in pricing and other terms between different licensees are only discriminatory if they have the effect of distorting competition between those different licensees (i.e. the "ND" prong of FRAND is interpreted in a fashion similar to "discrimination" in competition cases, i.e. differences in terms offered to "similarly situated" firms are of concern if and only if they are capable of creating competitive distortions in the downstream market).[14]

This approach has significant practical merit given that the analysis of comparable real-world licenses is the primary basis that the courts use for identifying FRAND rates. In the real world, licensors might be prepared to use the FRAND benchmark rate as a focal point, but also offer discounts to cooperative licensees in order to achieve a license agreement in a timely manner. These willing licensee discounts can take many forms — for example, licensors can agree to meter the licensee's past sales at a lower rate than ongoing sales; or they can be similar to volume discounts wherein the efficiencies associated with receiving large cash injections in the form of large lump-sum payments are recognized. These discounts made to willing licensees can be seen as providing incentives for reasonable and cooperative behavior. However, the FRAND benchmark rate approach recognizes that fidelity to FRAND principles does not require extending these discounts to licensees who do not take a license in a timely manner and whose actions trigger litigation,[15] and who thus may not have acted in ways consistent with those expected of a "willing licensee." In fact, creating a wedge between court-awarded rates and lower rates achieved in willingly negotiated licenses avoids the risk that recalcitrant or plainly unwilling licensees will be put on the same footing as willing licensees. This wedge is consistent with a broader policy objective of ensuring that participants in the mobile ecosystem are not unduly incentivized to litigate instead of negotiating; and that potential licensees are not rewarded for dilatory conduct. Put differently, it helps keep license negotiations out of the courthouse and in the marketplace. In summary, there are important ways in which the series of judgments handed down by British courts align case law with good global public policy. The mobile wireless ecosystem is global in nature; licenses are global in nature; the sales and manufacturing activities of many implementers are global or at least multi-territorial in nature; and global licenses offer significant benefits in terms of "freedom to operate" for licensees.

Besides offering licensors the chance to litigate in a sophisticated jurisdiction that offers "one-stop shopping" for a global license, the Unwired Planet rulings also make other important contributions, e.g. the FRAND benchmark rate concept and the clarity offered on the "ND" (non-discrimination) prong of FRAND. These contributions also help align the case law with the policy objectives inherent in standardization (and reflected in the ETSI IPR Policy). Much as courts may be reluctant to act as policy makers, the interpretation of FRAND invariably requires some consideration of the policy objectives of standards organizations such as ETSI.

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12 See ETSI IPR Policy, Section 3.1., which states:

It is ETSI's objective to create Standards and Technical Specifications that are based on solutions which best meet the technical objectives of the European telecommunications sector. … In achieving this objective, the ETSI IPR Policy seeks a balance between the needs of standardization for public use in the field of telecommunications and the rights of the owners of IPRs.

13 See, for example, the discussion in the Court of Appeal's decision upholding the original judgment at paragraphs 195-207.

14 See the Court of Appeals decision at paragraph 197, endorsing an "effects-based" approach to discrimination in this case. The Court stated "Once the hold-up effect is dealt with by ensuring that the license is available at a rate which does not exceed that which is fair and reasonable, it is difficult to see any purpose in preventing the patentee from charging less than the license is worth if it chooses to do so."

15 We should recognize, given the costs and risks involved, that licensors will not typically want to use litigation as a first resort. In Europe and the UK, the framework around the availability of injunctive relief for SEPs outlined by the European Court in *Huawei v. ZTE*, further limits the attraction of litigation as a first resort of licensors.

C. Licensees Can Still Exploit the Global Fragmentation of Patent Enforcement

The above indicates that the UK will emerge as a natural venue for FRAND litigation, especially as many will interpret the stance of the UK courts thus far as amenable to the open innovation paradigm that has supported technology development and diffusion in mobile telecommunications. In our view, this would be a quite welcome development. However, it is also our view that the positive aspects of these decisions risk are significantly limited by (a) the fact that the UK's standing as a venue for FRAND jurisdiction is not matched by its commercial importance to licensees; and (b) there is still uncertainty about how the now-accepted concepts of global licenses will interact with the narrower frame of UK damages law. We explain our concerns below.

The UK may not be a commercially significant market for many implementers. Further, many implementers use standards-essential technology for many years before the licensor pursues enforcement action, of which litigation is the last stage. In our experience, the licensee may sometimes have as much as a decade's worth of infringing sales before a trial on FRAND terms commences. The upshot is that by the time UK courts are adjudicating the award of a FRAND license, future sales may be relatively small compared to past sales. Further, future sales in the UK may be particularly small compared to global past sales, and past UK sales may only ever have comprised a relatively small fraction of overall sales.

Furthermore, the relief offered by UK courts takes the form of what some call a "FRAND injunction," in which the alternatives are for the licensee to take a license on terms that the Court considers FRAND, or to submit to an injunction. The FRAND license may be accompanied by an award for past damages, just as a willingly negotiated commercial license will contain payment for past use. This, naturally, would be based on a global FRAND rate metered against global sales.

Faced with these facts and these alternatives, some licensees may find it attractive to accept an injunction on their future UK sales rather than accept a FRAND award on all their global past and future sales. Licensees' ability to exercise this option also diminishes any bargaining power that the availability of injunctive relief confers on the licensee in negotiations that may continue in parallel to litigation proceedings. In this circumstance, the only relief that is available to the licensor is damages on past sales. This raises three questions of importance to economics and public policy:

- Injunctions and damages awards are linked to infringement of UK patents. So, should damages awards by UK courts be based solely on sales in the UK?

- What is the relationship between the FRAND rate that might have been considered in a global license and the damages rate applied to UK only sales?

- More fundamentally, once a licensor has elected for an injunction rather than taking a FRAND license, is FRAND still an operative issue in the determination of damages?

III. NATIONAL PATENT LAW AND THE INTERNATIONAL FRAND AGREEMENT: THE IMPORTANCE OF CONSISTENCY

A. The Economic Perspective: Why Are Courts Involved at All?

For economists, the questions raised above are policy questions, and the "right" answers to these questions are determined by reference to effects on the licensing system and thereby on innovation in both upstream and downstream markets. From an economic perspective, desirable outcomes would involve a FRAND-compatible division of surplus between licensor and licensee, which ideally would be determined in negotiations between willing licensors and willing licensees. Where such negotiations break down — and bargaining theory suggests that they sometimes will do — there would ideally be an adjudicatory mechanism that replicates the economically desirable outcome (i.e. one that promotes innovation, adoption and competition).

The adjudicatory mechanism — if it is aligned to broader economically policy objectives — would recognize that good policy includes providing the right behavioral signals to participants in the licensing market. Unfortunately, no unitary adjudicatory mechanism exists, as the relevant patent rights are national in scope and licensing disputes are necessarily resolved though the complicated mechanism of proving validity and infringement, albeit on a small subset of patents in a given national jurisdiction. The mechanism forces even licensors with significant portfolios that have been licensed several times before to survive validity and infringement challenges on a small and specific subset of patents — even though the probability that the portfolio as a whole contains several valid and infringed patents may be close to one.[16] The prospect of the licensor having to litigate in multiple jurisdictions only adds to the inefficiencies, uncertainties and transactions costs associated with the lack of a unitary enforcement mechanism for what are really globally relevant patent portfolios, as opposed to individual national patents.

From an economic perspective, then, the UK court decisions are highly welcome in that they offer something of a substitute to an idealized enforcement mechanism.[17] However, the UK courts have not yet articulated what is an essential complement — at least from the economic policy perspective that we adopt in this article — to their mandate to adjudicate the terms of global FRAND licenses.

B. Damages Awards and License Awards Should be Made on a Consistent Basis

From an economic efficiency perspective, it would be unfortunate if courts gave licensees the option to evade global licenses (and payments for past infringement on a global basis) by electing to suffer a UK injunction and paying damages only on past UK sales. Doing so would invite infringement and hold-out — after all, the worst outcome that a licensee would face would be to pay damages on a small fraction of its global past sales. The licensor would then have to adopt the difficult course of seeking out litigation in multiple jurisdictions—each of which would be time-consuming, would carry risks in terms of re-establishing the validity of patents, and risks in inconsistent approaches to FRAND by different courts in different jurisdictions. In this context, hold-out would always be the most profitable strategy for some licensees. Of course, some licensees who make very substantial sales in the UK would not find it attractive to elect for an injunction — but this would create a wedge between licensees with high exposure to the UK market and licensees with low enough exposure that the strategic calculus would be to elect for an injunction instead of a license. Further, licensees could choose to limit their exposure to the UK precisely for the purpose of limiting their royalty burden. Thus, UK consumers might suffer a more limited choice of devices as a result of licensees having a relatively economically attractive option of submitting to a UK injunction.

16 We would expect that the licensee's subjective assessment of this probability will be higher for portfolios with a significant licensing history or portfolios whose member patents have been tested in litigation.

17 Of course, other jurisdictions such as Germany and the U.S. do provide alternative litigation venues. However, the UK courts have more clearly articulated the issues around global-level licensing than have others, and thus have held up hope that licensors would not have to litigate in multiple jurisdictions (with all the potential inconsistencies, risks and uncertainties that entails) in order to secure a global license.

From an economic policy perspective, damages and license awards are inherently linked. Indeed, payment for past use — which is economically similar to reasonable royalty damages — might be seen as a component of the overall license award. In fact, in the many negotiated licenses that involve only the payment of a single lump-sum by the licensee, past use and ongoing royalties are inseparable. Both play an important role in ensuring that the balancing of incentives between upstream innovators and downstream users is maintained. From this perspective, creating a wedge between the geographic scope of "pure" damages awards (when all the UK use is in the past) and license awards is problematic. For example, consider a licensee that has already made sales of roughly 40m infringing units globally, and 5m infringing units in the UK. Why should the compensation for this past use depend so radically — by 35m units in this example — on the level of the licensee's *future* UK sales?[18]

C. Limits to the Applicability of FRAND

The discussion above assumes that damages for UK-only damages will be awarded at the same FRAND rate that would be used to determine a global license. However, as the second and third questions we pose above imply, one could also consider whether FRAND principles should apply at all when a licensee opts for an injunction for the specific purpose of putting barriers in the licensor's pursuit of a global license on FRAND terms. Indeed, we would argue that the very act of accepting an injunction instead of submitting to a *court-adjudicated global license* on FRAND terms[19] suggests that the party is not willing to pay for a global license on FRAND terms and should not benefit from the availability of the FRAND commitment.

The English courts have framed FRAND in balanced terms, and not as a one-sided commitment designed to favor licensees. In this vein, allowing licensees to effectively select the royalty base that they are liable for — which would be the effective result of making the option of submitting to an injunction economically attractive — would go against the balanced reasoning of the UK courts thus far. It would also go against the policy objectives inherent in the ETSI IPR policy. From a policy perspective, at least, it would seem appropriate to prevent licensees from undermining the global FRAND licensing regime by preventing licensees from invoking it for the express purpose of avoiding taking a FRAND license.

In this circumstance, the Courts can restore the FRAND balance by either allowing the licensor to claim damages on global sales, or by considering damages from the perspective of a commercial negotiation. In the first case, one can justify this from the perspective of a FRAND license that willing licensor and willing licensee would have agreed ex-ante, just before the licensee began making use of the licensor's SEP portfolio. The license agreement forged in such a hypothetical negotiation would almost certainly have been a global or multi-territorial one. Alternatively, one can also consider the terms of a hypothetical territorially-specific license, recognizing that a licensor (at least) would never willingly enter into a negotiation on a territorially-specific license constrained by the global FRAND rate that it would have offered in the typical global FRAND license. In fact, if the licensor was prepared to have made a FRAND license available on global terms, but the licensee insisted on negotiating on a territorially-specific basis, then the licensor would not be violating its FRAND commitment if it offered only a global FRAND license but was prepared to negotiate a territorially-specific license on different terms, unconstrained by FRAND.

In this latter case, the licensor would have been able to enjoin the licensee's entire future flow of profits from UK sales, and thus bargaining would occur in the shadow of this threat point. Logically, one would expect the licensor to offer and also achieve rates significantly higher than the rate it would have achieved in a global license. While these uplifted rates might seem "supra-FRAND," they would in fact be consistent with striking a FRAND balance between licensor and licensee, as agreeing to such a territorially specific license would be a very inefficient alternative to a global license. Of course, it seems very unlikely that a willing licensee would ever, in the real world, ask for such a license. If courts want to entertain the notion of a hypothetical negotiation over a UK-only license, then, the appropriate negotiation to model would be one that is not negotiated under the FRAND constraint. One can expect such a negotiation to yield a damages rate that is much higher (perhaps several multiples of) the rate that would have been agreed in a global FRAND license.[20]

18 The licensor can, in theory, replace its "one stop" UK litigation with litigation in multiple other jurisdictions. But this would recreate the inefficiencies and uncertainties that we discussed above. One can readily imagine that the threat to submit to a UK injunction would be a potent source of bargaining power for licensees and would likely result in a relatively favorable settlement of the dispute for them.

19 It is important to note that the choice the licensee is making is not between submitting to an injunction or accepting a rate that has been dictated by the licensor, but submitting to an injunction instead of taking a license on terms that have been determined to be FRAND by a scrupulous and neutral arbiter. Further, we note that in the case of licensees that have not made serious FRAND-compatible counteroffers or have not otherwise demonstrated serious commitment to signing a license in a timely fashion, a FRAND license would perhaps be too generous a remedy. One could argue for higher-than-FRAND rates to apply to court-awarded licenses where the licensee has not behaved in a cooperative fashion.

20 The hypothetical negotiation should, of course, be based on what would be paid assuming that there are at least some valid and infringed patents in the licensor's portfolio.

IV. THE CURRENT LEGAL RULINGS IN THE UK ON DAMAGES FOR SEPS

The issues we address above have been raised in actual UK litigation around SEP licensing. In *Philips v. AsusTek*, Marcus Smith J considered a request for a summary ruling by ASUS that in the event of ASUS submitting to an injunction in the UK, it should only be liable for damages on past UK sales, at the rate that would apply in a global FRAND license. Marcus Smith J declined ASUS' request, as a matter that was too complex for summary judgment purposes.[21] In *IPCom v. HTC*, however, Birss J agreed to strike out a portion of IPCom's case that claimed damages for past infringement on a worldwide basis. He limited the scope of damages to only infringing devices that were imported into the UK. In the latter case, HTC had already submitted to an injunction on UK sales and IPCom's claim was only for damages, not for a FRAND license determined by the court. Birss J ruled that damages must be caused by the infringing actions of the user (HTC). In his view, the infringement of UK patents did not cause the sales of HTC devices in other parts of the world, and so did not fall within the scope of a U.K. award of damages.[22] IPCom has been given permission to appeal the ruling.

Birss J also stated that back damages metered at a FRAND rate and awarded in the context of a FRAND license award might appropriately be global in scope. He suggests that this is because the issue of a global FRAND license (in which payment for past use is bound up) inherently involves consideration of the interaction between the internationally effective FRAND undertaking. It is not completely clear as to whether Birss J has eliminated the possibility that past damages could be assessed on a global basis in the circumstance in which the licensor had asked the court to adjudicate on the terms of a FRAND license, but the licensee had instead opted to simply stop selling phones in the UK to avoid a license.[23,24]

Regardless, the reality is that HTC will (if Birss J's judgment is upheld by the higher courts) end up paying perhaps 1/100th of what it would have paid by way of payment for past use alone, simply because its current commercial position allows it to pull out of making sales in the UK. Regardless of the legal logic, there is no economically valid reason for rewarding any licensee in this way. More broadly, given the relatively high levels of exit and entry into the mobile devices business over a ten-year period, one might find that many firms who have made significant past sales on a global basis, without taking licenses, may be in a position where they are able to pull out of individual national markets simply in order to minimize their liability for past infringement.[25]

21 *Philips v. Asustek* [2020] EWHC 29 (Ch). It is worth noting two concerns that Marcus Smith J raised in connection with Philips' contention that damages should be based on the hypothetical license that would have been agreed at the time of first infringement, i.e., a global FRAND license. He suggested that this would allow Philips to collect damages on patents in foreign countries that had not been proven valid and infringed (see the reference to "enabling the [H]older to recover royalties for sales in those other jurisdictions which, had the Holder litigated there, would not have been recovered" at paragraph 47.2 (a)); and he further suggested that Philips was not precluded from collecting damages in other countries, even after it had collected "global" damages in the U.K (paragraph 47.2.(c)). However, it is worth pointing out that U.K. courts already make global FRAND license adjudications which can be based only on proving the validity and infringement of a small number of U.K. patents, without requiring evidence of infringement of patents in foreign countries. Second, from an economic perspective, it is unlikely that licensors would seek to litigate in multiple jurisdictions *after* a global award has been made in the U.K — indeed the very appeal of bringing suit in the U.K. is the hope that litigation in multiple jurisdictions can be avoided or at least minimized. Additionally, licensors cannot act as opportunistically as the judgment suggests, as they are involved in negotiation and potentially litigation with multiple licensees and opportunistic behavior can turn out to have negative consequences for future licensing and litigation. Again, economic incentives temper legal possibilities.

22 *IPCom v. HTC* [2020] EWHC 2914 (Pat).

23 There were unique factual circumstances involved in the *IPCom v. HTC* proceeding, as the need for a FRAND inquiry had been dismissed. However, it is not entirely clear to us whether if, in the course of a FRAND inquiry, a licensee announced its intention to submit to an injunction, the licensee's conscious choice to submit to an injunction in order to avoid taking a global license would be accounted for in determining the scope of damages.

24 The case originally commenced in 2011. HTC claimed to have implemented a "work around" which meant that it was no longer using the IPCom patent that was in suit and found infringed. IPCom subsequently found that HTC had imported at least some devices into the UK that nonetheless used IPCom's patent-in-suit. Notwithstanding the work around, there would still have been some use of IPCom's patent-in-suit for a period of several years before the workaround was implemented, as well as possible use of other technologies in IPCom's portfolio.

25 It appears that this strategy of submitting to an injunction was first used by ZyXEL in *TQ Delta v. ZyXEL*,[2019] EWCA Civ 1277, in a dispute involving DSL patents. In that particular case, the change in the licensee's economic incentives with respect to taking a license arose because the patent-in-suit that had survived the technical trial was set to expire in three months, which limited the value of seeking a license.

V. CONCLUSION

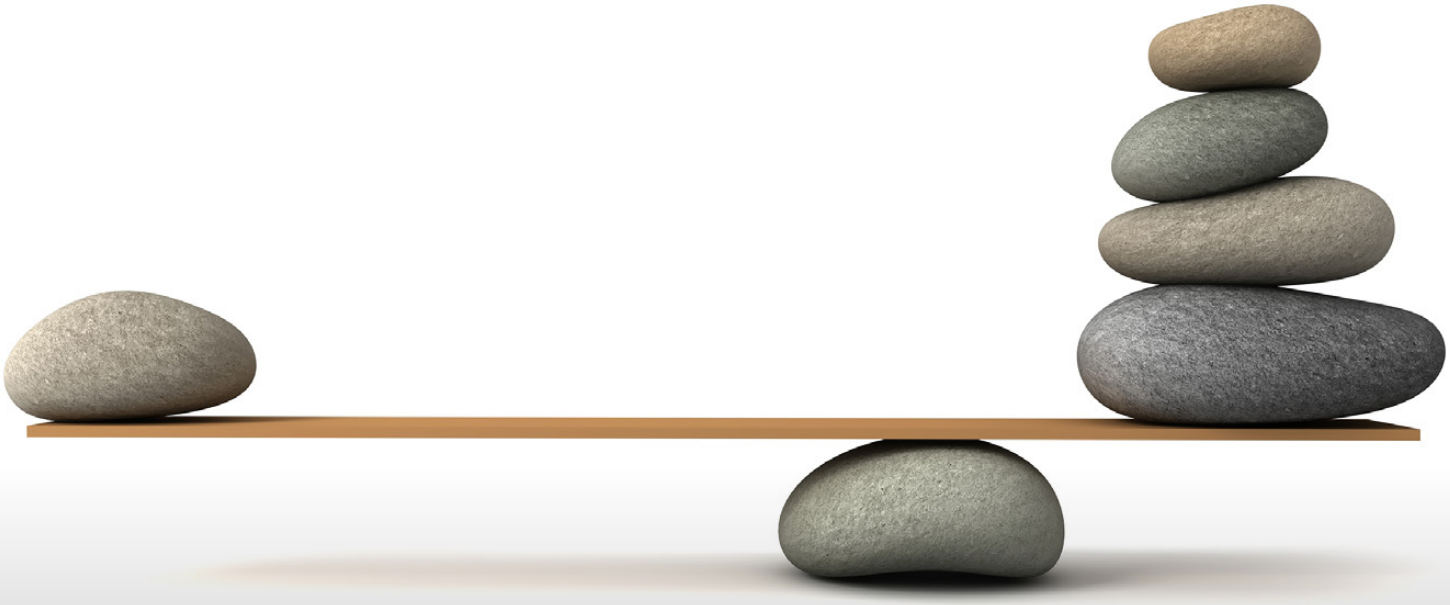
While we might not rise to the level of Mr. Bumble in *Oliver Twist*, who famously protested that the law was an idiot and indeed an "ass" (as the term is used in Britain) for supposing that his wife acted under his direction, national laws are still clearly a very imperfect instrument for upholding a robust system of licensing mobile SEPs. There are a great many licensing agreements involving mobile SEPs that have been commercially agreed between implementers and SEP owners, and these licenses most often pertain to the portfolio as a whole. These licenses, forged in the shadow of the FRAND commitment, contain compensation for past use, which also pertains to the portfolio as a whole. The Unwired Planet judgments were salient precisely because they paid due attention to the realities of portfolio licensing. The judgments at least implicitly recognized that proving the validity and infringement of the U.K. patents-in-suit was but a device to establish that the portfolio as a whole was enforceable. It ought to follow from this that in a commercial negotiation, a licensor that had proven validity and infringement of patents in the U.K. — which would typically have counterpart patents pertaining to the same technology in other jurisdictions — would be able to use these as a means to obtain a global portfolio license on FRAND terms. A hypothetical commercial negotiation at the time of first infringement is, of course, precisely the counterfactual on which damages awards should be based. Regardless of the merits of the legal reasoning, it would be economically unfortunate if the logic and reality of the global portfolio licensing system were reflected in license determinations, but then tossed aside for purposes of deciding damages awards.

Alternatively, one could also take the view that where licensees "elect" to take an injunction in lieu of a court-determined global FRAND license, the benefit of the FRAND obligation is no longer available to the licensee. The right damages counterfactual may then be a commercial negotiation over a U.K. license, attended by the threat of excluding the licensee from the U.K. market, which may yield a damages rate (applied to a U.K. sales base) that is much greater than the global FRAND license rate.

At the very minimum, scholars and indeed judges should recognize the very critical role that the frictions of enforcement coupled with the limitations of national patent law play in limiting licensor's ability to efficiently collect payment for their IP. The decisions of implementers such as HTC and ASUS to eschew or threaten to eschew UK sales for the express purpose of evading a court-awarded global license indicate that these limitations of the law are actually an important threat that confers significant bargaining power on licensees. This is an important point to appreciate when evaluating license agreements as part of a "comparable" license analysis used in determining FRAND rates, as these licenses are forged in the context of highly imperfect enforcement mechanisms that generally favor the licensee.[26]

26 This stems simply from the fact that the licensee cannot be excluded from using the licensor's IP until such time as the licensor is able to prevail in court on issues of validity and infringement. There are also other important factors — such as the need for a licensor to interact with multiple licensees over the same portfolio — that also create asymmetries that favor the licensee. These asymmetries cut against the notion that licensors derive the power to hold-up licensees simply because they have declared-essential patents. In most other contexts (involving tangible goods instead of ideas) monopoly power or hold-up power does not require going to the courts to effectuate.

PARALLELS AND DIVERGING APPROACHES IN THE UK AND GERMAN SUPREME COURTS' DECISIONS ON FRAND



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I. INTRODUCTION

Long-standing discussions in Europe regarding the licensing of Standard Essential Patents ("SEPs") on Fair, Reasonable, and Non-Discriminatory ("FRAND") terms and conditions are approaching significant conclusions. A number of court cases have reached the Supreme Courts of Germany, the UK, and the Netherlands; and the German Federal Cartel Office is urging German courts to refer questions regarding the level of licensing in the value chain to the Court of Justice of the European Union ("CJEU") for clarification. In the meantime, the European Commission may soon further clarify its future regulatory approach to SEPs, as various follow-ups to the European Commission's Communication on Standard Essential Patents are in the works. In this context, the Supreme Courts of two countries accounting for the vast majority of SEP litigation in Europe have published their first decisions on FRAND since the CJEU created its framework for the analysis of SEP licensing obligations in the 2015 *Huawei v. ZTE* decision: the German Federal Court of Justice, on July 8, published its decision in *Sisvel v. Haier*;[2] and on August 26 the UK Supreme Court gave its judgment on the appeals to the Appeal Court decisions in *Unwired Planet v. Huawei* and *Huawei v. Conversant Wireless* and *ZTE v. Conversant Wireless*.

Both judgments hand significant victories to SEP holders. Nevertheless, the judgments take very different approaches to the resolution of SEP licensing disputes. In this paper, I will analyze three different levels at which the different judgments intersect: on the first, most specific and technical level, the courts faced similar legal questions, and the decisions demonstrate a convergence in the approaches of German and UK courts to these questions. These include the question of whether a SEP holder may fulfill his FRAND obligations by only offering worldwide portfolio licenses, as well as the exact implications of the non-discrimination prong of the FRAND commitment. On a more general level, the judgments highlight a widening divergence between two different approaches to SEP licensing disputes: one approach emphasizes the parties' obligation to engage in good faith negotiations over the terms and conditions of a SEP license, while another approach seeks to define what specific licensing terms are FRAND. On the most general level, the different controversies illustrate the geopolitical challenges to the European SEP licensing landscape, where the increasing Chinese participation in the development of mobile telecommunication standards raises difficult questions regarding the insufficient protection of foreign patent rights in China. This geopolitical challenge to the existing balance in the SEP licensing landscape manifests itself in direct government intervention on behalf of state-owned licensees as well as Chinese courts determining very low FRAND rates in disputes between foreign patent owners and Chinese implementers.

While both judgments offer some relief to SEP holders facing these challenges, a more unified approach within the CJEU's balanced and market-oriented framework for the resolution of SEP licensing disputes would have had better chances at achieving a durable solution. The German Federal Court of Justice's decision corroborates the *Huawei v. ZTE* framework's emphasis on parties' obligations to resolve FRAND licensing disputes through bilateral negotiations. By contrast, the UK Supreme Court curtails the role of the *Huawei v. ZTE* framework, and affirms the authority of English judges to set the terms and conditions for global SEP licenses under dispute. There is a clear risk that other courts in countries with lower standards of patent protection will follow this example and set low royalties and other inadequate terms for global SEP licenses. The ensuing forum shopping by SEP holders and implementers may ultimately weaken the effectiveness of worldwide SEP protection, and subject the global market for SEP licenses to greater uncertainty.

Bilateral negotiations between parties (potentially assisted by arbitration) are the most suitable forum for the determination of licensing terms and conditions. This is particularly true for SEP licenses, which regularly span across many different countries with different patent laws and different approaches to SEP licensing dispute resolution. National courts can usefully support this market-driven process by enjoining companies unwilling to engage in serious licensing negotiations from implementing the standard in a particular country. The German Federal Court of Justice's decision in *Sisvel v. Haier* provides a template for such an approach in support of bilateral negotiations. As other major SEP licensing disputes are still pending, and significant controversies in particular regarding the appropriate level of licensing in the value chain continue to await resolution, it is important that other courts and regulators will heed the Federal Court of Justice's example and similarly give priority to bilateral negotiations between SEP holders and implementers.

2 BGH KZR 36/17. The decision is available in German at https://juris.bundesgerichtshof.de/cgi-bin/rechtsprechung/document.py?Gericht=bgh&Art=en&Datum=Aktuell&Sort=9216&nr=107755&pos=23&anz=723, and an English translation is provided by Arnold Ruess https://www.arnold-ruess.com/fileadmin/user_upload/2020_07_07_FCJ_SisvelvHaier_English.pdf.

II. CONVERGING STANCES ON SPECIFIC ASPECTS OF FRAND

On the specific issues, some of the most controversial debates regarding SEP licensing appear to be heading towards satisfactory resolutions. As other commentators have observed, the recent *Sisvel v. Haier* decision by the German Federal Court of Justice signifies an important convergence with the approach of UK courts to some of the most relevant current controversies.[3] The UK Supreme Court judgment, which upholds the lower courts' rulings and explicitly underlines their commonalities with the decisions of foreign, including German, courts, reinforces and extends this convergence.

A. Portfolio Licensing Offers may Fulfill a FRAND Obligation

One element of contention in a large number of licensing disputes is the conflict between SEP holders' desire to license entire portfolios of patents essential to the same standard, and implementers –at least when taken to court for patent infringement – who often seek to limit the scope of the license under dispute to the much smaller subset of patents asserted in the lawsuit.

A large number of patents are declared to be potentially essential by their owners, as a cautionary measure. When checked, more than half of these patents are regularly found not to be essential.[4] Nevertheless, performing such checks on a large number of patents, such as the thousands of patents declared to be potentially essential to mobile communication standards such as LTE, would be prohibitively expensive even for large standard implementers. It is thus almost inevitable that portfolio licensing of SEPs leads standard implementers to take licenses for at least some patents that they do not actually use.[5]

Nevertheless, the very real potential for this outcome cannot justify a refusal by standard implementers to consider SEP portfolio licensing offers. In particular, a company that has been found to infringe a certain number of SEPs should not be allowed to insist on a license to these SEPs only. Courts cannot possibly deal with hundreds or thousands of patent infringement claims at once. Especially in the area of mobile telecommunications technology, the patents asserted in court are very often only a small subset of the patents that are actually infringed by a product. Requiring the SEP holder to make a licensing offer limited to the asserted patents, and calculating a compensation taking only these patents into account, would thus deprive patent owners of a large share of the value of their portfolio. It would also force patent holders to assert much larger numbers of patents than they currently do, further stretching limited judicial resources. It is readily apparent that the desire to get free access to large parts of patent holders' portfolios is the real reason underneath some implementers' litigation position that refuses to consider offers of licenses to larger SEP portfolios. Real-world licenses resulting from successful bilateral negotiations are based on portfolios, and rarely break down royalties or other licensing terms on a patent-by-patent basis. This goes to show that genuinely willing licensees prefer negotiations on a portfolio basis to unnecessarily burdensome patent-by-patent analyses. It is in everybody's interest that SEP holders offer licenses to entire portfolios, even though judicial disputes are necessarily limited to much smaller numbers of patents.

An implementer's refusal to consider *worldwide* portfolio licensing offers is similarly incompatible with the conduct of a willing licensee. While a patent owner may assert infringement of its patent rights in every country in which it has patented its invention, the vast majority of patent owners assert their patents only in a limited number of jurisdictions. In Europe, these jurisdictions are mostly Germany and the UK.[6] Indeed, it would be very inefficient for the same dispute and the same contested licensing terms to be simultaneously litigated in 28 different national court systems. Given their limited previous exposure to SEP litigation, some national courts may be ill-equipped to handle complex SEP licensing disputes. Implementers that insist on being offered national licenses thus appear intent to use the technology for free in the large number of jurisdictions in which their risk of facing a court proceeding is low. Allowing implementers to insist on national licenses would also be likely to

3 Richard Vary of Bird & Bird states that "it seems that Germany has moved closer to the opinion of the Court of Appeal in *Unwired Planet*." In particular, he emphasizes the similar interpretation of the non-discrimination obligation, as well as the direct reference to Justice Birss' comment that "a willing licensee is one who is willing to accept a license on FRAND terms, whatever FRAND may be." https://www.twobirds.com/en/news/articles/2020/global/federal-supreme-court's-decision-in-sisvel-v-haier-moves-germany-closer-to-the-uk.

4 A number of studies present results of essentiality checks on samples of declared SEPs, e.g. D. J. Goodman & R. A. Myers, "3G cellular standards and patents," *2005 International Conference on Wireless Networks, Communications and Mobile Computing*, Maui, HI, 2005, pp. 415-420 vol.1, doi: 10.1109/WIRLES.2005.1549445. Audenrode, Marc & Royer, Jimmy & Stitzing, Robin & Sääskilahti, Pekka. (2017). Over-Declaration of Standard Essential Patents and Determinants of Essentiality. SSRN Electronic Journal. 10.2139/ssrn.2951617. Brachtendorf, Lorenz and Gaessler, Fabian and Harhoff, Dietmar, Truly Standard-Essential Patents? A Semantics-Based Analysis (May 2020). CEPR Discussion Paper No. DP14726.

5 Portfolio licenses also typically include a license to patents that may be granted and/or may become essential later on during the term of the license, thus highlighting the contractual nature of the license.

6 See Contreras, J. L., Gaessler, F., Helmers, C., & Love, B. J. (2017). Litigation of Standards-Essential Patents in Europe: A Comparative Analysis. Berkeley Tech. LJ, 32, 1457. A commercial report using more recent data similarly unveils very limited SEP litigation activity in Europe outside Germany and the UK: https://www.darts-ip.com/blog-sep-litigation-landscape-2019/.

lead to an inflation in the number of duplicative judicial proceedings, and increase the number of global licensing disputes litigated in smaller European countries. Unsurprisingly, the large number of existing worldwide SEP licenses voluntarily concluded between SEP owners and implementers demonstrates that the large majority of genuinely willing licensees prefer negotiating global licenses to burdensome country-by-country negotiations.

It is thus very positive and important that both the German Federal Court of Justice and the UK Supreme Court have clearly stated that offering licenses to worldwide SEP portfolios may fulfill a SEP owner's FRAND obligations. After these decisions, the prospect for implementers insisting on narrower licenses appears increasingly slim. The High Court of England and Wales decreed that "A UK portfolio licence is not FRAND. The FRAND licence between Unwired Planet and Huawei is a worldwide licence."[7] The court's willingness to determine a FRAND royalty rate for this worldwide license was one of the main grounds of Huawei's appeal, but was fully validated by the Supreme Court in its recent judgment. The Supreme Court rejected Huawei's distinction between the terms of a license mandated by a court, which Huawei alleged must necessarily be national in scope, and the (usually global) licensing terms to which parties may agree in bilateral negotiations. In the view of the Supreme Court, Judge Birss was justified in considering that, given the circumstances of the case, a willing licensor and a willing licensee would regard the negotiation of a license country by country as "madness." In basing his determination of a FRAND license on the practices that are usual in voluntary bilateral negotiations, Judge Birss adopted an approach that was in tune with those of courts in other jurisdictions. The UK Supreme Court observes that it is a practice in the developing German case law to have "regard to the usual practices of parties in the relevant industry when the court determines the FRAND terms of a licence." Courts in the U.S. have a similar practice of "looking to examples of real life commercial negotiation of licences by parties engaged in the relevant industry when fixing the FRAND terms of a licence."

The German Federal Court of Justice in *Sisvel v. Haier* did not need to determine a FRAND rate or evaluate whether the rates offered by Sisvel for a license to its worldwide patent portfolio were FRAND. It did, however, rule that Sisvel did not violate its FRAND obligations under competition law by only offering licenses to its worldwide SEP portfolio. The court rightly saw Haier's position that Sisvel needed to corroborate its licensing offer with a patent-by-patent analysis of its portfolio of 450 declared SEPs as a delaying tactic. Haier had thus not done its part, and failed to express its sincere willingness to take a license on FRAND terms. While the Federal Court of Justice thus did not set a FRAND rate for a worldwide portfolio license, as the UK Supreme Court has now established courts in the UK may do, it nevertheless recognized and validated the practice of offering SEP licenses on a worldwide portfolio level. Given the unambiguous support from the judgments of the highest courts in Germany and the UK, the norm of licensing SEPs on a worldwide portfolio basis seems firmly established by now.

B. The Non-discrimination Prong of FRAND does not Entail an Obligation to Offer Unitary Rates

Another point of contention common to several recent disputes is the interpretation of the non-discrimination prong of the FRAND obligation. Also on this issue, the recent decisions by the German Federal Court of Justice and UK Supreme Court signal a widening agreement across European countries.

The bulk of academic and policy-maker interest in FRAND has focused on defining what makes a licensing offer "fair and reasonable." While less discussed in scholarly publications, the issue of non-discrimination has been central to some of the most prominent European legal disputes and decisions on SEP licensing. Indeed, a very strict application of the non-discrimination prong of FRAND offers implementers a powerful tool to avail themselves of any own responsibilities to meaningfully engage in licensing negotiations. The appeal court decision in *Sisvel v. Haier*, which the Federal Court of Justice now overturned, exemplified such a strict approach. For the Duesseldorf Higher Regional Court, a single license granted by the licensor to another licensee on more favorable terms was sufficient to discard the licensor's licensing offers as non-FRAND. Rather than allowing the licensing terms of individual licenses to be determined through bilateral negotiations, this approach would lead to a unitary tariff for SEP licenses, where the licensee with the strongest bargaining position sets a royalty ceiling for all licenses to these SEPs.

In overturning the Higher Regional Court's finding that Sisvel's licensing offer was discriminatory, the Federal Court of Justice clarifies that unitary tariffs are not required by a FRAND obligation. In the court's interpretation, the goal of the non-discrimination prong of FRAND is to ensure that implementers have an effective access to the standard, and the non-discrimination obligations arising out of European and German competition law are sufficient to achieve this goal. The FRAND obligation therefore does not add further, more stringent non-discrimination obligations to those generally applicable to firms holding a dominant position.

In its recent decision in *Unwired Planet v. Huawei*, the UK Supreme Court similarly rejected the notion that a SEP licensor is bound to offer the same or similar terms to all licensees. The court noted that a "most-favourable licence" requirement was included in the short-lived ETSI IPR Policy of 1993, but not included in the 1994 policy or any of its subsequent revisions. Interpreting the non-discrimination prong of FRAND to require an SEP holder to offer the most favorable licensing terms granted to any comparable licensee "would have the effect of reintroducing

7 UK High Court in *Unwired Planet International Ltd. v. Huawei Technologies Co. Ltd.*, [2017] EWHC 711 (Pat), at 807(11).

a 'most-favourable licence' term by the back door." Instead, the Supreme Court followed Judge Birss' preference for a "general" rather than a "hard-edged" interpretation of the non-discrimination prong of the FRAND obligation. Under such a "general" interpretation, fair and reasonable licensing terms and conditions are necessarily non-discriminatory, because they reflect the value of the license. Under a "hard-edged" non-discrimination obligation, even fair and reasonable licensing terms could be non-FRAND, if the licensor has granted more favorable terms to a similarly-situated licensee. The Supreme Court rejected such a "hard-edged" interpretation and instead adopted a unitary interpretation of FRAND, where the terms "fair," "reasonable," and "non-discriminatory" do not represent distinct obligations, but constitute a composite whole.

Both the UK Supreme Court and the German Federal Court of Justice thus reject the notion that FRAND requires unitary tariffs. More generally, both courts find that the non-discrimination prong of FRAND does not add distinct obligations to those of the "fair and reasonable" prongs of FRAND and competition law more generally. While the UK Supreme Court subsumes the non-discrimination obligation in a unitary FRAND obligation, the Federal Court of Justice finds that non-discrimination in FRAND means the same as non-discrimination in German and EU competition law more generally. In spite of these differences, both decisions preserve a significant margin for SEP holders to offer licensing terms reflecting the individual circumstances of each license.

III. TWO FUNDAMENTALLY DIFFERENT APPROACHES TO FRAND

On at least some specific issues, there is therefore a clear trend towards convergence between the German and UK approaches to SEP licensing disputes. Nevertheless, behind these specific controversies there is a more fundamental and widening divergence between different approaches to FRAND.

According to one view, FRAND designates a relatively specific level of compensation for a license. Under this approach, a licensing offer is FRAND if the offered terms and conditions correspond to this compensation. A court must determine the FRAND value of a license to determine whether parties' licensing offers fulfill their respective obligations, and may otherwise stipulate the license's terms and conditions.

According to another view, there is a large range of licensing terms and conditions that may fulfill a SEP holder's FRAND obligations. The specific licensing terms and conditions of a SEP license must be determined through meaningful bilateral negotiations. A court must determine whether the parties' licensing offers, as well as their overall conduct throughout the bilateral negotiations, were conducive to the conclusion of an acceptable agreement. In other words, under this approach, FRAND characterizes a negotiation process rather than specific licensing terms and conditions.

The *Huawei v. ZTE* framework appears to give preference to the latter approach. The CJEU set out a choreography of steps to be undertaken by the different parties, where the SEP holder must first notify the standard implementer of the alleged infringement of its SEPs, and the implementer must respond by expressing its willingness to conclude a license on FRAND terms; it is then up to the SEP holder to make a FRAND licensing offer, to which the implementer must diligently respond, either by accepting the offer, or submitting a FRAND counter-offer. The court thus clarifies that the actual terms and conditions of a SEP license would generally be determined through a process of bilateral negotiations. This seems incompatible with a view of FRAND as defining specific terms and conditions independently of the negotiation process.

Nevertheless, over recent years, the application of the *Huawei v. ZTE* framework by national courts has been inconsistent, and at times has weakened the framework's emphasis on bilateral negotiations. The challenges to the framework have come from two different angles.

First, several courts, such as the Higher Regional Court in Duesseldorf in the *Sisvel v. Haier* case, have erected high hurdles at the beginning of the iterative negotiation process. The CJEU makes it clear that it is up to the SEP holder to initiate the negotiation process by submitting a FRAND licensing offer. In the interpretation of some courts, including the Higher Regional Court of Duesseldorf, this means that the terms and conditions of the SEP holder's initial licensing offer must be those of a FRAND license. The obligation for the implementer to respond and actively engage in a negotiation process only arises if the SEP holder has already offered a license on terms and conditions that fulfill the SEP holder's FRAND obligations. The SEP holder must thus figure out FRAND terms and conditions of a license before any negotiation, without any active contribution from the prospective licensee. This interpretation raises the question what role negotiations are supposed to play in the determination of FRAND licensing terms. After receiving a FRAND licensing offer, the implementer may respond to the offer with a FRAND counter-offer; but it is unclear what happens in the hypothetical scenario in which two fully compliant FRAND offers are on the table. Both parties are likely to insist on their preferred version of FRAND, and a third party may ultimately have to determine the license's terms and conditions.[8]

8 Some argue that since the initial FRAND commitment was made by the patent holder, once the patent holder has met it, the implementer must accept that FRAND offer or be injuncted. This interpretation however is difficult to reconcile with the CJEU's framework, which explicitly provides for an implementer's counteroffer in response to the SEP licensor's FRAND licensing offer. If only an offer to a license on FRAND terms satisfies the SEP holder's obligation to initiate the licensing negotiations, and the prospective licensee must accept any such offer, the possibility for a prospective licensee to submit a counteroffer would become meaningless, and there would be no role for meaningful negotiations.

Second, while the UK courts have adopted a very different approach to the resolution of a SEP licensing dispute, they similarly discount the importance of bilateral negotiations. The High Court of England and Wales in *Unwired Planet v. Huawei* found that neither the SEP holder nor the implementer had made a FRAND licensing offer, but this fact alone should not subject the parties to competition law consequences. While the court held that there is only one single set of terms and conditions that is FRAND for a license, the obligation to offer licenses on such FRAND terms should be understood as "applicable primarily to the finally agreed terms rather than to the offers."[9] This approach is much less demanding of the parties' conduct during the negotiation process. In fact, it drastically reduces the importance of the parties' licensing offers, as the FRAND obligation merely consists in *accepting* a license on FRAND terms and conditions; and the court took it upon itself to determine such terms and conditions.

While the Appeal Court disagreed with Birss' contention that there can only be a single FRAND rate, both the Appeal Court and the Supreme Court validated his general approach to the resolution of the SEP licensing dispute. The Supreme Court stated that what defines a willing licensee is the willingness to accept a court-determined FRAND rate.[10] In determining willingness, the Supreme Court also found that it did not matter that the SEP holder applied for an injunction before submitting a licensing offer, as it did so in view of a court-determined FRAND license. In the interpretation of the UK Supreme Court, giving the implementer notice of infringement is the only step in the *Huawei v. ZTE* choreography that is mandatory for the SEP holder. It considers that the CJEU has provided the subsequent steps of exchange of offer and counter-offer merely as non-binding guidance. While discounting the importance of both parties' offers and their conduct during bilateral negotiations, these decisions establish third-party determination of licensing terms (contemplated by the CJEU as a possibility in the case of mutual agreement by the parties) as the usual resolution of a SEP licensing dispute.

As different as these approaches otherwise seem, they do share a fundamental common understanding of what FRAND means. In that understanding, FRAND describes a set of licensing terms and conditions, including a royalty rate. This royalty rate reflects an objectively given FRAND value. The different courts differ in their degree of leniency with parties. While for the Higher Regional Court in Duesseldorf, it is the SEP holder's responsibility to figure out the FRAND value of the license, and to offer corresponding FRAND terms and conditions, UK courts are more sympathetic with parties that miss the mark in their offers. Nevertheless, both approaches agree that FRAND, at its core, objectively and specifically defines the terms and conditions of an acceptable SEP license, and they share a high degree of confidence in the ability of a court or other third party to find and stipulate such terms and conditions if needed.

The Federal Court of Justice in *Sisvel v. Haier* takes a very different approach. Based on the important insight that "appropriate conditions for a contractual relationship, in particular an appropriate price [are] regularly not objectively determined but can only be determined as the result of negotiated market processes," the court emphasizes the parties' obligations to engage in bilateral negotiations.[11] In this particular case, it found that Haier had failed to sufficiently express its willingness to accept a license on FRAND terms. Not only had the infringer dragged its feet in responding to the SEP holder's notice of infringement, but it also made its willingness to accept a FRAND license conditional on further steps by the SEP holder. It was thus no longer relevant whether Sisvel's offer was FRAND, as Haier had not made sufficiently clear that it would accept any offer that actually is FRAND.

Formally, this approach raises a hurdle at an even earlier stage of the iterative negotiation process. While the Higher Regional Court had found that Sisvel's offer failed to fulfill the SEP holder's FRAND obligations, thus absolving the implementer of the obligation to actively engage in bilateral negotiations, the Federal Court of Justice found that Haier had failed to meet its own obligations even before Sisvel had an obligation to make a FRAND offer. Nevertheless, which step needs to come first is not of primary importance. The fact that Haier's statement of willingness to license fell short is not due to a clerical error in the wording of the response to the notice of infringement; rather, the shortcomings of Haier's statements were indicative of Haier's general unwillingness to negotiate in a constructive and goal-oriented fashion. Further indications of this unwillingness were Haier's insistence on its own counter-offer, and its unwillingness to amend this offer unless Sisvel provided further explanations that the court held Sisvel was not obliged to provide. Fundamentally, the court's criticism is aimed at how Haier engaged with Sisvel's licensing offer. In light of its insufficient engagement with Sisvel's offer, Haier's expression of willingness to license must be seen as insufficient.

The Federal Court of Justice thus considerably narrows the circumstances under which a court must assess whether the terms and conditions of a SEP holder's licensing offer are FRAND. Whether the SEP holder has made a FRAND licensing offer is relevant only when the implementer, through its conduct throughout the negotiation process, has demonstrated that it was willing to accept any licensing offer on FRAND terms. This does not rule out that the Federal Court of Justice will determine whether the terms and conditions of licensing offers are FRAND in

9 UK High Court in *Unwired Planet International Ltd. v. Huawei Technologies Co. Ltd.*, [2017] EWHC 711 (Pat), at 159

10 "What mattered on the facts of this case was that Unwired had shown itself willing to license Huawei on whatever terms the court determined were FRAND, whereas Huawei, in contrast, had only been prepared to take a licence with a scope determined by it."

11 BGH KZR 36/17, at 81. Cited from the English translation provided by the law firm Arnold Ruess, *supra* 2.

future cases, where the circumstances are different. Nevertheless, the evidence suggests that when both the SEP holder and the prospective licensee are genuinely willing to conclude a license on FRAND terms, they usually do not need a court to determine for them what these terms are.

The Federal Court of Justice's approach is in line with the positions of major European SDOs. While the IEEE-SA revised its patent policy to provide a narrower definition of what licensing terms are reasonable under its policy and how such reasonable terms should be determined, no major European SDO has taken similar steps. By contrast, CEN and CENELEC, two of the three European Standards Organizations formally recognized by the EU, stated that "FRAND has no precise pricing content, but instead is a 'comity device' designed to promote good faith negotiation between patent owners and prospective licensees."[12] In line with this general view of FRAND, courts in continental Europe have consistently steered away from determining specific FRAND licensing terms of a SEP license. While courts in the U.S., Asia, and the UK have produced extensive analysis to derive FRAND terms from "objective" external data, courts in continental Europe have left it up to the parties to determine appropriate FRAND licensing terms through bilateral negotiations.[13]

In spite of the Federal Court of Justice's backing of this approach, ongoing evolutions may still result in setbacks that undermine bilateral negotiations as the primary locus for the determination of appropriate terms and conditions for each SEP license. A determination of licensing terms through bilateral negotiations in a market process is only possible if patent holders have access to injunctive relief against unwilling licensees. In the U.S., the Supreme Court decision in *eBay v. MercExchange* and the ruling of the Court of Appeals for the Federal Circuit in *Apple v. Motorola* have made it difficult for SEP holders to successfully obtain an injunction against a standard implementer, and, for those who chose to make a licensing assurance under it, the IEEE's patent policy explicitly compels a patent holder to surrender the determination of FRAND licensing terms to an adjudicator up to the appellate level before seeking an injunction.[14] This situation inevitably leads to an increasing number of court determinations of SEP licensing terms (but not to an increasing consensus on how such a determination should be carried out). Such rules do not preclude that licensing terms are determined through bilateral negotiations. Nevertheless, even those licensing terms determined by common agreement without third party intervention are negotiated *in the shadow* of a third-party determination; i.e. the willingness to pay and the willingness to accept of the parties of bilateral licensing negotiations are ultimately determined by parties' expectations regarding the outcome of a third-party determination.

The fact that German courts are still able and willing to grant injunctive relief against unwilling licensees is thus of the utmost importance. The German court system does not substitute for the market to provide licensing terms on demand. The ongoing revision of the German patent law may result in expanding existing exceptions to patent holders' rights to injunctive relief against infringers. It remains to be seen how far these exceptions will reach in practice, but introducing a broad criterion of "proportionality" between the interests of the patent owner and the consequences of an injunction for the infringer risks creating a German equivalent to *eBay v. MercExchange*. In that case, implementers' incentives to actively engage in bilateral negotiations will be weakened, and German courts – like their counterparts in the U.S. – may regularly have to determine FRAND licensing terms and conditions on the behalf of parties insufficiently incentivized to reach an acceptable agreement through negotiations.

A potential obligation for SEP holders to provide a mandatory "license to all," i.e. to offer exhaustive licenses to their SEPs at any level of the supply chain, presents another threat to the determination of FRAND licensing terms through bilateral negotiations. If producers of small components in which patented wireless telecommunication technologies are physically embedded (such as chips or chipsets) were allowed to insist on being offered an exhaustive license, component makers and not patent holders would get to negotiate the terms and conditions under which different end product makers access the patented technology. This would represent a big step towards unitary tariffs across a large range of different uses. It would also represent an unprecedent ban on licensing field-of-use features, that have been affirmed by competition agencies to be legitimate for decades. If the Düsseldorf Regional Court's decision from November 26 to seek clarifications from the CJEU on a SEP holders obligation to offer licenses at all levels in the value chain is upheld on appeal, it must be hoped that the CJEU recognizes the importance of licensing terms that reflect the specific value that the patented technology adds to each implementation.[15] Such licensing terms can only be determined through bilateral negotiations between patent holders and those implementers that capture most of the patented technology's value.

12 CEN and CENELEC: "CEN and CENELEC position on: Standard Essential Patents and Fair, Reasonable and Non-Discriminitary (FRAND) Commitments," September 2016, available at https://www.cencenelec.eu/News/Policy_Opinions/PolicyOpinions/EssentialPatents.pdf.

13 For an overview of earlier cases, see Pentheroudakis, C. and Baron, J. "Licensing terms of standard essential patents: A comprehensive analysis of cases." European Commission Joint Research Centre Science for Policy Report (2017).

14 *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006).

15 While the Mannheim Regional Court in its August 18 decision in *Nokia v. Daimler* has declined the Cartel Office's request and granted an injunction because neither Daimler nor its suppliers had acted as a willing licensee, other cases are still pending, and Daimler has announced that it will appeal the Mannheim Regional Court decision.

IV. GEOPOLITICAL CHALLENGES TO THE EUROPEAN SEP LICENSING LANDSCAPE

Underneath their agreements on specific issues such as portfolio licensing and non-discrimination, the German Federal Court of Justice and UK Supreme Court thus apply a fundamentally different concept of what a FRAND obligation entails. On an even more general level, however, their decisions reflect similar geopolitical challenges to the European SEP licensing landscape. Many current SEP licensing controversies take place in the context of rising Chinese ambitions to shape mobile telecommunication standards. Chinese courts and government authorities are increasingly involved in the resolution of global licensing disputes. Even though this is a natural consequence of the increasingly important Chinese contribution to global mobile telecommunications technology, this evolution represents a challenge for European decision-makers. International comparisons consistently rank China much lower than the U.S., Japan, and major European countries in terms of the strength of Intellectual Property protection.[16] Furthermore, empirical research indicates that SEP protection in China is biased against foreign inventors.[17] These findings suggest that European and other Western SEP holders are rightly concerned about the protection of their patent rights when Chinese courts and government authorities are put in the position of adjudicating global SEP licensing disputes.[18]

Most SEP licensing disputes are global disputes. The underlying inventions are patented in many different countries, and the infringing products are sold around the World. Both SEP holders and implementers may thus invoke the laws and the courts of different countries to resolve their licensing disputes. For large disputes, it is common for companies to litigate in multiple venues at once. A single settlement may then put an end to multiple lawsuits in different jurisdictions. This overlap of multiple national courts' jurisdictions is not necessarily a cause for concern, so long as the different legal systems share common traits such as rule of law, international reciprocity, and a market-based approach to patents and standardization. Nevertheless, if the standards of patent protection differ significantly across jurisdictions, forum shopping by either patent owners or implementers may undermine the balance between different interests. In many of the recent European disputes, the potential for a spillover of insufficient patent protection in China is a significant aspect.

In the two cases jointly before the UK Supreme Court, Chinese infringers were appealing the UK High Court's and Appeal Court's decisions regarding their disputes with Western SEP holders. In both cases, the appellants challenged the UK courts' jurisdiction to determine the licensing terms for global SEP portfolio licenses. Evidently, the defendants hoped to achieve more favorable terms for country-specific licenses in other jurisdictions. In *Unwired Planet v. Huawei*, the High Court found that "comparable licenses show that rates are often lower in China than for the rest of the world." Even though the court accepted to discount the FRAND value for licenses in China by 50 percent, Huawei still objected on appeal that the court did not have standing to determine rates outside the UK. The goal of the appeal is easy to understand. Chinese courts, such as the Guangdong High People's Court in *Huawei v. InterDigital*, have set very low licensing rates in SEP licensing disputes involving Chinese implementers and foreign inventors.

Nevertheless, the claim of UK courts to be the legitimate forum for the determination of global licensing terms in these disputes appears precarious also on objective grounds. In one of the disputes, 60 percent of the implementer's ("ZTE") turnover was generated in China, as compared to 0.07 percent in the UK. It is thus evident that the value of a global SEP license in this case largely depends on the validity and enforceability of the SEP holder's Chinese patents, which only Chinese courts can determine. The UK Supreme Court's contention that UK courts nevertheless are an appropriate forum for the determination of global licensing terms rests in no small part on the court's finding that "the Chinese courts do not, at present, have jurisdiction to determine the terms of a global FRAND licence." The court currently only sees a "speculative possibility that the Chinese courts might accept jurisdiction to settle a global FRAND licence by consent." In light of the increasing role of Chinese companies in the development and implementation of wireless communication standards and the increasing number of national courts around the world that have embarked on setting global licensing terms, it seems plausible that Chinese courts will soon see themselves compelled and justified to do the same.

In the ongoing disputes between Nokia and Daimler, two large European companies, the major issue in contention is Daimler's insistence that its suppliers should be entitled to exhaustive SEP licenses. Nokia would thus need to approach the suppliers instead of Daimler with a FRAND licensing offer. A number of Daimler's direct ("Tier 1") suppliers, such as Continental, Valeo, and Gemalto, joined the lawsuit. These component makers supply carmakers such as Daimler with telematics control units ("TCU"), which enable several connectivity functions in a car. Neither the carmakers nor most of the Tier 1 suppliers play a significant role in the development of the underlying cellular communication technology.

16 See e.g. https://tcdata360.worldbank.org/indicators/entrp.ip?country=CHN&indicator=3375&countries=USA,JPN,DEU,FRA,GBR&viz=line_chart&years=2012,2016; https://www.statista.com/statistics/257583/gipc-international-intellectual-property-index/; and https://www.internationalpropertyrightsindex.org/countries.

17 Gaetan de Rassenfosse, Emilio Raiteri: Technology protectionism and the patent system: Strategic technologies in China, Working paper.

18 The European Commission staff working document "Report on the protection and enforcement of intellectual property rights in third countries" lists protection of SEP among the most prominent concerns with IPR protection in China: "Chinese competition authorities are reported to often impose heavy fines on foreign holders of SEPs, setting unreasonably low royalty rates, or using 'informal' investigations to influence business to business negotiations. The applicable rules and guidelines do not ensure sufficient legal certainty." https://trade.ec.europa.eu/doclib/docs/2020/january/tradoc_158561.pdf.

Rather, they source cellular communication modules from "Tier 2" suppliers, and most prominently Huawei. In late 2019, Huawei sued Nokia for an exhaustive SEP license; and according to recent media reports, Sharp (another SEP holder, and a fellow member of the Avanci pool) granted Huawei an exhaustive SEP license, and accordingly limited its pending infringement lawsuit against Daimler to only those implementations not involving Huawei components.[19] If car makers succeed in enforcing a new license-to-all rule for SEPs, European SEP holders may thus ultimately need to negotiate the terms on which European car makers access advanced cellular communication technology with Huawei and other, mostly Asian, Tier 2 suppliers.

In *Sisvel v. Haier*, the Higher Regional Court of Duesseldorf in its decision now overturned by the Federal Court of Justice had – as mentioned above – found that Sisvel's licensing offer to Haier was discriminatory, because Sisvel had granted more favorable licensing terms to another licensee. What made this approach particularly problematic in this case was that this licensee in question is a state-owned Chinese company that allegedly benefited from direct Chinese government intervention on its behalf. The Higher Regional Court did not think such government intervention could possibly constitute a valid reason justifying differential treatment. This was a very concerning stance. In light of the difficult conditions for enforcing Intellectual Property Rights in some countries, SEP licensors find themselves between a rock and a hard place: if they decide to vigorously pursue their rights against infringers protected by foreign governments, they may face serious adverse consequences, such as being excluded from important markets. If they however tolerate the infringement by these actors, they place their own licensees at a competitive disadvantage. In this context, accepting an inadequate compensation for a SEP license may well be the least bad choice available to a licensor. This choice however would become unviable if European courts then required the licensor to apply these inadequate terms, reflecting the direct influence of Chinese government, to their entire licensing program.

As exemplified by these recent controversies, the prominent role of Chinese actors and the insufficient protection of foreign Intellectual Property in China raises difficult questions with few good answers. The *Sisvel v. Haier* decision effectively validates an unfair competitive advantage enjoyed by foreign state-owned companies. More worryingly, the willingness of UK courts to determine global portfolio licensing terms may legitimize the ambitions of Chinese courts to do the same. Nevertheless, UK and German courts have at least provided a temporary relief to SEP holders against far-reaching consequences from Chinese efforts to devaluate foreign-owned Intellectual Property.

In the long run, national courts alone cannot satisfactorily address the challenges that foreign government interference pose for the standardization ecosystem. Rather, these challenges call for policy action. Policy makers such as the European Commission have given significant leeway to SDOs and other private actors to develop the rules applicable to SEP licensing. Nevertheless, they also have shown a willingness to intervene when warranted by the circumstances. In the past, most of these interventions had the aim of protecting European implementers against abuses by SEP holders. In its November 2017 communication, the Commission prominently recognizes the importance for European SMEs to receive FRAND access to SEP-protected technology standards. These goals have lost nothing of their importance. At the same time, the Commission should recognize that the SEP licensing landscape has undergone profound transformations over recent years. Perhaps the most consequential of these transformations is the rapid ascension of foreign actors who have an economic interest in devaluating the Intellectual Property of incumbent innovators, and whose aspirations benefit from direct and indirect interventions by their national governments. Finding an appropriate response to this challenge is not only in the interest of the small number of European companies that still participate in a leading role in the development of mobile communication technologies. It is also vital to preserving the rule-based and market-driven European approach to standardization, which has been a global success through the successive generations of mobile telecommunication standards from 2G to 5G and beyond.

Especially in light of this international dimension of SEP licensing disputes, the Federal Court of Justice's emphasis on bilateral negotiations may provide a more promising approach to the resolution of SEP licensing disputes. Bilateral negotiations (possibly assisted by an arbitration in an international forum) are better suited to the resolution of global disputes than the determination of licensing terms by national courts. Ultimately, increasing the number of national courts willing to determine global licensing rates may lead to forum shopping and reduced predictability of SEP licensing terms. Under the approach of the Federal Court of Justice, a national court may use the prospect of an injunction against unwilling licensees or a finding of an abuse of a dominant position by a SEP holder to compel both parties to engage in serious licensing negotiations, which would typically be global in scope. The actual determination of licensing terms would thus take place outside the judicial systems of different countries with their national specificities.

19 http://www.fosspatents.com/2020/07/breaking-sharp-grants-automotive.html.

V. CONCLUSION

In this paper, I have tried to highlight some of the key take-aways and implications of the German Federal Court of Justice's decision in *Sisvel v. Haier* and the UK Supreme Court judgment in *Unwired Planet v. Huawei* as well as *Huawei and ZTE v. Conversant Wireless*. Most immediately, these important rulings have the potential to unify European courts' approaches to important aspects of SEP licensing disputes, such as portfolio licensing and non-discrimination. Both judgments provide important clarifications on these issues, which will strengthen the position of SEP holders against the litigation tactics of unwilling licensees in pending as well as future disputes.

At the same time, the judgments fundamentally diverge in their interpretation of what FRAND means. The German Federal Court of Justice's decision corroborates and strengthens the *Huawei v. ZTE* framework' emphasis on parties' conduct throughout the negotiation process. By contrast, the UK Supreme Court judgment reduces the importance of the *Huawei v. ZTE* framework and parties' conduct during the negotiation process more generally. Under this approach, the primary responsibility of a willing licensee and licensor is to accept whatever terms a court determines are FRAND.

I have argued that the approach of the German Federal Court of Justice is better suited to the resolution of global licensing disputes, especially in view of increasing geopolitical challenges to the SEP licensing ecosystem. By giving priority to bilateral negotiations between parties as the primary means of determining FRAND licensing terms, the decision provides a template for a market-driven European approach to the resolution of SEP licensing disputes. Nevertheless, this is only the first in a series of important decisions expected in Germany and other European countries. It is important for future decisions to continue to prioritize bilateral negotiations as the primary means of determining SEP licensing terms and conditions, and find longer-lasting responses to some of the emerging challenges in the SEP licensing landscape.

WHAT'S NEXT FOR FRAND?

BY LAURA GOOLD & RICHARD VARY[1]

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I. INTRODUCTION

In autumn last year the world watched the UK Supreme Court's televised broadcast of the hearing in the conjoined cases of *Unwired Planet v. Huawei, and Conversant v. Huawei and ZTE*. There were rumors that the decision would be published by Christmas. Then by Easter. Then, surely, before the court's summer break. But the waiting continued, and it was not until August 26 that the decision came down.

FRAND judgments, it appears, are like buses: you can wait ages for one, and several arrive at once. On July 23, the Federal Supreme Court in Germany published its written judgment in *Sisvel v. Haier*. On August 11, a United States ninth circuit panel gave its decision reversing the lower court in *FTC v. Qualcomm*. On August 18, the first injunction was handed down in the *Nokia v. Daimler* cases in Germany (with others following in close succession afterwards). And on November 26, the Dusseldorf court referred questions to the CJEU. Collectively these cases have addressed the law on FRAND forward in four main areas:

- Jurisdiction
- Non-discrimination
- Availability of injunctions
- Licensing point

II. JURISDICTION

There is an inherent jurisdiction conflict in FRAND: patents are national sovereign rights, but products are sold worldwide, and licenses are usually granted on a global basis. So how does a national court, making findings in relation to a national right, deal with a FRAND defense?

The approach in *Unwired Planet* & *Conversant*

Unwired Planet – in brief

Unwired Planet International Ltd and another v. Huawei Technologies Co Ltd and another concerned six Unwired Planet patents. Five of these were said to be essential to mobile telecommunications standards (SEPs).

Unwired Planet sued Samsung and Huawei for using those patents without a license. It accepted that under the rules of standards-development body ETSI it had undertaken to offer licenses on a fair, reasonable and non-discriminatory basis ("FRAND").

Samsung settled early in the proceedings, but the case went to trial against Huawei. After some of the patents were found to be valid and infringed, the court had to address FRAND.

The High Court held that Unwired Planet's licensing offers were not FRAND: it had asked for too high a royalty. On the other hand, Huawei had not offered enough. It determined the global FRAND royalty rates. It granted an injunction to restrain infringement unless Huawei took a global license on certain terms that he found to be FRAND: this was termed a "FRAND" injunction. Huawei appealed.

In the parallel *Conversant* case, Conversant asserted SEPs against Huawei and ZTE and sought a FRAND injunction. Before the case went to trial, Huawei and ZTE challenged the jurisdiction of the English court to hear it.

In *Unwired Planet*, Huawei argued that the English court should determine a rate only for sales in the UK. If Huawei paid that rate to the patent owner, there should be no injunction. It argued that the court could not determine a global royalty rate, because that would be an indirect determination of the validity of foreign sovereign rights. That would offend comity.

The High Court did not agree. Mr. Justice Birss felt that the court must determine what a FRAND license should be. The evidence before the court suggested that commercial parties in the position of Unwired Planet and Huawei would invariably agree to a global license. A FRAND license was therefore a global license. A UK-only license would not be FRAND.

In the parallel *Conversant* case, Huawei argued that the UK was not the most appropriate court to determine a FRAND rate. China was a much bigger market for Huawei: the UK accounted only for a tiny percentage of Huawei's global sales. Mr. Justice Henry Carr did not agree. The relief being sought by the patent owner in the UK was an injunction against the sale of products in the UK that were infringing UK patents. This was clearly a matter for the UK courts.

The Court of Appeal agreed with the reasoning of both Mr. Justice Birss and Mr. Justice Henry Carr. It reviewed the case law of other courts and dismissed Huawei's argument that the High Court was out of step with other countries.

The Supreme Court confirmed that English Courts do have the power to grant the FRAND injunction granted by the High Court, and to determine the terms of the license, even though those terms covered payments for sales in other countries. Whilst validity and infringement of national patents are matters for national courts to determine, the ETSI IPR policy which gives rise to the FRAND obligation does so by way of a contract between patent owner and implementer. That contract is of a global nature. The English court is able to determine the terms of that contract.

The Supreme Court also dismissed Huawei's argument that the UK was not the most appropriate forum to hear the dispute. It was inclined to agree with the lower courts that the correct characterization of the dispute was a claim for infringement of UK patents and a UK injunction under those patents. That was clearly a matter for English courts. However, the Supreme Court noted that the evidence before it did not establish any other court as being more suitable. In this case it had no basis to overturn the lower court's decisions. No doubt future implementers will take steps to improve that position.

III. NON-DISCRIMINATION

Earlier in the *Unwired Planet* litigation, Samsung had also been a party. Samsung had settled with Unwired Planet at a point where Unwired Planet was short on cash. Consequently, it had obtained a good deal: a better deal that the court subsequently determined that Huawei should pay.

Huawei argued that the "non-discrimination" limb of FRAND should put it in the same position as Samsung. It would be discriminated if it were to pay more.

The lower courts had found that the Non-Discrimination limb of FRAND is not "hard-edged": differential pricing is not *per se* objectionable. The Court of Appeal held that a hard-edged non-discrimination rule could harm the evolution of standards if it forced the SEP owner to accept rates that did not reflect the value of the technologies being licensed. A balance needs to be struck.

The German Supreme Court in *Sisvel v. Haier* adopted a similar approach to the UK lower courts. Haier had complained that Sisvel's offer was not FRAND because another licensee had received a lower rate. The evidence suggested that the other licensee received this lower rate only after the strong intervention of the Chinese regulator on behalf of that party. The German Supreme Court stated that the relevant assessments are:

- Art. 102 para. 2 lit. c) TFEU: "applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage"; and

- Sec. 19 para. 2 no. 3 of the German GWB (Act against Unfair Competition): "demands less favorable payment or other business terms than the dominant undertaking demands from similar purchasers in comparable markets, unless there is an objective justification for such differentiation."

Patent owners can protect their business interests and be acting reasonably by accepting conditions lower than normal, but this won't meant that subsequent licensees are then entitled to the same rate.

The UK Supreme Court stated that FRAND conveys a single unitary obligation to be fair, reasonable and non-discriminatory. FRAND cannot be split out into distinct obligations of fairness, reasonableness and, separately, non-discrimination. The ETSI IPR Policy requires participants to offer a FRAND price to all based on the market value of the portfolio, without adjustments for the circumstances of individual licensees. But, as with the German position, if a SEP owner accepts a lower rate from one potential licensee, this does not necessarily mean the price offered to others must drop.

IV. INJUNCTIONS IN FRAND

The CJEU's decision in *Huawei v. ZTE* recognizes that SEP owners may be in a dominant position under Art. 102 TFEU. It sets out steps a patentee should follow to avoid placing itself in a position of abusing any dominant position.

Huawei v. ZTE – steps for injunctions
To determine whether such an injunction would amount to abuse of a dominant position the courts will consider if:

1. The SEP owner, before commencing proceedings, notified the alleged infringer of the infringement by designating the patent and specifying how it has been infringed;

2. The alleged infringer demonstrated a willingness to take a FRAND license;

3. The SEP owner presented in writing a FRAND offer specifying the royalty and the way in which it is to be calculated; and

4. The alleged infringer made a FRAND counteroffer.

Before the German Supreme Court, Haier argued that Sisvel had not followed these steps. In particular, it had failed under Step 3 to make a FRAND offer.

Sisvel argued that this did not matter, as it was not in a dominant position. Its patents evidently did not preclude access to the market: Haier had been accessing the market for some considerable time without a license. The German Supreme Court did not accept this: in making a determination of dominance, infringement of patents should not be considered an alternative way to access the market.

Infringement of patents is not, however, irrelevant in determining if abuse of such a dominant position has occurred. SEPs need to be able to enforce their rights through injunctions: because they have no way to force an implementer to take a license (for example using competition law or by enforcing the ETSI contract) an injunction against further infringement is their only remedy. It would only be abusive if the injunction is sought where the infringer was willing to take a FRAND license.

Infringers need to conduct licensing negotiations "seriously and in a target-oriented way" to be able to argue willingness. On the facts, Haier had not done so. That justified Sisvel in seeking an injunction, and to do so was not an abuse. There was no need to go on to consider steps 3 and 4 of the *Huawei v. ZTE* steps.

In *Unwired Planet* the English courts approached the CJEU's *Huawei v. ZTE* steps in a slightly different way. They found that the steps provided a safe harbor. But deviating from those steps does not automatically equate to abuse.

The UK Supreme Court held that the nature of the notice required by step 1 of *Huawei v. ZTE* depends on the facts. Unwired Planet had not given notice before starting litigation. But in determining whether the litigation was therefore an abuse under Article 102, it mattered that Unwired Planet had not sought an unconditional injunction. It had sought an injunction only if Huawei refused to take a license on terms set by the court to be FRAND. In contrast, Huawei was only prepared to take a license on certain terms that it determined. Willingness needs one to be willing to accept a license for whatever is FRAND. Unwired Planet was willing: Huawei was not.

In *Daimler* the Mannheim Court also considered the steps in *Huawei v. ZTE* in deciding whether to grant an injunction. Again, willingness to take a license was key to the decision. The court held that in assessing willingness it is reasonable to consider a party's conduct in negotiations.

Daimler had required Nokia to make licensing offers to its Tier 1 suppliers. Nokia had done so. Daimler then withdrew from negotiations. This withdrawal was incompatible with a demonstration of true willingness.

Daimler made an offer to submit to third party determination of a license rate, but this was well after the start of the proceedings. It also served to create further delay in making any payments. The court did not consider this as a sign of willingness.

Daimler made counteroffers. These were based on the average price that it paid its suppliers for a connective module (which was lower than the price for which Daimler would sell connectivity modules to owners of Mercedes cars). The court found the use of a mid-chain price as a royalty base did not reflect the benefit of the technology to the end product.

As the Mannheim Court found that Daimler had not demonstrated the willingness required in Step 2 of the *Huawei v. ZTE* case, it could not argue that in seeking injunctive relief Nokia was abusing its dominant position under Article 102. Daimler should be enjoined from further infringement of Nokia's patent in suit.

All, so far, appears clear. Then, on November 26, the Dusseldorf court hearing another Daimler case bucked the trend. It has referred to the CJEU a number of questions, but one of the questions is as follows:

> *Can it be inferred from license terms which the SEP user has submitted with a counter-offer that there is a lack of willingness to license, with the consequence that the SEP holder's action for injunction is subsequently granted without prior examination of whether the SEP holder's own license offer (which preceded the SEP user's counter-offer) actually corresponds to FRAND terms?*

This appears to be a direct question about the Supreme Court's decision in *Sisvel v. Haier*. Possibly it is a brave first instance judge who asks the CJEU if the Supreme Court got it right, but now it seems the CJEU may have an opportunity to comment.

V. WHAT SHOULD BE THE LICENCE POINT?

Traditionally, telecoms SEPs have been licensed at the handset level. In the automotive industry, OEMs prefer that their supply chain handles any IP licensing and indemnify them against any IP infringement claims. Daimler and its suppliers argued that the license point should be at the component level. They argued that: (1) SEPs are implemented in the components, so component manufacturers should take the license; and (2) any royalty should be based on the sale price of the component.

A similar argument was raised against Qualcomm by the United States FTC. Qualcomm had refused to license competitor chip maker Intel, preferring to license its SEPs to Intel's customers. The FTC argued that this violated antitrust law. At first instance, the United States District Court for the Northern District of California had agreed.

The Court of Appeals for the Ninth Circuit noted that if Qualcomm were required to license its patents at the chip level, this could result in a partial exhaustion of Qualcomm's rights. OEMs would be less likely to take a license, leaving Qualcomm with more limited options to recover value for its IP. It would need to increase the price of its chips, or try to split its SEP portfolio into chipset level patents and end user product patents.

Splitting a portfolio between chipset and end user product can be difficult, as few patents are solely implemented in the chipsets themselves. For many SEPs, primary infringement only occurs when the chipset is used in an end user product, such as a smartphone. The chipset may provide some of the functionality to enable infringement (which may give rise to an indirect infringement argument) but for the most part it does not directly infringe on its own.

"No license, no chip"

Qualcomm considered whether Qualcomm's "no license, no chip" policy breached US Federal antitrust laws. The first instance decision held that it did, by imposing an "anticompetitive surcharge" on sales by rival chip manufacturers. This was supported by *Caldera v. Microsoft*, where Microsoft required OEMs to pay a license fee on all devices even if they did not contain the Microsoft operating system.

The Court of Appeal held that the policy in *Qualcomm* was "qualitatively different" from Microsoft, as an OEM requires a license from Qualcomm to avoid infringing Qualcomm's patents, regardless of the chip being used.

In its judgement the Ninth Circuit Court of Appeal held that Qualcomm's policy was not in breach of antitrust laws as:

- Maximizing returns (by licensing at the OEM level) is not an abuse of competition law and that OEM licensing was consistent with current industry practice;
- The policy was "chip supplier neutral" and so there was no anticompetitive treatment; and
- Intel and MediaTek had successfully broken into the market, demonstrating that the policy was not excluding others from the market, nor discouraging competition.

Qualcomm also deals with the question of whether licensing at the handset level is anticompetitive. The Court concluded that if there was any anticompetitive harm caused by Qualcomm's rates, it would have been to the OEMs who were customers rather than competitors. This puts the matter outside the scope of antitrust law.

In *Daimler*, the Mannheim Court also held that antitrust law (here Art. 102(c) TFEU) was intended to ensure that there was no distortion of competition between trade partners. The question is whether there is evidence of unequal treatment which hinders competition. There was no risk that Nokia's actions would have put Daimler at a competitive disadvantage to other automotive OEMs: many of them were already licensing these patents at the OEM level. So, Nokia's decision to license at the OEM level was not anti-competitive.

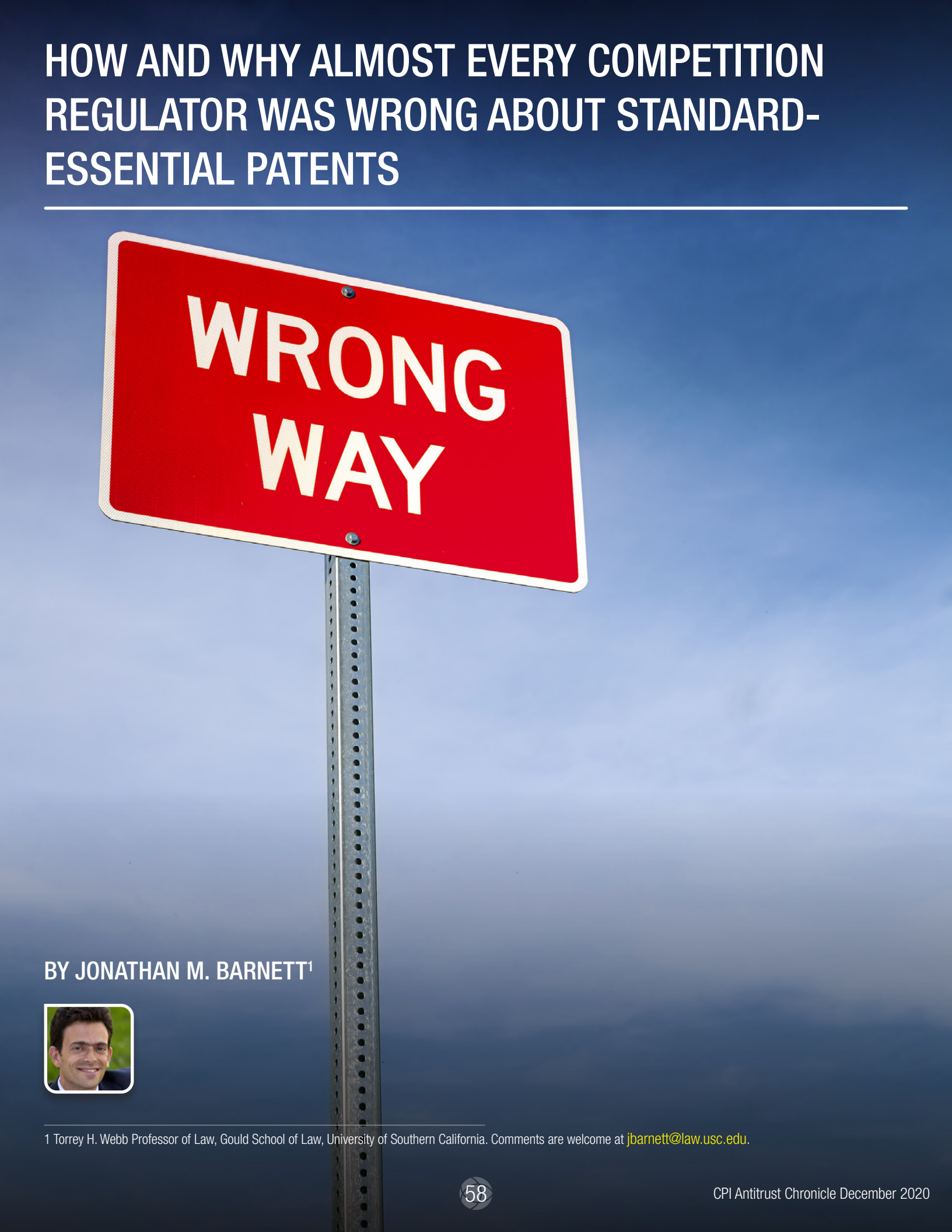
On November 26, the Dusseldorf court hearing another Daimler case referred to the CJEU a number of questions about the licensing level. These include whether a downstream company can raise an Article 102 "abuse" defense against a SEP holder if the standard is implemented in a precursor product purchased by the infringing party from a supplier that is willing to license.

If the CJEU were to answer this in the affirmative, it may preclude injunctions, in Germany at least, against end user product manufacturers. This would leave SEP owners unable to enforce patents at that level, and therefore force component level licensing on the industry. The CJEU is not known for moving quickly, so there may be some time before we get an answer. It may decide not to answer at all, since Nokia had made licensing offers to Daimler's suppliers, so the CJEU may consider that the question is, in this case at least, a hypothetical one.

VI. CONCLUSION

This flurry of FRAND had, for a brief period, cleared away the mists surrounding the world of SEP licensing. It became reasonably clear that German and English courts can give injunctions on SEPs if the infringer is unwilling to take a FRAND license. A FRAND license can be a global license. It was not anti-competitive to license patents at the OEM level, instead of the component level. But perhaps predictably, that moment of clarity was not destined to last. Following the Dusseldorf court's reference to the CJEU the sea mists have rolled back in, and the telecoms industry is left again to grope around in a fog of uncertainty.

HOW AND WHY ALMOST EVERY COMPETITION REGULATOR WAS WRONG ABOUT STANDARD-ESSENTIAL PATENTS



BY JONATHAN M. BARNETT[1]

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I. INTRODUCTION

Since approximately the mid-2000s, competition regulators in major jurisdictions around the world have almost universally pursued the theory that a handful of leading chip suppliers have burdened the smartphone market with an onerous royalty "tax" that has inflated prices, limited growth, and stunted innovation. The same view has been propounded through amicus briefs and other vehicles by some of the world's largest technology companies, many of which are "net" patent licensees in the smartphone value chain.[2] Following this line of argument, the owners of critical patent-protected technologies can deploy at will a "patent holdup" strategy to extract exorbitant rates from device manufacturers and other intermediate users, ultimately harming end-users at the retail point of sale.

To address this perceived risk to consumer welfare, regulators have sought to deploy competition law to achieve three objectives: (1) to preclude owners of standard-essential patents ("SEPs") from seeking injunctions against infringers; (2) to mandate that SEP owners assess royalties at the component, rather than the device, level; and (3) to limit (or encourage standard-setting organizations to limit[3]) the royalties payable by downstream implementers to upstream innovators. Regulators have succeeded in mostly achieving objective (1), have mostly been unable to secure objective (2), and, outside of China[4], have generally not secured objective (3).

As illustrated most dramatically by the August 2020 decision of the Court of Appeals for the Ninth Circuit to reverse the district court's ruling in favor of the government in *Federal Trade Commission v. Qualcomm*[5], regulators and private plaintiffs (typically, actual or potential SEP licensees) have often struggled to meet the evidentiary demands appropriately set by courts when assessing proposed applications of competition law that would effectively reengineer the intricate network of licensing agreements that underlie global wireless markets that are widely viewed as a technological and economic success.

In this contribution, I explore how and why an intellectually aligned coalition of competition regulators, academic commentators, and well-resourced firms located at midstream and downstream points on the smartphone value chain have mostly failed to persuade courts to endorse far-reaching interventions that would have significantly curtailed the range of terms that are available to structure relationships between innovators and implementers in wireless communications markets. In particular, a string of recent court decisions in the U.S., the UK and the European Union, and policy statements by the Antitrust Division of the U.S. Department of Justice, have largely rejected attempts to apply competition law to the terms of these relationships. These developments illustrate the critical function of the rule of law in protecting a remarkably successful case of private ordering against regulatory overreach, academic speculation, and industry self-interest.

2 For evidence on these points, see Jonathan M. Barnett, *Has the Academy Led Patent Law Astray?*, 32 Berkeley Technology Law Journal 1311, 1373-1375 (2017).

3 See, e.g. Renata Hesse, Deputy Assistant Attorney General, U.S. Department of Justice, Remarks as Prepared for the ITU-T Patent Roundtable: Six "Small" Proposals for SSOs Before Lunch 7-9 (Oct. 10, 2012), https://www.justice.gov/atr/file/518951/download (endorsing standard-setting organizations' policies requiring disclosure of maximum royalty rates and most restrictive licensing terms and recommending that standard-setting organizations limit participants' ability to pursue injunctive relief); Letter from Thomas O. Barnett, Assistant Attorney General, U.S. Department of Justice, to Robert A. Skitol, Esq., Drinker, Biddle & Reath, LLP (Oct. 30, 2006), http://www.usdoj.gov/atr/public/busreview/219380.pdf (issuing favorable business review letter to standard-setting organization that had adopted policy requiring participants to disclose maximum royalty rates and most restrictive licensing terms).

4 I am referring to the 2015 order that resolved the enforcement action brought by China's competition regulator concerning Qualcomm's licensing practices and mandated that Qualcomm lower the royalty rate paid by local device manufacturers. For discussion, see Jonathan M. Barnett, *Antitrust Overreach: Undoing Cooperative Standardization in the Digital Economy*, 25 Michigan Technology Law Review 163, 230-235 (2019).

5 No. 5:17-cv-00220-LHK (9th Cir. Aug. 11, 2020).

II. THE LEGAL UNRAVELING OF THE SEP-SKEPTICAL CONSENSUS

The reversal of the *Federal Trade Commission v. Qualcomm* decision has deservedly garnered extensive attention. Yet it is only one element in a sequence of regulatory pronouncements and judicial decisions since 2015, and accelerating starting in 2019, that have eroded a formerly blanket regulatory consensus in favor of deploying competition law to constrain substantially the enforcement and licensing capacities of SEP owners in wireless communications markets. To provide a point of reference for the rest of the discussion, the Table below sets forth selected regulatory and judicial actions that are representative of this policy shift.

Table 1. The Global Policy Shift on SEP Licensing (2015-Present)[6]

Date	Court or Regulator	Action or Statement
Sept. 2015	European Court of Justice	Permits SEP owners to seek injunctions in case of "unwilling licensee."
Nov. 2017	DOJ Antitrust	Rejects view that SEPs pose high risk of patent holdup, given lack of evidence.
Mar. 2019	UK High Court	Issues injunction against SEP infringer on grounds of "holdout" behavior.
Dec. 2019	DOJ Antitrust, National Institute of Standards and Technology, U.S. Patent & Trademark Office	Rejects "no-injunction" rule for SEPs. Expresses concern over patent holdout.
May 2020	German Federal Court of Justice	Adopts "unwilling licensee" standard for SEP injunctions.
Aug. 2020	Court of Appeals for the Ninth Circuit	Overturns district court ruling in *FTC v. Qualcomm*.
Aug. 2020	UK Supreme Court	Adopts "unwilling licensee" standard for SEP injunctions.
Sept. 2020	Northern District of Texas	Dismisses antitrust suit against automotive 5G patent pool.

These judicial and regulatory actions have rejected, or expressed skepticism toward, the dominant view that the enforcement and licensing activities of SEP owners pose a high risk of patent holdup that warrants antitrust intervention. In particular, these judges and regulators have generally adopted two views that significantly constrain the role of antitrust in SEP licensing disputes.

A. Contract Law, Not Antitrust Law

Some courts and regulators have expressed doubt whether competition law is even applicable in general to the enforcement of SEPs and especially to the interpretation of the "fair, reasonable and nondiscriminatory" ("FRAND") commitment with which SEPs are typically associated. Following this view, claims of patent holdup typically fail to meet the "antitrust injury" standard (which requires injury to competition, as distinguished from injury solely to an individual competitor), in which case any legal issues relating to the enforcement of SEPs or the interpretation of the FRAND commitment fall within the realm of patent and contract law, respectively.[7] Notably, the decision in August 2020 by the Ninth Circuit reversing the district court in *FTC v. Qualcomm* and the decision in September 2020 by the Northern District of Texas dismissing an antitrust suit against the Avanci automotive 5G patent pool reflect this view, insofar as both courts stated that a purported violation of a FRAND obligation

6 For sources (in chronological order), see *Huawei Technologies Co. Ltd. v. ZTE Corp.* and *ZTE Deutschland GmbH*, Case No. 170/13 (CJEU 2015); U.S. Dept. of Justice, Assistant Attorney General Makan Delrahim Delivers Remarks at the USC Gould School of Law's Center for Transnational Law and Business Conference, Nov. 10, 2017; U.S. Dept. of Justice, U.S. Patent and Trademark Office, and National Institute of Standards and Technology, Policy Statement on Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments (2018); *TQ Delta v. ZyXEL*, UK High Court (Carr, J., Mar. 29, 2019); *Sisvel v. Haier*, FCJ docket no. KZR 36/17 (German Fed. Ct. J., May 5, 2020)); *Federal Trade Commission v. Qualcomm, Inc.*, D.C. No. 5:17-cv-00220-LHK (9th Cir. Aug. 11, 2020); *Unwired Planet International Ltd. and another v. Huawei Technologies (UK) Ltd. and another*, [2020] UKSC 37 (26 August 2020); *Continental Automotive Systems, Inc. v. Avanci, LLC et al.*, No. 3:19-cv-02933-M (N.D. Tex. Sept. 10, 2020).

7 U.S. Department of Justice, Assistant Attorney General Makan Delrahim Delivers Remarks at the LeadershIP Virtual Series, "Broke . . . but Not So More: Opening Remarks—Innovation Policy and the Role of Standards, IP, and Antitrust," Washington, DC, Sept. 10, 2020, https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-leadership-virtual-series (stating that "hold-up is fundamentally not an 'antitrust' injury, but rather a contract or fraud injury").

generally gives rise to a potential claim under contract, rather than antitrust, law.[8] (The statement made by the European Commission in November 2020 that it may intervene in licensing disputes between patent owners and vehicle manufacturers in the automotive market runs counter to this tendency.[9])

B. Patent Holdout, Not Holdup

Some courts and regulators have expressed concern that a legal environment in which SEP owners have no plausible prospect of seeking an injunction against infringers would give rise to circumstances in which well-resourced infringers would have little incentive to negotiate or pay a licensing fee without first entering into a protracted and costly litigation process. As the UK Supreme Court observed in August 2020 in its *Unwired Planet* decision: "[I]f the patent-holder were confined to a monetary remedy, implementers who were infringing the patents would have an incentive to continue infringing until patent by patent, and country by country, they were compelled to pay royalties."[10] Without a credible injunction threat, patent owners are inevitably exposed to "holdout" by infringers who have little economic reason to pay a license fee that can be contested, and perhaps more favorably negotiated, in the courtroom rather than the boardroom. Protracted and recurrent litigations between innovators and implementers in the SEP licensing market — which have intensified approximately at the same time as antitrust and patent law have constrained SEP owners' ability to pursue injunctive relief — testify eloquently to the force of this assertion.

III. THE INTELLECTUAL UNRAVELING OF THE SEP-SKEPTICAL CONSENSUS

One might wonder why courts, and at least one prominent competition regulator and patent office (namely, DOJ Antitrust and the USPTO), have not been persuaded by the widely accepted view that SEPs *do* pose a high level of anticompetitive risk, and therefore competition law should be applied to monitor and adjust the terms of exchange between SEP licensors and licensees. The short answer is that this view so far lacks any sound basis in the available body of relevant evidence. Remarkably, the consensus view among other competition regulators, and much of the academic community, rests principally on what is still nothing more than a predictive statement about the *potential* risk posed by SEP owners in wireless communications markets. While theoretical models can be useful tools in competition policy design, the credibility of this particular hypothesis must stand in considerable doubt since no systematic evidence has been found to support it, despite the relevant market having been in operation for over two decades.

A. Empirical Evidence

Empirical researchers who have tested the patent holdup hypothesis have found that real-world markets do not conform to its expectations. Specifically, multiple studies have shown that the "onerous" royalty rates attributed to patent owners are not especially high, both in absolute terms and in relative terms as a percentage of the total value generated by the smartphone value chain. Consider, for example, that empirical researchers have found that the total royalty fees estimated to be paid by 3G and 4G-enabled handset makers represent a single-digit percentage of the sale price,[11] as compared to an estimated 42 percent share enjoyed by Apple on the retail price of the iPhone 7.[12] This suggests that the royalties earned by IP owners are best understood not as a "monopoly tax" on device makers, but rather as a market-negotiated flow of remuneration to the firms that bear the high costs and risks of developing the technology, without which those devices would not be possible.

8 *Continental Automotive Systems, Inc. v. Avanci, LLC, et al.*, No. 3:19-cv-02933-M, at 21 (N.D. Tex., Sept. 10, 2020); *Federal Trade Commission v. Qualcomm Inc.*, No. 5:17-cv-00220-LHK, at 39-40 (9th Cir., Aug. 11, 2020).

9 Chee, Foo Yun, "EU Commission to intervene in tech, carmakers' patent dispute," Reuters, Nov. 19, 2020.

10 *Unwired Planet International Ltd. and another v. Huawei Technologies (UK) Ltd. and another*, [2020] UKSC 37 (26 August 2020), at 56.

11 For a leading study, see Alexander Galetovic, Stephen Haber and Lew Zaretzki, *An Estimate of the Average Cumulative Royalty Yield in the World Mobile Phone Industry: Theory, Measurement and Results*, 42 Telecommunications Policy 263, 266 (2018) (as of 2016, finding an estimated aggregate royalty rate in the smartphone industry of 3.3 percent of the average selling price). For discussion and review of other relevant studies, see Jonathan M. Barnett, *Patent Groupthink Unravels*, Harvard Journal Law & Technology (forthcoming 2021); Barnett, *supra* note 2, at 1353-56.

12 World Intellectual Property Organization, World Intellectual Property Report 2017: Intangible Capital in Global Value Chains 100 (2017).

B. Market Reality

In retrospect, it may not be especially surprising that the theories of widespread (or, in more qualified iterations, imminently widespread) patent holdup have not fared well when subjected to empirical scrutiny. By virtually every indicator of economic health, the wireless market represents a resounding success. Remarkably, this is true whether "economic health" is measured as a matter of static (short-term) or dynamic (long-term) efficiency. In static terms, the wireless market exhibits declining quality-adjusted prices over time,[13] which likely explains the high penetration rates of mobile communications devices across a broad range of income segments. In dynamic terms, it is uncontroversial to observe that the mobile communications market has exhibited a continuous rate of breakneck innovation as it has moved from voice-only to voice-plus-text to voice-plus-text-plus-audio-plus-video transmission capacities within the space of two decades.

The striking mismatch between consensus theory on the one hand and empirical evidence and on-the-ground reality on the other likely accounts for the recent pushback by some courts (and one of two U.S. antitrust regulators, now joined by the U.S. patent office) against attempts to implement that consensus through extensive antitrust intervention into contractual relationships between IP producers and IP users. While it is always possible to devise a model under which even an apparently efficient market *may* mask a subtle anticompetitive practice that *may* yield some form of incipient market harm, a judiciary committed to upholding antitrust law's appropriately rigorous evidentiary standards is unlikely to be convinced that such "what if" speculation supplies a reasonable ground for unraveling hundreds of licensing contracts representing billions of dollars of annual payment flows. Put differently: the consensus view on the antitrust risks purportedly posed by SEP enforcement and licensing has failed to pass the equivalent of the *Daubert* standard to which expert witness testimony is subject in civil litigation.[14] Antitrust policymakers that seek to override apparently successful private-ordering arrangements must surely meet the same standard.

IV. THE PERSISTENT MISUNDERSTANDING OF PATENT LICENSING

In retrospect, one might also wonder why regulators were so quick to adopt — and, in most cases, continue to largely adhere to — a theoretical assertion as the basis for pursuing policy objectives that, if implemented, would substantially alter the "rules of the game" in wireless licensing markets. The order issued by the district court in *FTC v. Qualcomm* illustrates the ambitious scope of this regulatory agenda. The court's order required Qualcomm on a worldwide basis to renegotiate hundreds of existing licenses with OEMs (in order to license at the chip, rather than device level) and to enter into new licensing agreements with rival chip suppliers.[15] Lacking a sound basis in any compelling evidence of anticompetitive harm, relying upon a doctrinally implausible application of the Supreme Court's ruling in *Aspen Skiing Co. v. Aspen Highlands Corp.*[16], and even suggesting that "unreasonably high" royalty rates could constitute a valid ground for finding an antitrust violation[17], the order was appropriately reversed by the appellate court as an "improper excursion beyond the outer limits of the Sherman Act."[18]

This rush to judgment concerning the anticompetitive risks posed by Qualcomm's SEP licensing practices may reflect more broadly an ongoing failure to appreciate the presumptively efficient function of patent licensing in general in technology markets. While both the 2017 and 1995 Antitrust Guidelines on the Licensing of Intellectual Property state that intellectual property licensing typically has procompetitive effects[19], which implies a high bar for intervening in licensing transactions outside collusion scenarios, the antitrust agencies' regulatory posture toward SEP licensors has often been inconsistent with that presumption. In particular, the agencies' policies toward SEP licensing activities (excepting DOJ Antitrust policy since November 2017[20]) generally have failed to consider seriously how licensing-based structures for monetizing R&D generally promote competitive markets and, relatedly, generally have failed to anticipate how imposing constraints on licensing activities can raise entry barriers and promote industry concentration.

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13 Alexander Galetovic, Stephen Haber and Ross Levine, *An Empirical Examination of Patent Holdup*, NBER Working Paper No. 21090 (April 2015).

14 *Daubert v. Merrell Dow Pharmaceuticals Inc.*, 509 U.S. 579 (1993).

15 *Federal Trade Commission v. Qualcomm, Inc.*, 411 F.Supp. 658 (N.D. Cal. 2019), order stayed on appeal, *Federal Trade Commission v. Qualcomm, Inc.*, 935 F.3d 752 (9th Cir. 2019).

16 472 U.S. 585 (1985).

17 *Federal Trade Commission v. Qualcomm, Inc.*, 411 F.Supp. 658, 698, 744, 751 (N.D. Cal. 2019) (referring to Qualcomm's "unreasonably high" royalty rates).

18 *Federal Trade Commission v. Qualcomm, Inc.*, No. 5:17-cv-00220-LHK (9th Cir. Aug. 11, 2020), citing *Federal Trade Commission v. Qualcomm, Inc.*, 935 F.3d 752, 757 (9th Cir. 2019).

19 U.S. Department of Justice and the Federal Trade Commission, Antitrust Guidelines for the Licensing of Intellectual Property, January 12, 2017; U.S. Department of Justice and the Federal Trade Commission, Antitrust Guidelines for the Licensing of Intellectual Property, April 6, 1995, at §2.2.

20 U.S. Dept. of Justice, Assistant Attorney General Makan Delrahim Delivers Remarks at the USC Gould School of Law's Center for Transnational Law and Business Conference, Nov. 10, 2017.

A. What if the FTC Had Won in FTC v. Qualcomm?

To illustrate this argument, assume that the district court's order in *Federal Trade Commission v. Qualcomm* had been upheld. The court's decision, and the regulatory consensus upon which it rests, implicitly assumes by fiat that firms such as Qualcomm would continue to invest in R&D under the same licensing-based business model but would simply enjoy lower monopoly rents, yielding a net efficiency gain by continuing to incentivize the same or greater amount of innovation while imposing a reduced deadweight-loss burden on intermediate and end-users.

This outcome seems implausible. In a legal environment in which the wireless industry's lead innovator must share its latest technological advances with direct competitors, it is unlikely to have any rational motivation to act as a public R&D utility for the remainder of the industry. Moreover, given the success of the agencies in largely precluding SEP owners from seeking injunctive relief against infringers, the innovator firm would be disadvantaged in negotiating royalty rates with well-resourced intermediate users. Absent the threat of an injunction, intermediate users would strategically shift the "negotiation" process to a federal district court, the Patent Trial & Appeals Board (in which patent validity can be separately contested), and multiple foreign courts and administrative venues. The resulting burden of legal and other transactional costs might lead the innovator firm to reconsider whether a licensing-based business model is still the most efficient strategy for extracting value from its R&D portfolio.

It is far more reasonable to expect that an innovator that is explicitly or implicitly treated as an "essential facility" and lacks any credible threat of injunctive relief against unauthorized users would abandon its licensing-based model and vertically integrate forward into production and distribution or otherwise acquire "complementary assets" that can be used to monetize its R&D investment. (In this context, the term "complementary asset" refers to any non-IP asset or capacity that a firm can use to capture value from its R&D investments.[21]) This could be achieved either by deploying the significant capital required to develop those non-IP-dependent capacities or, as is more likely, acquire (or be acquired by) another firm with an existing production and distribution infrastructure. (This rationale may in part have driven Nvidia's attempted acquisition of Qualcomm in early 2018, during the height of Qualcomm's litigations with Apple and the FTC.) Like other vertically integrated firms in technology-intensive industries, this model would enable the innovator firm to earn returns on its R&D efforts through non-licensing-based business structures that are not exposed to any "duty to deal" or similar obligations that may arise as a matter of antitrust law.

B. How Antitrust Constraints on Patent Licensing Constrain Competition

Consider the counterproductive consequence of this hypothetical antitrust intervention.

Under the market structure that existed prior to intervention, the absence of any significant antitrust constraints on patent licensing enables an industry-level division of labor in which certain firms specialize in innovating chip designs and then monetize that investment through licensing relationships with a broad population of device makers and other intermediate users. (This roughly describes the organizational structure of the wireless communications market today during the 2G through 4G/LTE technology generations.) Following antitrust intervention, the licensing "tax" has been eliminated but, precisely as a result, the market is largely reduced to a handful of firms that can sustain the exceptional costs required to maintain end-to-end production and distribution infrastructures. In a legal environment in which patent licensing operates under the ongoing threat of antitrust scrutiny, informational assets cannot be transacted with sufficient security on the open market and firms must bring innovation and commercialization functions in-house. In turn, this means that entry may effectively be limited to the largest firms that can meet the high capital and technological requirements that are necessary to construct and maintain largely self-contained innovation and commercialization pipelines. Even if total industry R&D investment holds constant, the resulting market structure represents a step backwards from a competition policy perspective.

This possibility is not merely theoretical.

As I show in a forthcoming book,[22] the industrial organization of U.S. technology markets since the late 19th century through the present has, with some regularity, responded in precisely this manner to significant reductions in the force of patent protections, whether implemented directly through patent or indirectly through antitrust law (usually a combination of the two). In environments in which patent protection is weak and antitrust-based licensing constraints are strict, R&D investment may remain robust but firms tend to monetize those investments through internal capital and information markets. By contrast, in environments in which patent protection is robust and antitrust-based licensing constraints are relaxed, the feasible range of business models expands to include vertically disintegrated structures in which innovation is monetized externally through licensing-based relationships with specialized third parties. This outcome has attractive effects from a competition policy perspective

21 For the classic source, see David J. Teece, "Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy," 15 *Research Policy* 285 (1986).

22 Jonathan M. Barnett, *Innovators, Firms, and Markets: The Organizational Logic of Intellectual Property* (Oxford University Press 2021).

since IP licensors generally license to all interested users and, as historical and contemporary evidence from a variety of markets suggests, tend to do so at relatively modest rates in order to seed adoption, maintain usage, and, as a result, cultivate a large and stable user base from which to extract royalties over time.[23]

V. CONCLUSION

The now-challenged regulatory consensus concerning the antitrust treatment of SEPs in wireless communications markets has pursued a counterproductive policy that would either discourage R&D investment or, if not, would induce increased vertical integration and, as a result, limit technology dissemination and exacerbate entry barriers. This regulatory misadventure provides an object lesson in the risks of resting antitrust policy on merely theoretical arguments that have not been subjected to thorough empirical scrutiny. In an environment in which regulators face heightened political pressures to act quickly, it is critical to apply rigorous evidentiary standards when considering even plausible theories of competitive harm that may ultimately lack any sound foundation in market realities.

23 For further discussion of this evidence, see *id.*

ARTIFICIAL INTELLIGENCE AND ANTITRUST IN A POST-*QUALCOMM* WORLD

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I. INTRODUCTION

Many antitrust stakeholders will remember 2020 as the year of its rebirth. Congressional politics, network economics, missteps on privacy, and corporate hubris converged to catalyze a profound reassessment of antitrust law. While much of the attention over excessive private power has focused on Facebook, Google, Amazon, and Apple, it remains to be seen whether current efforts to rein them in will generate any meaningful change. In the meantime, the Federal Trade Commission ("FTC")'s case against Qualcomm has already been heralded as "the biggest decision since the *Microsoft* case."[2] Unfortunately, that case has also revealed a disquieting arbitrariness in antitrust law, one that artificial intelligence can help fix.[3]

II. WHEN DOES "HYPERCOMPETITIVE" BECOME "ANTICOMPETITIVE"?

During the Obama Administration's waning days, the FTC voted 2-1 to sue Qualcomm, the world's largest modem chipmaker. On the strength of a two-year trial record and hundreds of pages of factual findings, the district court found for the FTC.[4] Its 233-page judgment detailed Qualcomm's "no license, no chips" licensing practices that threatened to cripple customers refusing its terms by cutting off their chip supply.[5] The court concluded that Qualcomm's "carrot and stick" strategy allowed it to impose an "artificial and anticompetitive surcharge" on rivals' modem chip prices, entrenching its market power in violation of antitrust law.[6]

The U.S. Justice Department, in an extraordinary step, filed a Statement of Interest protesting the FTC's case.[7] In doing so, it simultaneously acted in favor of a private party and against its sister federal antitrust agency. The Statement urged the U.S. Court of Appeals for the Ninth Circuit to stay the injunction pending appeal. The FTC responded by noting that the Justice Department "mischaracterized" the district court's analysis, asserting "unsubstantiated concerns" about the impact of the judgment on R&D, advocating for the law to immunize Qualcomm's licensing practices from antitrust scrutiny.[8] Undeterred, the Justice Department followed up with an *amicus* brief supporting Qualcomm, and took an even more extraordinary step by arguing on appeal alongside Qualcomm and against the FTC.[9]

The Ninth Circuit concluded that Qualcomm's behavior was not anticompetitive, but merely "hypercompetitive."[10] In its view, Qualcomm's licensing practices spurred fiercer competition, demanding plaintiffs show harm in the market rather than pin liability on higher prices.[11]

The fact that chip buyers were key participants in the relevant markets where Qualcomm and its rivals compete was irrelevant, as was the fact Qualcomm's licensing practices would plausibly harm competition in both the chipset market in the interrelated market for chipset licenses. Nor was the fact that Qualcomm's licensing strategy enabled it to maintain its monopoly in the modem chip markets by manipulating the two components of the all-in price charged to manufacturers in such a way as to discourage them from buying chips from Qualcomm's rivals. Throughout the opinion the Ninth Circuit criticized the district court's focus on the harm to manufacturers rather than harm to the markets for modem chips, even when the case was based on manufacturer restrictions distorting competition in those chip markets.

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2 Shara Tibken, *Qualcomm is a Monopoly and Must Renegotiate Deals, Judge Rules*, CNet (May 22, 2019).

3 Adapted from Daryl Lim, *Futurecasting Antitrust* (publication anticipated in 2021/22).

4 *Fed. Trade Comm'n v. Qualcomm Inc.*, 411 F. Supp. 3d 658 (N.D. Cal. 2019).

5 *Id.* at 703.

6 *Id.* at 698).

7 United States' Statement of Interest Concerning Qualcomm's Motion for Partial Stay of Injunction Pending Appeal in *Federal Trade Commission v. Qualcomm Inc.* (July 16, 2019), available at https://www.justice.gov/atr/case-document/369345.

8 See Baker & Hostetler LLP, Antitrust Agency Turf War Over Big Tech Investigations (Oct. 9, 2019).

9 Brief of the United States of America as Amicus Curiae in Support of Appellant and Vacatur, *Fed. Trade Comm'n v. Qualcomm Inc.*, No. 19-16122 (9th Cir. 2020) (August 30, 2019). See also Kristen Osenga, Anticompetitive or Hyper-Competitive? An Analysis of the *FTC v. Qualcomm* Oral Argument, IPWatchdog (February 20, 2020), available at https://www.ipwatchdog.com/2020/02/20/anticompetitive-hyper-competitive-analysis-ftc-v-qualcomm-oral-argument/id=119124/.

10 *Fed. Trade Comm'n v. Qualcomm Inc.*, 969 F.3d 974, 982 (9th Cir. 2020).

11 *Id.* at 1003.

The court was reticent "to ascribe antitrust liability in these dynamic and rapidly changing technology markets without clearer proof of anticompetitive effect."[12] Instead, it cautioned against mistakenly characterizing new technologies and new business strategies as anticompetitive, and limited breaches of standard-setting undertakings to patent or contractual remedies.[13]

In filing for an *en banc* rehearing, the FTC pointed to the panel's disregard of precedent in "elevating patent-law labels over economic substance," by "holding that harms to Qualcomm's customers are 'beyond the scope of antitrust law.'"[14] The FTC argued that the panel should have seen Qualcomm's anticompetitive ploy to secure its chip monopoly by penalizing rival products' purchases. In particular, it argued that the court "seriously erred" when it dismissed the lower court's "findings about the harm to [manufacturers] – including higher prices that are passed on to retail consumers – because [manufacturers] 'are Qualcomm's customers, not its competitors.'"[15] While the Ninth Circuit has denied the FTC's request for an *en banc* rehearing, the FTC's path remains open to the petition the U.S. Supreme Court.

The FTC's case against Qualcomm is symptomatic of how courts sometimes reach diametrically opposed conclusions based less on facts and data and more on the "ideological stampeding" of precedent to reach a desired outcome. As Professor Marina Lao noted:

> [I]t is almost inevitable that a policymaker's values will influence which theoretical models she will choose, whether her default is to intervene or not intervene if the theories and the evidence are indeterminate, what types of evidence she would consider relevant, and so forth. Her core economic and political beliefs will also likely affect her perspective on the aggregate social costs of false negatives relative to false positives, which will impact her judgment on whether liability should be found in a particular case or, indeed, whether a particular case should be brought in the first place.[16]

The same may be said of judges and enforcers. For instance, the district court favored a robust application of the Supreme Court's decision in *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*,[17] recognizing that the general freedom businesses had to choose who they wanted to deal with was fettered.[18] The district court also pointed to evidence of Qualcomm's evasion of a fair, reasonable and non-discriminatory ("FRAND") requirement by licensing selectively only to noncompetitors undermines the competitive purpose of the standard setting organization ("SSO") joint venture.

The Ninth Circuit preferred the view that "businesses are free to choose the parties with whom they will deal, as well as the prices, terms, and conditions of that dealing."[19] It also leaned on "the persuasive policy arguments of several academics and practitioners with significant experience in SSOs, FRAND, and antitrust enforcement, who have expressed caution about using the antitrust laws to remedy what are essentially contractual disputes between private parties engaged in the pursuit of technological innovation."[20] Strikingly absent from that analysis was its own earlier decision in *ITS v. Kodak*,[21] recognizing pretextual refusals to license patents to result in antitrust liability.

The cause of this ideological stampeding is partly inherent in the structural architecture of antitrust law. Operative terms like "anticompetitive harm" and "efficiencies" remain undefined until trial. Courts adjudicating licensing agreements may additionally have to determine consumer welfare effects in several markets and even how antitrust intervention might affect innovation incentives. Such tradeoffs run squarely into the problem Robert Pitofsky observed with antitrust adjudication proceeding by mere "hunch, faith, and intuition."[22]

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12 *Id.*

13 *Id.* at 1005.

14 Petition of the Federal Trade Commission for Rehearing En Banc, Case: 1 -16122, at 9 (Sept. 25, 2020). *Fed. Trade Comm'n v. Qualcomm Inc.*, Case No. 19-16122.

15 *Id.* at 16.

16 Marina Lao, *Ideology Matters in the Antitrust Debate*, 79 Antitrust L.J. 649, 653 (2014).

17 472 U.S. 585 (1985).

18 *Qualcomm.*, *supra* note 4 at 760.

19 *Qualcomm*, *supra* note 10 at 997.

20 *Id.*

21 *Image Tech. Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195 (9th Cir. 1997).

22 Robert Pitofsky, *The Political Content of Antitrust*, 127 U. Pa. L. Rev. 1051, 1065 (1979).

Antitrust law can and should do better. Until now, artificial intelligence ("AI") has mostly been vilified as an enabler of collusion or for its complicity in abuses by internet gatekeepers like Google.[23] Ironically, antitrust law itself operates like an algorithm.[24] Harvard, Chicago, and even Neo-Brandeis are simply different algorithms judges use to operationalize the vacuous wording of antitrust statutes to improve competitive outcomes. For instance, today's prevailing market algorithm is based on Chicago School economic policy that extolls regulatory intervention through robust property rights and economic liberalism. In the licensing context, it trusts licensors to commandeer the terms of their licenses in collaborating with licensees to meet consumer demand. Antitrust should be slow to disturb contested license terms since firms are assumed to already be putting resources to their most productive uses.

Chicago assumes judges fare poorly at distinguishing between restraints that degrade market denials from those that improve them. As Judge Easterbrook warned, "[o]nly someone with a very detailed knowledge of the market process, as well as the time and data needed for evaluation, would be able to answer that question. Sometimes no one can answer it." Accordingly, he called for ending antitrust enforcement until "doubts" about "the ability of courts to make things better even with the best data . . . have been overcome."[25] For over forty years, judges have largely done precisely that.[26] With the advent of AI, however, the time has come for antitrust to do better.

III. ANTITRUST'S AI DEFICIT

AI enables courts to better render evidence-based decisions. As a tool, it is at its core, non-ideological and enables courts to minimize ideological stampeding. As a powerful new partner in making sense of the complex, dynamic, and fast-moving licensing markets many businesses operate in, courts and agencies can harness its ability to model price and innovation effects more precisely.

A. Minimizing Ideological Stampeding

Like many other areas of the law, antitrust analysis rests on analogical reasoning. Its method, however, is elusive. The rule of reason requires judges to determine if a licensing restriction is illegal based on vaguely worded antitrust statutes. Courts operationalizing probabilistic language like "plausible," "potential," and "likely," are vulnerable to relying on idiosyncratic biases. This makes outcomes vulnerable to ideological stampeding as judges, forced to balance short-term losses against future predicted gains, may instead fall back on answering more straightforward but misleading proxy questions.[27]

For instance, courts may assign the probability of harm occurring based on whether they think defendants may lose their incentive to innovate if forced to grant access to its proprietary technology.[28] Courts may also be swayed to insist that plaintiffs debunk a defendant's purported efficiencies from an offending licensing restriction even before defendants have carried their burden in proving that the restriction is warranted. Moreover, work by Michael R. Baye & Joshua D. Wright reveals that judges routinely "delegate both factfinding and rulemaking to courtroom economists."[29]

Today's AI already scours depositions to provide quicker and more consistent analysis than attorneys can. AI can formalize and make explicit antitrust priorities, dampening the amplitude of ideological swings. Amazon's Mechanical Turk and similar services can classify clear-cut cases based on previously defined parameters. Once the system has learned to identify features from a baseline of cases, deep learning algorithms can generate other examples via dataset augmentation. The algorithm can then compare the relevant facts to precedent. This is akin to the Socratic approach of lightly modifying hypotheticals.

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23 See e.g. Ioannis Kokkoris, *A Few Reflections on the Recent Caselaw on Algorithmic Collusion*, Competition Policy Int'l, Antitrust Chronicle (July 2020). See also Ariel Ezrachi & Maurice E. Stucke, *Artificial Intelligence & Collusion: When Computers Inhibit Competition*, 2017 U. Ill. L. Rev. 1775 (2017).

24 See generally, Ramsi Woodcock, *The Market as a Learning Algorithm: Consequences for Regulation and Antitrust* (2020), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3661971.

25 Frank H. Easterbrook, *Workable Antitrust Policy*, 84 Mich. L. Rev. 1696, 1701 (1986).

26 Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 U. Pa. L. Rev. 925 (1979).

27 See e.g. Daryl Lim, *Retooling the Patent-Antitrust Intersection: Insights from Behavioral Economics*, 69 Baylor L. Rev. 124, 134 (2017).

28 See e.g. Daryl Lim, *Predictive Analytics*, 51 Loy. U. Chi. L.J. 161, 216 (2019).

29 Michael R. Baye & Joshua D. Wright, *Is Antitrust Too Complicated for Generalist Judges? The Impact of Economic Complexity and Judicial Training on Appeals*, 54 J L & Econ 1, 2 (2011).

By curating and synthesizing the applicable law, AI can narrow the range of acceptable legal analysis and dampen unhinged ideological swings based on the judge's idiosyncrasies while minimizing errors from interpreting economic data. A Westlaw search reveals about ten thousand antitrust cases decided in the last hundred years alone, with over ninety percent from the last sixty years. Trained in classified cases, AI can help discern relevant factors determining case outcomes, including instances where those factors might be interrelated. Their impact on market conditions can be studied in ways similar to merger retrospectives that provide a rearview mirror for enforcers to review their earlier decisions and adjust algorithmic weights based on prevailing economic evidence where appropriate.

With unsupervised machine learning, the algorithm can probe patterns through data mining. It can zero in on data clusters and find abstractions. It might show the factors courts use to stampede over other factors. It can also account for interactions among indicators attorneys and economists miss because of how the human mind contextualizes and associates familiar information.

Over time, AI can chart the antitrust landscape and provide checklists to delineate prohibited and permitted licensing conduct with finer degrees of risk. This makes compliance less a leap of "hunch, faith, and intuition" and empowers businesses to make informed and confident licensing decisions, whether as licensors or licensees. It can also subject rhetoric, such as those on patent holdup and patent holdouts, to more rigorous evidence-based tests. In doing so, AI can help generalize information from legal and market data points to mark the path toward achieving policy goals and perhaps be able to look back at a decision tree analysis to evaluate and refine the approach for the future.

B. Modeling Price and Innovation effects

Adjudicating licensing terms may require courts to determine if they disrupt the consumer-preference-signaling processes. Automakers in *Qualcomm's* rehearing, including Honda, Toyota, Ford, and Tesla, in arguing for the Ninth Circuit ruling to be overturned, asserted that the outcome "poses significant threats to competition, consumer welfare, and innovation."[30] AI can help parties like these automakers develop evidence of anticompetitive effects or efficiencies and even predict the impact on nascent competition. This ability to forecast is particularly relevant to cases involving licensing terms, given that dynamic efficiency often lies at the heart of justifying restrictions.

It is well established that the arc of innovation follows an inverted "U-shape" curve.[31] Competition increases innovation, but at a decreasing rate. Beyond a certain point, the rate of innovation becomes negative with increasing competition. AI can run simulations to determine optimal contestability conditions and better map synergies that affect innovation pathways by tracing user adoption of the technology. Effective AI solutions will need to be evolutionary, processing its observations and presenting advice that keeps up with current market conditions.

CodeX, Stanford Law School's Center for Legal Informatics, has taken on the mantle of institutional leadership in this regard. It has begun recruiting stakeholders, including academics and enforcers, to collectively consider what it calls "computational antitrust."[32] Described as "a new branch of legal informatics focused on the mechanization of antitrust analyses and procedures,"[33] it aims to give companies "the tools to assess and ensure compliance with antitrust laws–before implementing new practices," and "automate their interactions with antitrust agencies, starting with merger control."[34] Enforcers too "can use computational tools for improving their assessment of (anti-competitive) practices and mergers. They can also benefit from more accurate data and new methods to mechanize part of their activities."[35]

30 Alison Frankel, *Consumers, Scholars and Downstream Businesses back FTC bid for Qualcomm en banc at 9th Circuit*, 28 Westlaw Journal Antitrust (Oct. 15, 2020).

31 Philippe Aghion, Nick Bloom, Richard Blundell, Rachel Griffith & Peter Howitt, *Competition and Innovation: An Inverted-U Relationship*, 120 Quarterly Journal Of Economics 720, 701-28 (2005).

32 Codex, *Computational Antitrust*, https://law.stanford.edu/projects/computational-antitrust/.

33 *Id.*

34 *Id.*

35 *Id.*

IV. ADDRESSING THREE CHALLENGES OF AI IMPLEMENTATION

Integrating AI into antitrust will not be easy. System architects and engineers will need to deal with three principal challenges – data accountability, data bias, and data availability. With each one of these, the quest is not perfection but rather a better alternative to the *status quo*.

A. Data Accountability

Finding the ground truth in training data is a common challenge with AI.[36] Powerful deep learning techniques may generate more accurate predictions but are often less interpretable, and algorithms can reach conclusions in ways that even data scientists cannot explain. An untrained neural network interrogates itself via a process of trial and error called reinforcement learning. It plays randomly and learns from each iteration to adjust weights and parameters, choosing advantageous moves with increasing finesse. AI outputs in these instances may not map to any common sense understanding of how the world works.

The quest for algorithmic transparency is exacerbated by a shift toward algorithmic secrecy in the face of case law hostile to conferring patents over software. Patent reform to address this has long been in the works, but the end is nowhere in sight if the pharma and tech sectors remain divided.[37] A more promising route is to rely on well-established remedies judges employ when issuing protective orders to safeguard litigants' trade secrets, including making the algorithm available for in-camera examination or making it available under seal.

Dumbing down the AI can make them more parsable, but causes its problems. Apart from the fact that the system becomes less effective in its task, it makes the system more vulnerable to gaming and adversarial learning by regulated parties. Nor is full disclosure of a system's source code and data a solution. Generalist judges may lack the technical understanding necessary to make sense of it. Moreover, human decision-making is not necessarily more accountable, and maybe less so.

Another problem is human bias. Courts and agencies assessing licenses rely on hypothesis-driven assessments that reflect human judgments about the likelihood of misconduct. These judgments, in turn, reflect the assumptions and biases of the individuals making them. Discrimination law, for example, seeks to interrogate decision-makers on whether their outcomes are justified. However, whether a justification exists says nothing about whether and to what extent they relied on them in making their decision. Seen in this light, anti-discriminatory rules seek accountability through explainability rather than transparency. This refocuses recognizes that the perfect is the enemy of good and seeks instead to first seek what is attainable.

In this regard, the better alternative is to mix modes of explanation to achieve better explainability. AI programs can give an accounting of the algorithm. This includes descriptions of the data, modeling choices, and factors that drive a model's predictions. One way is through decision tree analysis which, by its very nature, provides the structure of the decision process and sheds light on how the algorithm reached the result.

Algorithms based on decision tree analysis could track the factors identified by case law with different features on various branches, such as the type of conduct, competitive impact, or market share. Alternatively, those factors could map to the facts of cases. While decision trees are dependent on data with features amenable to classification, if the cases can be sorted into different nodes, then the decision process would predict whether the case is anticompetitive but qualify that prediction with a probability by comparison with other cases generally sharing the same set of attributes.

Looking at fewer features also helps. If all example cases happened to be tech or drug cases, but that element was not included as a feature (or inferable from other features), then overfitting to tech or drugs would be much less likely. Finally, preprocessing also helps. This involves using unsupervised machine learning to find clusters that can be used as examples that another algorithm can learn to classify conceptually linked groups. Since legal reasoning often depends on finding similarities between fact patterns, rather than identifying each feature independently, features can be clustered and annotated by a set of shared attributes to provide a standard data structure.

36 See e.g. David Freeman Engstrom, et al, Government by Algorithm: Artificial Intelligence in Federal Administrative Agencies, Stanford Law and Policy Lab 24 (February 2020) https://www-cdn.law.stanford.edu/wp-content/uploads/2020/02/ACUS-AI-Report.pdf.

37 AEI, *1 Year Later, Patent Eligibility Reform No Further* Along, (August 14, 2020) https://www.aei.org/technology-and-innovation/1-year-later-patent-eligibility-reform-no-further-along/.

B. Data Bias

Instances of AI bias on assessing loan credit risk and criminal recidivism based on race are well known.[38] Even assuming the algorithms' variables are not systemically biased, non-facially biased determinants might themselves have arisen as proxies for a biased attribute. Such biases may occur when the dataset is underinclusive or when the dataset captures an under-representative sample of all the antitrust violations that do occur.

Licensing terms suggestive of anticompetitive conduct relies on comparing previously flagged terms, potentially reducing the AI's accuracy. When this occurs, AI detection becomes dominated by superficial features from prior enforcement decision making. It ends up replicating idiosyncrasies rather than building richer and more precise models of noncompliance. This bias has manifested in predictive policing, resulting in police being deployed to the same neighborhoods regardless of their underlying crime rates.[39] This bias is a systemic issue pervading AI enforcement tools because it is challenging to identify all true positives in the dataset. One solution is to include more examples in training and testing the function against other test examples.

Even when collected, data may become outdated when it needs frequent updating to reflect changes in the underlying environment. New roads will render navigational apps less accurate without updating the initial training data. At the same time, that concern should not be overstated, particularly when the context remains constant. In dynamic environments, feedback data obtained by mapping outcomes to the input data that generated predictions of those outcomes can continuously improve algorithms. This mapping becomes particularly helpful when there is considerable variation within clearly defined boundaries.

C. Data Availability

Data needs to be available in sufficient quantity and quality to train the algorithm. Antitrust data can be challenging to find. Machine learning algorithms generally use thousands, if not millions, of examples; data from reported antitrust cases are much sparser in comparison. The limited number of cases to train the network creates a risk of error. Data can also be challenging to find when individuals who do not directly benefit from providing it must cooperate. Documents may not be in a machine-readable format or require sufficient pre-processing. Developers also need to navigate data laws limiting collection, storage, and use of the data.

Besides reported court cases, AI can calculate the profit implications of many market movements with automatic spider-bots crawling the Internet and gather massive amounts of price-related information. AI solution providers can also contract with expert classifications to create training data, procure them from existing sources like court records or public sources.

Like the law, machine learning algorithms rely on analogies as well. For example, Amazon might attempt to predict a buyer's preferences by finding another browser with the most similar viewing history and then offering the item the second browser liked. Rather than training a network by exposing it repeatedly to examples, it searches a database of examples to find the nearest match. This searching obviates both the need for enormous datasets and the need to train them. Therefore, the AI can predict whether a business practice was anticompetitive by merely relying on whether the most similar case had been held to be so. The rule of reason has been notoriously resistant to a broad application but finding a close match may be sufficient to resolve an issue satisfactorily, and the technique can be applied more broadly.

38 See generally, Meghan J. Ryan, *Secret Algorithms, IP Rights, and the Public Interest*, Nevada L. J., (forthcoming 2021) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3691765.

39 *Id.* at 25.

V. CONCLUSION

The legal questions in *Qualcomm* are consequential in setting competitive norms in the telecommunications industry and influencing antitrust law in an economy anxious about the exercise of market power. Like many other antitrust cases, *Qualcomm* also shows symptoms of antitrust law's inherent vulnerability to ideology stampeding facts and data. In cases involving license terms, the overlay of innovation considerations as well as the dynamic and complex markets those involved operate in can make antitrust analysis even more amorphous.

The history of antitrust as an algorithm has been one of constant patches and updates. Still, few have recognized, much less captured in any substantial detail, the breadth and depth of transformation that AI can bring to adjudicating licenses. Chicago brought with it a skepticism toward intervention that arose in response concerns that successful businesses were being persecute with an unhinged and unsubstantiated zeal. However, Chicago is a reactionary non-interventionist phenomenon that has failed to stem many of the worst symptoms of market failure. As a phenomenon, all current approaches unfortunately are fundamentally backward looking and have no effective means of dealing with these symptoms.

AI enables courts to better render evidence-based decisions. As a tool, it presents an opportunity to check and minimize ideological stampeding. As a powerful new partner in making sense of the complex, dynamic, and fast-moving licensing markets many businesses operate in, courts and agencies can harness its ability to model price and innovation effects more precisely. There are challenges to implementing AI with data accountability, data availability, and data bias. These challenges can be addressed. The time for to retool antitrust is now.

THE NEW LANDSCAPE IN FRAND LITIGATION

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I. INTRODUCTION

2020 marked a turning point in global FRAND litigation, a field that has produced a steady stream of cases and academic contributions for more than a decade now. In particular, three judgments by the Federal Court of Justice (*Bundesgerichtshof* – "BGH") of Germany, the Supreme Court of the UK, and the U.S. Court of Appeals for the 9th Circuit respectively change the landscape in international FRAND litigation.

In the new landscape, courts emphasize — and are guided by — industry practice (rather than abstract theories) in reviewing disputes between owners of standard-essential patents (SEPs) and technology users regarding FRAND (fair, reasonable and non-discriminatory) licensing terms and conditions. Courts in some of the most important jurisdictions worldwide declined to ascribe antitrust liability to common commercial practices, such as (a) comprehensive, worldwide licenses of portfolios of SEPs, (b) licensing at the end-device level of the value chain, and (c) calculating royalty rates on the basis of the end-product prices. Moreover, courts stressed that technology users that fail to demonstrate actual willingness to conclude a FRAND license, through their serious conduct of licensing negotiations, also fail to state an actionable claim against injunctions under antitrust law.

II. *SISVEL v. HAIER*

In the EU, the governing framework for injunctions for SEPs is set out by the Court of Justice of the EU (CJEU) in its *Huawei v. ZTE* judgement.[2] In *Huawei*, the Court established a safe harbor from antitrust liability under Article 102 TFEU for SEP-owners that satisfy specific requirements prior to requesting injunctive relief.[3] *Huawei*, however, only provided the general framework for the application of Article 102 TFEU on SEP-enforcement actions. The details remained for the national courts in the EU to flesh out. In Germany, the BGH, in its recent *Sisvel* ruling, decided on a broad range of issues around SEP-enforcement and clarified the law regarding injunctive relief for SEPs.[4]

In *Sisvel*, the Court reversed the findings of the Higher Regional Court of Dusseldorf which had held that an SEP-owner that fails to make an offer on FRAND terms infringes Article 102, regardless of the conduct of the prospective licensee.[5]

At the outset, the BGH noted that a SEP-owner is not obliged, solely by virtue of his patent's standard-essentiality and his voluntary FRAND commitment, to tolerate the unlicensed used of his patent.[6] It can, however, constitute an abuse of dominant position for such a patentee to refuse an unconditional licensing offer on FRAND terms by an infringer that has already commercialized standard-compliant products, as per the BGH 2009 *Orange Book Standard* ruling.[7] Moreover, the patent proprietor will fall foul of Article 102 if he fails to satisfy the *Huawei* requirement to properly notify the infringer prior to the filing of an action for injunctive relief.[8]

Furthermore, the SEP-holder may be denied injunctive relief when his offer is not FRAND. In such a case, the primary burden of proof for the discriminatory, or otherwise unfair, nature of the licensing offer rests with the implementer.[9] The patentee, however, bears a secondary burden of proof in this regard, by having to refute allegations of discrimination with evidence to the contrary.[10] Importantly, according to the Court, this allocation of the burden of proof applies not only to court proceedings, but also to licensing negotiations: where concerns are raised by the implementer that the terms proposed are not FRAND, it is for the SEP-owner to justify the proposed terms "in detail."[11] The same rules apply for the licensing of an entire SEP portfolio.[12] In this regard, the Court emphasized both the substantial efficiencies of portfolio licensing and, conversely,

2 Case C-170/13, *Huawei Technologies Co. Ltd v. ZTE Corp.* [2015] ECLI:EU:C:2015:477.

3 *Ibid.* para. 71.

4 *Sisvel v. Haier*, Federal Court of Justice (*Bundesgerichtshof*) Case No. KZR 36/17 (May 5, 2020).

5 *Ibid.* para. 79.

6 *Ibid.* para. 82.

7 *Ibid.* para. 83, citing *Orange Book Standard*, Federal Court of Justice (*Bundesgerichtshof*), Case No. KZR 39/06 (May 6, 2009).

8 *Sisvel v. Haier* (n. 4) paras 85-86.

9 *Ibid.* para. 88.

10 *Ibid.*

11 *Ibid.*

12 *Ibid.* para. 89.

the inefficiencies of a patent-by-patent approach to licensing.[13] In terms of substance, the FRAND conformity of a given licensing offer depends on "a variety of circumstances."[14] A FRAND commitment, however, does not entail an obligation on the part of the SEP-owner to offer identical terms to all licensees i.e., when it comes to the royalty rate, a "uniform tariff."[15]

Crucially, the Court observed that because FRAND terms cannot be objectively determined, but result instead from "negotiated market processes," serious participation by the implementer in negotiations is "of decisive importance."[16] In this respect, the BGH noted the infringer's incentives to hold out as far as possible, even until the patent's term of protection expires.[17] Therefore, before the patent proprietor's obligation to offer FRAND terms is to be fulfilled, it is first necessary for the implementer to respond to the notice of infringement, by indicating promptly and unequivocally its willingness to conclude a license on FRAND terms and participating in the licensing negotiations in earnest.[18] The notification must identify the rights infringed and the manner of their infringement.[19] Presentation of claim charts is customary but not mandatory for the SEP-holder.[20] In the case at hand, the implementer only responded to the notice of infringement after a whole year had passed, and the responses, according to the Court, fell far short of an unequivocal and unconditional willingness to conclude a license on FRAND terms.[21] Moreover, the Court indicated that the defendant's general conduct during negotiations suggested bad-faith delaying tactics.[22]

Finally, the BGH reversed the lower court's finding regarding the alleged discriminatory nature of the reviewed licensing offers. The Court noted in this regard that differentiated pricing on the part of the dominant undertaking is, in and of itself, not sufficient for a finding of abuse of dominant position under Article 102(c) TFEU, provided that there is an objective justification for price differentiation.[23] Additionally, even an undertaking holding a dominant position cannot be precluded from defending its commercial interests when they are attacked.[24] In *Sisvel*, the lower court failed to take into account the arguments raised by the SEP-owner to justify offering a lower rate to another licensee, namely the 'absence of realistic possibilities for judicial enforcement of its claims [in the jurisdiction of a third country] and in view of the threat of personal or other economic disadvantages' by the state authorities of that jurisdiction.[25]

III. *UNWIRED PLANET v. HUAWEI*

In the UK, the Supreme Court recently published its decision in *Unwired Planet*, affirming prior decisions by the High Court and the Court of Appeal.[26] The starting point of the Supreme Court's analysis in *Unwired Planet* was the contractual nature of the European Telecommunications Standards Institute ("ETSI") intellectual property rights (IPRs) Policy, which is binding upon ETSI members and their affiliates, and is to be interpreted under French law.[27] According to the Court, the ETSI IPRs Policy serves a two-fold aim: (a) to ensure that the standard will be accessible to implementers by requiring SEP-owners to submit a FRAND undertaking, and (b) to ensure that technology contributors are fairly and adequately rewarded for their contributions to ETSI standards.[28]

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13 *Ibid.* para. 90.

14 *Ibid*, para. 93.

15 *Ibid.*

16 *Ibid.*

17 *Ibid.* para. 94.

18 *Ibid.* para. 95, citing (in English) Birss's J findings in *Unwired Planet v. Huawei* [2017] EWHC 711 (Pat), para. 708 ('a willing licensee must be one willing to take a FRAND licence on whatever terms are in fact FRAND').

19 *Sisvel v. Haier* (n. 4) para. 97.

20 *Ibid.*

21 *Ibid.* paras. 104 et seq.

22 *Ibid.* para. 110.

23 *Ibid.* para. 114.

24 *Ibid.* citing Case C-468/06, *Sot. Lélos kai Sia EE and Others v. GlaxoSmithKline AEVE Farmakeftikon Proïonton* [2008] ECLI:EU:C:2008:504, para. 50.

25 *Sisvel v. Haier* (n. 4) para. 114.

26 *Unwired Planet International Ltd v. Huawei Technologies (UK) Co Ltd* [2020] UKSC 37.

27 *Ibid.* [8].

28 *Ibid.* [7].

The Court emphasized, however, that the first prong of ETSI policy is to be balanced against the second prong, which the Court reformulated as to "address the mischief of 'holding out' by which implementers […] might knowingly infringe the owner's Essential IPRs by using the inventions in products which meet the standard while failing to agree a licence for their use on FRAND terms."[29] The Court further pictured hold-out as a practice that may "force the [SEP] owner to accept a lower royalty rate than is fair," by "drag[ging] out the process of licence negotiation and thereby put[ting] the owner to additional cost."[30]

In interpreting the ETSI IPRs Policy the UK Supreme Court reached the following preliminary conclusions: (a) the ETSI IPRs Policy contractual derogations from the provisions of patent law "are designed to achieve a fair balance between the interests of SEP owners and implementers," (b) the FRAND commitment is a contractual derogation from the SEP-owner's right to exclude infringers by seeking injunctive relief, (c) FRAND undertakings are submitted at a point in time when there is uncertainty regarding the validity and essentiality of the SEPs in question, (d) the only way for the implementer to avoid an injunction for a SEP infringement is to enforce the SEP-holder's contractual obligations by requesting a FRAND license, and (e) the Policy envisages that FRAND terms will result from bilateral negotiations and agreement between the parties or by recourse to national courts.[31]

With regard the appropriate geographical scope of a FRAND license, the central point raised on appeal, the Court observed that it is undisputed that worldwide portfolio licenses are the industry norm in the telecommunications sector.[32] Moreover, the Court noted the onerous litigation costs for SEP-owners should they have to enforce the entirety of their portfolio on a country-by-country basis.[33] The high costs associated with country-by-country negotiation and litigation explain, in the opinion of the Court, the clear industry preference for worldwide portfolio licenses which may also include patents that might be found in later proceedings invalid or non-essential.[34]

The Supreme Court went on to address the contention that, in his first-instance decision Birss J, by deciding on a worldwide portfolio rate for plaintiff's SEPs, pre-empted decisions by foreign courts regarding the validity (and essentiality) of foreign SEPs. The Court clarified that, in setting a worldwide royalty rate for Unwired's global portfolio, Birss J merely determined the contractual terms the parties would have voluntarily agreed to, knowing very well that some of the patents in question could be invalid or non-essential.[35] Two methods can be used to evaluate a SEP-portfolio without having to go patent-by-patent: the "top-down" approach, and the examination of comparable licensing agreements.[36]

According to the Court, Birss J was fully entitled to set a global rate in light of the ETSI IRPs Policy, which is an enforceable contract.[37] The Court underscored that an approach calling for the patentee to establish the validity and essentiality of its entire portfolio on a country-by-country basis before enforcing its rights to exclude through injunctive relief "runs counter to the balance which the IPR Policy seeks to achieve."[38] The Court went on to examine in detail the uncertainties of SEP-licensing, as well as the substantial efficiencies in the industry practice of global portfolio licenses. The Court concluded: "By taking out a licence of an international portfolio of generally untested patents the implementer buys access to the new standard […] [i]t does so at a price which ought to reflect the untested nature of many patents in the portfolio; in so doing it purchases certainty."[39]

The Supreme Court also made some important observations regarding the purpose and function of injunctive relief for licensing on FRAND terms. According to the Supreme Court, the ETSI IPRs Policy incentivizes private parties to reach agreement on FRAND terms without recourse to

29 *Ibid*. [10].

30 *Ibid*.

31 *Ibid*. [14].

32 *Ibid*. [15].

33 *Ibid*. [36].

34 *Ibid*.

35 *Ibid*, [42].

36 *Ibid*, [42]-[43].

37 *Ibid*, [58] ("It is the contractual arrangement which ETSI has created in its IPR Policy which gives the court jurisdiction to determine a FRAND licence and which lies at the heart of these appeals").

38 *Ibid*. [59].

39 *Ibid*. [60].

litigation.[40] Injunctive relief is vital in the pursuit of this objective: "it is this which ensures that an implementer has a strong incentive to negotiate and accept FRAND terms for use of the owner's SEP portfolio."[41]

Similarly, the appropriate geographical scope of a FRAND license can be inferred by the ETSI IPRs Policy, which was intended to have international effect, by extending the ambit of the FRAND commitment beyond specific patents to entire patent families under Clause 6(2).[42] The Court also emphasized the decisive importance of industry practice for determining FRAND terms. According to the Court, industry practice is "an obvious practical yardstick which [the parties] can use in their negotiation," and lower courts were correct in their assessment that ETSI intended the parties to 'draw on commercial practice in the real world.'[43] In deciding for FRAND terms for Unwired's global portfolio, lower courts justifiably looked into the industrial practice in the relevant sector, in which global portfolio licenses are the norm.[44]

Additionally, the Supreme Court upheld the the lower courts' findings that the ETSI IPRs Policy does not entail an obligation for an SEP proprietor to offer identical terms to all licensees, or a 'hard-edged' non-discrimination obligation. According to the Court, the terms "fair," "reasonable," and "non-discriminatory" are to be interpreted in a "unitary way."[45] In rejecting a 'hard-edged' non-discrimination obligation the Court advanced two arguments: (a) ETSI has rejected in the past the inclusion of a most-favored nation ("MFN") clause in its IPRs Policy, and (b) price discrimination is the industry norm in the specific sector because it yields efficiencies, and promotes innovation and consumer welfare.[46] Moreover, practical concerns may force a patentee to offer a license at a below-FRAND rate, under specific circumstances, such as when aiming to secure a first-mover advantage or in a 'fire sale' when faced with insolvency.[47]

Finally, the UK Supreme Court upheld the lower courts' analysis under Article 102 TFEU and the *Huawei* framework. In particular, the Court reaffirmed that a patentee cannot, without infringing Article 102 TFEU, file an action for injunction prior to properly notifying the infringer, though "notification" is to be interpreted broadly and in accordance with the circumstances of each case.[48] Moreover, the Court held that *Huawei* could be deemed to provide a safe harbor to SEP-owners that fulfil the notification requirement and present the implementer with a proposal for a license on FRAND terms.[49] This, however, does not imply that an offer that is not FRAND is, in and of itself, sufficient for finding an abuse of dominance.[50] The Court accurately and concisely summarized *Huawei*: (a) it prevents an implementer being ambushed with an action for injunction before being properly notified, (b) it lays down a "route map" for the SEP-owner to pursue an injunction safe from antitrust liability, and (c) it provides "points of reference" to assist courts in determining which party is truly willing to conclude a FRAND license.[51]

40 *Ibid.* [61].

41 *Ibid.*

42 *Ibid.* [62].

43 *Ibid.*

44 *Ibid.* [63].

45 *Ibid.* [113]-[114].

46 *Ibid.* [116], [123]-[124].

47 *Ibid.* [125]-[126].

48 *Ibid.* [150]-[151].

49 *Ibid.* [153].

50 *Ibid.*

51 *Ibid.* [157].

IV. *FTC v. QUALCOMM*

In the U.S., the 9th Circuit recently issued its ruling in *Qualcomm*, reversing the 2019 first-instance judgment by the District Court for the Northern District of California (Judge Koh).[52] At issue was Qualcomm's business model of licensing its SEPs at the equipment manufacturer ("OEM") level and calculating the royalty rate based on the end-selling price of standard-compliant products.[53] Moreover, to ensure that its sales of chipsets to manufacturers do not exhaust its patent rights, under *Quanta*,[54] Qualcomm followed a 'no-license, no-chips' policy, under which it refused to sell chipsets to unlicensed manufacturers and concluded non-assertion agreements with competing chipset manufacturers.[55] The issue before the court was whether Qualcomm's business model was "anticompetitive behavior, which is illegal under federal antitrust law" or "hypercompetitive behavior, which is not."[56]

The court started with identifying the relevant antitrust market: the market for 2G modem chips and 4G premium chips. Although the 9th Circuit upheld the finding of the lower court in this regard, it noted as a preliminary remark (and foreshadowing its own later findings) that the district court's analysis of anticompetitive effects focused beyond the identified relevant antitrust market and, in particular, on effects of Qualcomm's policy on OEMs.[57]

The 9th Circuit went on to examine whether Qualcomm was under a duty to license competing chipset manufacturers under §2 Sherman Act.[58] The court reiterated the established principle in U.S. antitrust law that §2 does not impose on businesses a duty to deal with any particular customer.[59] The court highlighted that there is only one limited exception to this rule under *Aspen Skiing*, where the US Supreme Court ("SCOTUS") held that a monopolist may be liable under §2 if he unilaterally terminates a profitable business arrangement with a competitor and the only plausible rationale for this conduct is sacrificing short-term profits to exclude competition in the long-run.[60]

The district court's finding that Qualcomm's conduct fell within the *Aspen Skiing* exception was reversed. The 9th Circuit held that the lower court was incorrect in finding that Qualcomm terminated an existing arrangement with rivals, since there was little evidence on record that Qualcomm ever licensed at the chipset level.[61] Moreover, the lower court erroneously disregarded the changes in U.S. patent law on exhaustion under *Quanta*, which forced Qualcomm to its current policy.[62] More importantly, there was little evidence that, by licensing OEMs, Qualcomm sacrificed profits to pursue an exclusionary scheme; on the contrary, licensing at the OEM level was 'far more lucrative.'[63] Finally, the court distinguished the facts in *Qualcomm* from *Aspen Skiing* in view of the fact that Qualcomm's policy applied uniformly to all rival chipset manufacturers, whereas in *Aspen Skiing* the monopolist targeted a specific rival for exclusion by terminating dealing.[64]

The 9th Circuit further assessed FTC's argument that, even if Qualcomm was under no duty to deal under *Aspen Skiing*, its refusal to license rival manufacturers violated its own FRAND obligations and such conduct infringed §2 Sherman Act. In this respect, the court observed that, even if Qualcomm was under a contractual obligation to license rival chipset suppliers (a conclusion the court explicitly refused to reach), this may at most state a contractual rather than an antitrust claim.[65] The FTC identified a negative impact on OEMs, but it failed to establish a

52 *Federal Trade Commission v. Qualcomm Inc.*, Case No. 19-16122 (9th Cir. 2020).

53 *Ibid.* 12-13.

54 *Quanta Comput., Inc. v. LG Elecs., Inc.*, 553 U.S. 617, 625 (2008).

55 *Qualcomm* (n. 52) 14-15.

56 *Ibid.* 9.

57 *Ibid.* 30.

58 *Ibid.* 31 et seq.

59 *Ibid.* citing *Pac. Bell Tel. Co. v. linkLine Commc'ns, Inc.*, 555 U.S. 438, 457 (2009); *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 408 (2003).

60 *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985).

61 *Qualcomm* (n. 52) 33.

62 *Ibid.*

63 *Ibid.* 34.

64 *Ibid.* 35.

65 *Ibid.* 36.

negative impact on competition in the relevant antitrust market, since rivals were allowed unlicensed use of Qualcomm's SEPs.[66] Moreover, the court underlined 'the persuasive policy arguments of several academics and practitioners with significant experience in SSOs, FRAND, and antitrust enforcement, who have expressed caution about using the antitrust laws to remedy what are essentially contractual disputes.'[67]

Next, court addressed the district court finding that Qualcomm's rates were unreasonably high, allegedly imposing an "anticompetitive surcharge" on rival chipset manufacturers. The 9th Circuit dismissed the "anticompetitive surcharge" theory for failing "as a matter of law and logic":[68] first, to the extent that Qualcomm's rates were found unreasonable because they were calculated based on the end-product price, instead of the "smallest salable patent-practicing unit" ("SSPPU"), the district court misrepresented the case law of the Federal Circuit on the SSPPU doctrine.[69] The court underlined that the SSPPU doctrine is merely "a tool in jury cases to minimize potential jury confusion when the jury is weighing complex expert testimony about patent damages."[70] Indeed, "[n]o court has held that the SSPPU concept is a per se rule for 'reasonable royalty' calculations."[71] Second, the first-instance ruling assumed that "unreasonable royalties" is tantamount to "anticompetitive" [royalties] — in the antitrust sense.[72] However, such theory finds no support in case law and, in any event, it merely states a harm to customers, not competitors.[73] The court concluded: "We decline to adopt a theory of antitrust liability that would presume anticompetitive conduct any time a company could not prove that the 'fair value' of its SEP portfolios corresponds to the prices the market appears willing to pay for those SEPs."[74]

V. ANALYSIS

The aforementioned developments in FRAND litigation in Europe and the US lead to the following conclusions:

First, there appears to be a convergence in the approaches to injunctive relief for SEPs in all major European jurisdictions (Germany, UK, France, the Netherlands). The basis for this convergence is the CJEU's *Huawei* framework. However, a uniform application of this framework remained elusive until the rulings in *Sisvel* and the *Unwired Planet*. Particularly problematic was the case of Germany, the European jurisdiction with the most extensive experience with FRAND disputes. The country's two most prominent patent infringement courts — those of Dusseldorf and Mannheim — took opposing views in interpreting *Huawei* and in particular on the question whether failure by a SEP-holder to offer FRAND terms implied automatically and ipso facto an infringement of Article 102 TFEU. *Sisvel* resolves this rift largely favoring the Mannheim approach and dismissing the interpretation of the Dusseldorf Higher Regional Court.

The emerging consensus regarding injunctions for SEPs in Europe can be summarized in three propositions: (a) *per se* illegality: SEP-proprietors that initiate injunction proceedings without first notifying the infringer face strict condemnation under Article 102; the language of both the CJEU and the highest courts in Germany and the UK point to a flagrant, "by object" breach of Article 102 in such a scenario, (b) *per se* legality: SEP-owners that have properly notified implementers and made an offer on FRAND terms are safe from antitrust liability, and (c) a grey area in between: when the SEP-owner has properly notified the infringer and the parties disagree on FRAND terms, the end result (injunction or no injunction) will depend on their respective conduct and whether they appear demonstrably willing to enter a FRAND license.

Second, there a growing convergence in the approaches of European and US courts regarding the potential antitrust liability for practices such as licensing at the end-device level and calculating royalties on the basis of the end-device price (and not on SSPPU). *Qualcomm* clarified that SEP-owners are under no obligation under §2 Sherman Act to license their patents to any particular customer but are, in principle, free to choose the value-chain level at which they will exhaust their rights. German courts have reached a similar conclusion (under Article 102 TFEU).[75]

66 *Ibid.* 37.

67 *Ibid.* 39.

68 *Ibid.* 41-42.

69 *Ibid.* 42.

70 *Ibid.* 42-43.

71 *Ibid.*

72 *Ibid.* 43-44.

73 *Ibid.*

74 *Ibid.* 44.

75 See for instance, *Saint Lawrence v. Vodafone*, Dusseldorf District Court (*Landgericht Düsseldorf*), Case No. 4a O 73/14 (March 31, 2016), para 406 ('It is in principle always at the discretion of the patentee to choose the distribution stage at which to enforce its property rights […] The right of the patentee to decide for itself which infringers to enjoin is, in principle, not limited for a SEP under antitrust law').

Moreover, *Qualcomm*'s rejection of SSPPU as a substantive rule for calculating FRAND rates and an antitrust obligation of the SEP-holder is in line with European case law which has uniformly rejected — implicitly or explicitly — an antitrust duty to calculate royalties in any particular way.[76]

Third, prevailing industry practice guides judicial review and is decisive for courts determining whether or not a given conduct is FRAND. Briefly put, conduct that conforms to prevailing industry norm will normally be approved by courts, unless there are compelling reasons for diverging from it. This approach is laudable because it appears unwilling to sacrifice real-world, tangible efficiency gains from voluntary market arrangements to protect against anticompetitive risks that are speculative and based on theories that are not validated by the facts on trial record.

Fourth, recent case law developments lend support to the U.S. DOJ's policy record on issues around FRAND/SEPs. Despite critics' claims to the contrary, the DOJ's policy under its present leadership is not an isolated exception to the antitrust mainstream regarding FRAND but is itself an integral part of this very mainstream. Just to take two examples, DOJ's recent business review letters to licensing platform Avanci[77] and the SDO IEEE (supplemental)[78] emphasize the efficiencies in market practices such as licensing at the end-device level and calculating rates based on end-device prices in the former case, and the value of injunctive relief for a balanced FRAND ecosystem. *Qualcomm*, *Sisvel*, and *Unwired Planet* provide strong case law support to these policy pronouncements.

Fifth, facts on the record in the above-mentioned cases paint a very different picture than the one promoted in antitrust circles in the past decade: that of standard users as hapless victims of patent enforcement abuses, a view that came to be known as "patent holdup." Instead, the picture that emerges is that of sophisticated parties, well-resourced, with global operations, that postpone the conclusion of a FRAND license as much as possible employing a wide range of negotiation and legal tactics to holdout. In this respect, the emphasis placed on holdout by the highest courts of Germany and the UK are highly instructive. These points of transatlantic convergence mark a step in the right direction, emphasizing the need for a balanced approach in FRAND litigation that takes into account efficient industry practices and preserves strong incentives to innovate and participate in standards development.

76 See for example, *Archos S.A. v. Koninklijke Philips N.V.*, The Hague District Court (*Rechtbank Den Haag*), Case No. C/09/505587/HA ZA 16-20 (February 8, 2017), para 4.10 (dismissing an antitrust duty to use the SSPPU royalty calculation base under Article 102 TFEU). See also, *Ericsson, Inc. v. D-Link Sys.*, 773 F.3d 1201 (Fed. Cir. 2014); DOJ, USPTO, and NIST, 'Joint Policy Statement on Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments' (December 19, 2019) 6-7.

77 Makan Delrahim, Assistant Attorney General, US DOJ, Letter to Mr. Hamer [Avanci Business Review Letter] (July 28, 2020) https://www.justice.gov/atr/page/file/1298626/download accessed November 9, 2020.

78 Makan Delrahim, Assistant Attorney General, US DOJ, Letter to Ms. Muirhead [IEEE Supplemental Business Review Letter] (September 10, 2020) https://www.justice.gov/atr/page/file/1315291/download accessed November 9, 2020.

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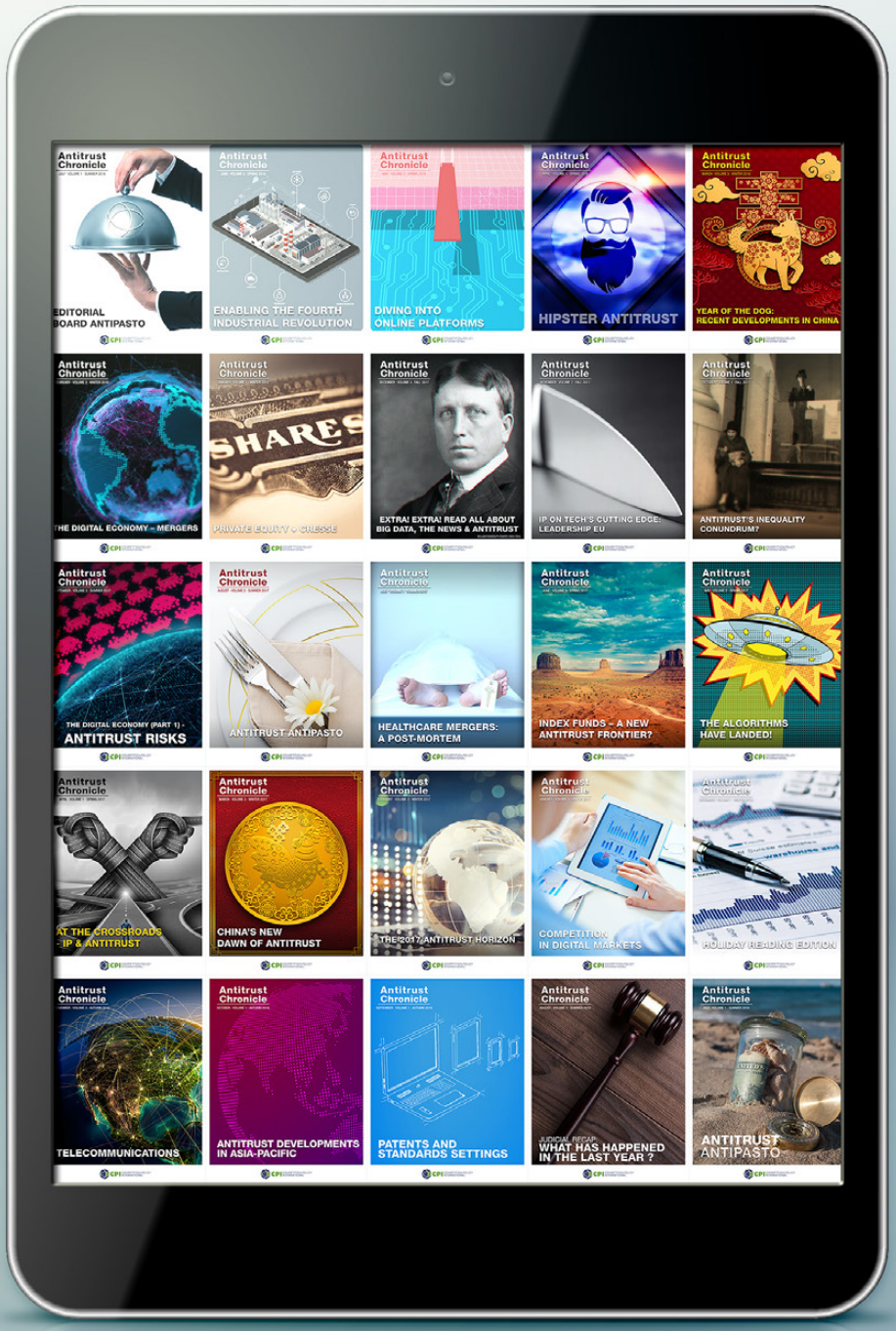


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