# Evading Portfolio Royalties for Standard-Essential Patents through Validity Challenges

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*A no-challenge clause prevents a patent licensee from challenging the validity of a licensed patent. In the 2014 Guidelines on Technology Transfer Block Exemption Regulation, the European Commission discouraged parties from including a no-challenge clause in a settlement and license agreement concerning standard-essential patents (SEPs). The Commission said that eliminating invalid patents serves the public interest because it promotes competition. For similar reasons, in 2014, the Advocate General of the Court of Justice of the European Union opined in Huawei Technologies Co. v. ZTE Corp. that EU competition law should allow a licensee to retain the right to challenge a licensed SEP's validity notwithstanding that the licensee has entered into a settlement and license agreement with the SEP holder. I analyze the Commission's and the Advocate General's assumption that a licensee's challenging the validity of SEPs unambiguously benefits consumers. I assess the merits of that legal proposition within the well-established economic framework of cost-benefit analysis. I particularly focus on the marginal benefits and the marginal costs that eliminating no-challenge provisions would generate for consumers. I explain that the Commission and the Advocate General exaggerated the marginal benefits and understated the marginal costs of validity challenges to licensed SEPs, particularly when the typical SEP holder repeatedly licenses its SEPs in a large portfolio to a sophisticated licensee. The discovery that several SEPs in a licensed portfolio of hundreds are invalid would neither surprise the parties nor justify reducing the portfolio royalty. The Commission and the Advocate General ignored that encouraging a licensee to challenge the validity of individual licensed SEPs invites opportunistic litigation by the licensee so as to delay paying the SEP holder the agreed-upon royalty for the use of the many more valid patents in its licensed portfolio. Thwarting the SEP holder's ability to receive prompt compensation for its innovative contribution lessens the SEP holder's incentive to invest in innovation and thus decreases quality of collective standard setting. Those effects in turn impose significant marginal harm on consumers. Consequently, the Commission and Advocate General erred to assume that consumers derive a net marginal benefit from the announced policy encouraging a licensee to challenge to the validity of licensed SEPs.*

## 1 INTRODUCTION

Since 2014, European Union authorities have increasingly encouraged challenges to the validity of standard-essential patents (SEPs), reasoning that the elimination

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of invalid patents unambiguously benefits consumers. In revising its Technology Transfer Block Exemption Regulation (TTBER) – which explains the applicability of competition rules to technology-transfer agreements in the European Union – the European Commission said that:

> [i]n the interest of undistorted competition and in accordance with the principles underlying the protection of intellectual property, invalid intellectual property rights should be eliminated.[1]

The Commission reasoned that there is a public interest "to eliminate any obstacle to economic activity which may arise where an intellectual property right was granted in error."[2] Similarly, in its 2014 decision issued against Motorola Mobility, the Commission said that "[i]mplementers of standards and ultimately consumers should not have to pay for invalid or non-infringed patents. Implementers should . . . be able to ascertain the validity of patents and contest alleged infringements."[3] Melchior Wathelet, Advocate General of the Court of Justice of the European Union (CJEU), made a similar statement in November 2014, when he presented his opinion in *Huawei Technologies Co. v. ZTE Corp*.[4] He said that "it is in the public interest for an alleged infringer to have the opportunity, *after concluding a licensing agreement*, to challenge the validity of an SEP."[5] Thus, both the European Commission and the Advocate General posited that challenging the validity of licensed SEPs will always benefit consumers.

In this article, I analyze the effect that the elimination of no-challenge clauses – which prevent a patent licensee from challenging the validity of a licensed patent[6] – has on consumers. First principles of economics instruct that, when adopting a new policy, regulators should analyze the likely positive and negative effects that a policy might have on consumers.[7] Nobel laureate Kenneth Arrow

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1 *See* Communication from the Commission, Guidelines on the Application of Art. 101 of the Treaty on the Functioning of the European Union to Technology Transfer Agreements para. 134, 2014 O.J. (C 89) 29 [hereinafter 2014 TTBER Guidelines] (defining a no-challenge clause as a clause that imposes a "direct or indirect obligations not to challenge the validity of the licensor's intellectual property").

2 *Ibid.,* para. 138.

3 Press Release, European Commission, *Antitrust: Commission Finds That Motorola Mobility Infringed EU Competition Rules by Misusing Standard Essential Patents*, http://europa.eu/rapid/press-release_IP-14-489_en.htm (Apr. 29, 2014).

4 Opinion of Advocate General Wathelet, Case C-170/13, *Huawei Techs. Co. v. ZTE Corp.* (Nov. 20, 2014), http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:62013CC0170 [hereinafter Advocate General's Opinion in *Huawei v. ZTE*].

5 *Ibid.,* para. 95 (emphasis added).

6 *See*, e.g., 2014 TTBER Guidelines, *supra* n. 1, para. 133 (defining a no-challenge clause as a clause that imposes a "direct or indirect obligations not to challenge the validity of the licensor's intellectual property").

7 *See* Kenneth J. Arrow, et al. *Benefit-Cost Analysis in Environmental, Health, and Safety Regulation: A Statement of Principles* 5 (AEI Press 1996) [hereinafter Arrow, et al. *Benefit-Cost Analysis*]; Kenneth J. Arrow, et al. *Is There a Role for Benefit-Cost Analysis in Environmental, Health, and Safety Regulation?*,

and other eminent economists have long explained that this framework of cost-benefit analysis "can help decision-makers better understand the implications of decisions by identifying and, where appropriate, quantifying the favorable and unfavorable consequences of a proposed policy change, even when information on the benefits and costs is highly uncertain."[8] In addition to indicating *whether* to regulate, proper cost-benefit analysis indicates *how much* to regulate. The optimal scope of a contemplated policy intervention depends on its marginal benefit and marginal cost.[9] For example, "almost all of the harm from a polluting process can frequently be eliminated for a reasonable cost, while an astronomical cost is required to remove the last, small amount of harm".[10] It is thus important "to identify the incremental benefits and costs associated with different regulatory policies".[11]

In its capacity as an alleged infringer, the implementer had the opportunity to challenge the validity of an SEP at any moment from the time when the patent office granted the patent in question until the time when the implementer executed a license. A no-challenge clause constrains the implementer's ability to challenge the validity of SEPs only *after* it has already executed a license agreement and thus has changed its status from alleged infringer to portfolio licensee. In effect, the European Commission and the Advocate General embrace the view that the socially optimal number of invalid patents in a portfolio of SEPs is zero. From an economic perspective, however, that view is socially deleterious. The optimal scope of a given public policy requires that the policy's marginal benefits equal its marginal costs. Because the last increments of harm are the costliest to eliminate, zero tolerance of invalid SEPs within a portfolio of hundreds or thousands of SEPs is a counterproductive goal. The salient question for the Commission and the Advocate General to ask is this: Once the implementer has settled its patent-infringement litigation with the SEP holder and has become the SEP holder's portfolio licensee, do the *marginal* benefits to consumers of encouraging that implementer to bring yet another challenge to the validity of an individual SEP, within the licensed portfolio of hundreds or thousands of SEPs, exceed the *marginal* costs to consumers?

To answer that question, I first explain, in section 2, the competition policy measures adopted in the European Union that discourage parties from including a no-challenge clause in a license agreement for SEPs. In 2014, the European Commission subjected to stricter competition law scrutiny any agreement to settle

272 Science 221, 221 (1996) [hereinafter Arrow, et al. *Is There a Role for Benefit-Cost Analysis?*]; *see also* Michael L. Katz & Harvey S. Rosen, *Microeconomics* 5–6 (McGraw-Hill 3d ed. 1998); Joseph E. Stiglitz, *Economics* 45–47 (W.W. Norton & Co. 1993).

8 Arrow, et al. *Is There a Role for Benefit-Cost Analysis?*, *supra* n. 7, at 221.

9 *See* Arrow, et al. *Benefit-Cost Analysis*, *supra* n. 7, at 9.

10 *Ibid.*

11 *Ibid.*

litigation and license SEPs that includes a no-challenge clause.[12] The Commission said that anticompetitive effects might arise if the patented technology is an "essential input" for the licensee.[13] In 2014, Advocate General Wathelet said, in *Huawei v. ZTE*, that an implementer of an industry standard should not be considered unwilling to accept a FRAND royalty if it insists on maintaining its right to challenge the validity of the licensed SEPs after having concluded a license agreement with the SEP holder.[14] The CJEU subsequently followed the Advocate General's reasoning.[15] Therefore, an SEP holder that seeks an injunction against an implementer that refuses to include a no-challenge clause in a license agreement might face liability under EU competition law.

Next, I explain in section 3 that, in revising their approach to no-challenge clauses, the Commission and the Advocate General exaggerated the marginal benefit that identifying a few invalid SEPs in a large portfolio might have for consumers. When a licensor and a licensee negotiate a license for a large SEP portfolio, both parties understand that some of the hundreds or thousands of SEPs in the portfolio might be invalid. The parties do not invest extensive resources in identifying those invalid SEPs. To do so would thwart the transaction by making it prohibitively costly. Instead, the parties generally assess the value of the licensed portfolio and determine a royalty that accounts for the possibility that some of the portfolio's SEPs might be invalid. The portfolio royalty upon which parties agree will converge toward an unbiased estimate of the probabilistic value of the portfolio, particularly when sophisticated parties have repeated licensing transactions. In addition, in the context of SEPs, the licensed portfolio is dynamic. The SEP holder typically removes obsolete SEPs from the portfolio and adds new SEPs that have become essential since the parties executed the license agreement. This industry practice of portfolio "rebalancing" further reduces the risk that the presence of a few invalid SEPs would impose any significant marginal cost on the licensee (and thus create an opportunity for a marginal benefit to result from a successful validity challenge). Because the presence of only a few invalid SEPs within a large portfolio does not impose any significant marginal cost on the licensee, it necessarily follows that eliminating those SEPs from the portfolio will not generate any significant marginal benefit for the licensee, and ultimately, consumers.

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12 Commission Regulation (EU) No. 316/2014 on the Application of Art. 101(3) of the Treaty of the Functioning of the European Union to Categories of Technology Transfer Agreements Art. 5, 2014 O.J. (L 93) 22 [hereinafter 2014 TTBER].

13 2014 TTBER Guidelines, *supra* n. 1, para. 243.

14 Advocate General's Opinion in *Huawei v. ZTE*, *supra* n. 4, at para. 95.

15 Case C-170/13, *Huawei Techs. Co. v. ZTE Corp.* para. 69. (Jul. 17, 2015), http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1437080250973&uri=CELEX:62013CJ0170.

Finally, I explain in section 4 that encouraging implementers to challenge the validity of licensed SEPs invites opportunistic litigation that harms consumers. The Commission and the Advocate General ignore that a licensee has an obvious strategic incentive to challenge the validity of individual SEPs so as to delay paying royalties for the entire portfolio until the court decides whether the few challenged SEPs are valid. Opportunistic litigation of this sort creates a significant marginal cost for the SEP holder because it impedes the SEP holder's ability to obtain prompt compensation for its innovative contributions and reduces its incentive to contribute its technologies to collective standards. Those effects in turn generate significant marginal costs for consumers.[16]

[16] The Commission's and the Advocate General's hostility to no-challenge clauses also undermines the finality of a settlement and license agreement. A settlement's purpose is to end litigation. A settlement achieves nothing if the licensee may resume litigation by challenging the validity of the SEPs just licensed and then use the existence of that litigation as justification for refusing to pay the agreed-upon portfolio royalty. By way of comparison, in the United States the Federal Circuit has emphasized that courts must balance the public interest "of ridding the public of invalid patents" against "the fundamental policy favoring the expedient and orderly settlement of disputes and the fostering of judicial economy". *Hemstreet v. Spiegel, Inc.*, 851 F.2d 348, 351 (Fed. Cir. 1988) (citing *Ransburg Electro-Coating Corp. v. Spiller & Spiller, Inc.*, 489 F.2d 947, 977 (7th Cir. 1973)); *see also Foster v. Hallco Mfg. Co.*, 947 F.2d 469, 474 (Fed. Cir. 1991). Allowing a licensee to bring an infinite number of examinations of the validity of the licensed SEPs years after having negotiated a royalty for the entire portfolio would waste judicial resources and ultimately harm rather than benefit consumers.

Some argue that SEP portfolios are full of low-value patents. *See*, e.g., RPX Rational Patent, *Standard Essential Patents: How Do They Fare?* (2014). A full response to this conjecture is beyond the scope of this article. However, one can immediately identify the fallacy of that conjecture's reasoning. Studies that advance that conjecture typically ignore that a patent holder has an incentive to declare any patents that might be practiced by the standard as essential, so that it can avoid infringing the SSO's disclosure rules and potential antitrust liability for a failure to disclose its SEPs. Because the existing rules create an incentive for the patent holder to overdeclare essential patents, there is a risk that a higher number of patents declared essential will not be essential in fact. However, any analysis should be careful not to assume that a patent that is inessential to practice a standard is also invalid or not infringed. Essentiality affects only the question of whether a particular patent is available on FRAND terms. Only patents that are essential to practice a standard are available on FRAND terms. A declared SEP that is ultimately found to be *in*essential to practice a standard might be still valid and infringed. That the SSO working groups have adopted a technology into the standard indicates that a selected technology is more likely to be useful, novel, and nonobvious. Consequently, a court might be more likely to find to be valid a patent that has been declared essential to practice a standard. If a patent is found to be *in*essential to practice a standard, but nonetheless is valid and infringed, then the royalty for that patent will likely exceed the royalty charged within a portfolio of SEPs, because that patent is no longer subject to a FRAND commitment. Put differently, the fact that a patent is *in*essential to practice a standard does not imply that that patent is invalid or worthless.

It is also important to emphasize that the parties to a license negotiation have the best information about the value and validity of any patent claim. In fact, the implementers will have the most complete information about whether a patent is actually practiced. Observed licenses will incorporate this probabilistic value. Under the courtroom assumptions of validity and infringement, the awarded royalty should significantly exceed observed royalties from existing licenses. For example, if two-thirds of all SEPs are unenforceable, a court-determined royalty should be at least three times the value of negotiated royalties in observed licenses. Of course, the actual multiplier would depend on case-specific factors. However, the proposition that most patents really are unenforceable could

I conclude that, had the Commission and the Advocate General properly considered marginal benefits and marginal costs, they would have been compelled to reach a different conclusion. They would have realized that consumers do not derive a net marginal benefit when a licensee challenges the validity of an individual SEP after having entered into a settlement and license agreement for a large portfolio of SEPs.

## 2 THE EUROPEAN UNION'S POSITION CONCERNING THE RIGHT TO CHALLENGE THE VALIDITY OF LICENSED SEPS

In 2014, EU authorities sought to discourage the use of no-challenge clauses in settlements and license agreements for SEPs by imposing stricter liability under the provisions of EU competition law, under both Article 101 of the Treaty on the Functioning of the European Union (TFEU), which prohibits agreements that restrict competition, and Article 102 of the TFEU, which prohibits a dominant company from abusing its market position.[17] Both the Commission and the Advocate General reasoned that invalid patents restrict competition and obstruct the pursuit of economic activity, such that those patents should be eliminated. Fearing that no-challenge clauses would effectively prevent the licensee from challenging the validity of licensed SEPs, EU authorities argued that such clauses should not be included in license agreements, even if the agreement seeks to settle ongoing litigation over those SEPs.

### 2.1 Scrutiny under article 101 of the TFEU

Article 101(1) of the TFEU provides that agreements that prevent, restrict, or distort competition "by object or effect" are anti-competitive[18] and are automatically void under Article 101(2) of the TFEU.[19] Technology-transfer agreements – that is, agreements to license technology rights[20] – might violate Article 101(1). However, the Commission observed that license agreements can stimulate competition, because they can "reduce duplication of research and development, strengthen the incentive for the initial research and development, spur incremental innovation, facilitate diffusion and generate product market

explain the large difference between negotiated portfolio royalty rates and jury-determined royalty rates for a small subset of patents.

17 Consolidated Version of the Treaty on the Functioning of the European Union Arts 101–102, May 9, 2008, 2008 O.J. (C 115) 47, 89 [hereinafter TFEU].

18 *Ibid.,* Art. 101(1).

19 *Ibid.,* Art. 101(2) ("Any agreements or decisions prohibited pursuant to [TFEU Art. 101] shall be automatically void".).

20 *See* 2014 TTBER, *supra* n. 12, pmbl. (4), at 17.

competition."[21] License agreements can also "help[] to spread innovation and allow[] companies to offer new products and services,"[22] thereby benefiting consumers. It would thus harm consumers to presume that all license agreements contradict the EU competition provisions.

In 2004, the Commission adopted the TTBER, which defined rules for assessing technology-transfer agreements under EU competition law.[23] The TTBER defined categories of technology-transfer agreements that the Commission presumed not to have significant anticompetitive effects and thus to comport with the provisions of EU competition law.[24] As long as the agreement met the TTBER's "safe-harbor" requirements, the Commission considered that agreement outside the prohibition of Article 101. In contrast, the Commission examined on a case-by-case basis license agreements that failed to meet the safe-harbor requirements. Under the 2004 TTBER, the Commission excluded from the safe-harbor provisions license agreements that pose "any direct or indirect obligation on the licensee not to challenge the validity of intellectual property rights."[25] Consequently, a license agreement containing a no-challenge clause lacked the presumption of legality under the 2004 TTBER, with one exception: a no-challenge clause used in a settlement agreement.[26] The Commission reasoned that, because the primary motivation for a settlement agreement is to avoid future disputes, it is "inherent in such agreements that the parties agree not to challenge *ex post* the intellectual property rights covered by the agreement."[27] The Commission thus presumed that a settlement agreement that included a no-challenge provision did not have significant anticompetitive effects and did not fall under the prohibition of Article 101.

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21 *Ibid.*

22 Press Release, European Commission, *Antitrust: Commission Adopts Revised Competition Regime for Technology Transfer Agreements*, http://europa.eu/rapid/press-release_IP-14-299_en.htm (Mar. 21, 2014).

23 Commission Regulation (EC) No. 772/2004 of Apr. 27, 2004 on the Application of Art. 81(3) of the Treaty to Categories of Technology Transfer Agreements, 2004 O.J. (L 123) 14 [hereinafter 2004 TTBER].

24 *Ibid.,* pmbl. (9), at 12.

25 *Ibid.,* Art. 5(1)(c); *see also* Sophie Lawrance, *The Competition Law Treatment of No-Challenge Clauses in License Agreements: An Unfortunate Revolution?*, 9 J. Intell. Prop. L. & Prac. 802, 803 (2014); Maurits Dolmans & Anu Piilola, *The New Technology Transfer Block Exemption: A Welcome Reform, After All*, 27 World Competition 351, 359 (2004).

26 Commission Notice, Guidelines on the Application of Art. 81 of the EC Treaty to Technology Transfer Agreements para. 209, 2004 O.J. (C 101) 2 [hereinafter 2004 TTBER Guidelines]; *see also* Lawrance, *supra* n. 25, at 808.

27 2004 TTBER Guidelines, *supra* n. 26, para. 209, at 37; *see also* Maurits Dolmans & Anu Piilola, *The Proposed New Technology Transfer Block Exemption*, 26 World Competition 541, 555 (2003) (observing that the 2004 TTBER recognized that "no-challenge clauses are reasonably necessary for settlement agreements").

When the 2004 TTBER expired on April 30, 2014, the Commission adopted a revised TTBER, which changed the approach toward the use of no-challenge clauses in license agreements that settle an ongoing legal dispute.[28] The 2014 TTBER confirmed that including a no-challenge clause in a settlement agreement is "generally considered to fall outside Article 101(1)."[29] Nonetheless, the Commission added that, under specific circumstances, including a no-challenge clause in a license agreement to settle an ongoing dispute can have anticompetitive effects and thus might fall under the prohibition of Article 101(1).[30] The Commission suggested that this outcome might arise "if the technology rights are a necessary input for the licensee's production", such as when the technology rights are SEPs.[31] The Commission implied that, when a licensee needs to obtain access to licensed SEPs, the SEP holder might coerce the licensee to accept a no-challenge clause and thereby force the licensee to relinquish its right to challenge the validity of the licensed SEPs.

In explaining its revised approach toward the use of no-challenge clauses, the Commission cited the European Court of Justice's 1986 decision in *Windsurfing International, Inc. v. Commission*, saying that "it is in the public interest to eliminate any obstacle to economic activity which may arise where a patent was granted in error."[32] The Commission reiterated that "[i]nvalid intellectual property stifles innovation rather than promoting it."[33] It also said that "licensees are normally in the best position to determine whether or not an intellectual property right is invalid."[34] However, when a license agreement for SEPs contains a no-challenge clause, the licensee necessarily may no longer challenge the validity of the licensed patents.[35] The Commission thus concluded that, by limiting the licensee's incentive to challenge the validity of the licensed SEPs, a no-challenge clause would harm competition and consumers.

In analyzing the potential anticompetitive effects of a no-challenge clause, the Commission will examine "whether the licensee's loss of profit" from rejecting a no-challenge clause "would be significant, and [would] therefore act as a strong disincentive" to challenge the validity of the licensed SEPs.[36] If the Commission

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28 Press Release, European Commission, *Antitrust: Commission Adopts Revised Competition Regime for Technology Transfer Agreements – Frequently Asked Questions*, http://europa.eu/rapid/press-release_MEMO-14-208_en.htm (Mar. 21, 2014); 2014 TTBER Guidelines, *supra* n. 1.

29 2014 TTBER Guidelines, *supra* n. 1, para. 242.

30 *Ibid.,* para. 237.

31 *Ibid.*

32 *Ibid.,* para. 138 (citing Case 193/83, *Windsurfing International, Inc. v. Comm'n*, 1986 ECR 611, para. 92).

33 *Ibid.*

34 *Ibid.,* para. 134.

35 *Ibid.*

36 *Ibid.*

finds that the no-challenge clause has significant anticompetitive effects, and consequently falls under the prohibition of Article 101(1), it still could find that the agreement meets the requirements of Article 101(3), which provides that the prohibition of Article 101(1) is inapplicable if the agreement improves "the production or distribution of goods", promotes "technical or economic progress", allows "consumers a fair share of the resulting benefit", and prohibits the parties from "eliminating competition in respect of . . . the products in question."[37] However, the burden to prove that the agreement meets the requirements of Article 101(3) would be on the parties to the license agreement – that is, the SEP holder, because the licensee obviously is an adverse party in that situation. That requirement in turn imposes on the parties (again, as a practical matter, the licensor) the burden of proving the existence of efficiencies, indispensability, benefits to consumers, and the absence of an elimination of competition.[38] Therefore, since the adoption of the 2014 TTBER, parties that include a no-challenge clause in a license agreement face a high risk that the Commission will find the agreement anticompetitive under Article 101.[39]

## 2.2 Scrutiny under article 102 of the TFEU

In November 2014, Advocate General Wathelet analyzed an infringer's right to challenge the validity and infringement of the licensed SEPs in *Huawei v. ZTE*, where he examined, among other things, whether the infringer's rejection of a no-challenge clause indicates the infringer's unwillingness to negotiate a license on fair, reasonable, and non-discriminatory (FRAND) terms.[40] The litigation began when Huawei, the owner of patents essential to the Long-Term Evolution (LTE) mobile communication standard, initiated a patent-infringement suit against ZTE before the Landgericht Düsseldorf – the Düsseldorf Regional Court.[41] Huawei sought an injunction to prevent ZTE's infringement of Huawei's European patent registered under EP 2 090 050 B1 – a patent that Huawei had declared essential to the LTE standard and had committed to license on FRAND terms.[42] ZTE replied that Huawei's request for an injunction amounted to an abuse of its dominant position, and ZTE asked the court to dismiss the request.[43]

The German court found that the crux of the dispute was whether Huawei's request for an injunction should be considered an abuse of a dominant position in

[37] TFEU, *supra* n. 17, at 88.
[38] *See* Lawrance, *supra* n. 25, at 803.
[39] *See ibid.*
[40] Advocate General's Opinion in *Huawei v. ZTE*, *supra* n. 4.
[41] *Ibid.,* para. 3.
[42] *Ibid.,* para. 6.
[43] *Ibid.,* para. 3.

violation of Article 102 of the TFEU.[44] In answering that question, the court observed that there were various possible interpretations of what constitutes abusive behavior.[45] The court said that the German Federal Court's decision in the *Orange-Book-Standard* case suggested that an SEP holder's request for an injunction should be considered abusive only if two conditions are met: (1) the defendant has made an "unconditional offer" to conclude a license agreement "that the patent holder cannot reject"; and (2) the defendant has met the obligations arising from the license agreement – in particular, by paying for the use of the licensed technology.[46] On the basis of the approach that the German Federal Court developed in *Orange-Book-Standard*, the court found that Huawei's request for an injunction was *not* abusive.[47] The court said that, although ZTE had made an offer to conclude a license agreement, that offer was not unconditional because the offer was "limited exclusively to the products giving rise to the infringement."[48] In addition, ZTE had not paid and was not currently paying any royalty to use Huawei's patents.[49] The court thus considered Huawei's request for an injunction to be legitimate.

The German court emphasized that the European Commission had nonetheless adopted an interpretation of what constitutes an SEP holder's abuse of a dominant position that contradicts the interpretation offered in *Orange-Book-Standard*.[50] The German court observed in the press release that summarizes the statement of objection that the Commission sent in 2012 to Samsung Electronics, an owner of patents essential to the 3G standard, that the Commission adopted a more lenient approach toward the infringer's obligations.[51] The Commission said that an SEP holder's request for an injunction should be considered a violation of Article 102 if the SEP holder has committed to license its patents on FRAND terms and if the infringer is "willing to negotiate such a license."[52] Following the Commission's interpretation, the infringer could therefore use the SEPs in question without paying for them, and could insist on

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44 Case C-170/13, *Huawei Techs. Co. v. ZTE Corp.*, para. 28 (Jul. 17, 2015), http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1437080250973&uri=CELEX:62013CJ0170 [hereinafter Case C-170/13, *Huawei Techs. Co. v. ZTE Corp.*].

45 *Ibid.,* para. 29.

46 Advocate General's Opinion in *Huawei v. ZTE*, *supra* n. 4, para. 31.

47 *Ibid.,* para. 34.

48 *Ibid.,* para. 35.

49 *Ibid.*

50 *Ibid.,* para. 32.

51 *Ibid.*, *see also* European Commission Press Release, *Antitrust: Commission Sends Statement of Objections to Samsung on Potential Misuse of Mobile Phone Standard-essential Patents* (Dec. 21, 2012) ("While recourse to injunctions is a possible remedy for patent infringements, such conduct may be abusive where SEPs are concerned and the potential licensee is willing to negotiate a licence on Fair, Reasonable and Non-Discriminatory . . . terms".)

52 Advocate General's Opinion in *Huawei v. ZTE*, *supra* n. 4, para. 32.

rejecting a no-challenge clause from a license agreement, yet still be considered a willing licensee as long as it willing to negotiate the licensing terms with the SEP holder. The German court found that, under the Commission's approach, Huawei's request for an injunction was abusive, because ZTE was willing to negotiate a license.[53]

Because of the discrepancy between the two approaches, the German court decided to stay the legal procedure at the national level and refer the question to the CJEU. The German court asked the CJEU to clarify under what conditions an SEP holder's request for an injunction would constitute an abuse of a dominant position in violation of Article 102.[54] In particular, the court asked whether the infringer must take specific steps to demonstrate its willingness to negotiate, and whether an infringer that refuses an SEP holder's offer has a duty to make an "unconditional offer" to the SEP holder.[55] The court further asked whether an offer that is "made subject to the condition that the standard-essential patent is actually used and/or is shown to be valid" could be considered an unconditional offer.[56] In other words, the German court asked the CJEU to clarify whether an infringer that seeks to maintain its right to challenge the validity of the licensed SEPs could be considered "willing" under Article 102.

In his opinion to the CJEU, Advocate General Wathelet defended the infringer's right to challenge the validity of the licensed SEPs. He said that "it is in the public interest for an alleged infringer to have the opportunity, after concluding a licensing agreement, to challenge the validity of an SEP (as ZTE did)."[57] The Advocate General reasoned that "the wrongful issue of a patent may constitute an obstacle to the legitimate pursuit of an economic activity."[58] He added that, if an implementer of SEPs cannot challenge the validity of one of those patents, it would be "effectively impossible to verify the validity of that patent because other undertakings would have no interest in bringing proceedings in that regard."[59] The Advocate General emphasized that an implementer should not pay for patents that it does not infringe.[60] He concluded that the infringer should not be considered unwilling to negotiate a license merely because it seeks to reserve the right "to challenge before a court or arbitration tribunal the validity of that patent, its supposed use[,] . . . and the essential nature of the SEP in

53 *Ibid.,* para. 37.
54 *Ibid.*
55 *Ibid.,* para. 38.
56 *Ibid.*
57 *Ibid.,* para. 95.
58 *Ibid.*
59 *Ibid.*
60 *Ibid.,* para. 96.

question."[61] The Advocate General thus concluded that it benefits consumers to preserve for the licensee the right to challenge the validity of the licensed SEPs even after the licensee has executed a license agreement with the SEP holder.

The CJEU's decision discussed only briefly the infringer's right to challenge the validity of the licensed SEPs. The CJEU followed the Advocate General's approach and held that:

> an alleged infringer cannot be criticized either for challenging, in parallel to the negotiations relating to the grant of licences, the validity of those patents and/or the essential nature of those patents to the standard in which they are included and/or their actual use, or for reserving the right to do so in the future.[62]

By this language, the CJEU seems to have accepted the assumption that maintaining the licensee's right to challenge the validity of the licensed patent, even after the licensee has executed a settlement and licensing agreement with the SEP holder, will generate a marginal benefit for consumers.

## 3 DO VALIDITY CHALLENGES TO INDIVIDUAL SEPS LICENSED WITHIN A PORTFOLIO MARGINALLY BENEFIT CONSUMERS?

Features unique to the licensing of SEPs suggest that eliminating a few invalid SEPs licensed within a large portfolio is unlikely to generate any marginal benefit for consumers. Because the portfolio royalty already reflects the possibility that some of the licensed SEPs might be invalid, it would be incorrect economic reasoning to consider that licensees (and eventually consumers) "pay" for the few invalid SEPs that might be included in a licensed portfolio. The risk that the licensee would pay for invalid SEPs is particularly low when sophisticated parties negotiate the portfolio royalty on a repeated basis, because that royalty will converge on an objective probabilistic assessment of the portfolio's value. In addition, SEP holders typically groom their patent portfolios, a practice that reduces even further the likelihood that the presence of invalid SEPs in a licensed portfolio would impose any marginal cost on licensees.

### 3.1 Do invalid SEPs in a licensed portfolio increase licensing costs?

During a negotiation over licensing terms for a patent portfolio, the parties lack perfect information about the value of the portfolio. Given enough time and resources, the parties could try to determine the validity and the value of every SEP (and every claim of every SEP) in the portfolio before executing a license

61 *Ibid.,* para. 103(5).
62 Case C-170/13, *Huawei Techs. Co. v. ZTE Corp.* para. 69.

agreement. However, when parties negotiate a royalty for a large patent portfolio, it would be time-consuming and prohibitively costly for the parties to obtain complete information about the value (including the validity) of each of the hundreds or thousands of patents included in the portfolio. In some cases, examining the value of each patent could make the negotiation process more costly than the value of the license itself. To avoid such exorbitant transactions costs, the parties knowingly negotiate licensing terms with incomplete information.

Negotiating a royalty on the basis of incomplete information does not imply, however, that the licensee will pay a royalty that exceeds an unbiased, market-determined estimate of the value of the licensed portfolio. During negotiation, the parties perform due diligence on the strength, scope, and enforceability of the entire portfolio.[63] Instead of auditing the value and validity of each individual patent in the portfolio, the parties estimate the portfolio's aggregate value. Through that process, the parties aim to obtain an accurate estimate of the value of the licensed portfolio (rather than the value of each individual patent). The parties to a portfolio-licensing negotiation rationally expect that some of the patents will turn out to be invalid, and they account for that possibility when determining the portfolio royalty.[64] Put differently, the portfolio royalty upon which the parties agree reflects the possibility that some of the patents will be invalid. It would therefore be incorrect economic reasoning to claim that a patent holder is charging the licensee for invalid patents.[65]

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[63] *See*, e.g., Nadine Herrmann, *Germany: IP and Antitrust*, The Eur. Antitrust Rev. (2015) (Global Antitrust Rev.), http://globalcompetitionreview.com/reviews/62/sections/210/chapters/2488/germany-ip-antitrust ("When [analyzing] the technical value of a patent at hand, parties to a negotiation predict the outcome of a hypothetical litigation. However, predictions can never be certain – not only against the backdrop of possible value judgments by judges, but also because of prior art that a prospective licensee may have up her sleeve".).

[64] For an economic explanation of the bargaining range within which the parties negotiate a reasonable royalty, *see* J. Gregory Sidak, *Bargaining Power and Patent Damages*, 18 Stan. Tech. L. Rev. 1 (2015).

[65] U.S. antitrust authorities have also acknowledged that "there may . . . be significant efficiency justifications" for bundling intellectual property rights. *See* U.S. Department of Justice & Federal Trade Commission, *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition* 114 (April 2007), https://www.ftc.gov/sites/default/files/documents/reports/antitrust-enforcement-and-intellectual-property-rights-promoting-innovation-and-competition-report.s.department-justice-and-federal-trade-commission/p040101promotinginnovationandcompetitionrpt0704.pdf. Richard Gilbert and Michael Katz emphasize that the "inclusion of additional patents in a package license typically has a near-zero incremental cost", which implies that the parties can avoid the "transaction costs associated with licensing individual patents" by licensing patents as a bundle. Richard J. Gilbert & Michael L. Katz, *Should Good Patents Come in Small Packages? A Welfare Analysis of Intellectual Property Bundling*, 24 Int'l J. Indus. Org. 931, 932 (2006). Patent holders can reinvest those transactions costs savings in research and development, which will result in more inventions that benefit consumers. The reduction in transaction costs will also enable implementers to pay reduced prices for the patented technologies.

Furthermore, when sophisticated parties negotiate the royalties for a patent portfolio on a repeated basis, the portfolio royalty converges on an objective probabilistic assessment of the portfolio's value. Sophisticated parties typically have resources to perform due diligence and obtain information that will enable them to assess, as accurately as market processes allow, the value of the licensed portfolio. Sophisticated parties might also retain experienced counsel to negotiate on their behalf, which further decreases the risk that the licensee would consent to prejudicial license terms, including price. Moreover, the repeated nature of the licensing negotiations reveals to the parties more information about the portfolio's value over time. As the parties negotiate and renegotiate, they observe an accretion of information about the portfolio's value, including information about the expected validity of individual patents. That repetition leads the negotiated royalty to converge upon a shared expected value of the licensed portfolio. Therefore, when sophisticated parties repeatedly negotiate licensing terms for a given portfolio, there is a lower risk that the presence of invalid patents in the portfolio would impose any significant marginal burden on the licensee and, ultimately, consumers.

Those two features of portfolio-licensing are particularly relevant for SEPs. When licensing SEPs, sophisticated parties negotiate the royalty for a large patent portfolio on a repeated basis. For example, Qualcomm, Ericsson, and Nokia all license SEP portfolios containing hundreds of declared-essential patents for technologies implemented in the LTE 4G standard (not counting patents essential for the other telecommunication standards).[66] They license those SEPs on a portfolio basis, rather than negotiating the license conditions for each individual SEP. In addition, the parties that negotiate the royalty for a portfolio of SEPs are typically sophisticated business entities with considerable resources that they can devote to examining the value of the licensed SEP portfolio. Further, the parties often negotiate a license agreement for an SEP portfolio for a finite period – for example, for five to ten years. After the end of the licensing period, the parties renegotiate the royalty for the licensee's continued use of the SEP portfolio, the composition of which might evolve from one transaction to the next because of the possible transfer of patent rights to third parties, because certain patents expire, or because the licensor has rebalanced its portfolio – a concept that I explain below. The fact that a given licensee and the SEP holder repeatedly negotiate

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[66] *See*, e.g., Marshall Phelps & Cheryl Milone, *Article One Partners, LTE Standard Essential Patents Now and in the Future*, 3, http://newsletters.articleonepartners.com/news_f1317eac-ee13-5a66-d0f5-38ea99a4c1eeLTE-Standard-Essential-Patents-Now-and-in-the-Future.pdf (September 2011). In 2011, Qualcomm's SEP portfolio for technologies essential to the LTE standard contained 454 patents (including pending patents), Ericsson's LTE portfolio contained 287 patents, and Nokia's LTE portfolio contained 396 patents. *Ibid.*

licenses for the same, or a similar, SEP portfolio over time establishes an assessment of the overall validity and commercial value of that portfolio that is private, confidential, bilateral, and proprietary. Those characteristics of the license negotiation for an SEP portfolio reduce the risk that the presence of invalid SEPs in the portfolio would impose any marginal costs on the licensee and, thereby, on consumers.

The SEP holder's practice of rebalancing, or grooming, its patent portfolio further reduces the risk that the presence of invalid SEPs will impose any marginal cost on the licensee.[67] An SEP holder does not typically license a portfolio with a fixed stock of SEPs, but rather a *flow* of SEPs. As a result, the actual SEPs contained in a licensed portfolio may change over the license term. For example, an SEP holder that is licensing its patents essential to the LTE standard might add new patents to the licensed portfolio. It might add patents that have become essential to the LTE standard but were not included in the original license agreement. Alternatively, the SEP holder might remove old SEPs that are no longer valid or essential to practicing the LTE standard. In that case, the presence of a few invalid SEPs is unlikely to impose any marginal cost on the licensee.

In sum, the specific features of SEP licensing – that SEP holders license SEPs within large patent portfolios, that sophisticated parties negotiate the portfolio royalty on a repeated basis, and that the SEP holder seeks to maintain the value of the licensed portfolio over the course of the license term – imply that the existence of a few invalid SEPs will not impose any marginal cost on the licensee and, therefore, on consumers.

### 3.2 Would a successful validity challenge of individual SEPs marginally reduce the royalty for a licensed portfolio?

Because finding a few of the licensed SEPs to be invalid is consistent with the parties' informed expectations at the time of their negotiation, invaliding those few SEPs typically will not generate any marginal benefit to the licensee and will not justify reducing the portfolio royalty. To understand the rationale for not revising a portfolio royalty, consider a familiar example in which sellers sell goods in a

67 *See*, e.g., Andrew T. Pham, *Principles of Patent Portfolio Management*, http://www.acc.com/legalresources/quickcounsel/Patent-Portofolio-Management.cfm (Sep. 6, 2011) ("To properly maintain the winning patent portfolio, it should be periodically and systematically reviewed and rebalanced. The patent portfolio should be modified based on the company's current needs and the life span of a given technology or patent. Companies will not renew some patents while they pursue others".); Julie Zeveloff, *5 Tips for Managing a Complex Patent Portfolio*, http://www.law360.com/articles/176678/5-tips-for-managing-a-complex-patent-portfolio (Jul. 9, 2010, 1:39 PM) ("Instead of hanging onto obsolete or unused patents, astute patent portfolio managers will look to offload them or find new ways to monetize them".)

bundle: a sealed basket of strawberries. Before buying the basket of strawberries, the buyer can inspect the basket to verify the quality of the strawberries. Although the buyer cannot examine each individual strawberry, he can infer the basket's average value by examining the visible strawberries. Based on that inference, the buyer determines whether he values the basket of strawberries at least as much as its posted price. A rational buyer would not buy a basket that visibly contains a significant number of damaged or rotten strawberries (unless that basket is offered at a significant discount). Nevertheless, when buying the basket at full price, the buyer will account for the probability that some strawberries in the basket will be damaged. In other words, a certain level of quality failure is foreseeable when buying goods in a bundle. If, after purchasing the basket of strawberries, the buyer finds that two or three strawberries are rotten, it is inefficient for him to return to the store to renegotiate with the grocer an appropriate refund of a portion of the price for the basket. The buyer's obligation to pay and the amount of his payment are not conditional on every strawberry in the basket being perfectly unspoiled. That a discrete subset of strawberries sold in the bundle is subsequently revealed to have no value has no bearing on the price of the bundle.

As in the case of a basket of strawberries, finding some patents in a portfolio of many SEPs to be invalid does not necessarily justify reducing the royalty for that portfolio. When a license covers a large portfolio containing hundreds or thousands of patents, the subsequent finding that some patents are invalid is perfectly consistent with the parties' sophisticated expectations when they negotiated the licensing terms. That finding will not justify reducing the royalty. The conclusion that the invalidation of a small subset of SEPs in a portfolio does not justify a revision of the portfolio royalty holds with even greater force when one considers that the licensee might have challenged and successfully invalidated only a small subset of all the *claims* of a single patent. Typically, a validity challenge focuses on only a few claims of the patent in suit.[68] Suppose that a patent has ten claims, and the licensee succeeds in invalidating only one. It would be misleading to call that patent "invalid." Only one of its claims is invalid, and invalidating that one claim does not imply that the licensee may therefore use the patent for free. The licensee still must pay to implement the portions of the patent that the remaining valid claims cover. Consequently, a reduction of the portfolio royalty is even less justified if the patent holder has succeeded in invalidating only a few claims of several patents, rather than succeeding in invalidating entire patents. The SEP holder's practice of grooming its patent portfolio reinforces the conclusion that invalidating a few licensed SEPs within a large portfolio will not support a

[68] *IBM Corp. v. Intellectual Ventures II LLC*, No. IPR 2014-00682 (P.T.A.B. Apr. 23, 2014) (challenging a subset of the claims of U.S. Patent No. 6,715,084).

reduction of the portfolio royalty. When the SEP holder licenses a flow, rather than a fixed stock, of SEPs, the licensee pays a royalty for access to that changing portfolio of SEPs. In that case, invalidating a few licensed SEPs that were included in an SEP portfolio will not affect the expected value of the portfolio across the license term and will not justify revising the portfolio royalty. To understand the effect that grooming has on the royalty for an SEP portfolio, consider another bundled good that is a flow rather than a set stock: access to the services of a distinguished law firm. Suppose that a corporate client hires a law firm for representation in a lawsuit. The corporate client knows that associates – who enter and leave the firm with a predictable rate of turnover – will perform much of the required work to complete the project. The client understands that, over the period of the engagement, different associates will leave and join the law firm. However, the client expects that a given associate at that law firm at any given moment will meet a certain level of qualification. The fee upon which the client and the law firm agree for the legal services therefore incorporates the expectation of associate turnover and the probability that some associates will be less able than others. If a given associate left the law firm, the client would not be justified in demanding a reduction of the legal fees for the law firm's services. Similarly, when a portfolio consists of a flow of SEPs, finding some SEPs in the portfolio to be invalid does not justify reducing the portfolio royalty. Similarly, the licensor's subsequent addition of new and valuable SEPs to the portfolio during the license term would not justify raising the royalty for that portfolio.

In sum, because an SEP portfolio is a bundled good, the royalty for which incorporates the parties' sophisticated expectation that some SEPs might be invalid, the actual invalidation of a few SEPs does not subsequently justify reducing the royalty for the use of that portfolio. (If the parties had intended that result, they could have easily specified that the royalty would be subject to a subsequent true-up, and they could have defined precisely the methodology for calculating the price adjustment.) Therefore, invalidating a few of the SEPs licensed within a large patent portfolio would not generate a marginal reduction in the licensee's cost for the use of that portfolio. Further, even if one were to assume, for the sake of argument, that invalidating three SEPs in a portfolio of 200 SEPs would support a marginal reduction of the royalty, such a reduction would be vanishingly small. Put differently, the marginal benefit to the licensee of challenging the validity of three SEPs approaches zero. Only when a court invalidates a *significant* portion of the patent portfolio could the licensee derive a marginal benefit that is not trivial; only then might there be a valid justification for reducing the royalty for the use of that portfolio – provided that the marginal cost of producing this determination did not exceed the value of the marginal reduction in the portfolio royalty. For example, when the licensee challenges the SEP holder's only SEP, invalidating that

SEP eliminates the licensee's royalty obligation to that SEP holder. Similarly, if an SEP holder's portfolio includes five SEPs, invalidating three of those five SEPs probably would support a decrease in the portfolio royalty, because the licensee has succeeded in invalidating a significant portion of the portfolio (assuming that the distribution of value in the portfolio is not significantly skewed toward the untested patents). In those cases, if the licensee passes on its savings in royalty costs to consumers in the form of a lower price for standard-compliant goods, consumers will benefit from the licensee's having invalidated the challenged SEPs. In other cases, however, challenging the validity of the licensed SEPs will have no marginal benefit for the licensee or consumers.

## 4 THE MARGINAL HARM TO CONSUMERS FROM VALIDITY CHALLENGES CALCULATED TO DELAY A LICENSEE'S PAYMENT FOR THE USE OF AN SEP PORTFOLIO

The European Commission and Advocate General Wathelet did not recognize that a regime that encourages a licensee to challenge the validity of individual SEPs after having executed a settlement and license agreement for an SEP portfolio threatens to delay indefinitely the SEP holder's ability to receive compensation for the licensee's use of that portfolio. Such a regime consequently reduces the SEP holder's incentives to invest in innovation and in collective standard setting, a result that imposes a substantial marginal harm on consumers. Opportunistic litigation is not necessarily baseless. As Judge Richard Posner has observed, "litigation could be used for improper purposes even when there is probable cause for the litigation."[69] Nonetheless, many opportunistic claims "would never be sued on for their own sake; the stakes, discounted by the probability of winning, would be too low to repay the investment in litigation."[70]

As I explained in section 3, a licensee gains no marginal benefit from challenging the validity of a few SEPs in a large portfolio, because invalidating a few licensed SEPs will not justify marginally reducing the portfolio royalty. Unless the licensee expects to invalidate so many SEPs as to support a significant marginal reduction of the portfolio royalty, it will not have any incentive to challenge the validity of individual SEPs. However, the licensee's incentive to challenge the validity of individual SEPs changes if the litigation might enable the licensee to postpone its payment of royalties for the entire SEP portfolio.

Consider a situation in which the SEP holder has invested significant resources to develop technologies essential to a 4G standard. Assume further that

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69 *Grip-Pak, Inc. v. Illinois Tool Works, Inc.*, 694 F.2d 466, 473 (7th Cir. 1982).
70 *Ibid.*

the SEP holder and the licensee negotiate the royalty for an SEP portfolio over the course of several years. After extensive negotiations, the licensee signs the portfolio license agreement but nonetheless challenges the validity of a few licensed SEPs and refuses to pay the agreed-upon portfolio royalty until the court decides the validity of the challenged SEPs. After the court decides the validity of the few disputed SEPs, the licensee challenges the validity of *another* handful of licensed SEPs and postpones even further its payment of the portfolio royalty. Suppose the licensee repeats this process again and again. That course of action would allow the licensee to postpone its portfolio royalty payments indefinitely and deprive the SEP holder of fair and timely compensation for its innovative contribution.

U.S. courts have recognized that challenging the validity of a few patents licensed within a patent portfolio does not support postponing the payment of the portfolio royalty that the parties have spent years litigating. In *Apple Inc. v. Samsung Electronics Co.*, the U.S. District Court for the Northern District of California ordered Samsung to pay USD 929 million for Samsung's dilution of Apple's trade dress and for Samsung's infringement of Apple's patents.[71] On appeal, the Federal Circuit found that Apple's trade dress was unprotected,[72] and it remanded the decision to the district court "for immediate entry of final judgment on all damages awards not predicated on Apple's trade dress claims."[73] On remand, Apple filed a motion for partial final judgment, proposing a damages award of USD 548 million.[74] Samsung opposed the entry of such an order, arguing, among other things, that the Patent Trial and Appeal Board (PTAB) found that one of Apple's patents – the '915 patent – was invalid. Samsung argued that "[t]he PTAB's final decision invalidating the '915 patent clearly provides just reason for delay in this case," because that invalidated patent accounted for over USD 100 million of the remaining USD 548 million in damages.[75] Despite Samsung's objections, the district court refused to postpone Samsung's payment of the damage award and expeditiously entered partial final judgment adopting Apple's proposed USD 548 million damages award.[76] Samsung appealed the decision, but the Federal Circuit affirmed the partial final judgment and denied Samsung's subsequent request for an

71 *See* Final Judgment at 1, *Apple, Inc. v. Samsung Elecs. Co.*, No. 5:11-cv-01846 (N.D. Cal. Mar. 6, 2014), ECF No. 3017.

72 *Apple Inc. v. Samsung Elecs. Co.*, 786 F.3d 983, 1005 (Fed. Cir. 2015).

73 *Ibid.*

74 Letter from Harold J. McElhinny, Esq., Morrison & Foerster L.L.P., to Honorable Lucy H. Koh, Northern District of California, *Apple Inc. v. Samsung Elecs. Co.*, No. 5:11-cv-01846 (N.D. Cal. Aug. 25, 2015), ECF No. 3264.

75 Samsung's Objections to Apple's Proposed Partial Final Judgment at 10, *Apple Inc. v. Samsung Elecs. Co.*, No. 5:11-cv-01864 (N.D. Cal. Aug. 27, 2015), ECF No. 3269.

76 Partial Final Judgment, *Apple Inc. v. Samsung Elecs. Co.*, No. 5:11-cv-01846 (N.D. Cal. Sep. 18, 2015), ECF No. 3290.

*en banc* rehearing.[77] Without addressing the merits of the dispute, one can conclude that challenging the validity of patents licensed within a portfolio does not justify withholding payment of the portfolio royalty.[78] This conclusion holds with even greater force when: (1) the royalties have been voluntarily negotiated between the parties; (2) the royalties are for a much larger portfolio (rather than for a handful of patents in suit); and (3) the portfolio consists of SEPs.

Allowing the licensee to use a validity challenge to postpone the payment of a portfolio royalty would harm consumers. A continuous and significant delay in portfolio royalty payments would decrease the SEP holder's access to capital and thus harm its ability to invest in additional research and innovation. This strategy of prolonged and opportunistic litigation could coerce an SEP holder that urgently needs capital to drop its portfolio royalty – even below the FRAND range – to settle the dispute and obtain immediate (though lower) compensation from the licensee for its use of the SEP portfolio. On the margin, the SEP holder's inability to monetize its SEPs adequately and expeditiously would destroy its incentive to keep contributing its technologies to the SSO's standards. The resulting decline in the quality of industry standards would deny consumers the full benefits of standardization.

Some might try to argue that the SEP holder can simply shift to a third party the risk associated with delayed cash flows from a recalcitrant portfolio licensee, such that the SEP holder can avoid any negative effect on its ability to keep investing in innovation. In a perfectly efficient capital market, an SEP holder could overcome delays in licensing negotiations by borrowing money from investors.[79] Theoretically, if an SEP holder can produce valuable and profitable research and development, then it should be able to find financing to fund that research and development while the implementer is delaying its portfolio royalty payments. If credit were readily available, the licensee's refusal to make prompt payment for its use of the SEP portfolio would not burden the SEP holder. However, obtaining financing from capital markets would be more expensive than funding research and development through retained earnings. Transferring the risk associated with

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77 Order on Petition for Rehearing *En Banc*, *Apple Inc. v. Samsung Elecs. Co.*, No. 2015–2088 (Fed. Cir. Nov. 19, 2015), ECF No. 35.

78 Cf. Order Denying Defendants' Motion to Stay Pending *Inter Partes* Review at 4–5, *Hologram USA, Inc. v. Vntana*, 3D, LLC, No. 2:14-cv-09489 (C.D. Cal. Dec. 7, 2015), ECF No. 63 (denying defendant's motion to stay plaintiff's infringement lawsuit pending the completion of a parallel *inter partes* reexamination of the patent in suit, reasoning that a reexamination of only a handful of claims of the patents in suit would be unlikely to simplify the remaining legal questions and that delaying the conclusion of the legal procedure could "result in significant harm," due to the existing market competition between the plaintiff and the defendant).

79 *See*, e.g., George Stigler, *The Organization of Industry* 116 (First Printing 1968) (using the example of predatory pricing to illustrate that, in a perfectly functioning capital market, a firm could overcome a market imperfection by obtaining funds from the capital market).

delayed cash flows to a third party comes at a price and would consequently decrease the SEP holder's expected returns on investment in research and standards development. When an SEP holder constantly needs to litigate against a licensee to compel it to pay for its use of the portfolio of SEPs, the SEP holder's marginal cost of licensing skyrockets, and its profits and cash flow decrease. Hence, although in theory the SEP holder could shift the risk associated with delayed cash flows to a third party, that shift imposes a significant marginal cost on the SEP holder.[80]

## 5 CONCLUSION

Economic analysis does not support the assumption of the European Commission and the Advocate General that the EU's policy of encouraging a licensee to challenge the validity of licensed SEPs always benefits consumers. On the margin, once an implementer becomes a licensee of the SEP holder, often as part of a settlement of patent-infringement litigation, the licensee derives no legitimate benefit from *thereafter* challenging the validity of a given SEP in a licensed portfolio of substantial scale. Nor do consumers derive any marginal benefit. On the other hand, the licensee's validity challenge does impose a significant marginal cost on the SEP holder if the challenge is intended merely to delay the licensee's payment of the agreed-upon portfolio royalty for the licensed SEPs. Opportunistic litigation of this sort also imposes a marginal cost on consumers because, by denying the SEP holder fair and timely compensation for the use of its SEP portfolio, such litigation reduces the SEP holder's incentive to keep investing in innovation and participating in collective standard setting. To protect consumer welfare, regulators should require that any policy that encourages a licensee to challenge the validity of SEPs within a large portfolio contain safeguards that will prevent the licensee from opportunistically evading payment of the agreed-upon portfolio royalty.

[80] Moreover, as Judge Robert Bork observed, "expenses in complex business litigation can be enormous, not merely in direct legal fees and costs but in the diversion of executive time and effort and in the disruption of the organization's regular activities." Robert H. Bork, *The Antitrust Paradox: A Policy at War With Itself* 348 (Free Press rev. ed. 1993).