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FRAND Licensing Commitments – Back to First Principles

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Abstract:	The UK Supreme Court in Unwired Planet v Huawei addressed several issues relating to promises to license Standard Essential Patents (SEPs) on fair, reasonable, and nondiscriminatory (FRAND) terms – an English court's jurisdiction to set worldwide terms; non-discrimination; the negotiation process to be followed, and the proportionality test for a FRAND injunction. This paper critically reviews the judgment, in the light of first principles derived from competition law, which should govern the interpretation of commitments to license under applicable contract law. In this light, it discusses injunctions, the definition of willing licensor and licensee, the need for an effective proportionality assessment, methods for rate setting, the setting of worldwide rates by national courts, and the various components of FRAND.

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FRAND Licensing Commitments – Back to First Principles [1]

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1. The UKSC judgment in *Unwired Planet v Huawei*

The UK Supreme Court (UKSC) in *Unwired Planet v Huawei* held that an English court can (a) enjoin infringement of a UK standard-essential patent (SEP) even if the infringer is willing to take a UK license on fair, reasonable and non-discriminatory (FRAND) terms, but refuses to take a worldwide license, and (b) set the royalty rates and terms for that worldwide license [1]. It also held that (c) no discrimination arises so long as SEP owners offer a fair and reasonable price list available to all, and do not adjust royalties based on individual licensee characteristics; (d) a SEP holder can seek an injunction if it has given the infringer prior notice, and otherwise showed itself willing to license on FRAND terms, even if it does not follow the steps set out in *Huawei/ZTE* [2]; and (e) injunctions are normally a proportionate remedy for SEP infringement by licensees unwilling to take a worldwide license.

This article describes how the UKSC, in interpreting Unwired Planet's commitment to license on FRAND terms under contract law, paid insufficient attention to the competition law background of the Intellectual Property Policy of the European Telecommunication Standards Institute (ETSI IPR Policy). This is particularly relevant in the context of the UK Intellectual Property Office's (IPO) current consultation on SEPs and Innovation [3].

2. ETSI's IPR Policy

Telecommunications and other standards often require patented technology. These are called SEPs where "it is not possible on technical (but not commercial) grounds, taking into account normal technical practice and the state of the art generally available at the time of standardization, to make, sell, lease, otherwise dispose of, repair, use or operate Equipment or Methods which comply with a Standard without infringing that IPR" [4]. SEP owners would in principle have the right to license at will, even though standards are supposed to be accessible to every implementer.

[1] "CJEU" means "Court of Justice of the European Union"; "ETSI" is the "European Telecommunications Standards Institute"; "FRAND" means "fair, reasonable and non-discriminatory"; "IPO" means "Intellectual Property Office "; "IPR" means "intellectual property right"; "PAE" means "patent assertion entity"; "SDO" means "standard development organization"; "SEP" means "standard-essential patent"; "TFEU" means "Treaty on the Functioning of the European Union"; "UKSC" is the "Supreme Court of the United Kingdom".

[2] The author has represented and advised clients in the area of standard setting and competition since the early 1990s, both SEP owners and SEP implementers. This paper did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors. There are no competing interests to declare. Opinions expressed are the author's own, unless references is provided, and do not bind the firm or clients. This article draws also on Dolmans et al., "Analysis of the UK Supreme Court's Decision in Unwired Planet v Huawei", CGSH Alert, October 1, 2020, and earlier papers.

Standards Development Organizations (SDOs) deal with this conflict by adopting IPR licensing policies. The European Telecommunication Standards Institute (ETSI) is an example of such an SDO that leads the way for many other SDOs, and was the subject of the UKSC review.

Each ETSI member agrees it "shall use its reasonable endeavours" to inform ETSI "in a timely fashion" of SEPs they know of, especially if they submit a technical proposal themselves [5]. When a SEP is brought to ETSI's attention, ETSI "shall immediately request the owner to give … an irrevocable undertaking in writing that it is prepared to grant irrevocable licences on [FRAND] terms and conditions … to at least the following extent: [a] Manufacture, including the right to make or have made customized components and sub-systems to the licensee's own design for use in Manufacture; [b] sell, lease, or otherwise dispose of Equipment so Manufactured; [c] repair, use, or operate Equipment; and [d] use Methods" [6]. Many SEP owners issue these FRAND Undertakings on their own initiative.

Thirty years after the adoption of this Policy, the definition of FRAND terms and conditions remains controversial. Questions persist like (a) must a SEP owner give a license, or can it enjoin an implementer; (b) can licensors decide to license only end-products, or can component manufacturers request a license (the "license level" debate); (c) what royalties are fair and reasonable and can they differ depending on the end-product (the "use-based royalty" debate); (d) when is a license discriminatory; and (e) who should set the terms if the parties cannot agree, and should that be done at a worldwide level? Courts still disagree on these questions [7].

3. The UKSC's focus on contract law

The ETSI IPR Policy is governed by French law [8]. Under French law, it is seen as a 'third-party beneficiary agreement' (*stipulation pour autrui*) – an agreement between ETSI and a SEP owner creating "an obligation which a third-party implementer can enforce against the IPR holder" [9].

According to the UKSC, "the IPR Policy falls to be construed, like other contracts in French law, by reference to the language used in the relevant contractual clauses of the contract and also by having regard to the context. In this case, that is both the external context and the internal context of the IPR Policy document itself, such as the policy objectives declared in the document" [10].

For what it calls the external context, the UKSC turns to "(i) the Guidance … which ETSI has produced on the operation of the IPR Policy, (ii) ETSI's statutes …, (iii) the globalised market which ETSI and other SSOs were and are seeking to promote…, and (iv) the fact that ETSI [members] … have a good knowledge of the territorial nature of national patents, the remedies available to patent owners against infringement of their patents, the need to modify by contract the application of patent law to promote the development of a globalised market in telecommunications products, and the practice of the industry in negotiating patent licensing agreements voluntarily" [11].

Based on these, it concludes that the FRAND Undertaking is a "contractual modification to the general law of patents" designed to (1) strike a fair balance by giving implementers access to SEPs and giving SEP owners fair rewards; (2) derogate from a SEP owner's right under the general law to obtain an injunction; (3) require implementers to request a licence from the SEP owner, as a condition for the right to enforce the FRAND Undertaking; (4) cover SEPs worldwide; and (5) resolve validity disputes by negotiating a license or by recourse to national courts for determination" [12].

4. Competition law background of FRAND Undertakings

The UKSC does not list "competition law and policy" as part of the "external context". The UKSC mentions competition law elsewhere, when discussing the negotiation process to be followed under *Huawei/ZTE*, [13] but not in connection with the interpretation of the FRAND Undertaking itself. Perhaps the UKSC wanted to avoid having to make a reference to the European Court for a preliminary ruling under Article 267(3) TFEU. Nonetheless, this omission is surprising given the history of the ETSI IPR Policy, which was designed to resolve antitrust concerns associated with standard setting, and was the outcome of antitrust proceedings in the early 1990s [14].

Standards setting involves externalities: positive externalities for SEP owners, who get opportunities, and negative externalities for technology owners who are excluded, and for implementers who risk being excluded and exploited. Specifically, before adoption of the standard ("*ex ante*"), patent owners would normally compete with alternative technologies (assuming no anti-competitive actions or patent acquisitions by IP owners that diminish *ex ante* inter-technology competition for the standard) [15]. An *ex ante* royalty, therefore, would reflect no more than the incremental value that the patent portfolio adds to the implementer's product over and above the value added by the next best alternative.

Standard setting disrupts this *ex ante* inter-technology competition, when parties pick a specific technology as a standard. Standards, moreover, often involve network effects. The more implementers adopt a standard, the greater the incentive for others to do so too [16]. As a result, patent owners whose patents are included in the standard acquire exclusive supplier status for entire industries. They gain "*ex post*" market power [17]. Implementers may be "locked in".

Absent constraints, this allows SEP owners to "hold up" implementers: by seeking an injunction, SEP owners could exclude rivals from downstream markets. They could extract high royalties (much more than in a competitive market) knowing that implementers are dependent on them and may have sunk substantial investments in development and production of implementations [18]. Injunctions impose a penalty much greater than a FRAND royalty for the implementers – a potential total loss of revenues and market share downstream, even if the SEP is only one amongst many complementary patents reading on one tiny component amongst many [19]. SEP owners may thus benefit twice: the standard creates new demand, and in addition could allow them to exclude rivals downstream, or charge supra-competitive royalties.

To address this problem, EU competition law allows standards only if SEP owners give "an irrevocable commitment in writing to offer to license their essential IPR to all third parties on [FRAND] terms" [20]. This obligation applies both under Article 101 TFEU (as a condition for standards agreements) and 102 TFEU (to avoid abuse of dominance).

In fact, SEPs are subject to the strictest possible antitrust rules, similar to public utilities, if they are "essential facilities", *i.e.*, if they are "indispensable", there is no "actual or potential substitute in existence" after the standard is set, and a refusal to license would "be likely to eliminate all competition in the [downstream] market" [21]. This may even apply to non-SEPs that are "commercially essential" because it is in practice impossible to implement the standard without using the patent even though there is a prohibitively expensive technical alternative.

In sum, negotiating a FRAND license is not a free negotiation between parties trying to find a commercial balance in an open market. There are public interests at stake, in particular the need (a) to block exploitation of *ex post* upstream market power, and (b) to preserve competition in downstream markets [[22]]. These competition policy goals, and the case law on essential facilities, play a crucial role in contract interpretation. The UKSC should have considered them in interpreting Unwired Planet's FRAND Undertaking, because they have implications for the issues the UKSC addressed, notably the UKSC's failure to interpret the non-discrimination principle properly. They also affect other controversial questions that the UKSC did not review, such as FRAND royalty determination, the level of licensing [[23]], whether licensors can charge a "usage based royalty" that varies depending on the downstream use or should charge a "component level royalty" [[24]], and the treatment of exclusionary abuses [[25]].

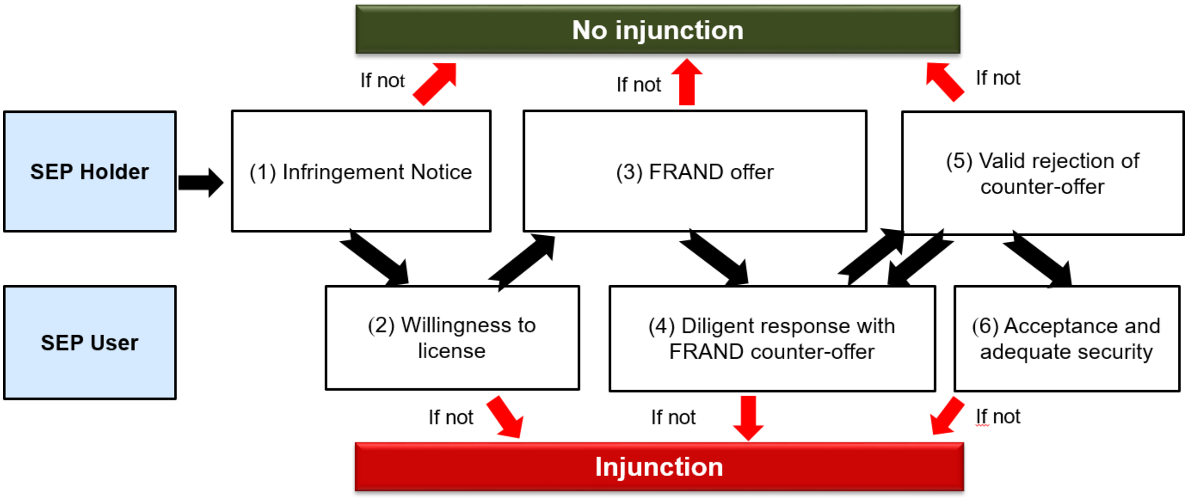
5. Duty to license, and injunctions

Under competition law, SEP owners have a duty to license to "all third parties on [FRAND] terms" [[26]] unless they have an objective justification to refuse [[27]]. An injunction, therefore, requires valid and proportionate reasons [[28]].

The ETSI IPR Policy reflects this. ETSI balances between the need for standardization, the interests of implementers, and the rights of patentees [[29]]. It does so in two ways: (a) SEP owners have a choice to grant or withhold a license, and (b) if they do undertake to license, they have a right to FRAND terms. Specifically, while Clause 4.1 requires every member "*use its reasonable endeavours… to inform ETSI of Essential IPRs in a timely fashion*", there is no obligation on patentees to give a FRAND undertaking. If they refuse, Clause 8 requires ETSI to change the standard. But where the SEP owner has given a FRAND Undertaking, it is obliged to license on FRAND terms. That excludes injunctions against implementers willing to accept FRAND terms.

Based on competition law, the EU Court of Justice (CJEU) in *Huawei/ZTE* described a process to determine whether an implementer is a willing licensee. The SEP owner has to give adequate notice – alert the infringer, provide claim charts, and offer a FRAND license. This gives the implementer the opportunity to show willingness. The implementer should respond by stating its readiness to accept FRAND terms, whatever they are. Holdout is not allowed [[30]]. It should be enough for the implementer to offer an agreement for a courts or arbitrators to set the rate (in Germany, for instance, under Section 315 of the Civil Code [[31]]). The negotiation sequence can be depicted as follows:

Fig 1. Negotiation sequence pursuant to the *Huawei/ZTE* judgment Ideally a 2-column fitting image



In line with this, the UKSC confirmed that bringing an "action for prohibitory injunction … without notice or prior consultation with alleged infringer" infringes Article 102 TFEU [[32]]. Once "notice or prior consultation" is available, however, "[w]hat mattered […] 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 [UK-only] scope determined by it" [[33]]. The *Huawei/ZTE* process after step 1 is therefore not a mandatory protocol, but a "safe harbour" for the SEP owner.

The UKSC approach seems generally consistent with the duty to license essential patents under competition law where it required Unwired Planet to make specific offers [[34]], but it should have more clearly required Unwired Planet to "designat[e] the SEP[s] and specify the way in which [they have] been infringed" and provide claim charts, before insisting that Huawei make an "unqualified commitment to enter into a FRAND license" [[35]]. It is not "fair and reasonable" to require an implementer to buy a cat in a bag.

6. Is a territorially limited license FRAND?

The UKSC concluded that Huawei was an "unwilling licensee" because Huawei refused to take a worldwide license at the rates set by the court for different territories. The UKSC thus created problems: (i) it created a risk that different courts with jurisdiction over the parties and the subject matter come to conflicting conclusions for a worldwide license; (ii) the worldwide rate is based on the assumption that non-UK patents are valid and infringed, which an implementer cannot challenge in a UK court; and (iii) implementers are forced to agree a worldwide rate to escape an injunction in a country where they were prepared to take a FRAND license.

There are several ways to resolve these problems: One is to amend IPR Policies to provide for arbitration to set worldwide FRAND terms [[36]]. Parties tend to be much more willing to negotiate a balanced solution if, absent agreement within a reasonable time, someone else is going to set the rate for them. An offer to arbitrate or have a court set the rate should be seen as rebuttable presumption of being a "willing" licensor/ee for the purpose of granting or denying an injunction [[37]]. A refusal to offer this (or to agree if the other party offered this) should be seen as rebuttable presumption of being a "unwilling" licensor/ee. Antitrust authorities and the UK IPO could reflect these principles in guidelines and future regulation on SEPs and FRAND.

Another solution is for courts to respect comity rules: courts should not set rates for countries whose courts are a more convenient forum, and injunction orders could make exceptions to cover the eventuality that another court sets a different rate for a territory it is better placed to cover [38]. For instance, the UK FRAND injunction could provide that the rates set for the EU, US, China or other jurisdictions would not apply if courts in those jurisdictions set different rates for the territories for which they are responsible. Finally, courts should (i) reflect validity uncertainty in the royalty, and (ii) allow royalty adjustments in the event that individual national patents are found invalid or not infringed, as many are [39].

7. Proportionality test for injunctive relief

The UKSC considered whether it is proportionate to enforce an injunction when Unwired Planet's loss—reasonable royalties for UK SEPs—could be covered by a damage award [40]. Although courts in Germany and elsewhere ignore this, proportionality assessments are required under both patent law and competition law [41] – and therefore also when interpreting FRAND Undertakings under contract law.

Proportionality is particularly relevant for SEP-based injunction requests from Patent Assertion Entities (PAEs). Manufacturers like Nokia and Ericsson split patent portfolios and sell portions to PAEs like Unwired Planet, for various reasons [42].

First, selling to PAEs increases the power to extract high royalties: PAEs are invulnerable to counterclaims, since they make nothing themselves. Implementers therefore cannot lower their exposure to PAE royalty demands by asserting their own patents in response. SEP owners and PAEs then share the upside of using a PAE to assert patents.

Second, disaggregating portfolios risks increasing royalty stacks: different owners of complementary patents tend to set the rate they demand independently, ignoring that other patentees will do the same (a "Cournot" problem). The resulting royalty stack may exceed the optimal amount, leading to multiple monopoly rents [43]. The High Court recognized this risk of royalty stacking in determining the appropriate valuation method [44].

The UKSC referred to a third concern, mentioning the US Supreme Court decision in *eBay* [45]. Injunctive relief to a PAE may be disproportionate "where the patented invention was only a small component of the product the defendant sought to produce, and the threat of an injunction was employed simply for undue leverage in negotiations." In such a case, "damages might well be sufficient to compensate for the infringement, and an injunction might not serve the public interest" [46].

In spite of the points mentioned above, the UKSC found no "legal basis under the general law for treating PAE owners of SEPs differently from other SEP owners", albeit with the important caveat "unless they have different interests which merit different remedies" [47]. In fact, they do. Unlike a practicing entity, a PAE does not lose market share as a result of an implementer's unlicensed use; it just loses money, and absent special circumstances, this is not an irreparable harm. In the end, however, the UKSC found UK-only damages inadequate to compensate for loss of a worldwide license. The balance may be struck differently in non-SEP cases, or in SEP cases where the implementer offers to take a worldwide FRAND license set by the court or an arbitral tribunal.

8. Royalty range and rate

The UKSC found, without reasoning, that the words "fair" and "reasonable" mean the same thing [48]. Yet the history of the ETSI IPR policy provides no basis for conflating them. Under French law, agreements should be interpreted to give individual meaning to individual words, unless parties clearly intended otherwise [49].

EU competition law, too, distinguishes between (i) "unfair trading conditions" (Article 102(a) TFEU; (ii) discrimination (Article 102(c) TFEU), and (iii) exclusionary abuses (Articles 102(b) and (d) TFEU). The UKSC should have acknowledged this when it interpreted the three components of the FRAND Undertaking.

"Fairness" is about sharing the surplus created by the standard in a manner proportional to each stakeholder's contribution. Article 102(a) TFEU prohibits a dominant SEP owner from taking too much of that surplus by imposing "*unfair ... prices or other unfair trading conditions*". A royalty is "*excessive*" if it does not bear a reasonable relationship to the economic value of the SEP [50]. The economic value of a technology is usually found by competition in an open technology market. But standard setting prevents the competition needed to find a fair price. Accordingly, royalties should reflect the *ex ante* value of the technology (at a time the market was still competitive), not the *ex post* (hold-up) value of the standard [51]:

> "licensing terms have to bear a clear relationship to the economic value of the patented technology. That value primarily needs to focus on the technology itself and in principle should not include any element resulting from the decision to include the technology in the standard. […] Determining a FRAND value should require taking into account the present value added of the patented technology. That value should be irrespective of the market success of the product which is unrelated to the patented technology." [52]

The CJEU applies a two-stage test for exploitative pricing. First, is the price excessive compared to costs (an impractical test in SEP cases)? Second, is the price unfair in itself or when compared to competing products? The Horizontal Guidelines mention the following methodologies for the second question [53]:

- Comparison with the rate that (i) the SEP owner charged for the same technology for the same standard to other licensees; (ii) the same SEP owner charges for *other*, comparable, technologies; or (iii) *other* SEP owners charge for complementary patents reading on the same standard ("proportionality analysis"). The comparison must be "consistent" [54], reliable, and with rates agreed "in a competitive environment before the industry has been locked into the standard (*ex ante*)" [55]. If an IP owner thinks its patents are worth more than a comparison suggests, it bears the burden to prove that they are less vulnerable to challenge, have broader geographic scope or a longer life, convey more value compared to the next best *ex ante* alternative, or that it bore greater risk [56].

- Independent expert assessment of the centrality of the SEP, taking into account *ex ante* disclosures of licensing terms [57] and the total royalty stack [58]

The UKSC was not asked to review the royalty that the lower court had established, but describes that Judge Birss, as he then was, calculated the FRAND royalty in two steps [59].

- First, he applied the "comparable license" method. He determined the share that Unwired Planet's portfolio represented of Ericsson's entire portfolio before it was sold off, and adjusted the rate Ericsson had charged for its entire portfolio to others accordingly – albeit excluding the Unwired Planet license to Samsung.[60]

- He then applied a top-down method as a cross-check to ensure that the rate would be compatible with a reasonable royalty stack. He did that by determining the total royalty stack that would result if all patent owners charged the same per patent as Birss J. found Ericsson to have done. He found that it was more than the market expected based on Ericsson's statements before the standards were set (*ex ante*) "but not so far as to be out of line" [61].

Birss J.'s approach was thorough, but is open to criticism.

First, because competition law was in the mind of ETSI members when the ETSI IPR Policy was set, as discussed above, competition law principles on excessive pricing should inform contract interpretation of FRAND Undertakings [62]. The main implication is that a "fair" royalty rate should reflect only the *ex ante* incremental value of the licensed technology, not based on comparators reflecting the *ex post* value of the standard, as in *Unwired Planet* [63].

Second, Birss J. accepted the Ericsson agreements as comparators even though the comparison method involves circular reasoning resulting in high fees, where the comparator licenses were agreed under pressure of injunctions, or agreed *ex post*, when lock-in had already eliminated inter-technology competition. At the same time, Birss J. excluded the Samsung 2016 license because it was a fire sale resulting in low royalties. If that Samsung license was excluded because of pressure on the licensor, why were the others not excluded because of litigation pressure on the licensees?

Third, applying a top-down calculation as a cross-check is appropriate, with the added benefit of mitigating the "Cournot effect" that tends to result from portfolio disaggregation and sale of patents to PAEs – as Birss J. himself recognized [64]. In that light, and given the inherent flaws of the comparison method, why not apply the top-down method in the first place, given that information was available about the industry expectations about the appropriate royalty stack in 2008-2010?

The top-down method needs an objective criterion to determine the maximum royalty stack. The maximum can be determined, for example, by an *ex ante* "incremental value" approach (based, for instance, on a hedonic pricing or conjoint analysis, or revealed preference review), or by reference to industry expectations expressed before the standard was agreed. Why were the later not used, when they were available, including Ericsson's statements from 2008-2010 [65]?

9. Non discrimination

In *Unwired Planet*, Huawei argued that the non-discrimination limb of FRAND required Unwired Planet to offer it the same rates as its competitor Samsung obtained in 2016 [66].

Surprisingly, the UKSC held that non-discrimination is not a separate requirement from the obligation to license on fair and reasonable terms. So long as Unwired Planet's rate was fair and did not exceed a "single royalty price list available to all", it could charge Huawei more than Samsung [67]. According to the UKSC, discrimination is the "norm as a matter of licensing practice", and there may be "early-bird discounts" or "fire sales" [68].

The UKSC's approach is without precedent and flies in the face of the wording of the ETSI

IPR Policy. It effectively eliminates the ND component from the FRAND Undertaking.

It is true that ETSI rejected a most-favoured nations (MFN) clause, suggesting that a SEP owner who gives a licensee a lower rate than previous licensees obtained, does not have to lower the rate retroactively also for earlier licensees [[69]]. But surely the concept of non-discrimination is deprived of any meaning if a SEP owner can charge a subsequent licensee a *higher* rate than a previous one without objective justification?

The UKSC also ignored competition law. FRAND Undertakings should have been interpreted consistently with Article 102(c) TFEU to prohibit both "secondary line" discrimination (charging different royalties to different licensees, distorting competition between them) [[70]], and "primary line" discrimination (*i.e.*, charging higher royalties to licensees who buy products from competitors of the SEP owner's downstream business, to give the latter an artificial competitive advantage).

Indeed, the interpretation should follow the even stricter rules for essential facilities: SEP owners cannot discriminate between licensees and their own downstream business [[71]]. SEP owners should ensure separate accounting for their upstream licensing and downstream manufacturing businesses, to demonstrate that they do not give competitive advantages to their vertically integrated manufacturing divisions [[72]].

The argument that discrimination is "the norm as a matter of licensing practice" [[73]] ignored that Article 102 TFEU prohibits dominant firms from engaging in certain normal practices, such as unjustified discrimination, that non-dominant firms are free to pursue [[74]]. It also overlooks the principle under Article 102(c) TFEU that it is for the SEP owner to prove an objective justification for discrimination [[75]].

There are good policy reasons to give separate meaning to the ND component of the FRAND promise in accordance with Article 102(c) TFEU and the essential facilities doctrine [[76]].

Participants in standards bodies legitimately expect a level playing field. Differential treatment without objective and proportionate justification prejudices open access to the standard, and distorts competition between downstream players. It is, moreover, a way to circumvent FRAND constraints, if used to monopolize downstream markets: While it is difficult to change FRAND royalty rates once set, it is easy for a monopolist to manipulate prices for implementations. Monopolizing the downstream market in addition allows the SEP owner the power to withhold supplies to put pressure on members of standards bodies who might otherwise have preferred to avoid the monopolist's patents when setting the next standard [[77]].

The UKSC left open the possibility of a separate cause of action based on Article 102(c) TFEU [[78]]. Going forward, licensees who believe themselves placed at a disadvantage will want to invoke Article 102(c) TFEU and equivalent provisions of national law, and the essential facilities doctrine, in addition to contractual FRAND obligations. But why did the UKSC not follow competition law when interpreting the FRAND Undertaking?

The UKSC approach – preserving the potential for antitrust liability – fortunately does not goas far as some courts in the United States. On August 11, 2020, a Ninth Circuit panel in *FTC v. Qualcomm* held that Qualcomm's conduct—(a) refusing to license SEPs to rival chipset manufacturers; (b) refusing to supply chipsets to OEMs unless they first signed a license ("nolicense, no chips"); and (c) making exclusivity payments to Apple—was not anticompetitive.The panel held that violating a FRAND Undertaking does not violate antitrust law, at least absent intentional deception that led to the SEP holder's selection into the standard [79].

In an earlier procedural motion, the District Court had granted partial summary judgment for the Federal Trade Commission, holding that Qualcomm's FRAND commitments required it to license its SEPs to rival modem chip suppliers [80]. Under the terms of its FRAND declarations, Qualcomm had a contractual obligation to license "to all comers," including rivals [81]. The Ninth Circuit panel vacated the summary judgment as moot, without reaching its merits [82]. Accordingly, the principle of the Summary Judgment stands. Indeed, contract arguments along these lines have been successful in several recent cases, including *Ericsson/TCL* [83] and *Microsoft/Motorola* [84]. Both the UKSC and the US courts should have recognized the importance of competition law.

10. Conclusion

The IPO's Call for Views on SEPs and Innovation of December 2021 requires a re-evaluation of the UKSC judgment in *Unwired Planet*. Most importantly, the UKSC's contract interpretation of FRAND Undertakings wrongly ignored the competition policy considerations that underpin the ETSI IPR policy. Competition law was in the mind of ETSI members when the ETSI IPR Policy was set, and competition law principles should determine the interpretation of FRAND Undertakings.

The IPO should correct the UKSC's failure to properly consider competition law, and courts elsewhere (and the European Commission in its review of the Horizontal Guidelines and future SEPs regulation) should avoid the UKSC's approach. They should maintain and reiterate the importance of competition policy and the essential facilities doctrine as a basis for the FRAND licensing of SEPs.

Accordingly, they should not follow the UKSC's misinterpretation of the non-discrimination limb of the FRAND Undertaking. SEP owners who gave a FRAND commitment should not be allowed, without objective justification, to charge higher royalties or impose more burdensome terms to subsequent licensees, thus placing them at a competitive disadvantage, or to favour their vertically integrated businesses.

In accordance with the judgment in *Huawei/ZTE*, and contrary to the judgment of the UKSC, they should require SEP owners to provide claim charts and "designat[e] the SEP[s] and specify the way in which [they have] been infringed" before insisting that an implementer make an "unqualified commitment to enter into a FRAND license" to avoid an injunction.

FRAND injunctions should not set worldwide terms for a FRAND license without providing at least for a carve-out in case a court in another jurisdiction sets a different rate for a territory it is better placed to cover. Terms should (i) reflect validity uncertainty in the royalty, and (ii) allow royalty adjustments in the event that individual national patents are found invalid or not infringed, as many are.

A proper proportionality test should be required for the issuance of injunctive relief, in accordance with both patent and competition law. This is relevant in particular for injunctions sought by non-practicing entities (whose interests can be protected by an award of damages) for SEPs (which implementers who are willing to accept FRAND terms are entitled to practice on a non-discriminatory basis).

Competition law also has implications for issues the UKSC did not have cause to address, but that are topical and heavily debated. These include the level of licensing, whether licensors can charge a "usage based royalty" which varies depending on the downstream use or should charge a "component level royalty", and the treatment of exclusionary terms. It also affects the determination of the FRAND royalty level. The comparator method is self-referential, and can result in excessive royalties where the comparator terms are set *ex post*, in the shadow of a threat of injunction or abuse. Where there are multiple owners of SEPs reading on the same standard, the top-down method should be given greater attention to avoid excessive royalties.

One way to encourage FRAND negotiations while reducing litigation would be to recognize that parties tend to be much more willing to negotiate a balanced solution if, absent agreement within a reasonable time, someone else is going to set the rate for them. An offer to arbitrate or have a court set the rate should be seen as rebuttable presumption of being a "willing" licensor/ee. A refusal to offer this (or to agree if the other party offered this) should be seen as rebuttable presumption of being a "unwilling" licensor/ee.

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[3] IPO Call for Views on SEPs and Innovation, December 7, 2021. See Cleary Gottlieb Antitrust Watch, "U.S. & UK Consult on Standard Essential Patents, Injunctions, FRAND Licensing, and Antitrust", December 13, 2021, at https://www.clearyantitrustwatch.com/.
[4] ETSI IPR Policy, Clause 15, definition 6.
[5] ETSI IPR Policy, Clause 4.
[6] ETSI IPR Policy, Clause 6.
[7] See, for example, *FTC v Qualcomm Inc.*, 969 F.3d 974 (9th Cir. 2020); *Microsoft v Motorola* 696 F.3d 872 (9th Cir. 2012); *TCL v. Ericsson*, No. 14-CV-341-JVS, 2018 WL 4488286; Case AT.39985 – *Motorola – Enforcement of GPRS Standard Essential Patents*; Case AT.39939 – *Samsung – Enforcement Of UMTS Standard Essential Patents*; *Huawei v ZTE,* above; *Sisvel v. Haier*, Case No. KZR 36/17; and *Unwired Planet v. Huawei,* [2020] UKSC 37.
[8] ETSI IPR Policy, Clause 12.
[9] UKSC, at 5, 8. See, also *Microsoft v. Motorola*, 864 F. Supp. 2d 1023, 1032 n.6 (W.D. Wash. 2012) and *TCL v. Ericsson*, No. 14-CV-341-JVS, 2018 WL 4488286. An implementer should be allowed to sue a SEP owner for specific performance to force it to make a FRAND offer. The High Court in *Unwired Planet* held that this is not necessary because "if a [patent holder] refuses to enter into a licence which a court has determined is FRAND… a court can and… should normally refuse to grant relief for patent infringement." (UKSC, at 143.) But this would deprive the implementer of its rights under the third-party beneficiary agreement.
[10] UKSC, at 8. See Article 1188 et seq. new French Civil Code ("A contract is to be interpreted according to the common intention of the parties rather than stopping at the literal meaning of its terms. Where this intention cannot bediscerned, a contract is to be interpreted in the sense which a reasonable person placed in the same situation would give to it."). The common intention of the IPR Policy is outlined in Clause 3.1: *"…to reduce the risk … that investment in the preparation, adoption and application of STANDARDS could be wasted as a result of an ESSENTIAL IPR … being unavailable."*
[11] UKSC, at 9.
[12] UKSC, at 14.
[13] UKSC, at 128 and following.
[14] See, for example, complaint lodged with the European Commission on 22 June 1993 by Computer and Business Equipment Manufacturers Association (CBEMA), leading to changes in the IPR Policy and a comfort letter (Notice pursuant to Article 19(3) of Council Regulation No 17 concerning case No IV/35.006 — ETSI interim IPR policy OJ 95 /C 76/05, 28.3.1995). See also European Commission, Standardization in the European economy, Follow-up to the Commission Green Paper of October 1990, COM (92) 445 final, Oct. 27, 1992, chapter 5.
[15] D. G. Swanson and W. J. Baumol, "Reasonable and Non-discriminatory (RAND) Royalties, Standards Selection, and Control of Market Power" (2005) 73 *Antitrust Law Journal* 7. A reasonable royalty "is or approximates the outcome of an auction-like process appropriately designed to take lawful advantage of the state of competition existing ex ante […] between and among available IP options." FTC Docket No. 9302, *Rambus*, FTC Opinion on Remedy, February 5, 2007, at 17. There were several competing technologies

for 3G networks, including UMTS, CDMA2000 and TD-SCDMA (which resulted in litigation between Ericsson and Qualcomm over their respective patents in UMTS and CDMA). See also, Report by the UMTS IPR Working Group, Third Generation Mobile Communications: The Way Forward for IPR (1999) http://www.3gpp.org/ftp/PCG/PCG_01/Docs/PCG1_11.pdf.

[16] Network effects may also foster innovation. Byeongwoo Kang, Kazuyuki Motohashi, 'The role of essential patents as knowledge input for future R&D', World Patent Information, Volume 38, 2014, Pages 33-41.

[17] Guidelines on the applicability of Article 101 TFEU to horizontal co-operation agreements ("Horizontal Guidelines"), OJ C 11, 14.1.2011, para. 3. See also, Statement of Former U.S. FTC Commissioner McSweeny, 21 March 2018 ("added market power derives from the value of the standard itself, rather than the value of the underlying intellectual property"). In theory, different standards may compete, in which case the royalty stack for the best standard will again tend to reflect the incremental value that the standard adds to products implementing the next best alternative standard. In reality, standards may be complements rather than substitutes, and even if they are substitutes, competition between them is distorted if the same SEP owners have a stake in all relevant standards.

[18] Horizontal Guidelines, para 287. See also, UKSC, at 10 (the ETSI IPR Policy "clearly reveals a policy of preventing the owner of an Essential IPR from "holding up" the implementation of the standard."). See also, U.S. Dep't of Justice & Fed. Trade Comm'n, Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition (2007), 38 ("A holder of IP incorporated into a standard can exploit its position if it is costly for users of the standard to switch to a different technology after the standard is set."). See also Charles V. Trappey, Amy J.C. Trappey, Yu-Hui Wang, 'Are patent trade wars impeding innovation and development?', World Patent Information, Volume 46, 2016. Pages 64-72;

[19] See M. Dolmans, Standards For Standards, Fordham International Law Journal 26 (2002) 163-208, 191-192, at https://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?article=1867&context=ilj.

[20] Horizontal Guidelines, para 283.

[21] For the definition of essential facilities under EU competition law, see Case C-7/97, *Bronner*, 26 November 1998, ECLI:EU:C:1998:569, para 41. This definition covers SEPs reading on successful standards. See Case AT.39985 *Motorola (GPRS)*, para. 227, and Case AT.39939 *Samsung (UMTS)*, para 45-51 ("there are no substitutes to the technology, as specified in the UMTS standard technical specifications, on which each of Samsung's UMTS SEPs reads…[and] there are also no viable substitutes to the UMTS standard in the EEA.")

[22] Accordingly, FRAND in a standard setting context is a stricter concept than FRAND in the context of a remedy for unilateral abuse of dominance. See M. Dolmans, "Postscript – The EU's General Court's Judgment in Case T-167/08, Microsoft (pricing of interoperability information and strategic value)", Competition Law International, August 2012, 13-15.

[23] On the question whether component manufacturers are entitled to a FRAND license, or whether SEP owners may refuse to grant an upstream license so long as they license the end-product, see Group of Experts on Licensing and Valuation of Standard Essential Patents ('SEPs Expert Group'), Contribution to the Debate on SEPs, January 2021, pages 89-94. Downstream licensing tends to increase royalties. See, *FTC v Qualcomm Inc.*, 969 F.3d 974 (9th Cir. 2020), at 13. Competition law and essential facilities principles provide for a strict non-discrimination principle. See *B&I Line v. Sealink*, at 42. The Horizontal Guidelines therefore require "an irrevocable commitment in writing to offer to license their essential IPR to <u>all third parties</u> on [FRAND] terms". (Horizontal Guidelines, para 283-285 (emphasis added). See Rosenbrock, 'Why the ETSI IPR Policy Requires Licensing to All, August

2017'; Huber, 'Why the ETSI IPR Policy Does Not and Has Never Required Compulsory "License to All": A Rebuttal to Karl Heinz Rosenbrock'; and Rosenbrock, "Licensing At All Levels Is the Rule Under The ETSI IPR Policy: A Response to Dr. Bertram Huber". A license downstream with "have made rights" to enable an end-product manufacturer to buy components may not be enough: the component manufacturer could not innovate without a pre-existing contract with a customer, and could not sell an innovation made for one customer to another. (See, J. Henkel, How to license SEPs to promote innovation and entrepreneurship in the IoT (March 23, 2021), 25; Fair Standards Alliance, Competitive and Industry Harms Related to Refusals to License SEPs and Other Forms of "Level Discrimination" in SEP licensing, (2020), pg. 10; and B. Conde Gallego, SEP Licensing in the IoT: Is there a case for a duty to license upstream implementers?, Max Planck Institute for Innovation & Competition Research Paper No. 21-07, 20.) In the US, the Ninth Circuit panel in *FTC v. Qualcomm* found, controversially, that a refusal to license to rivals was not anticompetitive. *FTC v Qualcomm*, 969 F.3d 974 (9th Cir. 2020), at 37. The decision is unlikely to be followed in future cases. See Culley et al., 'Analysis of the Ninth Circuit Panel Decision Reversing FTC v. Qualcomm', CGSH Alert Memorandum, August 27, 2020, page 6.) However, a license to all interested third parties is still required in the US under contract law *FTC v Qualcomm*, 2018 WL 5848999; *Microsoft v. Motorola*, 795 F.3d 1024, 1031(9th Cir. 2015.

[24] SEP owners argue that the royalty should differ depending on end use of the component implementing the SEP. Under essential facility principles, a FRAND royalty should reflect the incremental value the SEPs bring to the product that substantially embodies the standardized technology. That depends on the component, like a chip, and not the downstream product incorporating it: (i) in competitive conditions chip makers generally cannot charge a different price for different downstream use (unless the chip itself differs), and (b) SEP holders are not entitled to tax value created by downstream implementers or complementary input suppliers. See Case COMP/38.636, *Rambus,* EC Decision of 12 September 2009, at para. 66; Core Principles and Approaches for Licensing of Standard Essential Patents, CWA 95000, June 2019; Cf. Case C-385/07 P, *Der Grüne Punkt v. Commission*, ECLI:EU:C:2009:456 (it is an abuse of dominance for a licensor to charge a royalty for a service that it does not provide). There is no evidence that innovation would suffer as a result of component-level pricing. PAEs tend not to innovate themselves. Implementers who innovate benefit from profits from downstream products, as well as from the volume created by the standard.

[25] The "reasonable terms" limb of FRAND Undertakings should be interpreted to prohibit price tying, loyalty pricing, price squeezing, and other exclusionary terms that limit, distort or exclude competition in upstream technology markets or downstream markets for standard implementations. See, for instance, *Qualcomm v. KFTC*, 2017 Nu 48 (Seoul High Court 4 December 2019); *Unwired Planet v Huawei*, [2017] EWHC 711 (Pat). A demand for a royalty-free (or below-FRAND) cross-license to SEPs or non-SEPs as a condition for royalty-bearing access to a SEP can be both exploitative and exclusionary. See *Qualcomm v. KFTC*, 2017 Nu 48 (Seoul High Court 4 December 2019); NDRC Administrative Sanction Decision No. 1 [2015] (Mar. 2, 2015). Validity no-challenge clauses are a concern as well. See Case AT.39985 *Motorola (GPRS)*, para 221 *et seq.*, Case AT.39939 *Samsung (UMTS)*, para. 45-51.

[26] Horizontal Guidelines, para 283. These principles are not new. See European Commission, Standardization in the European economy, Follow-up to the Commission Green Paper of October 1990, COM (92) 445 final, Oct. 27, 1992.

[27] *B&I Line v. Sealink*, [1992] 5 C.M.L.R. 255, para 42 *et seq.*; Decision 94/19, *Sea Containers v. Stena Sealink*, OJ No L 15, January 18, 1994, p. 8. See also, Case AT.39985 *Motorola (GPRS)*, para 221 *et seq.*, Case AT.39939 *Samsung (UMTS),* and Case C-170/13

Huawei v ZTE.

[28] *Huawei/ZTE*, at 71. See also, Communication from the Commission, COM(2017) 712 final, 29 November 2017, section 3.1, pages 9 to 10.

[29] ETSI IPR Policy, Clause 3.1.

[30] For the process, see *Huawei/ZTE*, at 60 and following. The UKSC seems to treat holdup and holdout as equally unreasonable (UKSC, para. 10). But holdup (delay) of a standard is not the same as holdup (exploitation) of a licensee, and holdup and holdout are not equally reprehensible. Holdup is practiced by a dominant company, while implementers generally have no power over SEP owners. Also, holdup injunctions may impose disproportionate costs where they deprive the implementer of all revenues, whereas holdout will just delay payment of royalties or patent infringement damages. See also Carl Shapiro & Mark Lemley, "The Role of Antitrust in Preventing Patent Holdup," 168 U. Pa. L. Rev. 1 (2020).

[31] See, for example, OLG Karlsruhe, February 12, 2021, *Nokia/Daimler*.

[32] UKSC, at 150; *Huawei/ZTE*, at 60.

[33] UKSC, at 158.

[34] The right approach is "first, to look to see whether the SEP owner's offer of a licence is apparently FRAND" (UKSC, para. 77). Contrast the approach of the Mannheim Court in *Nokia v Daimler*, which issued an injunction without review of the SEP owner's offer, simply on the ground that the implementer's counteroffer was not (yet) FRAND. *Nokia v Daimler*, District Court of Mannheim, judgment dated 18 August 2020, Case-No. 2 O 34/19. The Mannheim approach is inconsistent with *Huawei/ZTE*.

[35] *Huawei/ZTE*, at 61.

[36] See DVB Project, Memorandum of Understanding, 3 January 2014, Article 14.7.

[37] See presentations at European Commission Consultation On FRAND, 19 May 2021, "Enforcement of Standard Essential Patents - current bottlenecks and possible solutions" (listing advantages and drawbacks of arbitration). As an alternative to arbitration, in Germany, this could be an offer to enter into a Section 315 BGB "rate setting" agreement; in the UK, litigation leading to a "FRAND injunction"; in The Netherlands "binding advice" (Art 7:900 BW); a request for a declaratory judgment on the meaning of FRAND; or a claim for specific performance of the FRAND Undertaking. Arbitration has the advantage that it allows worldwide enforcement under the New York Convention on Recognition and Enforcement of Arbitral Awards. See also Herrington et all, "Why Arbitrate International IP Disputes", in *The Guide to IP Arbitration*, 2021; and Cleary Gottlieb Antitrust Watch, "U.S. & UK Consult on Standard Essential Patents, Injunctions, FRAND Licensing, and Antitrust", December 13, 2021.

[38] The UKSC found that Chinese courts were not the appropriate forum, because they could not set global FRAND terms without the parties' agreement. UKSC, at 104. It turned out that Chinese courts do claim such jurisdiction, but even if they did not, the UKSC should have made provision for the Chinese courts to set the final rate for China.

[39] UKSC, at 60-61 and 64. See also Mark Lemley, and T. Simcoe, 'How Essential Are Standard-Essential Patents', [2019] Cornell Law Review Vol. 104:617.

[40] UKSC, at 55 and 159.

[41] For patent law, see Article 3(2) of Directive 2004/48/EC on enforcement of intellectual property rights (OJ L 157 of April 30, 2004). For competition law, see Case 27/76, *United Brands*, 14 February 1978, para. 189-190.

[42] See also Mark Lemley, and T. Simcoe, 'How Essential Are Standard-Essential Patents', [2019] Cornell Law Review Vol. 104:617; So Young Kim, Hyuck Jai Lee, 'The effect of patent acquisition on subsequent patenting activity', World Patent Information, Volume 59, 2019, 101933; Mark Lemley and Douglas Melamed, 'Missing the Forest for the Trolls', Columbia Law Review, Vol. 113, No. 8 (Dec 2013), pp. 2117-2189; M. Dolmans,

‘Privateers and Trolls join the Global Patent Wars’, Computerrecht 2014/37, April 2014; Tom Ewing, ‘Indirect Exploitation of Intellectual Property Rights by Corporations and Investors: IP Privateering and Modern Letters of Marque and Reprisal’, 4 Hastings Sci. & Tech. L.J. 1, 3 (2012).

[43] Mark Lemley & Carl Shapiro, Patent Holdup and Royalty Stacking, 85 Tex. L. Rev. 1991 (2007) at 1992-93. But see G. Llobet and J. Padilla, The Inverse Cournot Effect in Royalty Negotiations with Complementary Patents, CEMFI, 30 April 2020. They argue that the threat of litigation discourages high royalty rates by a holder of weak complementary patents and that a “strong patent holder by lowering the royalty rate forces rivals with weaker portfolios to reduce theirs, boosting total production. When the threat of litigation faced by these rivals is significant, the increase in the production is large and it compensates the reduced margin from the lower royalty rate.” This ignores that owners of strong SEPs may benefit from invalidation of weak SEPs owned by others, and have little incentive to lower the rate to achieve an efficient royalty stack if they do not know with certainty that other patentees moderate their demand commensurately. It also ignores that many patent owners, even smaller ones, have a portfolio large enough to resist validity and infringement challenges. Moreover, “when a weak patent holder might prefer to fight the validity of their patents in court… a strong patent holder might prefer to raise the royalty rate, rather than decrease it. Doing so, allows the weak patent holder to raise its own royalty rate without spurring litigation.” (id. p. 4).

[44] *Unwired Planet v Huawei*, [2017] EWHC 711 (Pat), para 269.

[45] 547 US 388 (2006).

[46] UKSC, at 162. For damages, see, for instance, Roya Ghafele, Rasmus Kamstrup Bogetoft, ‘Using patent valuation methods to assess damages in patent infringement cases under the Unified Patent Court’, World Patent Information, Volume 52, 2018, Pages 1-8;

[47] UKSC, at 89.

[48] UKSC, 113.

[49] Art. 1191 CC. See also, F. Fages and M. Saarinen, France, Chapter 7 of the Complex Commercial Litigation Law Review (2019), 75. US literatures and courts consider FRAND and RAND to have identical meaning, *e.g.*, *Microsoft Corp. v. Motorola, Inc*., 795 F.3d 1024, 1031 n.2 (9th Cir. 2015). The conflation of “fair” and “reasonable” may the result of the fact that in US law, excessive prices are not seen as a matter for antitrust enforcement. See *FTC v Qualcomm Inc.*, 969 F.3d 974 (9th Cir. 2020), footnote 15. The ETSI IPR Policy was, however, informed by EU competition law, rather than U.S. law.

[50] Case IV/28.851, *General Motors*; Case 27/76, *United Brands v Commission*; Case COMP/A.36.568/D3, *Scandlines v. Port of Helsingborg*, Commission Decision of 23 July 2004. *See also* Horizontal Guidelines, para. 287. In US law, by contrast, excessive prices are not seen as a matter for antitrust enforcement. See, *FTC v Qualcomm Inc.*, 969 F.3d 974 (9th Cir. 2020), footnote 15. The US Supreme Court in *Trinko* reasoned that monopoly prices may be a normal outcome of the competitive process, and may be desirable because they stimulate innovation and entry. *Verizon v Trinko*, 540 U.S. 398, 407. Crucially, however, standards are not the normal outcome of the competitive process, and do not stimulate, but hamper, entry of alternative technology. Even if new alternatives emerge, many of the same SEP owners have a stake, thus distorting or precluding competition between standards. The rationale of *Trinko* therefore does not justify ignoring antitrust policy in a FRAND context.

[51] Horizontal Guidelines, para. 290; EU Guidelines on Technology Transfer, para. 225. *See also* Case COMP/C-3/37.792 —Microsoft, Commission decision of May 24, 2004, para. 31. See also Piesiewicz and Schellingerhout, Competition Policy Newsletter (3) (2007).

[52] European Commission, Setting Out The EU Approach To Standard Essential Patents, COM (2017) 712, section 2.1. See Case T-167/08, *Microsoft v EC* [2012] E.C.R. 323, at

para.138 (“the distinction between the strategic value and the intrinsic value of the technologies covered by the contested decision is a basic premise of the assessment of the reasonableness of any remuneration”).
[53] Horizontal Guidelines, para 289.
[54] Cases 11/88, 241/88 and 242/88, *Lucazeau*, para 25 *et seq.*. See also Case COMP/A.36.568/D3 – *Scandline v Port of Helsingborg*, paras. 169, 170-175, and Case C-177/16, *Latvian Copyright Society*, 14 September 2017 (“objective, appropriate, and verifiable criteria”). See also FTC Report *“The Evolving IP Marketplace”*, issued in March 2011, p. 24.
[55] Horizontal Guidelines, para. 290.
[56] Case C-395/87 *Tournier* [1989] ECR 2521, ECLI:EU:C:1989:319, para 38.
[57] Horizontal Guidelines, para. 290. See also *In re Innovatio*, MDL 2303, No. 975 1:11-cv-09308 (E. D. Illinois, September 27, 2013; *Microsoft v. Motorola*, No. C10-1823, 2013 WL 2111217 (W.D. Wash. Apr. 25, 2013). In *Microsoft* and *Innovatio* (proportion of the SEP stack and technical contribution to the standard).
[58] See *Microsoft v. Motorola*, No. C10-1823, 2013 WL 2111217 (W.D. Wash. Apr. 25, 2013), at para. 11 (“taking into account the overall licensing situation and including the cost of obtaining all necessary licenses from all other relevant patent holders for the technologies in the end product”). Another method, not yet used in practice, is a “Shapley value analysis”, a way to fairly allocate gains derived from cooperation among several actors who each receive a share that is proportionate to the relative value of their contribution. Finally, it has been suggested that IP owners in the aggregate should generally be entitled to about 25 percent of the downstream gross profits on licensed products. See Goldscheider, *New Companion to Licensing Negotiations: Licensing Law Handbook* ¶ 7.02[8][b] (2003–2004 ed.). Adjustments should be made for differences in enforceability and essentiality, geographic scope and remaining duration, costs of complementary technology needed, value conveyed by the patents compared to the next best *ex ante* alternative, risk borne and investments made by the licensee relative to the licensor, volume of sales expected, etc. But see *Uniloc v. Microsoft*, case number 2010-1035, U.S. Court of Appeals for the Federal Circuit, January 4, 2011 ("Evidence relying on the 25 percent rule of thumb is thus inadmissible under Daubert … because it fails to tie a reasonable royalty base to the facts of the case at issue.")
[59] Whether FRAND is a single rate or a range depends on the context and why the question is asked. To determine whether the parties are a willing licensor and licensee, a range is adequate. But a license eventually requires a single rate.
[60] *Unwired Planet v Huawei*, [2017] EWHC 711 (Pat), para 170, 382 and following, and 462.
[61] *Unwired Planet v Huawei*, [2017] EWHC 711 (Pat), para 476. Para 264 and following describe the 2008-2010 statements about the total aggregate royalty.
[62] Common notions of fairness may also be on the mind of parties agreeing to offer “fair” terms, as demonstrated in ultimatum games. Ordinary individuals playing ultimatum games tend to share more than the rational minimum with their counterpart. This “iniquity aversion” is a reflection of the shared sense of fairness. In repeat games, parties tend to share even more, which is a reflection of “reciprocal altruism” of offerors wanting to establish a stable and fair rule for sharing. See Dolmans, “Standards, IP and Competition: De Aequitate Non Est Disputandum?”, Helsinki, October 7, 2009, and “A Tale of Two Tragedies – A plea for open standards”, IFOSSLR Vol. 2 (2010), Issue 2, pp. 115 *et seq.*; Sidak, “What Makes FRAND Fair? The Just Price, Contract Formation, and the Division of Surplus from Voluntary Exchange”, in The Criterion Journal on Innovation, Vol. 4, 2019, p. 701.
[63] See Horizontal Guidelines, para. 290. See also, Group of Experts on Licensing and Valuation of Standard Essential Patents (‘SEPs Expert Group’), Contribution to the Debate

on SEPs, January 2021, page 12 ("an offer falls outside the Fair and Reasonable (FR) range if the SEP holder's compensation exceeds the incremental value that the patented technology adds to the licensed product", and the range "should not reflect any hold-up value").
[64] *Unwired Planet v Huawei*, [2017] EWHC 711 (Pat), para 267 ("a virtue of the total stack method is that in such a system there is no incentive for patent holders to divest their patents *ex post* to achieve a higher return since the total stack [determined *ex ante*] remains fixed.")
[65] FTC Report, *"The Evolving IP Marketplace"*, March 2011, p. 22-23 ("Courts should cap the royalty at the incremental value of the patented technology over alternatives available at the time the standard was chosen.")
[66] UKSC, at 105-106.
[67] UKSC, at 113 *et seq*.
[68] UKSC, at 124-126.
[69] UKSC, at 116.
[70] See Case C-525/16 *Meo,* ECLI:EU:C:2018:270.
[71] *B&I Line v. Sealink*, [1992] 5 C.M.L.R. 255, para 41 and following; Decision 94/19, *Sea Containers v. Stena Sealink*, OJ No L 15, January 18, 1994, p. 8.
[72] OECD Policy Roundtable, "the Essential Facilities Concept", OCDE/GD(96)113 ("Separate accounting arrangements should be required for the elements of a business which are covered by the access regime").
[73] UKSC, at 124-126.
[74] Dominant firms have "a special responsibility not to allow its conduct to impair genuine undistorted competition on the common market." Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings ("Abuse of Dominance Notice"), OJ 2009/C 45/7, para. 1, Case 322/81, *Michelin v Commission*, [1983] ECR 3461, para. 57.
[75] See Case T-201/04, *Microsoft v Commission*, 2007, ECLI:EU:T:2007:289, para. 688 and 1144, and Abuse of Dominance Notice, para 28 and following, 31, and 89.
[76] For an overview of the policy reasons see, for example, Dolmans, "A Tale of Two Tragedies – A plea for open standards", IFOSSLR Vol. 2 (2010), Issue 2.
[77] See Dolmans, "Standard Setting – The Interplay with IP and Competition Laws – How to avoid false FRANDs"*,* 2008 Fordham IPR Conference, in Hugh C. Hansen (ed.), *IntellectualProperty Law and Policy*, Volume 12, 791-807.
[78] UKSC, at 124.
[79] Culley et al., 'Analysis of the Ninth Circuit Panel Decision Reversing FTC v. Qualcomm', CGSH Alert Memorandum, August 27, 2020, page 1.
[80] *FTC v Qualcomm Inc.*, 411 F.Supp.3d 658 (N D Cal, 21 May 2019), para 125.
[81] Ibid.
[82] *FTC v Qualcomm Inc.*, 969 F.3d 974 (9th Cir. 2020), at 13.
[83] *Ericsson v. TCL* 2018 WL 2149736 (E.D. Tex. May 10, 2018).
[84] *Microsoft v. Motorola*, 854 F. Supp. 2d 993 (W.D. Wash. 2012).