

ARTICLE

A TWO-DIMENSIONAL APPROACH TO NON-DISCRIMINATORY TERMS IN FRAND LICENSING AGREEMENTS

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ABSTRACT:

This paper looks at the two interpretations of non-discriminatory within fair, reasonable, and non-discriminatory (FRAND) licensing terms. Non-discriminatory has been interpreted literally to mean offering identical terms to license seekers. Non-discriminatory has also been interpreted as a commitment to guarantee access to all willing licensees. Courts in the U.S., Europe, and China have adopted one of these two interpretations or blended them. This Paper provides a comparative analysis on how U.S., European, and Chinese courts

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have approached non-discriminatory when patent holders guarantee to license their standard essential patent on FRAND terms. The court decisions in these three jurisdictions are used to create two spectrums to show the variations in these two interpretations. These two spectrums show some convergence over the years.

INTRODUCTION

Standards are often created in Standard Setting Organizations (SSOs).² In SSOs, standards are created through cooperation between technology innovators. SSOs attempt to encourage the widespread adoption of standards, while decreasing the risks of patent ambush, patent hold-up, and royalty stacking.³

To this end, SSOs require the participating innovators to declare what technology is essential to implement their standards and which patents are associated with the essential technology.⁴ These patents are known as standard essential patents (SEPs).⁵ These declarations help inform standard

² Andrew Updegrave, *Chapter 1: What (and Why) is an SSO?*, THE ESSENTIAL GUIDE TO STANDARDS (2007), <https://www.consortiuminfo.org/essentialguide/whatisansso.php> [<https://perma.cc/J4WG-BZ25>]. Some standards are developed through a cooperative enterprise in SSOs. *See id.* SSOs are also referred to in the literature as Standard Developing Organizations (SDO). Andrew Updegrave, *Chapter 6: Forming a Successful Consortium Part II - Legal Considerations*, THE ESSENTIAL GUIDE TO STANDARDS (2007), <http://www.consortiuminfo.org/essentialguide/forming2.php> [<https://perma.cc/37Y7-7VGJ>]. Other standards are privately developed by individual inventors or companies and become *de facto* standards. *See e.g.*, Michael A. Cusumano et al., *Strategic Maneuvering and Mass-Market Dynamics: The Triumph of VHS over Beta*, 66 BUSINESS HISTORY REV. 51 (1992) (describing how VHS came out as the *de facto* standard for the videocassette standard following an intense competitive process with Betamax).

³ *See e.g.*, *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F. 3d 1201, 1209 (Fed. Cir. 2014) (discussing patent hold-up and hold-out); *Rambus Inc. v. FTC*, 522 F.3d 456, 461, 467-68 (D.C. Cir. 2008) (discussing Rambus' tactics of not disclosing that it held standard essential patents – tactics later branded as “patent ambush” – and holding that such tactics did not amount to an attempt to monopolize because Rambus' deceptive conduct aimed at increasing prices and not monopolizing).

⁴ *See e.g.*, Institute of Electrical and Electronics Engineers [IEEE], *IEEE-SA Standards Board Bylaws*, at 15 (2017) http://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf [<https://perma.cc/7GRD-EKBJ>] (“‘Essential Patent Claim’ shall mean any Patent Claim the practice of which was necessary to implement either a mandatory or optional portion of a normative clause of the IEEE Standard when, at the time of the IEEE Standard's approval, there was no commercially and technically feasible non-infringing alternative implementation method for such mandatory or optional portion of the normative clause.”).

⁵ While SSO policies like IEEE, *supra* note 4, refers to Essential Patent Claim, courts and the literature refer to Standard Essential Patents. *See e.g.*, *Ericsson, Inc.*, 773 F.3d at 1209

implementers about their expected adoption costs.

To further encourage the adoption of a standard, SSOs commonly require that the standard participants to sign letters of assurance.⁶ In these letters, besides declaring which patents are essential, the standard setting participants also commit to licensing their SEPs on fair, reasonable, and nondiscriminatory (FRAND) terms.⁷

FRAND terms attempt to address the negotiation imbalance between patent holders and implementers. Before a standard is adopted, the patent holder competes with other technologies.⁸ At this point in the process, the patent holder has little bargaining power – even if it patented its technology. Patents do not necessarily grant power because the patent holder may face competition from

(stating that “[d]ue to the collaborative nature of this process, the chosen standard may include technology developed by a number of different parties. Sometimes that technology is covered by patents. Because the standard requires that devices utilize specific technology, compliant devices necessarily infringe certain claims in patents that cover technology incorporated into the standard. These patents are called ‘standard essential patents’ (‘SEPs’)).

⁶ See e.g., *id.* (stating that “[t]o help alleviate these potential concerns [of patent hold-up and royalty stacking], SDOs often seek assurances from patent owners before publishing the standard. IEEE, for example, asks SEP owners to pledge that they will grant licenses to an unrestricted number of applicants on ‘reasonable, and nondiscriminatory’ (‘RAND’) terms.”).

⁷ See e.g., IEEE, *Letter of Assurance for Essential Patent Claims*, at 1 (2015), <https://development.standards.ieee.org/myproject/public/mytools/mob/loa.pdf> [<https://perma.cc/8MEM-NYUV>] (requiring the signatory promises to “make available a license for Essential Patent Claims under **Reasonable Rate** to an unrestricted number of Applicants on a worldwide basis with other **reasonable terms** and conditions that are demonstrably free of **unfair discrimination**” or declare that it refuses to grant FRAND licenses) (emphasis added). Reasonable, and nondiscriminatory (RAND) and fair, reasonable, and nondiscriminatory (FRAND) have been used interchangeably. *Apple, Inc. v. Motorola, Inc.*, 869 F. Supp. 2d 901, 911-12 (N.D. Ill. 2012). “Fair” was added in an attempt to address issues of *holdout*. Anne Layne-Farrar, *Moving Past the SEP RAND Obsession: Some Thoughts on the Economic Implications of Unilateral Commitments and the Complexities of Patent Licensing*, 21 GEO. MASON L. REV. 1093, 1098 (2014). Holdup or reverse holdout occurs when an implementer practices the standard but does not obtain a license. In re Innovatio IP Ventures, LLC Patent Litigation, No. 11 C 9308, 2013 WL 5593609, at *11 (ND Ill. Oct. 3, 2013) (quoting the International Trade Commission as stating “In reverse patent hold-up, an implementer utilizes declared-essential technology without compensation to the patent owner under the guise that the patent owner’s offers to license were not fair or reasonable. The patent owner is therefore forced to defend its rights through expensive litigation. In the meantime, the patent owner is deprived of the exclusionary remedy that should normally flow when a party refuses to pay for the use of a patented invention.”). Instead, the implementer waits for the SEP holder to sue and then negotiates a cut-price license knowing that the holder is unlikely to obtain an injunction. *Id.* For the purpose of this paper, FRAND and RAND are considered equivalent.

⁸ See e.g., *Ericsson, Inc.*, 773 F. 3d at 1208 n.1.

other technologies.

Once a standard is adopted, a patent holder gains considerable market power.⁹ Any SEP holder can prevent each standard implementer from practicing a standard. If foreclosed from practicing a standard, implementers cannot benefit from standard-created interoperability and network externalities. Therefore, *ex-ante* the implementers have more bargaining power than *ex-post* standard adoption. *Post*-adoption, this bargain power shifts toward SEP holders. FRAND attempts to temper the bargain power shift that occurs between pre-and post-adoption.

Unfortunately, SSOs mandated FRAND licensing terms have not resolved this problem because these FRAND terms were left vague. Antitrust concerns prevent SSOs from defining in details the meaning of FRAND terms.¹⁰ SSO participants are often horizontal competitors and vertical suppliers. Competitors cannot coordinate on licensing fees without violating the antitrust laws.¹¹ To avoid such issue, FRAND terms were left undefined.¹² To avoid further anti-competitive issues, before implementing new policies, SSOs have preferred to consult with the Justice Department to ensure they are not violating antitrust

⁹ Rambus, Inc., No. 9302, 2006-2 Trade Cas., ¶ 75364, 2006 WL 2330117 (F.T.C. Aug. 2, 2006) (“A patent holder’s market power may be materially enhanced once the patented technology is incorporated into a standard, as alternatives become less attractive relative to the chosen technology and less able to constrain its price.”), *rev’d on other grounds*, 522 F.3d 456 (D.C. Cir. 2008); Guidelines on the Applicability of Article 101 of the Treaty on the Functioning of the European Union to Horizontal Co-operation Agreements, 2011 O.J. (C 011) 58, para. 269 (discussing the market power granted by including a patent into a standard).

¹⁰ Anne Layne-Farrar et al., *Pricing Patents for Licensing in Standard-Setting Organizations: Making Sense of FRAND Commitments*, 74 ANTITRUST L. J. 671, 678-79 (2007) (“Aside from requesting disclosure of the relevant intellectual property and demanding that the patents disclosed as essential be licensed on FRAND terms, SSOs generally do not venture to define, request, or even advise on any specific licensing terms. In fact, we are not aware of any SSO that explicitly sets out what licensing terms must be to comply with a member’s FRAND commitment. This lack of specificity is not surprising. Licensing is, among other things, a pricing matter, and antitrust authorities have traditionally been highly skeptical of organizations where competitors meet to discuss business plans and pricing strategies.”); *see also* Doug Lichtman, *Understanding the RAND Commitment*, 47 HOUS. L. REV. 1023, 1044-46 (2010) (discussing the antitrust implications that cooperating competitors could face if they were to explicitly agree to a price while creating a standard).

¹¹ *E.g.*, 15 U.S.C. § 1 (2012) (“Every contract, combination . . . , or conspiracy, in restraint of trade . . . is declared to be illegal.”).

¹² Layne-Farrar et al., *supra* note 10. SSOs have cited other reasons for leaving the terms vague, including that “[standards] are drawn up by technical and not patent experts; thus, they may not necessarily be very familiar with the complex international legal situation of intellectual property rights such as patents, etc.” *Microsoft Corp. v. Motorola, Inc.*, 696 F. 3d 872, 876 (9th Cir. 2012).

laws.¹³

This vagueness continues to this day and has created as many problems as it has attempted to solve. The number of SEP declarations has steadily increased over the last decades.¹⁴ This growth can be attributed to a myriad of issues with the SEP system¹⁵ or simply to an increase in the use of standards.¹⁶ With more SEP came more SEP related suits.¹⁷

Interpreting FRAND terms became central to many SEP related lawsuits. Fair

¹³ SSOs often seek an assurance from the antitrust authority that they do not violate any antitrust rules when they shape or change their policies. For example, the Institute of Electrical and Electronics Engineers (IEEE) sought the approval of the Department of Justice (DOJ) after making some policy changes. In this case, the DOJ did not find potential violation of the antitrust laws when the IEEE participants agree not to use injunctive relief while enforcing their patent. *See, e.g.*, Letter from Renata B. Hesse, Acting Assistant Attorney General, U.S. Department of Justice, Antitrust Division, to Michael A. Lindsay, Dorsey & Whitney LLP (Feb. 2, 2015), <http://www.justice.gov/file/338591/download> [<https://perma.cc/M77U-9BKY>] (exemplifying the Department of Justice's response to the Institute of Electrical and Electronics Engineers (IEEE)'s request for a pre-approval of the IEEE's decision not to use injunctive relief while enforcing its patent); Letter from Thomas O. Barnett, Assistant Attorney General, U.S. Department of Justice, Antitrust Division, to Michael A. Lindsay, Dorsey & Whitney LLP (Apr. 30, 2007), <http://www.justice.gov/atr/public/busreview/222978.pdf> [<https://perma.cc/R6SE-46QS>] (discussing and authorizing the implementation of a new policy that gives the option to IEEE members to publicly commit and disclose their most restrictive licensing terms but the DOJ also warns IEEE that it will investigate if this policy is used to price fix); Letter from Thomas O. Barnett, Assistant Attorney General, U.S. Department of Justice, Antitrust Division, to Robert A. Skitol, Drinker, Biddle & Reath LLP (Oct. 30, 2006), <http://www.justice.gov/atr/public/busreview/219380.pdf> [<https://perma.cc/F2Z8-U93E>] (discussing and approving the implementation of a new policy requiring VMEbus International Trade Association members, an SSO, to disclose their most restrictive licensing terms but warning that such policy will be investigated if used for collusive purposes).

¹⁴ TIM POHLMANN & KNUT BLIND, *IPLYTICS, LANDSCAPING STUDY ON STANDARD ESSENTIAL PATENTS (SEPs)* 24 fig.14 (Apr. 1, 2016), <https://ec.europa.eu/docsroom/documents/20741?locale=en>; Brief for Institute of Electrical and Electronics Engineers, Inc. as Amicus Curiae Supporting No Party, *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201 (Fed. Circ. 2014) (No. 10-CV-0473).

¹⁵ For example, no third party verifies the essentially of a patent to a standard. Instead, SSOs rely on SEP holders to tell the truth.

¹⁶ Justus Baron & Tim Pohlmann, *Mapping Standards to Patents using Databases of Declared Standard-Essential Patents and Systems of Technological Classification* fig. 1, 6 (Searle Ctr. on Law, Reg. and Econ. Growth Working Paper 2015), http://www.law.northwestern.edu/research-faculty/searlecenter/innovationeconomics/documents/Baron_Pohlmann_Mapping_Standards.pdf [<https://perma.cc/5FGU-3FW5>].

¹⁷ POHLMANN & BLIND, *supra* note 14, at 2, 24.

and reasonable licensing terms remains a contentious question of fact.¹⁸ Non-discriminatory licensing terms has been treated as a bifurcated question of law and fact depending on the jurisdiction.¹⁹

This Paper compares the treatment of nondiscriminatory licensing terms in the US, Europe, and China because FRAND is becoming a worldwide issue. First, when each jurisdiction developed a different interpretation, multinational can use this to their advantage by forum shopping. Second, when standards are adopted around the world, SEP holders have followed the industry standards of granting worldwide licenses; however, some multinational have challenge that issue in court.²⁰

In these jurisdictions, non-discriminatory has been interpreted in two ways: a commitment to treat all (or some) licensees similarly and a commitment to provide access to all willing licensees. These two meanings are not mutually exclusive. This Paper analyzes this issue in three parts.

First, the literal interpretation of non-discriminatory has been controversial. Some courts have argued that all licensees should be treated the same. Others have argued that similarly situated licensees should be treated the same. Under this second version, even a literal interpretation of non-discriminatory terms has left room for some discriminatory treatment. For the most part, courts have created similar licensing terms for similarly situated licensees. Nonetheless, treating all licensees identically offers such evidentiary savings explaining why it remains an option in some cases.

Second, non-discriminatory has been interpreted within the FRAND context to mean that SEP holders guarantee SEP implementers open access to a standard. This interpretation has evolved the most in recent years. Courts have moved away from an open access interpretation. They have moved toward an open access guarantee conditioned on a showing that implementers negotiated in good faith. This change may reflect a shifting worry amongst courts: at first, courts seem to worry more about patent holdup than holdout; but, now, courts seem to view both as equally likely. This shift is reflected in the injunction debate in FRAND cases. All three jurisdictions have recognized that injunctions remain

¹⁸ See, e.g., *Microsoft-Motorola Update: Washington Court Sets RAND Royalty for Motorola 802.11 and H.264 Patent Portfolios*, ESSENTIAL PAT. BLOG (Apr. 25, 2013), <https://www.essentialpatentblog.com/2013/04/microsoft-motorola-update-washington-court-sets-rand-royalty-for-motorola-802-11-and-h-264-patent-portfolios/> [https://perma.cc/4K2Q-ATHG].

¹⁹ See e.g., *Unwired Planet Int. Ltd. v. Huawei Tech.* [2017] EWHC (Pat) 711 [138], [800] (Eng.) (ruling on the meaning of nondiscriminatory “whether a FRAND undertaking has been complied with can be determined as a matter of law” and ruling on which the amount that parties would agree and whether this qualify as a FRAND offer is a matter of fact).

²⁰ For example, in *Unwired v. Huawei*, one of the point of contention was that Unwired wanted only to offer a global license while Huawei wanted a UK only license. *Id.* ¶¶ 524-581.

an option in FRAND cases. U.S. courts have yet to grant such injunctions, whereas European and Chinese courts have granted injunctions in FRAND cases after some periods of doubts.

Lastly, this Paper argues that these two interpretations live along a spectrum. Placing U.S., Chinese, and European access along these frameworks shows that the non-discriminatory interpretations remain a fluid and evolving question.

I. OFFERING SIMILAR TERMS

Some commentators have read “non-discriminatory” terms literally to mean that all similarly situated licensees should be treated the same.²¹ This Section discusses this meaning of non-discriminatory within the patent context. It highlights how prevalent this interpretation has become to enable courts to set FRAND terms.

A. *Literal reading of non-discriminatory terms*

If taken literally, SEP holders offer discriminatory (defined as the “failure to treat all persons equally where no reasonable distinction can be found between those favored and those not favored”),²² licensing terms when these licensors offer different terms to two different licensees. A literal reading of non-discriminatory would make for easy adjudications; but it would not necessarily reflect the intent of the SSO that wrote these policies.

Aware of this potential literal interpretation, some SSOs have clearly indicated that nondiscriminatory did not “necessarily imply identical terms” and hence nondiscriminatory should not be read literally.²³

Other SSOs provided more vague qualifiers to their FRAND policies. These qualifiers have helped courts interpret non-discriminatory. For example, the Institute of Electrical and Electronics Engineers (IEEE) specify that a standard participant must commit to offer licenses “free of any *unfair* discrimination.”²⁴ IEEE’s policy attempts to deter unfair discrimination but allows for “fair” discrimination. What qualify as fair remains unexplained; however, it seems an attempt at moving away from a literal understanding of discriminatory terms.

Unsurprisingly, courts have struggled to interpret this IEEE nondiscriminatory standard. In *Ericsson, Inc. v. D-Link Systems, Inc.*, the U.S.

²¹ See Dennis W. Carlton & Allan L. Shampine, *An Economic Interpretation of FRAND*, 9 J. COMPETITION L. & ECON. 531, 546 (2013); Richard J. Gilbert, *Deal or No Deal - Licensing Negotiations in Standard-Setting Organizations*, 77 ANTITRUST L.J. 855, 872 (2011).

²² *Discrimination*, BLACK’S LAW DICTIONARY (6th ed. 1990).

²³ Roger G. Brooks & Damien Geradin, *Interpreting and Enforcing the Voluntary FRAND Commitment*, 9 INT’L J. IT STANDARDS & STANDARDIZATION RES. 1, 16 (2011).

²⁴ IEEE-SA STANDARDS BOARD BYLAWS art. 6.2 (2016), <http://standards.ieee.org/develop/policies/bylaws/sect6-7.html> [https://perma.cc/A66K-PRFW] (last visited July 12, 2017) (emphasis added).

Federal Circuit interpreted non-discriminatory to mean that all willing licensors should pay the same rates but have recognized that rates can differ.²⁵

In this case, Ericsson sued D-Link based on the infringement of three SEPs included in an IEEE Wi-Fi standard.²⁶ D-Link questioned the validity of these patents and their infringement.²⁷ The lower court found all three patents valid and infringed.²⁸ The Federal Circuit affirmed in part and reversed in part.²⁹ The Federal Circuit affirmed that the jury could have found that one patent was valid, but reversed the infringement finding.³⁰ It affirmed the lower court decision regarding the infringement of the other two patents.³¹

In its opinion, the Federal Circuit recognized that different prices may not necessarily signal discrimination.³² The Federal Circuit conceded that licenses are often different because circumstances are often unique.³³ Instead, the discriminatory treatment becomes a question of fact.³⁴ District courts need to act as evidentiary gatekeepers: they must assess what evidence can come in to show different circumstances.³⁵ Therefore, the Federal Circuit seems to shift away from non-discriminatory as all-equal licensing to focus on unfair discriminatory licensing.³⁶

The Federal Circuit opinion in *Ericsson, Inc. v. D-Link Sys., Inc.* also seems to contradict this approach. When discussing the jury instructions on damages,

²⁵ *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201 (Fed. Cir. 2014).

²⁶ *Id.* at 1207-08.

²⁷ *Id.* at 1214.

²⁸ *Id.* at 1213-14.

²⁹ *Id.* at 1208.

³⁰ *Id.* at 1224-25.

³¹ *Id.* at 1217, 1222.

³² *Id.* at 1231 (“Rather than instruct the jury to consider ‘Ericsson’s obligation to license its technology on RAND terms,’ J.A. 226, the trial court should have instructed the jury about Ericsson’s actual RAND promises. ‘RAND terms’ vary from case to case.”)

³³ *Id.* at 1227-28 (citing *Vimex, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1330 (Fed. Cir. 2014); see also *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1326 (Fed. Cir. 2014); *ActiveVideo Networks, Inc. v. Verizon Commc’ns, Inc.*, 694 F.3d 1312, 1333 (Fed. Cir. 2012)).

³⁴ *Ericsson*, 773 F.3d at 1227-28 (“Prior licenses, however, are almost never perfectly analogous to the infringement action. . . . [R]ecognizing that constraint, however, the fact that a license is not perfectly analogous generally goes to the weight of the evidence, not its admissibility.”) (citation omitted).

³⁵ See, e.g., *Microsoft Corp. v. Motorola, Inc.*, 795 F. 3d 1024, 1042-45 (9th Cir. 2015) (discussing which past license agreements should be given more weight for evidentiary purposes during a FRAND royalty hearing); *Ericsson*, 773 F.3d at 1227-28.

³⁶ *Ericsson*, 773 F.3d at 1231 (instructing the District Court to create jury instructions about “the actual RAND promises” that focus on unfair discrimination).

the Federal Circuit found that the lower court erred.³⁷ The jury was given all fifteen *Georgia-Pacific*³⁸ factors but “some of those factors clearly are not relevant to the case at hand.”³⁹ For example, the Federal Circuit Court stated that “factor 5 – ‘[t]he commercial relationship between the licensor and licensee’ – is irrelevant because Ericsson must offer licenses at a *non-discriminatory* rate.”⁴⁰ Eliminating such factors can be interpreted in one of two ways. Either, the Federal Circuit court implies that all willing licensors should be granted similar rates, which contradicts its previous statement. Or it states that elements, such as past relationship should not be a factor, even though past dealings can reduce transaction costs and accelerate negotiations. As such, it seems like the Federal Circuit failed to account for an important differentiating factor.⁴¹

Reconciling these two approaches to non-discriminatory terms requires looking at other opinions. The Federal Circuit court seems to want SEP holders to offer a licensing fee schedule from which technology implementers select their favorite option. In other words, the Federal Circuit wishes to encourage what economists refer to as second-degree price discrimination, as opposed to first or third-degree price discrimination.⁴²

In *Commonwealth Scientific and Industrial Research Organisation (CSIRO) v. Cisco Systems, Inc.*, Cisco admitted to infringing CSIRO’s SEP and the district court was tasked with establishing damages.⁴³ This particular SEP was FRAND encumbered under the original Wi-Fi 802.11 standard but CSIRO did not provide a blanket letter of assurance when it came to other Wi-Fi standards.⁴⁴ In establishing the damages, the lower court used various sources of information,

³⁷ *Id.* at 1229-34.

³⁸ *LaserDynamics, Inc. v. Quanta Comput., Inc.*, 694 F.3d 51, 60 n.2 (Fed. Cir. 2012) (adopting the use of the *Georgia-Pacific* factors for patent royalty inquiry); *Georgia-Pac. Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970).

³⁹ *Ericsson*, 773 F.3d at 1230.

⁴⁰ *Id.* at 1230-31 (emphasis added).

⁴¹ Game theory (e.g. repeated games) shows that during negotiation, past and future interactions impact how negotiations work and incentivize cooperation. Because of the reputational effects and the repeated interactions, negotiations may advance faster. As such, even in the FRAND context, it seems at odds with the Federal Circuit’s approach to admitting evidence to show different circumstances. See, e.g., Kenneth S. Corts & Jasjit Singh, *The Effect of Repeated Interaction on Contract Choice: Evidence from Offshore Drilling*, 20 J.L. ECON. & ORG. 230 (2004) (discussing the impact of repeated interaction on contract choices).

⁴² See, e.g., HAL R. VARIAN, *MICROECONOMIC ANALYSIS*, 241-53 (WW Norton & Co. ed., 3d ed. 1992) (discussing the meaning and welfare impact of different types of price discrimination).

⁴³ *Commonwealth Sci. v. Cisco*, 809 F.3d 1295, 1299 (Fed. Cir. 2015), *cert. denied*, 136 S.Ct. 2530 (2016).

⁴⁴ *Id.* at 1298-99.

including previous negotiation and fee schedule.⁴⁵ The court came up with its own volume-tiered royalty schedule.⁴⁶ The Federal Circuit found that the lower court over-inflated the fees because it attributed the standardization value to the infringement.⁴⁷ The Federal Circuit Court remanded for the fees to be adjusted down.⁴⁸ But the Federal Circuit Court did not object to the tiered schedule – and volume discrimination.⁴⁹

The *Ericsson* and *CSIRO* decisions implicitly limit bilateral royalty negotiation. These decisions favor an approach where SEP holders license their patent in similar ways.

Courts have often set licensing terms based on previously negotiated terms.⁵⁰ In *Apple Inc. v. Motorola, Inc.*, the Federal Circuit recognized that “using sufficiently comparable licenses is a generally reliable method of estimating the value of a patent.”⁵¹ The Court pointed to several cases where it deployed such method.⁵²

This method has upsides. It facilitates the evidentiary burden because parties need not prove every way the license should differ based on circumstances. However, the Federal Circuit has recognized its downside. It fails to account for differences such as cross-licensing, territorial coverage, and the combinations with other patents.⁵³

SEP holders have, however, favored bilateral negotiation and licensing in most litigated cases.⁵⁴ When a FRAND implementer bilaterally negotiates with a SEP holder, it rarely has access to past-licensing information.⁵⁵ SEP holders often require that their licensee sign a non-disclosure agreement before negotiating licensing terms.⁵⁶ Therefore, comparing licensing terms to existing

⁴⁵ *Id.* at 1298-1300.

⁴⁶ *Id.* at 1300.

⁴⁷ *Id.* at 1305-06.

⁴⁸ *Id.* at 1306.

⁴⁹ *Id.*

⁵⁰ *Georgia-Pac. Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970) (discussing one of the *Georgia-Pacific* factors that states courts should consider “[t]he rates paid by the licensee for the use of other patents comparable to the patent in suit.”).

⁵¹ *Apple Inc. v. Motorola Inc.*, 757 F.3d 1286, 1325 (Fed. Cir. 2014).

⁵² *Id.* at 1325-26 (citing five cases that followed this strategy).

⁵³ *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1227-1228 (Fed. Cir. 2014).

⁵⁴ *See* Gilbert, *supra* note 21, at 873 (providing four examples of licensing entities that offer identical licensing terms to all willing licensees where the terms differ based on volume and use). However, for the most part, this approach remains limited to patent pool. These examples are all schedule style fees offered by patent pools or by non-practicing entities. *Id.*

⁵⁵ *See e.g.*, *Case C-170/13, Huawei Techs. Co. Ltd. v ZTE Corp.*, 2015 E.C.R. 477, ¶ 64 <http://curia.europa.eu/juris/liste.jsf?num=C-170/13> [<https://perma.cc/82LY-XR84>].

⁵⁶ *See, e.g.*, *Vringo, Inc. v. ZTE Corp.*, No. 14-CV-4988 (LAK), 2015 U.S. Dist. LEXIS

royalty rates becomes complicated for the standard implementer.

Non-disclosure agreements increase the likelihood of discrimination. Standard implementers can compare to terms they negotiated with other SEP holders. But, they are unable to know whether the SEP holders have offered worse or better terms than other licensees.

Litigation should decrease the likelihood of discrimination because courts have subpoena power to enjoin parties to disclose already-negotiated terms. But, implementers can struggle to obtain such disclosure. For example, in the Netherlands, in *Sisvel v. Acer*, the court denied Acer's, the implementer, request.⁵⁷ The court argued that Acer could not demonstrate sufficiently the likelihood that the FRAND holder, Sisvel, had offered different conditions to these third parties.⁵⁸ In this case, the court amounted Acer's effort to obtain evidence of discrimination to a fishing expedition.⁵⁹

In *Huawei Technology Co Ltd v ZTE Corp, ZTE Deutschland GmbH*, the Court of Justice of the European Union (CJEU) was asked about the relationship between injunctive relief and anti-competition law in FRAND cases.⁶⁰ The CJEU, nonetheless, offered some remarks on licensing terms and fees and the issue of non-disclosure: "[I]n the absence of a public standard licensing agreement, and where licensing agreements already concluded with other competitors are not made public, the proprietor of the SEP is better placed to check whether its offer complies with the condition of non-discrimination than is the alleged infringer."⁶¹

These remarks reinforce that non-discrimination can be read independently of the rest of FRAND commitment. In this independent reading, SEP holders are the best (and only) ones able to ensure that their terms are non-discriminatory. Whether non-discriminatory means treating all licensors the same or treating all similarly situated licensors the same remains ambiguous.

The CJEU left room for lower courts to interpret what it means to "compl[y] the condition of non-discrimination."⁶² In *Unwired Planet v. Huawei*

71919, at *3 (S.D.N.Y. June 3, 2015) (discussing a breach of a non-disclosure agreement between a SEP holder and an implementer about information disclosed during royalty negotiation).

⁵⁷ Sabine Agé et al., *Litigating Standard-Essential Patents - FRAND and Antitrust Implications*, MANAGING INTELLECTUAL PROPERTY 86, 90 (Jul./Aug. 2009) (discussing Rb Den Haag, 16 april 2008, (*Sisvel/Acer Computer*) (Neth.)).

⁵⁸ *Id.*

⁵⁹ *See id.*

⁶⁰ Case C-170/13, *Huawei Techs. Co. Ltd. v ZTE Corp.*, 2015 E.C.R. 477, <http://curia.europa.eu/juris/liste.jsf?num=C-170/13> [<https://perma.cc/82LY-XR84>].

⁶¹ *Id.* ¶ 64.

⁶² *Id.*

Technologies,⁶³ the High Court of Justice struggled with this issue and came to an ambiguous conclusion: the Court found that non-discriminatory should be read to mean all licensors should be treated the same⁶⁴ before it came to the conclusion that whether the licensor agrees to a global or national license results in different royalty rates.⁶⁵

In China, the concept of non-discriminatory may not have been as dissected as in other jurisdictions.⁶⁶ China uses a concept of “fairness” and “honesty and credibility.”⁶⁷ Non-discrimination may not be found in these principles.⁶⁸ Instead, Chinese courts have relied on anti-competitive principles explained in more details below. Chinese courts have encouraged similar treatment and an equal playing field for all competitors.⁶⁹

The Federal Circuit court’s attempts to interpret non-discriminatory leaves some room for improvement. This U.S. Court has focused on interpreting non-discriminatory to allow for differences within terms if they were justifiable. The CJEU offers a similar unclear interpretation and has lead its lower courts to issue contradictory opinion. However, literally interpreting non-discriminatory in FRAND terms adds little to current laws: anticompetitive discrimination is unlawful in most countries, including the U.S. If interpreted literally, a non-discrimination commitment does not add to existing legal obligations in most countries including U.S., Europe, and China. As such, courts have tried to impute a secondary meaning to non-discriminatory.

B. Economic Discrimination and Antitrust

The legal literal reading of non-discriminatory⁷⁰ goes further than what most economists describe as price discrimination. Economists tentatively define price discrimination as occurring when the same products are sold at different prices

⁶³ *Unwired Planet Int. Ltd. v. Huawei Tech.* [2017] EWHC (Pat) 711 (Eng.).

⁶⁴ *Id.* ¶¶ 481-521.

⁶⁵ *Id.* at ¶ 602.

⁶⁶ See Zhang Guangliang, *Enforcement of F/Rand and Antitrust Intervention: Discussion from the Huawei Decisions in China*, 2 *China Legal Sci.* 3, 21 (2014) (discussing the Chinese Civil law equivalent for “fair” and “reasonable”).

⁶⁷ *Id.*

⁶⁸ *Id.*

⁶⁹ D. Daniel Sokol & Wentong Zheng, *FRAND (and Industrial Policy) in China*, in *CAMBRIDGE HANDBOOK OF TECHNICAL STANDARDIZATION LAW: ANTITRUST AND PATENTS* (Jorge L. Contreras ed., 2017) (forthcoming) (discussing how the Shenzhen Intermediate People’s Court set equal FRAND terms for Huawei with Apple in its dispute with InterDigital).

⁷⁰ Black’s Law Dictionary defines *price discrimination* as occurring “when a buyer pays a price that is different from the price paid by another buyer for an identical product or service.” *Price Discrimination*, BLACK’S LAW DICTIONARY (6th ed. 1990).

either to the same consumer or to different consumers where the difference cannot be explained by costs or quality differentiation.⁷¹ As such, economists do not literally view unequal treatment as a form of discrimination.

The economists' price discrimination can be difficult to prove. This kind of price discrimination requires extensive information about the cost structure of the seller. In a licensing context, the cost structure for licensing may also vary based on the willingness of the implementer to negotiate, duration of the license,⁷² the volume of the implementing goods, the use (or industry) of different implementing products, the geographical scope,⁷³ among others. So, during FRAND litigation, a court would require substantial evidentiary support to estimate accurate cost justified licenses. This evidentiary issue can explain why some commenters and courts have focused on offering similar terms to similarly situated licensees,⁷⁴ instead of offering identical terms to all licensees.

Furthermore, a non-discriminatory commitment can seem redundant because policymakers have already prohibited some forms of price discrimination. Price discrimination allows cross-subsidies between consumers and as such, it can increase social welfare.⁷⁵ However, price discrimination can also decrease social welfare.⁷⁶

⁷¹ See e.g., JEAN TIROLE, THE THEORY OF INDUSTRIAL ORGANIZATION 133 (MIT Press 1988) ("It is hard to come up with a satisfactory definition of price discrimination. Roughly, it can be said that the producer price-discriminates when two units of the same physical good are sold at different prices, either to the same consumer or to different consumers. This definition is unsatisfactory, and sometimes it must be amended and or extended.").

⁷² The transaction costs are higher for a SEP holder if it must sue an infringing standard implementer to recoup damage and injunction-induced license than if it negotiates quickly with a willing licensee. Similarly, short licenses are likely more expensive for SEP holders because they must renegotiate more often than longer term licenses.

⁷³ The monitoring costs for the SEP holder likely differ based on volume, use, and location. A worldwide flat license is likely less expensive to administer than a volume/use license where the terms differ based on territory.

⁷⁴ Carlton & Shampine, *supra* note 21, at 546 (discussing the meaning of similarly situated and asserting that rate "competing firms are similarly situated if *ex ante* they expect to obtain the same incremental value from the patented technology compared with the next best alternative available to be incorporated into the standard"). Therefore, it should be the same for companies offering similar products at the same time and in the same location: the royalties should depend on the use of each patent or supply chain position and they should never increase overtime but can decrease. In *Unwired Planet*, the High Court of Justice went a step further and stated that "[t]here is only one set of licence [sic] terms which are FRAND in a given set of circumstances." *Unwired Planet Int. Ltd. v. Huawei Tech.* [2017] EWHC (Pat) 711 [806] (Eng.).

⁷⁵ Hal R. Varian, *Price Discrimination and Social Welfare*, 75 AM. ECON. REV. 870, 870-71 (1985).

⁷⁶ *Id.* at 871.

In the US, Section 2 of the Clayton Antitrust Act of 1914 prohibits discrimination “in price between different purchasers . . . substantially to lessen competition.”⁷⁷ However, competition that harms price discrimination has hardly been enforced of late; instead, policymakers have shifted toward prohibiting predatory pricing.⁷⁸ This lack of enforcement could explain why the Federal Circuit has spent so much time dwelling on this issue in the FRAND context.

In Europe, price discrimination is linked to the anti-competitive “abuse of dominant position” concept.⁷⁹ Abuse of dominant position consists of “(a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions; (b) limiting production, markets or technical development to the prejudice of consumers; (c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage.”⁸⁰

In the FRAND context, European courts focus on the competitive impact of licensing term instead of arguing in favor of an equal treatment of all licensees. For example, in the UK, the High Court of Justice (1) moved away from a literal reading of nondiscriminatory⁸¹ and (2) asserted that FRAND terms is not a most favored clause commitment.⁸²

In *Unwired Planet v. Huawei Technologies*, Unwired accused Huawei of infringing its SEP linked to a European Telecommunications Standards Institute (ETSI) telecommunication standard.⁸³ In this decision, the High Court of Justice investigated the interpretation of nondiscriminatory.⁸⁴ Looking at scholarly interpretation of nondiscriminatory, the High Court of Justice found a disagreement. It concluded that “[t]he non-discrimination limb of FRAND does

⁷⁷ Clayton Antitrust Act of 1914 § 2, 15 U.S.C. § 13(a) (2012).

⁷⁸ Daniel J. Gifford & Robert T. Kudrle, *The Law and Economics of Price Discrimination in Modern Economies: Time for Reconciliation?*, 43 U.C. DAVIS L. REV. 1235, 1270 (2010) (discussing the diminished enforcement of price discrimination in the U.S.).

⁷⁹ See, e.g., Bundesgerichtshof, [BGH] [Federal Court of Justice] Mai 6, 2009, KZR 39/06, <http://juris.bundesgerichtshof.de/cgi-bin/rechtsprechung/document.py?Gericht=bgh&Art=en&Datum=2009&Sort=3&Seite=1&nr=48134&pos=33&anz=1123> [<https://perma.cc/MGL9-72EA>] (*translation available at* <http://www.ipeg.com/blog/wp-content/uploads/EN-Translation-BGH-Orange-Book-Standard-eng.pdf> [<https://perma.cc/5NZ2-FXY5>]) (stating that discrimination in licensing terms for SEPs can amount to an abuse of dominant position).

⁸⁰ Consolidated Version of the Treaty on the Functioning of the European Union art. 102, Oct. 26, 2012, 2012 O.J. (C 326) 89 [hereinafter TFEU].

⁸¹ *Unwired Planet Int. v. Huawei Tech.* [2017] EWHC (Pat) 711 [501] (Eng.).

⁸² *Id.* ¶ 807(9).

⁸³ *Id.* ¶ 1.

⁸⁴ *Id.* ¶¶ 495-503.

not consist of a further ‘hard edged’ component which would justify a licensee demanding a lower rate than the benchmark rate because that lower rate had in fact been given to a different but similarly situated licensee.”⁸⁵ The High Court of Justice instead focused on a general non-discrimination obligation and investigated the competitive impact of any diverging terms and whether these terms distorted competition.⁸⁶

This decision confirmed ETSI’s worries that nondiscriminatory terms would be read literally. ETSI published policy documents that encouraged normal business practices⁸⁷ – including unequal treatment.

In China, Antimonopoly Laws prohibit price discrimination as well.⁸⁸ These laws focus on an abuse of dominant position standard.⁸⁹ A few cases have tested whether SEP holders could violate these laws. Courts have found that SEP holders could violate antimonopoly laws. In *Huawei v. InterDigital*,⁹⁰ Huawei claimed that InterDigital violated antimonopoly laws and its FRAND commitment because it charged Huawei higher licensing fees than other companies. The Guangdong Province High People’s Court of China agreed and found that InterDigital’s actions were discriminatory and excessive.⁹¹

The Antimonopoly Law enforcing authorities have also found that SEP holders can violate these laws. China’s National Development and Reform Commission (NDRC) cracked down on some of Qualcomm practices.⁹² After agreeing to a resolution, NDRC has required that Qualcomm offer licenses to all willing licensees at a flat royalty rate on a specific basis.⁹³ This new rate has retroactive effect – much like a most favored clause. In many respects, Chinese

⁸⁵ *Id.* ¶ 806(9).

⁸⁶ *Id.* ¶ 807(9).

⁸⁷ Brooks & Geradin, *supra* note 23, at 33.

⁸⁸ Wentong Zheng, *Transplanting Antitrust in China: Economic Transition, Market Structure, and State Control*, 32 U. PENN. J. INT’L L. 643, 695 (2010).

⁸⁹ *Id.*

⁹⁰ Guangliang, *supra* note 66, at 8 (discussing Yue Gao Fa Min San Zhong Zi No. 305 (粤高法民三终字第305号) [*Huawei Tech. Co., Ltd. v. InterDigital Corp.*] (Guangdong Province High People’s Ct. 2013) (China)); Sokol & Zheng, *supra* note 69.

⁹¹ *Id.*

⁹² Press Release, National Development & Reform Commission, National Development and Reform Commission, Ordered Rectification of Qualcomm’s Monopolistic Behavior and Fined Six Billion Yuan (Feb. 10, 2015), http://www.ndrc.gov.cn/xwzx/xwfb/201502/t20150210_663822.html [<https://perma.cc/D27L-4VRB>]; Press Release, Qualcomm, Qualcomm and China’s National Development and Reform Commission Reach Resolution (Feb. 9, 2015), http://files.shareholder.com/downloads/QCOM/3864235320x0x808060/382E59E5-B9AA-4D59-ABFF-BDFB9AB8F1E9/Qualcomm_and_China_NDRC_Resolution_final.pdf [<https://perma.cc/4MVA-MTWA>].

⁹³ *Id.*

courts and antimonopoly authorities have adopted an (almost) equal treatment interpretation to non-discriminatory.⁹⁴

In Europe and China, abuse of dominant position limits how much an SEP holder can price discriminate. Non-discriminatory becomes redundant in these jurisdictions. As such, the non-discriminatory term in FRAND has not been interpreted in isolation the way it has in the U.S. The next Section investigates how nondiscriminatory has been interpreted as an integral part of the broader FRAND system to mean guaranteed access.

II. ENSURING OPEN ACCESS TO A STANDARD

Because price discrimination is already unlawful, some commentators saw that SSOs were more worried about access than actual license terms. This second view of is born out of reading FRAND as a single term instead of three independent terms. The next Section dives into this view first through SSO policy and second through Court interpretation.

A. A contextual reading: the SSOs' FRAND aim

SSOs face two issues. First, they must incentivize competitors to participate in standard setting and to provide the latest technology. Second, they must ensure that implementers adopt their standards, which often compete with other standards (e.g., CDMA (Code Division Multiple Access) and GSM (Global System for Mobiles) mobile standards). Interpreting non-discriminatory to mean offering similar terms to similarly situated licensees partially addresses the second issue. This interpretation ensures that all implementers know that they are on a level playing field.

On the one hand, interpreting non-discriminatory to mean offering similar terms to similarly situated licensee partially guarantees a level competitive field. It would incentive implementers to adopt a standard.

On the other hand, interpreting fair, reasonable, and nondiscriminatory as a single term ensures that all willing standard implementers can have access to the standard. It ensures each SEP holders that no SEP holder blocks access to the standard such that a critical mass would demand this standard.

After all, promising to charge reasonable rates but leaving the SEP holder to

⁹⁴ See Sokol & Zheng, *supra* note 69. The NDRC did not require that all contracts be retroactively changed. Instead, for example, if Qualcomm contracted better terms with a licensee, the licensee could elect to keep its current contract. *Id.* The Guangdong Province High People's Court elected to go with the same rate as given to Apple when other licensee agreements (e.g. Samsung) were also available as evidence. *Id.* The Guangdong Province High People's Court did not construct a new FRAND fee like U.S. courts have done in the past. *Id.* An example of this is *Microsoft Corp. v. Motorola, Inc.*, where the court set a FRAND range and explained in detail the reasons behind each decision. No. C10-1823JLR, 2013 U.S. Dist. LEXIS 60233, at *25 (W.D. Wash. Apr. 25, 2013).

decide to whom to offer these terms would work against accessibility. Similarly, promising to offer a license to everyone but pricing out competitors would hamper the widespread adoption of the standard. Reading reasonable and nondiscriminatory as a single term corresponds to a commitment to guarantee access to a standard.

SSOs have provided some clarifications to the meaning they impute to FRAND and nondiscriminatory. SSOs have explained the meaning of nondiscrimination in pre-policy adoption white papers, in the actual policy documents, and through post-adoption clarifications.

Before adopting or changing policies, SSOs consult their members.⁹⁵ These members have an opportunity to debate these policy proposals.⁹⁶ SSOs keep a record of these debates.⁹⁷ The resulting documents provide a wealth of information about the intent of the policy. For example, when the ETSI debated and replaced their policy in 1991, the SSO was worried about protectionist barrier.⁹⁸ The SSO wanted to ensure access to non-SSO members.⁹⁹ The final policy document focused on guaranteed access and moved away from offering identical terms to similarly situated licensees.¹⁰⁰ ETSI's main concern when adopting their FRAND policy was access.

Within the resulting policy, some SSOs have addressed the interpretation of non-discriminatory and FRAND. For example, International Telecommunication Union (ITU) requires that SEP holders declare in their Letter of Assurance that it is willing to negotiate (1) "licences free of charge;" or (2) "licences with other parties on a nondiscriminatory basis on reasonable terms and conditions."¹⁰¹ If the patent holder does not comply, then the recommended standard "shall not include provisions depending on the patent."¹⁰² ITU makes clear in the accompanying policy that the assurance revolves around free access to a standard. First, the ITU patent policy specifies that "a patent embodied fully or partly in a [standard] must *be accessible to everybody* without undue constraints."¹⁰³ Second, ITU indicates that "nondiscriminatory" should not be taken literally to mean equal treatment, by clarifying that "[t]he detailed arrangements arising from patents (licensing, royalties, etc.) are left to the parties concerned, as these arrangements might

⁹⁵ See Brooks & Geradin, *supra* note 23, at 8-9.

⁹⁶ See *id.* at 8-10.

⁹⁷ See *id.* at 7-9.

⁹⁸ *Id.* at 15.

⁹⁹ *Id.*

¹⁰⁰ *Id.* at 16.

¹⁰¹ *Int'l Telecomm. Union, Common Patent Policy for ITU-T/ITU-R/ISO/IEC*, <http://www.itu.int/en/ITU-T/ipr/Pages/policy.aspx> [<https://perma.cc/4ZPQ-C6TA>].

¹⁰² *Id.*

¹⁰³ *Id.* (emphasis added).

differ from case to case.”¹⁰⁴ ITU’s letter aims to ensure that SEP holders are aware of the policy goal and commit to ensuring broad access.

Post-policy implementation, some SSOs have intervened to explain the intent of their policies. SSOs can use Amicus Briefs to clarify with courts about the intent of their policy. For example, IEEE wrote an Amicus Brief in *Ericsson, Inc. v. D-Link Systems*.¹⁰⁵ In the Brief, IEEE states that:

IEEE-SA seeks to produce standards that any willing implementer can use and that will become widely adopted. . . . Inclusion of patented technology without the patent holder’s commitment that it will grant licenses to implementers on reasonable and non-discriminatory terms, however, jeopardizes the goal of widespread adoption. Consequently, IEEE-SA (like most SDOs) has adopted a patent policy intended to deal with this barrier.¹⁰⁶

Thus, IEEE clarifies *ex-post facto* that the aim of FRAND was widespread adoption.¹⁰⁷

These three SSOs in three different documents illustrate how SSOs wanted to interpret “nondiscriminatory.” Their main concern centers on access and widespread adoption. They wanted to ensure the maximum number of standard setters and standard implementers benefited from the standard-linked positive externalities. The next Section discusses the court cases where “nondiscriminatory” was interpreted broadly to mean widespread access.

B. Courts’ view on access to standards

Courts across jurisdictions have also interpreted the compounded FRAND as a single commitment term to mean accessibility. The question around the meaning of non-discriminatory and FRAND arose in infringement cases where the SEP holder requested an injunction.

Unsurprisingly, jurisdictions have differed on their willingness to grant injunctions. In the U.S., the Federal Circuit and the Ninth Circuit courts have taken different approaches. Since the Supreme Court’s decision in *eBay Inc. v. MercExchange, L.L.C.*,¹⁰⁸ injunctions have become almost impossible to obtain

¹⁰⁴ *Id.*

¹⁰⁵ Brief for the Institute of Electrical and Electronics Engineers, Inc. as Amicus Curiae Supporting No Party, *Ericsson, Inc. v. D-Link Sys, Inc.*, 773 F.3d 1201 (Fed. Cir. 2014), (No. 10-CV-0473).

¹⁰⁶ *Id.* at 12.

¹⁰⁷ IEEE reiterates similar statements in other Amicus Briefs. *See, e.g.*, Brief for the Institute of Electrical and Electronics Engineers, Inc. as Amicus Curiae Supporting No Party at 11-12, *Apple, Inc. v. Motorola, Inc.*, 757 F.3d 1286 (Fed. Cir. 2014) (11-CV-8540).

¹⁰⁸ *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006).

in FRAND cases.¹⁰⁹ The *eBay* opinion requires:

A plaintiff [to] demonstrate: (1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.¹¹⁰

In FRAND cases, the Federal Circuit court has viewed the first and second prongs of the injunction test as not reconcilable with their FRAND commitment. For example, *Apple, Inc. v. Motorola, Inc.*¹¹¹ involves a series of suits and countersuits in Federal Court and the International Trade Commissions. Motorola claimed that Apple infringed on one of its wireless-related SEPs and requested an injunction.¹¹² In the lower court opinion, Judge Posner stated that “[b]y committing to license its patents on FRAND terms, [the SEP holder] committed to license [its patent] to anyone willing to pay a FRAND royalty and thus implicitly acknowledged that a royalty is adequate compensation for a license to use that patent.”¹¹³ As such, injunctions become an inappropriate remedy.

The Federal Circuit disagreed with Judge Posner. It took a step back and stated that “a per se rule that injunctions are unavailable for SEPs . . .” is erroneous.¹¹⁴ The Federal Circuit acknowledged that “[a] patentee subject to FRAND commitments may have difficulty establishing irreparable harm.”¹¹⁵ The court speculated that under certain circumstances, such as where “an infringer unilaterally refuses a FRAND royalty or unreasonably delays negotiations to the same effect,”¹¹⁶ injunctive relief remained an option in FRAND cases. The Federal Circuit fell short of creating a rebuttal presumption of no injunctions in FRAND cases. However, U.S. courts have yet to grant an injunction in a FRAND case.

The Ninth Circuit had a different view in *Microsoft Corp. v. Motorola, Inc.*¹¹⁷ The case involved two SEP portfolios owned by Motorola linked to an ITU

¹⁰⁹ Brian T. Yeh, Cong. Research Serv., R42705, Availability of Injunctive Relief for Standard Essential Patent Holders 10 (2012).

¹¹⁰ *eBay Inc.*, 547 at 391.

¹¹¹ *Apple, Inc. v. Motorola, Inc.*, 757 F. 3d 1286 (Fed. Cir. 2014).

¹¹² *Id.* at 1294.

¹¹³ *Apple, Inc. v. Motorola, Inc.*, 869 F. Supp. 2d 901, 914 (N.D. Ill. 2012).

¹¹⁴ *Apple, Inc.*, 757 F. 3d at 1331.

¹¹⁵ *Id.* at 1332.

¹¹⁶ *Id.*

¹¹⁷ 795 F. 3d 1024 (9th Cir. 2015).

video-coding standard and an IEEE Wi-Fi standard.¹¹⁸ Motorola committed to RAND terms for both SEP portfolios.¹¹⁹ After unsuccessful licensing negotiations, Microsoft filed suit based on a breach of Motorola's duty of good faith and fair dealing.¹²⁰ Motorola retaliated by suing Microsoft in other fora, including Germany.¹²¹ Microsoft sought to enjoin Motorola from enforcing its German injunction.¹²² After Microsoft succeeded, the U.S. District Court for the Western District of Washington heard the parties on royalty terms and constructed a "RAND range": a range over which licensing terms were considered RAND.¹²³ A jury trial followed.¹²⁴ Microsoft was granted damages for defending the German case and having to relocate its European distribution center following the German injunction.¹²⁵

On appeal, Motorola contended that the Federal Circuit had jurisdiction because the case was a patent-related case, and that damages should follow the Patent Act.¹²⁶ The Ninth Circuit disagreed and concluded that it was a contract case.¹²⁷ Motorola already committed to grant licenses on RAND terms and thus had a duty of good faith and fair dealing.¹²⁸ The Ninth Circuit reiterated that "[t]he . . . purpose of the RAND agreement [was] to promote adoption of a standard by decreasing the risk of hold-up."¹²⁹ In other words, RAND commitments create an implicit guaranteed access to a standard. Parties need only determine the RAND rate. As such, courts may simply need to focus on the rate.

Both European and Chinese courts agree with the U.S. Federal Circuit Court's reasoning that injunctive relief can be granted when hold-out occurs.¹³⁰ Both in Europe and China, courts have granted injunctions in FRAND cases.

In Europe, the CJEU opened the door to injunctive relief in SEP cases in *Huawei Technology Co. Ltd v. ZTE Corp., ZTE Deutschland GmbH*.¹³¹

¹¹⁸ *Id.* at 1030-31.

¹¹⁹ *Id.* at 1030.

¹²⁰ *Id.*

¹²¹ *Id.* at 1032.

¹²² *Id.*

¹²³ *Id.* at 1033.

¹²⁴ *Id.*

¹²⁵ *Id.* at 1034.

¹²⁶ *Id.* at 1034, 1040.

¹²⁷ *Id.* at 1040.

¹²⁸ *Id.* at 1052.

¹²⁹ *Id.*

¹³⁰ For the purpose of this Paper, hold-out occurs when a standard implementer refuses to take a license and wait for the SEP holder to sue because the implementers wants to leverage the court created FRAND royalty rate during the litigation.

¹³¹ Case C-170/13, *Huawei Techs. Co. Ltd. v. ZTE Corp.*, 2015 E.C.R. 477, ¶ 77

Huawei brought a suit against another mobile manufacturer, ZTE, over the infringement of a SEP associated with an ETSI-developed standard SEP, the Long Term Evolution (LTE) standard.¹³² After the parties attempted to negotiate but failed to reach an agreement, Huawei brought an action in Germany and sought an injunction.¹³³ ZTE argued that an injunction should not be granted because an injunction in such a FRAND case would constitute an abuse of Huawei's dominant position, a competition law violation, when the implementer was willing to take a license.¹³⁴ The district court, Landgericht Düsseldorf, referred this question to the CJEU.¹³⁵

In 2015, the CJEU ruled that a SEP holder can obtain an injunction without violating competition laws or abusing its dominant position.¹³⁶ However, the court limited the circumstances under which such an injunction might be granted.¹³⁷ To obtain an injunction, the SEP holder must offer FRAND licensing terms, whereas the alleged infringing standard implementers must fail to exercise a good faith effort when negotiating.¹³⁸ In *Huawei*, the CJEU describes this minimal back and forth that signals good faith negotiations.¹³⁹ The CJEU views the injunction granting process as a question of fact, where the plaintiff carries the burden of proof and the defendant has a rebuttal opportunity.¹⁴⁰

In the first case after *Huawei*, German courts struggled in interpreting and implementing this new standard. In *Sisvel v Haier*, Sisvel accused Haier of infringing its SEP.¹⁴¹ In 2015, it obtained an injunction in the Düsseldorf Regional Court, the German lower court.¹⁴² In January 2016, the Court of

<http://curia.europa.eu/juris/liste.jsf?num=C-170/13> [<https://perma.cc/82LY-XR84>].

¹³² *Id.* ¶¶ 2-4.

¹³³ *Id.* ¶ 6.

¹³⁴ *Id.*

¹³⁵ *Id.* ¶ 38.

¹³⁶ *Id.* ¶ 77.

¹³⁷ *Id.*

¹³⁸ See, e.g., Garry A. Gabison, *Lessons that Europe Can Learn from the US Patent Assertion Entity Phenomenon*, 24 INFO. & COMM. TECH. L. 278, 297-98 (2015); Robin Jacob & Alexander Milner, *Lessons from Huawei v. ZTE*, 4 ITALIAN ANTITRUST REV. 1, 2, 16 (2017).

¹³⁹ Case C-170/13, *Huawei Techs. Co. Ltd. v. ZTE Corp.*, 2015 E.C.R. 477, ¶ 66-68 (describing a situation where the SEP holder makes a FRAND offer, the standard implementers makes a FRAND counteroffer, and the SEP holder must respond to the last offer).

¹⁴⁰ The Court discusses the pre-trial actions that the plaintiff needs to do in order to get an injunction and what the defendant can do to avoid facing an injunction after the plaintiff fulfills its side of the bargain. *Id.* ¶ 71.

¹⁴¹ Jacob & Milner, *supra* note 138 at 9-10 (discussing Oberlandesgericht Düsseldorf (OLG) [Düsseldorf Court of Appeal] Jan. 13, 2016, I-15 U 65/15 and I-15 U 66/15 (Ger.)).

¹⁴² *Id.* at 9 (discussing Landgericht Düsseldorf (LG) [Düsseldorf Regional Court] Nov. 3, 2015, 4a O 93/14 and 4a O 144/14 (Ger.)).

Appeal stayed the injunction because the Regional Court failed to consider whether the initial SEP-holder offer was FRAND.¹⁴³ In November 2016, the Court of Appeal emitted a guidance order describing the steps required for both parties to negotiate in good faith.¹⁴⁴ In March 2017, the Düsseldorf Court of Appeal denied Sisvel an injunction in an unpublished opinion because it did not comply with the conditions set in the guidance order.¹⁴⁵ It remains to be seen whether Sisvel will be able to obtain an injunction if it later complies with the guidance order.¹⁴⁶

In other post-*Huawei* cases, German courts have, however, granted injunctive relief.¹⁴⁷ Negotiating tactics have been at the center of the injunction decisions and German courts have not hesitated to grant injunctions.¹⁴⁸

Courts in Germany have usually steered away from setting rates. Following *Huawei*, German courts have had to determine whether the offers on both sides made during negotiation were FRAND – without setting and suggesting terms.¹⁴⁹ Courts let the parties re-negotiate if it finds that the offers are not FRAND.¹⁵⁰ These processes incentivize the parties to negotiate in good faith, particularly the implementer.

Courts in the UK have, however, taken a different approach post-*Huawei*. First, they have been more proactive in FRAND royalty setting. In April 2017, the High Court of Justice decided *Unwired Planet v. Huawei Technologies*.¹⁵¹ Unwired sued Huawei for infringing its LTE and GSM SEPs.¹⁵² The Court

¹⁴³ *Id.* at 10.

¹⁴⁴ OLG [Düsseldorf Court of Appeal] Jan. 13, 2016, I-15 U 65/15 and I-15 U 66/15 (Ger.) For further discussion of this case, *see e.g.*, Georg Nolte & Lev Rosenblum, Injunctions in SEP Cases in Europe 9-12 (March 10, 2017) (unpublished manuscript) <https://ssrn.com/abstract=2984193> [<https://perma.cc/PN2H-Z5A8>].

¹⁴⁵ Press Release, Sisvel, Strength of Sisvel Wireless Patents Confirmed – Haier Ordered to Pay Damages, Injunction Claim to Be Further Pursued (Mar. 31, 2017), <http://www.sisvel.com/news-events/news/strength-of-sisvel-wireless-patents-confirmed-haier-ordered-to-pay-damages-injunction-claim-to-be-further-pursued> [<https://perma.cc/H5QM-LFF7>].

¹⁴⁶ *Id.*

¹⁴⁷ *See* Nolte & Rosenblum, *supra* note 144, at 9-17 (discussing injunction cases in Germany between July 2015 and March 2017).

¹⁴⁸ *Id.* at 12-13. (discussing cases where injunctions were granted, such as *St. Lawrence v. Deutsche Telekom and HTC*, 6 U 220/15 (2015), where the LG Mannheim granted an injunction against Deutsche Telekom because it failed to negotiate a license with St. Lawrence.)

¹⁴⁹ *See e.g.*, OLG [Düsseldorf Court of Appeal] Jan. 13, 2016, I-15 U 65/15 and I-15 U 66/15 (Ger.) (finding that the licensing offer was not FRAND).

¹⁵⁰ *See e.g., id.*

¹⁵¹ *Unwired Planet Int'l. v. Huawei Tech.* [2017] EWHC (Pat) 711 (Eng.).

¹⁵² *Id.* ¶ 1.

found that some patents were valid and infringed, but refused to grant Unwired an injunction because “none of [Unwired’s offers] were FRAND in the terms advanced”¹⁵³ The Court reviewed the terms offered and found that they were not FRAND.¹⁵⁴ The court did not grant an injunction; however, it left the door open for Unwired to obtain an injunction if it made an offer that complied with the FRAND term it suggested.¹⁵⁵ As such, Huawei had continued access to the SEP technology and Unwired had to align its licensing terms with the court-set terms before re-requesting an injunction.

The UK High Court took a different approach as compared to Germany.¹⁵⁶ The High Court suggested the FRAND terms,¹⁵⁷ whereas German cases focused on whether an offer is FRAND.¹⁵⁸ The High Court may view inefficiencies in parties returning multiple times to court to request an injunction and forcing the Court to decide whether the terms are FRAND. The UK approach incentivizes technology implementers to hold-out because this approach decreases the chance of injunction. A SEP holder would need to be extremely careful to find the rate a court finds FRAND. By contrast, the German approach focused on access and incentivizes patent holders to make FRAND offers in the first place. It deters hold-up because patent holders need clean hands to request an injunction, while also deterring hold-out because patent implementers also need clean hands to avoid an injunction.

Meanwhile, Chinese courts have been reluctant to grant injunctions because they may have been worried it would lead to a holdup problem. In the 2013 *Huawei v. InterDigital* decision, the High People’s Court of Guangdong Province refused to grant an injunction because the parties were still negotiating and the injunction constituted a strategy to extract more revenues.¹⁵⁹ The High Court did not, however, close the door on injunctions in SEP cases.

¹⁵³ *Id.* ¶ 803.

¹⁵⁴ *Id.*

¹⁵⁵ *Id.* ¶ 807(20).

¹⁵⁶ The UK approach also differs to a large extent to the U.S. approach. The High Court provided specific terms as FRAND whereas in cases such as *Microsoft v. Motorola*, lower courts have created a FRAND range. *Microsoft Corp. v. Motorola, Inc.*, No. C10-1823JLR, 2013 U.S. Dist. LEXIS 60233, at *25 (W.D. Wash. Apr. 25, 2013). The High Court may view inefficiencies in ranges because the parties would still have to negotiate within the range.

¹⁵⁷ *Unwired Planet Int’l. v. Huawei Tech.* [2017] EWHC (Pat) 711 [524]-[572] (Eng.). One point of contention in the case was that Unwired wanted to negotiate a worldwide license, whereas Huawei wanted a U.K. license. *Id.* ¶ 1, 176. The High Court of Justice, in siding with Unwired, discussed other ongoing litigation between the two in other fora. It found that if a worldwide license is FRAND, even if the court only has jurisdiction in the U.K., the corresponding U.K. only license would not be FRAND. *Id.* ¶ 572.

¹⁵⁸ See e.g., OLG [Düsseldorf Court of Appeal] Jan. 13, 2016, I-15 U 65/15 and I-15 U 66/15 (Ger.) (finding that the licensing offer was not FRAND).

¹⁵⁹ Guangliang, *supra* note 66, at 29-30.

For good faith users who are willing to pay reasonable royalties, holders of standards-essential patents should not directly refuse to grant licenses. On the one hand, it is necessary to ensure that patentees can obtain sufficient returns from their technical innovations. On the other hand, holders of standards-essential patents should be prevented from charging exorbitant royalty rates or attaching unreasonable terms by leveraging their powerful position forged by the standards. The core of the FRAND obligations lies in the determination of reasonable and non-discriminatory royalties or royalty rates.¹⁶⁰

Injunction remains elusive in SEP cases until 2017. In 2017, the Beijing Intellectual Property Court granted its first injunction in a SEP case.¹⁶¹ In *Iwncomm v. Sony*, Iwncomm claimed that Sony knowingly infringed on its SEP and induced its customers to infringe.¹⁶² In March 2017, the Chinese court created an injunction standard similar to the EU's:

Specifically, where neither party is at fault, or the patentee is at fault and the implementer is not, the patentee's request for an injunction shall be denied. Where the patentee is not at fault, but the implementer is at fault, the patentee's request for an injunction shall be granted. Where both parties are at fault, the court shall balance the interests of both parties when making the decision for the injunction request.¹⁶³

The Beijing IP Court highlighted that the circumstances dictated whether an injunction was available to the SEP holder.¹⁶⁴ The Court found that the implementer did not negotiate in good faith when it kept requesting information,

¹⁶⁰ *Unwired Planet Int'l. v. Huawei Tech.* [2017] EWHC (Pat) 711 [92] (Eng.) (citing Yue Gao Fa Min San Zhong Zi No. 305 (粤高法民三终字第305号) [Huawei Tech. Co., Ltd. v. InterDigital. Corp.] (Guangdong Province High People's Ct. 2013) (China))

¹⁶¹ David Shen & Jill Ge, *Iwncomm v. Sony: First SEP-Based Injunction Granted in China*, LEXOLOGY (Apr. 10, 2017), <http://www.lexology.com/library/detail.aspx?g=195043c8-52ba-4b52-a8c1-6b087490d523> [https://perma.cc/TD6K-GXY6].

¹⁶² Thomas F. Cotter, *Translation of Abridged Version of IWNCOMM v. Sony Judgment*, COMP. PAT. REMEDIES (Apr. 8, 2017, 9:42 AM), <http://comparativepatentremedies.blogspot.fr/2017/04/translation-of-abridged-version-of.html> [https://perma.cc/5SNP-QZQ5] (providing a free unofficial translation of the Beijing intellectual property court in *Xi'an Xi Dian Jie Tong Wireless Comm. Co., Ltd v. Sony Mobile Comm. Products (China) Co., Ltd.*)

¹⁶³ Beijing East IP Ltd., *An Injunction Based on a Standard Essential Patent is Happening in China*, LEXOLOGY (Apr. 1, 2017), <http://www.lexology.com/library/detail.aspx?g=3c383b79-9eaa-4a1a-94dc-c07a18f8617e> [https://perma.cc/4H3E-HTEK].

¹⁶⁴ *Id.*

which it already had, from the patentee.¹⁶⁵ Instead, the Court implied that Sony was stalling and attempting to increase the negotiation costs on *Iwncomm*. As a result, the court granted an injunction in favor of the SEP holder.¹⁶⁶

In summary, courts in the U.S., Europe, and China acknowledge that non-discriminatory and FRAND commitments do not guarantee universal access. But, the standards differ. In the U.S., the Federal Circuit Court grants an injunction only when the standard implementer flat-out refuses to deal with a SEP holder. This approach marginally falls short of interpreting FRAND commitment as guaranteeing access. U.S. courts have yet to find circumstances under which an implementer behaves sufficiently badly as to warrant an injunction.

In Europe and China, courts have granted injunction to SEP holders when the implementers have not negotiated in good faith. FRAND terms restrain the way parties negotiate: they create obligations on the SEP holders and the standard implementers. These rulings have provided SEP holders with a boost as injunction becomes more available and have incentivized implementers to negotiate in good faith. In China, the *Iwncomm* ruling created even more opportunity to obtain an injunction than in Europe which do not include such opportunity: if both parties are at fault, then a patent holder may obtain an injunction in China whereas under *ZTE*, the patent holder needs clean hands.

However, the *ZTE* and *Iwncomm* rulings create a fact-intensive standard and place heavier burdens on courts. First, European and Chinese courts must assess whether the parties negotiated in good faith according to business practices (e.g. delay between offers and counteroffers, etc.). Second, these courts also must assess whether offers and counteroffers are FRAND.

The next Section creates a two-dimensional graphical representation for the two non-discrimination interpretations.

III. COMPLEMENTARY UNDERSTANDING OF NONDISCRIMINATORY

This Section brings together the two interpretations of nondiscriminatory discussed above. First, this Section explains that both interpretations of “nondiscriminatory” live along a spectrum. Second, this Section offers a two-dimensional depiction of the cases discussed above.

A. A Spectrum of Terms

SEP royalties impact how SEP implementers price and compete. Price discrimination has ambiguous policy implications in the FRAND context. On the one hand, if SEP holders were to use standards to affect competition, SEP implementers might refuse to adopt a standard in the first place. This refusal

¹⁶⁵ *Id.*

¹⁶⁶ *Id.*

would ripple backward and jeopardize SEP holders' involvement and the standard system altogether. Therefore, SEP holders have some incentives to avoid this kind of misbehavior. On the other hand, if SEP holder were forced to price royalty terms equally, they might refuse to decrease the price to a fully inclusive level. SEP implementers would become affected and competition would be decreased. The competitive impact of discriminatory terms will depend on the situation and a general rule may not be helpful.

The U.S., E.U., and China have laws that prohibit price discrimination that negatively affects competition. Because of these laws, limiting discriminatory terms through FRAND commitment appears redundant.

These laws have been enforced to various degrees. At the one end of the spectrum, China have not relied on non-discrimination in FRAND terms and instead relied on a strict enforcement price discrimination.

China's Anti-Monopoly authorities, which include the NDRC and the Ministry of Commerce, attempt to create a level, competitive field for all licensees.¹⁶⁷ Unsurprisingly, Chinese authorities have read and enforced "nondiscriminatory" in FRAND in the same strict manner. When the NDRC resolved its antitrust investigation of Qualcomm, it required Qualcomm to offer identical royalty rates to every Chinese willing licensor and to make these rates available retroactively.¹⁶⁸ In other words, one of China's Anti-Monopoly Law enforcing entities, the NDRC, eliminated Qualcomm's ability to offer different licensing terms to different standard implementers.

This position slightly differs from the court decisions in *Huawei v. InterDigital* and in *Iwncomm v. Sony*. In *Huawei v. InterDigital*, the Shenzhen Intermediate People's Court set a maximum that InterDigital could request from Huawei on patents linked to three different standards.¹⁶⁹ The Court did not seem

¹⁶⁷ Thomas J. Horton, *Antitrust or Industrial Protectionism?: Emerging International Issues in China's Anti-Monopoly Law Enforcement Efforts*, 14 SANTA CLARA J. INT'L L. 109, 117-22 (2016) (discussing China's NDRC and MOFCOM enforcement of the discriminatory treatment through pricing and licensing including IP licensing).

¹⁶⁸ See Press Release, Qualcomm, *supra* note 92.

¹⁶⁹ InterDigital, Inc., Annual Report (Form 10-Q), at 10 (Feb. 26, 2013) ("On February 4, 2013, the Shenzhen Intermediate People's Court issued rulings in the two proceedings. With respect to the first complaint, the court decided that InterDigital had violated the Chinese Anti-Monopoly Law by (i) making proposals for royalties from Huawei that the court believed were excessive, (ii) tying the licensing of essential patents to the licensing of non-essential patents, (iii) requesting as part of its licensing proposals that Huawei provide a grant-back of certain patent rights to InterDigital and (iv) commencing a USITC action against Huawei while still in discussions with Huawei for a license. Based on these findings, the court ordered InterDigital to cease the alleged excessive pricing and alleged improper bundling of InterDigital's Chinese essential and non-essential patents, and to pay Huawei approximately 3.2 million USD in damages related to attorney's fees and other charges, without disclosing a factual basis for its determination of damages. The court dismissed Huawei's remaining

to order a flat or identical fee the way the NDRC did but instead aligned its maximum fee in line with InterDigital's existing license with Apple, the lowest known license.¹⁷⁰ In *Iwncomm v. Sony*, the Court "consider[ed] the type of the patent, the nature and particulars of the infringement acts and the nature, range, time and other factors of patent licensing, according to the ratio of patent licensing fees to determine the amount of compensation."¹⁷¹ While not clearly recognizing the availability of different terms, the court seems willing to consider the availability of differing royalty schemes other than setting the royalty equal to the lowest offered license.

European institutions and courts have also enforced price discrimination that has competitive impact.¹⁷² The European institutions approach competition-distorting discrimination in a broader way than their Chinese counterparts. They attempt to create a level playing field through a similar treatment of similarly situated competitors. In the FRAND context, the U.K. decision in *Unwired*

allegations, including Hu'wei's claim that InterDigital improperly sought a worldwide license and improperly sought to bundle the licensing of essential patents on multiple generations of technologies. With respect to the second complaint, the court determined that, despite the fact that the FRAND requirement originates from 'TSI's Intellectual Property Rights policy, which refers to French law, InterDigital's license offers to Huawei should be evaluated under Chinese law. Under Chinese law, the court concluded that the offers did not comply with FRAND. The court further ruled that the royalties to be paid by Huawei for InterDigital's 2G, 3G and 4G essential Chinese patents under Chinese law should not exceed 0.019% of the actual sales price of each Huawei product.").

¹⁷⁰ Sokol & Zheng, *supra* note 69, at 23.

¹⁷¹ Cotter, *supra* note 162.

¹⁷² For example, the ongoing *Intel Corp. v European Commission* saw the European Commission impose a fine on Intel because Intel offered a rebate to four large manufacturers. Case T-286/09, *Intel Corp. v. Comm'n*, 2014 E.C.R. 547, ¶¶ 28, 34-35, <http://curia.europa.eu/juris/liste.jsf?num=T-286/09> [<https://perma.cc/VU2Q-8T9U>]. The General Court of the European Union held that these rebates, which amounted to exclusivity rebates, constitute a form of price discrimination that could impair competition. *Id.* ¶ 31. While the CJEU has yet to rule on the appeal, the Advocate General (AG) Wahl opined that the CJEU should send the case back to the General Court because the General Court only considered the theoretical instead of the actual competitive impact. Press Release, Court of Justice of the European Union, Advocate General's Opinion in Case C-413/14 P *Intel Corporation Inc. v Commission*, C.J.E.U. Press Release No 114/16 (Oct. 20, 2016), <https://curia.europa.eu/jcms/upload/docs/application/pdf/2016-10/cp160114en.pdf> [<https://perma.cc/J2KH-3EZT>] (discussing how Advocate General Wahl believes Intel's appeal against the imposition of a €1.06 billion fine for abuse of its dominant position should be upheld). The CJEU agreed with the Advocate General: the EC proved a theoretical restriction of competition but the Court set aside the fine and sent the case back to the General Court for the General Court to investigate Intel's argument of actual injury. Case C-413/14, *Intel Corp. v. Comm'n*, 2017 E.C.R. 632, <http://curia.europa.eu/juris/liste.jsf?num=C-413/14> [<https://perma.cc/7EGB-LKLL>].

*Planet v. Huawei Technologies*¹⁷³ explicitly refers to competition law and its relevance to non-discrimination, stating “the underlying principle is that comparable situations must not be treated differently and different situations must not be treated alike unless such treatment is objectively justified.”¹⁷⁴ The High Court highlighted that the competitive disadvantage must be unjustifiably affected to warrant intervention.¹⁷⁵ The UK High Court recognized that the different terms could be offered to different licensees depending on the circumstances. These circumstances define which situations are similar and which differ. If the circumstances differ, then a SEP holder could offer different licensing terms without affecting competition.¹⁷⁶

In spite of this view on non-discrimination in the competitive context, the UK High Court has a different approach to non-discrimination in the FRAND context. It believes that only a unique FRAND term exist under each circumstance.¹⁷⁷ As such, any deviation could qualify as non-FRAND.

In the German case *Sisvel v Haier*,¹⁷⁸ the Higher Regional Court of Düsseldorf recognized that “there may be several contractual arrangements with different licensing terms and, in particular, a range of royalties that are to be qualified as fair, appropriate and nondiscriminatory.”¹⁷⁹ As such, the German court views a range as more appropriate and would leave from for some price differences. The court further states that: “‘Nondiscriminatory’ means that the patentee treats the licensee in the same way as other licensees, thus offering a license on comparable terms, or, in the case of unequal treatment, having valid reasons for doing so, which must be demonstrated in a comprehensible manner.”¹⁸⁰ Therefore, unequal terms could be offered if properly justified. Europe as a whole has yet to come to a consensus.

In the U.S., price discrimination enforcement has been limited to predatory pricing.¹⁸¹ As such, the antitrust enforcement of “discriminatory” has been

¹⁷³ [2017] EWHC (Pat) 711 [487] (Eng.).

¹⁷⁴ *Id.* at ¶ 486 (citations omitted).

¹⁷⁵ *Id.*

¹⁷⁶ The Court stated that comparable transactions occur when “(a) they are concluded with purchasers who compete with one another, or who produce the same or similar goods, or who carry out similar functions in distribution, (b) they involve the same or similar products, (c) in addition their other relevant commercial features do not essentially differ.” *Id.* (citations omitted).

¹⁷⁷ *Id.* ¶ 800.

¹⁷⁸ Oberlandesgericht Düsseldorf (OLG) [Düsseldorf Court of Appeal] Jan. 13, 2016, I-15 U 65/15 and I-15 U 66/15 (Ger.).

¹⁷⁹ *Id.* ¶ 18.

¹⁸⁰ *Id.* ¶ 19.

¹⁸¹ Gifford & Kudrle, *supra* note 78. The enforcing of price discrimination only to predatory pricing behavior is almost inexistent in the FRAND context. Predatory pricing

reflected in the FRAND context. Courts have generally allowed royalties to reflect the impact of various bargaining positions (e.g., *Microsoft v. Motorola*¹⁸²) and have designed FRAND royalty rates to include volume discounts (e.g., *CSIRO v. Cisco*¹⁸³). From the reading of the cases above, U.S. courts have been more consistent and flexible in their reading of “non-discriminatory”.

Non-discriminatory has been interpreted to mean fully equal treatment and equal treatment of similarly situated entities. These interpretations of nondiscriminatory live along a spectrum. **Error! Reference source not found.** illustrates where the U.S., E.U., and China (CH) falls within a spectrum that moves from fully equal treatment to unique bilateral negotiation. From right to



left, licensing terms become more similar for different entities. To the right, each licensing contract is unique and can include its own terms. To the left, all licenses are identical. In between, licenses offered to similarly situated implementers ought to be the same.

Within this spectrum, the E.U. has on average taken the middle of the road approach of equal treatment of similarly situated entities. China has preferred a more fully equal treatment to the lowest possible offer. The U.S. has mostly stayed cleared of interpreting nondiscriminatory to mean equal treatment even though U.S. courts have used this approach when setting terms.

involves a below cost pricing. Licensing has a near-zero marginal cost. As such, even free licensing would not be considered predatory. A SEP holder paying a SEP implementer to include their standard raises some predatory issues. The SEP holder needs to recoup the pay-to-implement scheme through other services such as tying with other patents. A common practice is to tie SEP and non-SEP into a portfolio and force the SEP implementer to take the entire portfolio. Attributing a royalty to each patent becomes complicated and showing that the SEPs subsidize the non-SEPs becomes virtually impossible. In other words, the predation becomes complicated to show. For a discussion of bundling and tying, see U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, *Antitrust Issues in the Tying And Bundling of Intellectual Property Rights*, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION 103-14 (2007). Free licenses are not considered anti-competitive.

¹⁸² *Microsoft Corp. v. Motorola Inc.*, 795 F. 3d 1024, 1040-41 (9th Cir. 2015) (setting a FRAND royalty range after considering comparable licensing terms among other factors to come into evidence and other evidence that can influence the royalty rate).

¹⁸³ *Commonwealth Sci. & Indus. Res. Org. v. Cisco Sys., Inc.* 809 F.3d 1295, 1298, 1306-07 (Fed. Cir. 2015) *cert. denied*, 136 S.Ct. 2530 (2016).

Even within a jurisdiction, courts and anti-competition authorities move along this spectrum. As more cases are argued and more opinions are published, the spectrum can become more accurate.

The divergence in FRAND's "nondiscriminatory" reflects in many ways the anti-competition enforcement of discrimination. In this dimension, the three jurisdictions have showed little convergence. The U.S. has had almost fifty more years of precedent than the E.U. and a century more than China to reach its current approach to anti-competitive discrimination. This understanding slowly converges as courts look at each other in the standard setting process and the anti-competition enforcement. Furthermore, with more multinational companies negotiating worldwide licenses,¹⁸⁴ a convergence is necessary to avoid forum shopping.

The next Section addresses the second interpretation of non-discriminatory terms. It compares how the different jurisdictions have addressed this term.

B. A Spectrum of Access

Issues of "'hold up' and 'hold out' are highly relevant to an injunction request."¹⁸⁵ Hence, they are highly relevant to the question of access. SEP holders have complained that implementers were refusing to negotiate in good faith and pushed SEP holders to mitigate their losses by offering lower rates: a hold out.¹⁸⁶ Technology implementers have complained that SEP holders were requesting injunctions and hence abusing their dominant position to negotiate higher licensing fees, a hold up.¹⁸⁷

The cases discussed above seem to show that European and Chinese courts have different concerns than U.S. courts. These concerns seem to have shifted the burden of proof between the SEP holder and the technology implementer.

On the one hand, the U.S. Federal Circuit Court recognized that injunctions are available in FRAND cases.¹⁸⁸ In the *Apple v. Motorola* opinion, the court recognized that a patent holder may obtain an injunction in SEP infringement cases "where an infringer unilaterally refuses a FRAND royalty or unreasonably

¹⁸⁴ For example, in *Unwired v. Huawei*, one of the point of contention was that Unwired wanted only to offer a global license while Huawei wanted a UK only license. [2017] EWHC 711 ¶¶ 524-581.

¹⁸⁵ *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1333 (Fed. Cir. 2014) (Rader, J., dissenting) (noting "that Apple may have been a hold out in this case.").

¹⁸⁶ *Id.*

¹⁸⁷ *See, e.g., Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1233-34 (Fed. Cir. 2014) (holding that juries need not be instructed about hold-up unless the implementer can provide evidence that a hold-up occurred).

¹⁸⁸ *Apple Inc.*, 757 F.3d at 1331-32.

delays negotiations to the same effect.”¹⁸⁹ In other words, the patentee has the burden of proving that the implementer is misbehaving. FRAND commitments increase the evidentiary threshold.¹⁹⁰ As such, injunctions remain an unlikely option and holdup remains more worrisome than holdout.

What fulfils this evidentiary threshold remains controversial. Both Chief Judge Rader and Judge Prost return to this issue in their respective partial dissents. They agree that injunctions remain available in FRAND cases and hence no *per se* rule ought to exist in FRAND cases.¹⁹¹ They disagree as to the circumstances that would justify such an injunction and what evidence is admissible.

First, Chief Judge Rader states that hold-out and hold-up are equally likely and disruptive;¹⁹² thus, complex evidence is necessary to assess what occurred, including whether the offers made during negotiations were fair and reasonable.¹⁹³ As such, courts need to assess whether the rates were fair and reasonable.¹⁹⁴ He puts the weight of proving refusal to deal on the patent holder.¹⁹⁵

Second, Judge Prost states a refusal to negotiate should not justify granting an injunction because technology implementers should have a right to challenge validity.¹⁹⁶ In fact, he argues “a party’s pre-litigation conduct in license negotiations should [not] affect the availability of injunctive relief.”¹⁹⁷ Injunctions would then become a last resort in situations like contempt of court.¹⁹⁸ Judge Prost argues that pre-trial behavior cannot be interpreted as signaling holdout or holdup.¹⁹⁹

On the other hand, the European *Huawei v. ZTE* decision and the Chinese *Huawei v. InterDigital* decision have each stated that injunctions are available. These decisions imply that FRAND commitments create a duty of good faith dealing on the SEP holder and the implementer. This approach contradicts Judge Prost’s view and aligns closer with Chief Judge Rader’s view on

¹⁸⁹ *Id.* at 1332.

¹⁹⁰ *See id.*

¹⁹¹ *Id.* at 1333 (Rader, C.J., dissenting); *Id.* at 1342 (Prost, J., dissenting).

¹⁹² *Id.* at 1333.

¹⁹³ *Id.*

¹⁹⁴ *Id.*

¹⁹⁵ *Id.* at 1333-4

¹⁹⁶ *Id.* at 1342 (Prost, J., dissenting).

¹⁹⁷ *Id.* at 1343.

¹⁹⁸ *Id.*

¹⁹⁹ *Id.* at 1342-43 (stating “[b]ut regardless, none of these considerations alters the fact that monetary damages are likely adequate to compensate for a FRAND patentee’s injuries. I see no reason, therefore, why a party’s pre-litigation conduct in license negotiations should affect the availability of injunctive relief.”).

injunction availability.

In Europe, the *Huawei v. ZTE* decision has led to some confusion.²⁰⁰ Since the *Huawei v. ZTE* decision, European courts have reiterated that injunctions are available. In both the German *Sisvel v. Haier* and the British *Unwired v. Huawei*, the courts delayed their injunction decisions. In *Sisvel v. Haier*, the Higher Regional Court of Düsseldorf stated that Sisvel needed to align with its guideline on the *Huawei v. ZTE* before an injunction was granted.²⁰¹ The guidance provided by the Higher Regional Court of Düsseldorf establish a set of steps that must be fulfilled (i.e. sequential good faith negotiations).²⁰²

German courts have granted injunctions in other cases.²⁰³ In these cases, the evidence focused on the negotiation tactics and delays between the offers and counteroffer. For example, in *St. Lawrence v. Vodafone and HTC*,²⁰⁴ the Regional Court of Düsseldorf granted an injunction against the technology implementer. The Higher Regional Court of Düsseldorf affirmed the decision.²⁰⁵ The lower court found that the SEP holder (St. Lawrence) made a FRAND offer, one technology implementer (Vodafone) made no FRAND counteroffer.²⁰⁶ The technology supplier (HTC) delayed its counteroffers and when it finally made counteroffers, they were not FRAND.²⁰⁷ As such, the SEP holder negotiated in good faith, whereas the SEP implementers either refused to negotiate or did not negotiate in good faith, which was sufficient under *Huawei v. ZTE* to grant the SEP holder an injunction.

In China, the *Iwncomm* decision demonstrates a set of circumstances under which an injunction was granted. The court emphasizes the question of fault.²⁰⁸ In other words, to obtain an injunction, the SEP holder must have clean hands whereas the SEP implementer cannot. This balance of fault remains vague. In this case, the Beijing IP Court highlighted delay tactics and refusal to sign a non-disclosure agreement before negotiation could begin.²⁰⁹

²⁰⁰ Nolte & Rosenblum, *supra* note 144 (discussing the divergence between the interpretations of the Mannheim and Düsseldorf Regional Courts).

²⁰¹ See Jacob & Milner, *supra* note 138 at 9-10.

²⁰² OLG [Düsseldorf Court of Appeal] Jan. 13, 2016, I-15 U 65/15 and I-15 U 66/15 (Ger.)

²⁰³ Nolte & Rosenblum, *supra* note 144, at 12-15.

²⁰⁴ *Id.* at 12-13 (discussing Oberlandesgericht Düsseldorf [OLG] [Düsseldorf Court of Appeal] May 09, 2016, I-15 U 35/15 (Ger.); Landgericht Düsseldorf (LG) [Düsseldorf Regional Court] Mar. 21, 2016, 4a O 126/14 (Ger.)).

²⁰⁵ Nolte & Rosenblum, *supra* note 144, at 15-18.

²⁰⁶ *Id.*

²⁰⁷ *Id.*

²⁰⁸ Cotter, *supra* note 162 (“the key point to answer [is] whether the defendant should bear the civil liability for stopping the infringement came to, whether there is subjective fault in the process of patent licensing negotiation.”).

²⁰⁹ *Id.*

The set of circumstances under which injunctions are available in SEP are unclear. The injunctive inquiry remains a question of fact; so, it will be only be clarified as the Chinese IP Court makes more rulings.

These European and Chinese decisions could signal that these courts view holdouts occurring more often than their US counterparts. Therefore, the European and Chinese courts worry less about access and more about bargaining position. These jurisdictions have boosted the SEP holders' bargaining position and have reduced the likelihood of a holdout.

From a policy standpoint, both holdout and holdup have negative welfare impacts. On the one hand, if holdout becomes prevalent, patent holders might refuse to participate in standards because they may not be able to get a fair return on their investments. On the other hand, if holdup becomes prevalent,²¹⁰ technology implementers might refuse to adopt a standard because they fear being locked into a standard after making irreversible investments.

Standards create value to society that needs to be protected. Therefore, addressing misbehaviors of both SEP holders and implementers could guarantee that standards and their value continue to grow.

Misbehaviors of SEP holders can be resolved by courts and by SSOs. Courts can refuse to grant injunctions if they fear a holdup or they can set low FRAND terms. If SSOs worry about holdup, they can come up with new policies. For example, IEEE has changed its policy and now requires SEP holders to declare that they will not seek an injunction in case of failed negotiation.²¹¹ This policy decreases the chance of holdup.

Misbehaviors of SEP implementers require court resolution or deterrence. SEP implementers are decentralized – unlike SEP holders who coordinate through SSOs. Therefore, affecting the behaviors of SEP implementers becomes more difficult and onerous. European and Chinese courts have indirectly addressed some of these issues by decreasing the incentive to holdout. These courts view non-discriminatory and FRAND to mean access within limits.

The courts have treated nondiscriminatory to mean access. Their views and decisions live along a spectrum. **Error! Reference source not found.** illustrates where the U.S., E.U., and China (CH) fall within this spectrum of open access to standard but, more importantly, relative to each other. From left to right, injunctions become harder to obtain, which signifies that access becomes more open.

²¹⁰ Other issues such as royalty stacking and patent ambush can also impact standard adoption and SEP implementers' incentives.

²¹¹ See Letter from Renata B. Hesse to Michael A. Lindsay, *supra* note 13.



Figure 2: Nondiscriminatory/Access Spectrum.

Courts move within this spectrum. Over time, courts in all jurisdictions have moved more and more toward a conditional access standard. As such, the three jurisdictions have showed evidence of convergence. Before *eBay*, U.S. courts granted permanent injunctions when a patent was found to be infringed. Since *eBay*, U.S. courts have not granted injunctions in FRAND cases. Lower courts and the Federal Circuit have interpreted nondiscriminatory within FRAND as a single term. Short of a *per se* rule, these U.S. courts view FRAND to mean open access and (almost) no injunction. Future FRAND cases may well see an injunction.

E.U. lower courts are still finding their feet after the *Huawei v. ZTE* decisions. Much like the U.S., the E.U. has moved away from automatically granting injunctions when patents were proven infringed. The CJEU views nondiscriminatory licensing and FRAND to mean low conditional access. The CJEU has put a low threshold for SEP implementers to avoid an injunction and ensure access: answer FRAND terms with another counteroffer FRAND term without (excessive) delay. Lower courts find themselves having to assess more often whether terms are FRAND.

Chinese courts have required no fault on the part of implementers to ensure access. The no-fault standard seems higher than the E.U. standard. The Beijing IP court focuses on pre-trial negotiation tactics. Requesting information and delaying strategies have proved problematic for SEP implementers. More cases needed to be litigated to understand what strategies can signal fault for SEP implementers.

The next Section brings this spectrum on licensing terms along with the previous spectrum over access together. It uses the different cases discussed to show how they can be used to analyze the meaning of “nondiscriminatory” within FRAND.

C. A Two-Dimensional Approach to Non-Discriminatory Terms

The two spectrums depicted above show the average situation in each jurisdiction. Each case falls differently along this spectrum because of varying facts, factors and ruling courts.

Error! Reference source not found. shows where each individual case falls

within the two dimensions of interpreting nondiscriminatory. The X-axis represents nondiscriminatory as “open access” spectrum. The Y-axis represents the spectrum as “equal treatment” treatment spectrum.

The three E.U. cases, the three Chinese cases, and the four U.S. cases discussed in details above are depicted along the two dimensions. Some cases may not address one issue and, as such, they are depicted along one dimension on the axis as an oval stretched along the missing dimension.

Since *Huawei v. ZTE*, the EU lower courts have attempted to consistently apply its *Huawei v. ZTE* framework. It will likely take another few cases until the courts agree on the injunction access threshold.

In the U.S., the Federal Circuit Court hopes that the lower courts interpret FRAND consistently based on the precedents it sets. It has succeeded for the most part.²¹²

In China, the interpretation of non-discriminatory has shifted over the years. In *Huawei v. InterDigital*, the Shenzhen court used licenses with Samsung and Apple as comparable licenses but the court fell short of investigating how Huawei could be differentiated from the other two.²¹³ Similarly, in *Iwncomm v. Sony*, the Beijing IP Court used four previous licensing agreements without looking at how the case at hand could differ.²¹⁴ With respect to nondiscriminatory (royalty) terms, both courts have extended existing terms to an alleged infringer. In the same way, the NDRC-Qualcomm resolution shows that the enforcing authority elected to enforce a fully equal treatment of all authorities.

²¹² For example, in *Apple Inc. v. Motorola Inc.*, the Federal Circuit attempts to rectify the use of “a per se rule that injunctions are unavailable for SEPs.” 757 F.3d 1286, 1331 (Fed. Cir. 2014). Even though the Federal Circuit has applied *eBay* to any injunctive relief linked to patents since 2006, some lower courts seem to have used a different standard (i.e. a per se rule of no injunction in SEP cases) until 2014.

²¹³ See Michael Han & Kexin Li, *Huawei v InterDigital: China at the Crossroads of Antitrust and Intellectual Property, Competition and Innovation*, COMPETITION POL’Y INT’L: ASIA COLUMN (Dec. 3, 2013), <https://www.competitionpolicyinternational.com/huawei-v-interdigital-china-at-the-crossroads-of-antitrust-and-intellectual-property-competition-and-innovation/> [https://perma.cc/EZ7K-PEGS].

²¹⁴ Shen & Ge, *supra* note 161.

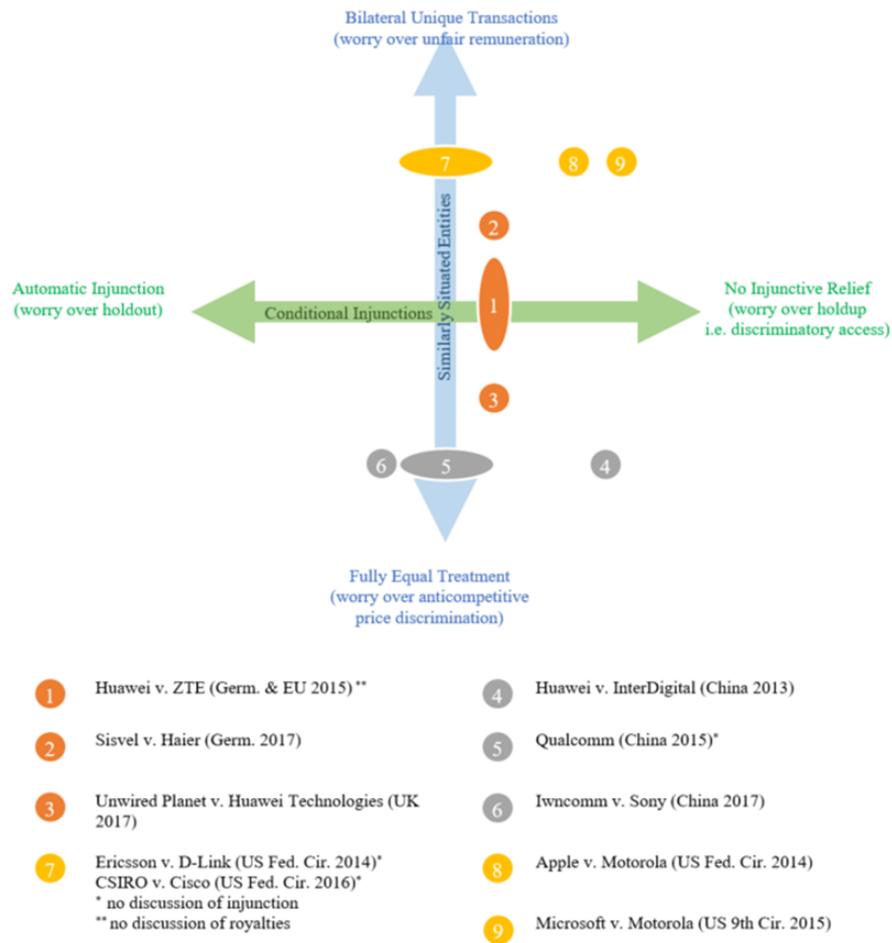


Figure 3: Two-Dimensional Analysis of Nondiscriminatory

With respect to the access dimension, these two court cases differ. In *Huawei v. InterDigital*, the Shenzhen Court held that an injunction could be an abuse of dominant position.²¹⁵ In *Iwncomm v. Sony*, the Beijing IP court disagreed and granted Iwncomm an injunction based on a balance of fault test.²¹⁶

These divergences could be interpreted as using a form of protectionism: the SEP holder was a foreigner in *Huawei v. InterDigital* and was not granted an injunction whereas the SEP holder was a Chinese company in *Iwncomm v. Sony*

²¹⁵ Han & Li, *supra* note 213.

²¹⁶ Beijing East IP Ltd., *supra* note 163.

and was granted an injunction. The diverging interpretations could as well be due to a further understanding of FRAND. Since *Huawei v. InterDigital*, more literature has been written on the topic and the CJEU has decided *Huawei v. ZTE* in 2015 using a more structured balance of fault test. The *Iwncomm v. Sony* decision mirrors in many ways the EU *Huawei v. ZTE* decision using different evidentiary thresholds. As such, it could show an evolution and an alignment across jurisdictions.

CONCLUSION

The framework discussed above has limitations. Licensing terms are multi-dimensional: they can differ along territories, duration, use, overtime, etc. In an effort to simplify, the analysis focuses on a broad understanding of royalty terms offered. The two-dimension framework offers an elegance in its simplicity despite its limitations.

SEPs and FRAND terms have become a global issue. While the analysis in this paper has focused on three jurisdictions, it can be extended to other jurisdictions such as Japan and India. These jurisdictions likely have their own understandings of “non-discriminatory.”

FRAND interpretation is still in its infancy. Most of the cases discussed were ruled on within the last five years. Even within these five years, some evolutions have occurred as can be seen in China’s approach to injunctions in FRAND cases. As more cases are litigated, courts may converge toward a common understanding. Such convergence may become necessary to avoid multinational companies attempting to leverage jurisdictional boundaries to their advantage to negotiate lower royalties.²¹⁷ Until then, it is useful to think of this analytical method to understand the two dimensions along which nondiscriminatory has been interpreted.

²¹⁷ *Unwired Planet Int. Ltd. v. Huawei Tech.* illustrates this issue. [2017] EWHC (Pat) 711 (Eng.). Huawei only wanted a U.K.UK license whereas Unwired was offering a worldwide license over 42 jurisdictions involving 3 standards and 225 patents. *Id.* ¶ 1, 176. The English High Court attempted to address this issue by requesting that the parties negotiate a worldwide license. *Id.* ¶ 807(11). This aspect of the decision will likely be appealed and possibly overturned if Huawei successfully argues that it could and would challenge the patent validity in other jurisdictions and hence the UK High Court cannot preclude Huawei the right to challenge a patent from a different jurisdiction in a different jurisdiction.