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## Global Rate Setting: A Solution for Standards-Essential Patents?

Jorge L. Contreras

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## **GLOBAL RATE SETTING: A SOLUTION FOR STANDARDS-ESSENTIAL PATENTS?**

Jorge L. Contreras\*

*Abstract:* The commitment to license patents that are essential to technical interoperability standards on terms that are fair, reasonable, and non-discriminatory (FRAND) is a fundamental mechanism that enables standards to be developed collaboratively by groups of competitors. Yet disagreements over FRAND royalty rates continue to bedevil participants in global technology markets. Allegations of opportunistic hold-up and hold-out arise with increasing frequency, spurring competition authorities to investigate and intervene in private standard-setting. And litigation regarding compliance with FRAND commitments has led courts around the world to adjudicate FRAND royalty rates, often on a global basis, but using very different methodologies and doctrinal approaches. The issues affecting the FRAND licensing system can be summarized as deficiencies in transparency, consistency, and comprehensiveness. Together, these issues reduce the overall fairness and efficiency of the system and result in excess administrative and transactional costs. This Article lays out a roadmap for the establishment of a global FRAND rate-setting tribunal that promotes the tripartite goals of transparency, consistency, and comprehensiveness by determining the aggregate value of patents covering a particular standard and allocating that value among individual patents and patent holders. This tribunal is modeled on the U.S. Copyright Royalty Board and similar rate-setting agencies, though it is envisioned not as a governmental body but as an international non-governmental organization. Such a tribunal should bring greater predictability and stability to the technology development ecosystem while reducing inefficient litigation.

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\* Professor of Law, University of Utah S.J. Quinney College of Law. This Article has benefitted from presentation and feedback at the Stanford University Hoover Institution 2019 Conference on the Market for Regulation in the Internet of Things, the 8th Annual Patent Conference (PatCon) at University of San Diego, the 7th International Intellectual Property Roundtable at Duke University, and the IP Day 2018 Conference at Boston University. The author is grateful for commentary and discussion by Jim Bessen, Graeme Dinwoodie, Richard Evensen, Justin Hughes, Sir Robin Jacob, Ron Laurie, Luke McLeroy, Michael Meurer, Lisa Ouellette, Sarah Rajec, Lisa Ramsey, Joshua Sarnoff, Norman Siebrasse, Eric Talley, Sang-Seung Yi and Peter Yu, among others. Research assistance by Luke Hanks is gratefully acknowledged.

INTRODUCTION .....	702
I. FRAND ROYALTIES TODAY .....	713
A. FRAND Rate Calculation Approaches: Top-Down Versus Bottom-Up .....	713
1. Bottom-Up Approach .....	714
2. Top-Down Approach .....	715
B. Other FRAND Rate Issues .....	718
C. The Challenge of Global Rates .....	722
II. ANTECEDENTS AND BUILDING BLOCKS FOR A FRAND RATE-SETTING TRIBUNAL .....	726
A. Arbitration of Patent and FRAND Disputes .....	726
B. Mandatory Arbitration .....	729
C. Rate-Setting .....	733
III. FRAMEWORK FOR A GLOBAL FRAND RATE- SETTING TRIBUNAL .....	738
A. Mandatory and Optional Versions .....	738
B. Establishment, Composition, and Compensation of Tribunal .....	742
C. Tribunal's Limited Authority .....	744
D. Tribunal Procedure .....	745
E. Stay of Injunctive Relief .....	747
F. Tribunal Determinations .....	749
G. Public Disclosure .....	751
H. Antitrust and Competition Considerations .....	752
I. Tradeoffs: Precision Versus Efficiency .....	753
J. Navigating the Political Economy of Standard-Setting .....	755
CONCLUSION .....	756

## INTRODUCTION

Technical interoperability standards lie at the heart of some of the largest litigation battles and corporate transactions in recent years. Samsung's patent infringement suits against Apple in the United States, European Union, Korea, Japan, and elsewhere—fought at the height of the global smart phone wars—turned on the use of patented 3G and 4G wireless telecommunications technology.<sup>1</sup> Recent takeover battles among

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1. See Jorge L. Contreras, *The Global Standards Wars: Patent and Competition Disputes in North America, Europe and Asia*, KEIO U. J.L. POLITICS & SOC. 9–10 (2018), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3106090](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3106090) [<https://perma.cc/KUQ2-TK8M>] [hereinafter Contreras, *Global Standard Wars*]; Hitomi Iwase & Takahiro Sugauchi, *Apple v. Samsung: Enforcing a Standards-Essential Patent After a FRAND Declaration*, 2014 IP VALUE 102 (2014).

Intel, Broadcom, Qualcomm, and NXP underlie a battle for dominance in the market for standardized networking and communications chips.<sup>2</sup>

These standards, which range from simple physical compatibility features such as the three-pronged electrical plug to hugely complex wireless telecommunications protocols, enable products manufactured by different vendors to interface seamlessly and automatically with one another. Such standards, and the widespread product interoperability that they enable, can promote innovation, reduce development costs, increase consumer utility, and produce significant market efficiencies known as “network effects.”<sup>3</sup> The importance of standards continues to grow in today’s interconnected global economy. Efforts are now under way to develop future generations of mobile broadband communications protocols known as “5G” and “6G,”<sup>4</sup> as well as standards that will link a vast array of devices embedded in personal accessories, medical devices, vehicles, home appliances, and the built environment: the so-called “Internet of Things.”<sup>5</sup>

Most of the thousands of technical standards implemented in products today—from Wi-Fi to LTE to HTML—were developed by firms collaborating within industry associations known as standards-development organizations (SDOs).<sup>6</sup> As a result, these firms hold hundreds, thousands, or tens of thousands of patents covering key interoperability standards, particularly in the telecommunications and

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2. See Danny Crichton, *The Incredible Multi-Dimension Chess of Qualcomm vs. Broadcom*, TECHCRUNCH (Mar. 10, 2018), <https://techcrunch.com/2018/03/10/qualcomm-vs-broadcom/> [<https://perma.cc/89XS-R3UW>].

3. See CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY 45–46 (1999); U.S. DEP’T OF JUSTICE & FTC, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION 33 (2007) [hereinafter DOJ-FTC ANTITRUST & IPR].

4. Sascha Segan, *With 5G Still in the Works, 6G Is Already Taking Shape*, PCMAG (Apr. 19, 2018, 12:25 PM), <https://www.pcmag.com/article/360533/what-is-6g> [<https://perma.cc/DH5N-LEWE>].

5. Ahmed Banafa, *IoT Standardization and Implementation Challenges*, IEEE INTERNET OF THINGS (July 12, 2016), <https://iot.ieee.org/newsletter/july-2016/iot-standardization-and-implementation-challenges.html> [<https://perma.cc/8TU3-5QW8>].

6. SDOs encompass a wide range of organizations, from semi-official international bodies (e.g., the International Organization for Standardization (ISO) and European Telecommunications Standards Institute (ETSI)) to large private organizations (e.g., the IEEE Standards Association and Internet Engineering Task Force (IETF)), to smaller groups often referred to as “consortia” that focus on one or a handful of related standards (e.g., the HDMI Forum and Bluetooth Special Interest Group). See generally Brad Biddle, *No Standard for Standards: Understanding the ICT Standards-Development Ecosystem*, in CAMBRIDGE HANDBOOK OF TECHNICAL STANDARDIZATION LAW: COMPETITION, ANTITRUST, AND PATENTS 17 (Jorge L. Contreras ed., 2018). The term SDO is often used interchangeably with the term SSO (standard setting organization). While fine distinctions can be made, for purposes of this Article I treat these terms as synonymous.

computing industries.<sup>7</sup> In order to address concerns about the leverage that holders of such patents may exert after a standard is widely adopted (so-called patent “hold-up”),<sup>8</sup> SDOs have adopted policies requiring their participants to license patents that are “essential” to their standards (standards-essential patents or SEPs) on terms that are royalty-free or that bear royalties that are “fair, reasonable and non-discriminatory” (FRAND).<sup>9</sup> Antitrust and competition authorities around the world have recognized that commitments to license SEPs at rates that are no higher than FRAND are important to standardization.<sup>10</sup> The World Trade Organization (WTO) Technical Barriers to Trade (TBT) Agreement<sup>11</sup> and the SDO accreditation requirements of the American National Standards Institute (ANSI)<sup>12</sup> both reflect the importance of such commitments. Today, most SDOs around the world require some form of licensing commitment for patents that are necessary to implement their standards, and those commitments often require terms that are FRAND.<sup>13</sup>

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7. See, e.g., Justus Baron & Tim Pohlmann, *Mapping Standards to Patents Using Declarations of Declared Standard-Essential Patents and Systems of Technological Classification*, 27 J. ECON. & MGMT. STRATEGY 504, 521, tbl.7 (2018) (mapping number of declared patents to particular standards—e.g., the 4G LTE standard is subject to 430 patent declarations by 65 different companies, representing 45,279 different patents; the 3G UMTS standard is subject to 500 patent declarations by 63 different companies, representing 39,748 different patents); KNUT BLIND ET AL., *STUDY ON THE INTERPLAY BETWEEN STANDARDS AND INTELLECTUAL PROPERTY RIGHTS (IPRS)*, FINAL REPORT 62 (2011).

8. See generally Norman V. Siebrasse, *Holdup, Holdout and Royalty Stacking: A Review of the Literature*, in *PATENT REMEDIES AND COMPLEX PRODUCTS: TOWARD A GLOBAL CONSENSUS*, (C. Bradford Biddle et al., eds. (forthcoming 2019)), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2902780](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2902780) [<https://perma.cc/S658-46HY>].

9. SDOs that require royalty-free licensing of SEPs generally also require that non-royalty terms be fair, reasonable and non-discriminatory. However, this Article uses the term FRAND to refer to royalty-bearing licenses. In addition, following customary practice, the terms FRAND and RAND (reasonable and nondiscriminatory) are used interchangeably. See U.S. DEP'T OF JUSTICE & U.S. PATENT & TRADEMARK OFFICE, *POLICY STATEMENT ON REMEDIES FOR STANDARDS-ESSENTIAL PATENTS SUBJECT TO VOLUNTARY F/RAND COMMITMENTS* 1 n.2 (2013) [hereinafter DOJ/PTO POLICY STATEMENT] (noting equivalence of these terms).

10. See Jorge L. Contreras, *Origins of FRAND Licensing Commitments in the United States and Europe*, in *CAMBRIDGE HANDBOOK*, *supra* note 6, at 149.

11. Agreement on Technical Barriers to Trade, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1, 1868 U.N.T.S. 120.

12. AM. NAT'L STANDARDS INST., *ANSI ESSENTIAL REQUIREMENTS: DUE PROCESS REQUIREMENTS FOR AMERICAN NATIONAL STANDARDS* § 3.1.1, 10–11 (2019) [hereinafter *ANSI Essential Requirements*] (an SDO must conform to the ANSI Essential Requirements in order to be recognized as a developer of American National Standards; these requirements include a patent policy that requires either royalty-free or FRAND licensing of essential patent claims).

13. See Baron & Pohlmann, *supra* note 7, at 521 tbl.7; RUDI BEKKERS & ANDREW UPDEGROVE, *A STUDY OF IPR POLICIES AND PRACTICES OF A REPRESENTATIVE GROUP OF STANDARDS SETTING ORGANIZATIONS WORLDWIDE* 89 tbl.13 (2012), [http://sites.nationalacademies.org/xpedio/groups/pgasite/documents/webpage/pga\\_072197.pdf](http://sites.nationalacademies.org/xpedio/groups/pgasite/documents/webpage/pga_072197.pdf) [<https://perma.cc/ML2N-ZFFJ>] (noting that of ten

But despite the widespread imposition of FRAND commitments by SDOs, there is little consensus regarding the methodology for determining what royalty rates should be considered “fair” and “reasonable” in any given instance.<sup>14</sup> No SDO defines, even broadly, how to calculate royalty rates that are FRAND,<sup>15</sup> and many SDOs expressly disclaim any role in establishing, interpreting, or adjudicating FRAND royalty rates.<sup>16</sup> Though some commentators (including the author) have argued that SDOs can and should play a greater role in defining the nature and scope of their FRAND commitments,<sup>17</sup> concerns arising from antitrust law, complexity,

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major SDOs studied, eight explicitly specify FRAND licensing as an option in their IPR policies); Brad Biddle et al., *How Many Standards in a Laptop? (And Other Empirical Questions)*, in PROCEEDINGS OF THE 2010 INT’L TELECOMM. UNION SEC. TELECOMM. STANDARDIZATION, KALEIDOSCOPE ACAD. CONF. 123 & fig.2 (75% of the laptop computer standards studied were subject to a RAND commitment and 22% were royalty-free); Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CALIF. L. REV. 1889, 1906 (2002) (finding that of thirty-six SDO patent policies, twenty-nine required, and three encouraged, FRAND licensing).

14. See, e.g., FTC, THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION 192 (2011) (“[T]he terms RAND and FRAND are vague and ill-defined.”); Richard J. Gilbert, *Deal or No Deal? Licensing Negotiations in Standard-Setting Organizations*, 77 ANTITRUST L.J. 855, 859 (2011) (noting that the “fair and reasonable” component of FRAND is “often inherently ambiguous”); Kai-Uwe Kühn et al., *Standard Setting Organizations Can Help Solve the Standard Essential Patents Licensing Problem*, CPI ANTITRUST CHRON. 3 (2013) (“SSOs typically specify very little as to the meaning of ‘fair’ or ‘reasonable.’”); Doug Lichtman, *Understanding the RAND Commitment*, 47 HOUS. L. REV. 1023, 1031 (2010) (“It is something of an outrage that the language of the RAND commitment offers so little guidance as to its proper interpretation.”); Joseph S. Miller, *Standard Setting, Patents, and Access Lock-In: RAND Licensing and the Theory of the Firm*, 40 IND. L. REV. 351, 357 (2007) (reviewing earlier literature).

15. One SDO—the IEEE Standards Association—has attempted to offer some high-level parameters for determining what rates satisfy its FRAND commitment. See IEEE STANDARDS ASS’N, IEEE-SA STANDARDS BOARD BYLAWS § 6 (2016), [http://standards.ieee.org/develop/policies/bylaws/sb\\_bylaws.pdf](http://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf) [<https://perma.cc/N9TC-QQ93>] [hereinafter IEEE Policy]. Nevertheless, even this relatively modest effort at clarification has generated significant criticism and pushback. See J. Gregory Sidak, *The Antitrust Division’s Devaluation of Standard-Essential Patents*, 104 GEO. L.J. ONLINE 48, 67–72 (2015).

16. See, e.g., IEEE Policy, *supra* note 15, at § 6.2 (“The IEEE is not responsible for . . . determining whether any licensing terms or conditions . . . are reasonable or non-discriminatory.”); SCOTT O. BRADNER & JORGE L. CONTRERAS, INTERNET ENGINEERING TASK FORCE, INTELLECTUAL PROPERTY RIGHTS IN IETF TECHNOLOGY 9 (2017) (“[IETF] will not make any explicit determination that the assurance of reasonable and non-discriminatory terms or any other terms . . . has been fulfilled in practice.”).

17. See, e.g., Stanley M. Besen, *Why Royalties for Standard Essential Patents Should Not Be Set by the Courts*, 15 CHI-KENT J. INTELL. PROP. 19 (2016) (arguing that SDOs, rather than courts, are best-equipped to make FRAND royalty determinations); Jorge L. Contreras, *Fixing FRAND: A Pseudo-Pool Approach to Standards-Based Patent Licensing*, 79 ANTITRUST L.J. 47, 78–87 (2013) [hereinafter Contreras, *Fixing FRAND*] (proposing mechanism for SDO determination of FRAND royalty rates); Jorge L. Contreras, *Aggregated Royalties for Top-Down FRAND Determinations: Revisiting ‘Joint Negotiation’*, 62 ANTITRUST BULL. 690 (2017) [hereinafter Contreras, *Aggregated Royalties*] (proposing collective negotiation of aggregate royalty rates within SDOs); Kühn et al.,

efficiency, cost, and member pressure have led some SDOs to prohibit outright any discussion of royalties and other licensing terms at SDO-sponsored activities.<sup>18</sup>

With little guidance from SDOs and regulatory authorities, SEP holders and manufacturers of standardized products are left to determine FRAND royalty rates in private negotiations. But given the complexity of these transactions, the large sums at stake, and the legal uncertainty that pervades this area, an increasing number of disputes have arisen regarding the appropriate level of FRAND royalty rates. It is now routine for manufacturers of standardized products to claim that SEP holders seek royalties that are in excess of FRAND limits and are thereby violating their FRAND commitments. By the same token, it has become commonplace for SEP holders to claim that manufacturers are dragging their feet in negotiations, intentionally stalling so as to avoid paying royalties that are fair and reasonable (a practice referred to as “holdout” or “reverse hold-up”). In both types of cases, courts around the world have been called upon to adjudicate the level of royalties that SEP holders can validly charge.<sup>19</sup> Not surprisingly, these disputes are costly, unpredictable, and disruptive to the market.

The above considerations can be distilled into three key deficiencies that most significantly impact the efficient and predictable determination of FRAND royalty rates, both privately and through adjudication: lack of *transparency*, lack of *consistency*, and lack of *comprehensiveness*.

*Transparency.* FRAND royalty rates must, by their terms, be non-discriminatory, meaning that, at least with respect to similarly-situated licensees, rates should be comparable if not identical.<sup>20</sup> But because FRAND royalty negotiations and the resulting license agreements are typically subject to strict confidentiality obligations, manufacturers have

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*supra* note 14, at 3 (“SSOs can substantially reduce the problem of hold-up and litigation in this sector by reforming their IPR policies.”).

18. See, e.g., IEEE STANDARDS ASS’N., IEEE-SA STANDARDS BOARD OPERATIONS MANUAL § 5.3.10.2 (2015) (“No discussions or other communications regarding the following topics shall occur during . . . duly authorized IEEE-SA standards-development technical activities: . . . the essentiality, interpretation, or validity of patent claims; specific patent license terms or other intellectual property rights . . .”); see also Contreras, *Fixing FRAND*, *supra* note 17, at 51–52 (discussing reasons for prohibitions); Lemley, *supra* note 13, at 1965 (observing that such restrictions are often intended to shield SDOs from antitrust liability).

19. See generally CHRYSSOULA PENTHEROUDAKIS & JUSTUS A. BARON, LICENSING TERMS OF STANDARD ESSENTIAL PATENTS: A COMPREHENSIVE ANALYSIS OF CASES, JRC Science for Policy Report EUR 28302 (Nikolaus Thumm ed., 2017) (cataloging FRAND litigation around the world).

20. See *infra* notes 97–99 and accompanying discussion of non-discrimination requirements.

little visibility into the rates offered by SEP holders to others.<sup>21</sup> Likewise, when parties resolve their FRAND disputes through binding arbitration, the results are typically not disclosed to the public.<sup>22</sup> Accordingly, aside from a few published judicial opinions, there is a paucity of publicly available information regarding FRAND royalty rates.<sup>23</sup> Thus, manufacturers have few means short of litigation discovery by which they can compare a SEP holder's royalty rates or validate whether a SEP holder has complied with its obligation to grant licenses on non-discriminatory terms.<sup>24</sup>

*Consistency.* Parties ordering their affairs depend on consistent rulings and legal interpretations from courts, and such consistency is particularly important when significant investments and business decisions will depend on a party's assessment of its legal rights.<sup>25</sup> But as the number of courts deciding FRAND-related cases has increased, so has disagreement over the interpretation of FRAND commitments.<sup>26</sup> And nowhere is this disagreement more pronounced than in the methodology for computing FRAND royalties. As discussed in Section I.A, there are more than a dozen points of serious divergence among courts and other adjudicatory

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21. See Mark R. Patterson, *Confidentiality in Patent Dispute Resolution: Antitrust Implications*, 93 WASH. L. REV. 827 (2018) (raising antitrust concerns arising from lack of transparency in FRAND licensing transactions).

22. See Jorge L. Contreras & David L. Newman, *Developing a Framework for Arbitrating Standards-Essential Patent Disputes*, 2014 J. DISP. RESOL. 23, 39–41 (discussing confidentiality in FRAND arbitration); Yoonhee Kim, *Lifting Confidentiality of FRAND Royalties in SEP Arbitration*, 16 COLUM. SCI. & TECH. L. REV. 1 (2014).

23. See generally JORGE L. CONTRERAS ET AL., STUDY PROPOSAL—COMMERCIAL PATENT LICENSING DATA (2016), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2755706](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2755706) [<https://perma.cc/WL7H-L6NS>] (identifying lack of public licensing data as an issue both for firms and courts).

24. Cf. Gilbert, *supra* note 14, at 870 (underscoring the importance of non-discrimination commitments to the correct functioning of FRAND obligations).

25. See generally Theodore Eisenberg & Geoffrey P. Miller, *The Flight to New York: An Empirical Study of Choice of Law and Choice of Forum Clauses in Publicly-Held Companies' Contracts*, 30 CARDOZO L. REV. 1475, 1479 (2009) [hereinafter Eisenberg & Miller, *New York*] (discussing parties' preference for "certainty and predictability" in transactions).

26. See, e.g., Jorge L. Contreras, *Private Law, Conflict Of Laws, and a Lex Mercatoria of Standards-Development Organizations*, 2019 EUR. REV. PRIVATE L. 245, 253 (2019) [hereinafter Contreras, *Lex Mercatoria*] ("The application of specific national laws and modes of legal interpretation to already complex and lengthy SDO policies has introduced an additional level of unpredictability and uncertainty to the interpretation of SDO policies, particularly surrounding FRAND commitments."); Jyh-An Lee & Dicky Tsang, *Unfriendly Choice of Law in FRAND* (working paper, presented at IP Scholars Conference, Aug. 2018) (noting national inconsistencies in interpretation of FRAND commitments among courts in the United States, United Kingdom, Japan, Korea, China and Germany); PENTHEROUDAKIS & BARON, *supra* note 19 (cataloging issues and disputes in cases around the world).



bodies with respect to the methods of calculating FRAND royalty rates. These methods can vary dramatically from court to court and case to case, even for patents covering the same standard and for cases within the same jurisdiction.<sup>27</sup> This degree of judicial discord, coupled with the lack of transparency noted above, creates uncertainty in the marketplace, as there is no definitive benchmark that parties can use to determine whether the rates being offered in private negotiations are reasonable or not. What is more, as discussed in Section I.C, national courts have become increasingly emboldened to determine FRAND rates at a global level.<sup>28</sup> Thus, the methodological choices made by any given court take on even greater significance, as they may be applied not only by the court hearing a dispute but also around the world.

*Comprehensiveness.* As noted above, many widely adopted standards are covered by hundreds or thousands of patents.<sup>29</sup> Yet in litigation, the royalty due to every patent holder is determined individually, without reference to the other patents covering the same standard or product. In most cases, only one patent holder out of dozens presents arguments to the court, generally over emphasizing the value of its own patents above the others.<sup>30</sup> Thus, even if such a royalty might meet some test of

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27. See Ryan Davis, *4 Things to Know About the Latest FRAND Rate-Setting Case*, LAW360 (Jan. 4, 2018, 9:36 PM), <https://www.law360.com/articles/998063/4-things-to-know-about-the-latest-frand-rate-setting-case> [<http://perma.cc/M8K4-4JS9>] (quoting attorney David Long, who noted “[w]e haven’t had any U.S. court consistently apply the same method”); Jason R. Bartlett & Jorge L. Contreras, *Rationalizing FRAND Royalties: Can Interpleader Save the Internet of Things*, 36 REV. LITIG. 285, 296 (2017) (discussing inconsistency in judicial determinations of FRAND royalties for patents covering Wi-Fi standard). See generally Bernardo M. Cremades & Steven L. Plehn, *The New Lex Mercatoria and the Harmonization of the Laws of International Commercial Transactions*, 2 B.U. INT’L L.J. 317, 326 (1984) (noting the general tendency of national courts to interpret the same contractual provisions in different ways).

28. Recent cases in which courts have sought to determine FRAND rates at a global level include *Unwired Planet Int’l Ltd. v. Huawei Techs. Co. Ltd.* [2017] EWHC (Pat) 711 (Apr. 5, 2017), *aff’d* [2018] EWCA (Civ) 2344 (Oct. 23, 2018) (Eng.), and *TCL Commc’n Tech. Holdings, Ltd. v. Telefonaktiebolaget LM Ericsson, Nos. SACV 14–341 JVS(DFMx), CV 15–2370 JVS(DFMx)*, 2017 WL 6611635 (C.D. Cal. Dec. 21, 2017).

29. See *supra* note 7 and accompanying text.

30. See William F. Lee & A. Douglas Melamed, *Breaking the Vicious Cycle of Patent Damages*, 101 CORNELL L. REV. 385, 427 (2016) (“When thousands of patents or other inputs are involved in the same device, judges and juries consistently and systematically overemphasize the value of the single patent (or patents) at issue as compared to all the other inputs.”); Bartlett & Contreras, *supra* note 27, at 304–05 (comparing judicial tendency to view all patents as “above average” to Garrison Keillor’s Lake Wobegon, “where all the women are strong, all the men are good looking, and all the children are above average” (quoting *The News from Lake Wobegon*, A Prairie Home Companion (1974–2016))); Bernard Chao & Roderick O’Dorisio, *Saliency, Anchors, and Frames: A Multicomponent Damages Experiment 1* (U. of Denv. Sturm Coll. of Law. Research Paper Series, Working Paper No. 19-03, 2018) (finding that fact finders tend to over-value the first plaintiff to trial when apportioning damages among multiple patent holders).

reasonableness if considered in isolation, it is not likely to be reasonable when combined with many other independently-calculated royalties applied to the same product. This is the well-known issue of royalty “stacking”.<sup>31</sup> In reality, despite the inherently bilateral, adversarial nature of litigation, the determination of a FRAND royalty is not strictly a bilateral matter. Rather, it must involve consideration of the other patented and unpatented technologies embodied in the standardized technology, as the royalty determination made in one case necessarily affects the level of royalties in many other cases. Thus, FRAND royalty determinations, particularly when they relate to standards covered by diversified patent holdings, should be comprehensive, taking into account the totality of patents and technologies involved in the relevant standard or product.<sup>32</sup>

These three deficiencies in the FRAND licensing system—*transparency*, *consistency*, and *comprehensiveness*—impact the market in two principal ways. First, they negatively affect the overall *fairness* and *accuracy* of the system by producing results that could favor some market participants over others in a manner that arguably violates the express commitment to grant licenses on terms that are FRAND. Uncertainty regarding the level of FRAND royalty rates makes it more difficult for manufacturers to predict the cost of entering a market characterized by broad product interoperability.

Second, the system imposes excess transaction costs through duplicative negotiation and litigation both among different parties disputing rates over the same patents and among the same parties litigating in different jurisdictions. As reported in recent cases, negotiations over FRAND licenses routinely take years and often result in an impasse that can be resolved only through litigation.<sup>33</sup> Such transaction costs could deter or prevent small and medium enterprises (SMEs) from entering the market and increase costs for larger firms, which in turn could lead to reduced consumer choice and higher consumer prices. The result

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31. *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1209 (Fed. Cir. 2014) (“If companies are forced to pay royalties to all [patent] holders, the royalties will ‘stack’ on top of each other and may become excessive in the aggregate.”).

32. In addition, separate judicial proceedings addressing similar legal and factual issues are inherently inefficient, as each judge in each case must separately be educated about the relevant industry, technology, commitments and valuation methodologies. See Robert P. Merges, *Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations*, 84 CALIF. L. REV. 1293, 1317 (1996) (observing high transaction costs involved in judicial determination of copyright licensing rates).

33. See, e.g., *Telefonaktiebolaget LM Ericsson*, 2017 WL 6611635 (discussing in the Memorandum of Findings of Fact and Conclusions of Law how negotiations over 3G/4G patent license took over six years and ultimately ended in litigation).

could undermine the benefits that industry-wide, non-discriminatory licensing of SEPs is intended to achieve. These concerns are particularly worthy of attention today given the advent of important new technologies, such as broadband 5G/6G data transmission and the Internet of Things that will be heavily dependent on standardization.<sup>34</sup>

This Article adopts the perspective of a social planner seeking to minimize unfairness/inaccuracy and administrative inefficiency in FRAND licensing so as to maximize overall social welfare. As such, the proposals made herein are not aimed either at achieving any particular distribution of revenue between SEP holders and manufacturers of standardized products or at minimizing consumer prices. Instead, it has the relatively modest aspiration of reducing unnecessary transaction costs while ensuring the fair and consistent treatment of all parties.<sup>35</sup>

To do so, the tripartite issues of *transparency*, *consistency*, and *comprehensiveness* in the FRAND licensing system must be addressed. That is, an open and *transparent* process should be used both to ensure that SEP holders are treating licensees in a non-discriminatory fashion and to provide reliable cost information to potential market entrants. FRAND rates should be determined in a *consistent* manner, at least for all patents covering a particular standard, but preferably for all standards generally. And finally, the determination of FRAND royalties should be *comprehensive*, taking into account *all* pertinent information regarding the patents covering the relevant standard and not just the patents that may be held by a party to a particular lawsuit.

Over the past decade, proposals for increasing transparency in standard-setting have included, among others, requirements that SEP holders disclose their licensing rates prior to adoption of a standard (so-called *ex ante* disclosure),<sup>36</sup> a requirement that SEP holders offer a simple

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34. See EUR. COMM'N, COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL AND THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE: SETTING OUT THE EU APPROACH TO STANDARD ESSENTIAL PATENTS 2 (2017) [hereinafter EC SEP COMM'N]; Fiona S. Morton & Carl Shapiro, *Patent Assertions: Are We Any Closer to Aligning Reward to Contribution?* (Nat'l Bureau of Econ. Research, Working Paper No. 21678, 2015).

35. This balance is important. Simply minimizing transaction costs could be achieved, for example, by requiring that all SEPs be licensed at zero royalty rates. In fact, a number of SDOs have adopted precisely such policies. See Jorge L. Contreras, *A Tale of Two Layers: Patents, Standards and the Internet*, 93 DENVER L. REV. 855 (2016) (discussing royalty-free licensing policies at IETF and W3C and contrasting with SDOs adopting FRAND policies). Yet "one size does not fit all," and in some technology areas a royalty-free licensing regime might not produce desired levels of innovation and technology contribution. Thus, FRAND licensing cannot be ruled out entirely.

36. PIERRE RÉGIBEAU ET AL., TRANSPARENCY, PREDICTABILITY, AND EFFICIENCY OF SSO-BASED STANDARDIZATION AND SEP LICENSING: A REPORT FOR THE EUROPEAN COMMISSION 31, 46 (2016); Jorge L. Contreras, *Technical Standards and Ex Ante Disclosure: Results and Analysis of an*

“cash only” price for licensing their SEPs,<sup>37</sup> greater verification of the essentiality of patents declared to be SEPs,<sup>38</sup> and increasing available public information about disclosures made to SDOs.<sup>39</sup> But none of these proposals has been adopted by any major SDOs. Likewise, some courts have taken steps toward addressing the issue of comprehensiveness. Specifically, a number of courts have used so-called “top down” approaches to FRAND royalty calculation in which an aggregate royalty for all patents covering a particular standard is first determined and then allocated among individual patent holders. This approach, which is discussed in greater detail in Section I.A and for which the author has advocated,<sup>40</sup> is an important step toward addressing comprehensiveness issues in FRAND rate determination but does not solve the problems of lack of transparency or consistency. Thus, in order to address the most challenging issues facing the standardization system today, a tripartite approach that simultaneously improves transparency, consistency, and comprehensiveness together is needed.

In prior work, the author has proposed that these goals may be achieved through the procedural litigation mechanism of interpleader to aggregate all claims pertaining to royalties on a single standard into a single, massive judicial proceeding.<sup>41</sup> The author has also proposed that SDOs could achieve these goals through private ordering, by facilitating an open agreement among SEP holders and manufacturers on aggregate royalty

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*Empirical Study*, 53 JURIMETRICS 163 (2013) [hereinafter Contreras, *Ex Ante*] (describing *ex ante* policies adopted and proposed at several SDOs).

37. ALBERT A. FOER & SANDEEP VAHEESAN, REQUEST FOR JOINT ENFORCEMENT GUIDELINES ON THE PATENT POLICIES OF STANDARD SETTING ORGANIZATIONS: PETITION TO THE DEPARTMENT OF JUSTICE AND FEDERAL TRADE COMMISSION 16–17 (May 23, 2013), <https://www.antitrustinstitute.org/wp-content/uploads/2013/05/Request-for-Joint-Enforcement-Guidelines-on-the-Patent-Policies-of-Standard-Setting-Organizations.pdf> [<https://perma.cc/PS9P-YXLR>] (“Licensees should have the option of licensing individual SEPs on a cash-only basis.”); Kühn et al., *supra* note 14, at 4 (“The F/RAND dispute resolution process should require that the licensor specify a cash price for its SEPs as an alternative to other pricing arrangements to aid in evaluation of the proposed license terms by the third party.”).

38. EC SEP COMMC’N, *supra* note 34, at 7 (observing that SDOs make no validation of SEP declarations, potentially leading to over-declaration); RÉGIBEAU ET AL., *supra* note 36, at 32, 62, 86 (noting the significant problem of “over-declaration” of SEPs).

39. EC SEP COMMC’N, *supra* note 34, at 3; RÉGIBEAU ET AL., *supra* note 36, at 32, 62, 86; NAT’L RESEARCH COUNCIL, PATENT CHALLENGES FOR STANDARD-SETTING IN THE GLOBAL ECONOMY 80 (Keith Maskus & Stephen A. Merrill eds., 2013) [hereinafter NRC REPORT] (“SSOs should to [sic] consider measures to increase the quality and accuracy of disclosure data.”).

40. See Contreras, *Aggregate Royalties*, *supra* note 17.

41. Bartlett & Contreras, *supra* note 27 (proposing judicial interpleader process for resolving multiparty FRAND royalty determinations).

rates for particular standards.<sup>42</sup> Other commentators have likewise made a range of reasonable proposals seeking to address these issues with the current FRAND licensing system.<sup>43</sup> Even the leaders of the largest patent offices in the world have made calls for greater consistency in addressing SEP disputes.<sup>44</sup> Yet it does not appear that a critical mass of SDOs and SDO participants are ready to implement any of these proposals.<sup>45</sup> Commercial ventures, too, have sought to solve these problems through the pooling of patents essential to key standards, yet these efforts have either failed or have not yet attracted significant market participation.<sup>46</sup>

This Article offers a new option for determining FRAND royalty rates in a transparent, consistent, and comprehensive manner: the establishment of a non-governmental, global FRAND rate-setting tribunal (referred to herein as the “FRAND Tribunal”).<sup>47</sup> Such a tribunal could contribute to alleviating the uncertainty and litigation burden currently associated with FRAND licensing.

The remainder of this Article proceeds in four principal parts. Part I summarizes current disputes regarding the calculation of FRAND royalties, both in the literature and in judicial determinations, and highlights how the divergent approaches taken by courts in resolving these disputes has led to significant inconsistency in this area. Part I concludes

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42. See Contreras, *Fixing FRAND*, *supra* note 17 (proposing SDO-based “pseudo-pool” approach to setting aggregate FRAND royalty rates); see also Contreras, *Aggregated Royalties*, *supra* note 17 (refining earlier proposal).

43. See, e.g., Kühn et al., *supra* note 14, at 3–5 (proposing various IPR policies to be implemented by SSOs to limit patent holdup); Mark Lemley, *Ten Things to Do About Patent Holdup of Standards (and One Not to)*, 48 B.C. L. REV. 149, 155–67 (2008) [hereinafter Lemley, *Ten Things*] (suggesting five steps for SSOs to take and five changes to the law that could prevent patent holdup); Marc Rysman & Timothy Simcoe, *A NAASTy Alternative to RAND Pricing Commitments*, 35 TELECOM. POL’Y 1010, 1014–15 (2011) (proposing to replace RAND policies with a policy of Non-Assertion After Specified Time (NAAST)).

44. See Brian Yap, *European Patent Official Says Disputes Need Multilateral Solutions*, 95 PATENT TRADEMARK & COPYRIGHT J. 12 (2018).

45. For a discussion of commercial factors that have stymied policy change in this area, see Contreras, *Ex Ante*, *supra* note 36, at 206–08 (considering rationales for failure of SDOs to adopt *ex ante* disclosure policies).

46. See, e.g., *Microsoft Corp. v. Motorola, Inc.*, 795 F.3d 1024, 1042 (9th Cir. 2015) (describing unsuccessful VIA licensing pool for Wi-Fi patents); Jorge L. Contreras, *FRAND Market Failure: IPXI’s Standards-Essential Patent License Exchange*, 15 CHI-KENT J. INTEL. PROP. 419 (2016) (describing IPXI, an effort to pool and securitize license rights for the Wi-Fi standard); *How it Works: Marketplace*, AVANCI, <http://avanci.com/marketplace/> [<https://perma.cc/8L24-CN4J>] (describing pooled licensing of wireless WLAN SEPs for industries such as automotive).

47. The instant proposal is not simply to submit FRAND disputes to binding bilateral arbitration. The use of arbitration to resolve FRAND disputes has been proposed before. See *infra* Section II.A. Rather, this Article proposes a framework and tribunal for resolving FRAND disputes on a global multilateral basis, involving all interested parties: rate-setting rather than bilateral arbitration.

with a discussion of the international “race to the bottom” that could emerge as national courts increasingly determine FRAND royalty rates on a global basis. Part II describes a range of antecedents for the proposed rate-setting mechanism, including other arbitral bodies and rate-setting tribunals, as well as initial efforts made to resolve FRAND disputes through alternative dispute resolution. Part III introduces the proposed FRAND rate-setting tribunal and summarizes its principal features.

## I. FRAND ROYALTIES TODAY

There are numerous areas of disagreement regarding the calculation of FRAND royalties among litigants and courts around the world. First, Section I.A discusses two different fundamental approaches to calculating an appropriate FRAND royalties. Second, Section I.B describes additional factors with different interpretations. Section I.C analyses additional complications in setting worldwide royalty rates. As observed by the English Court of Appeals in its characteristically understated manner, “the approaches of courts around the world to the assessment of royalties under a worldwide [FRAND] licence are not at present wholly aligned.”<sup>48</sup> To illustrate the current degree of intra-jurisdictional discord, this Part describes some of the judicial disagreements over FRAND royalty calculation in greater detail.<sup>49</sup>

### A. *FRAND Rate Calculation Approaches: Top-Down Versus Bottom-Up*

Generally speaking, courts have adopted two fundamental approaches to calculating the FRAND royalty to be charged by a SEP holder to the manufacturer of a standardized product. Under a “bottom up” approach, the FRAND royalty is determined using a conventional “reasonable royalty” patent damages analysis in which the value of the SEP holder’s patents is assessed independently of other patents that may cover the infringing product, and the total royalty burden on the relevant standard and product emerge only as the sum of its individual components in separate cases. In contrast, under a “top down” approach, the aggregate royalty for all SEPs covering a particular standard is first calculated, after which an appropriate portion is allocated to the claiming SEP holder. Each of these approaches is discussed in greater detail below.

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48. *Unwired Planet Int’l Ltd. v. Huawei Tech. Co. Ltd.* [2018] EWCA (Civ) 2344 ¶ 83.

49. The discussion in this Section is not intended to be comprehensive but only to provide several examples of current disagreements over FRAND royalty calculation around the world. For a more comprehensive discussion, see Contreras, *Global Standards Wars*, *supra* note 1 and PENTHEROUDAKIS & BARON, *supra* note 19.

### 1. *Bottom-Up Approach*

Bottom-up royalty calculations are derived from traditional patent damages analysis. In the United States, a patent holder asserting patents against an infringer is entitled to prove the value of its patents in order to establish “reasonable royalty” damages.<sup>50</sup> For the past several decades, the calculation of reasonable royalty damages in the United States has generally followed the fifteen-factor framework established in *Georgia-Pacific Corp. v. U.S. Plywood Corp.*<sup>51</sup> The factors contributing to the reasonable royalty calculation under *Georgia-Pacific* include the rates paid by the licensee for similar patents, whether the license is exclusive or non-exclusive, whether the licensor has a policy of limiting the licensing of its patents, the rates charged by the licensor to other licensees of the same patents (“comparable” licenses), the competitive relationship between licensor and licensee, and the opinions of qualified experts.<sup>52</sup>

However, because the *Georgia-Pacific* framework assumes that a patent holder and an alleged infringer have no pre-existing relationship or duty toward one another, many of the factors considered in this analysis are inapplicable to cases involving FRAND-encumbered SEPs, in which the SEP holder has an affirmative obligation to grant licenses to implementers of the standard. Accordingly, in *Microsoft Corp. v. Motorola, Inc.*,<sup>53</sup> the district court expressly modified twelve of the fifteen *Georgia-Pacific* factors to align them more closely with the relationship between a SEP holder and the manufacturer of a standardized product.<sup>54</sup> Likewise, in *Ericsson v. D-Link*,<sup>55</sup> the Federal Circuit recognized several instances in which the *Georgia-Pacific* factors were both irrelevant and inconsistent with the relationship between parties operating under a FRAND commitment.<sup>56</sup> It thus approved the lower court’s modification

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50. See 35 U.S.C. § 284 (2018) (“[T]he court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use the infringer made of the invention.”).

51. 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970), *modified and aff’d*, 446 F.2d 295 (2d Cir. 1971), *cert. denied*, 404 U.S. 870 (1971).

52. *Id.*

53. No. C10-1823JLR, 2013 WL 2111217, at \*16–17 (W.D. Wash. Apr. 25, 2013).

54. *Id.* at \*57–65 (modifying *Georgia-Pacific* factors 1, 4–13, 15); see also Norman V. Siebrasse & Thomas F. Cotter, *Judicially Determined FRAND Royalties*, in *CAMBRIDGE HANDBOOK*, *supra* note 6, at 365; Jorge L. Contreras & Richard J. Gilbert, *A Unified Framework for RAND and other Reasonable Royalties*, 30 *BERKELEY TECH. L.J.* 1447, 1483–85 (2015) (analyzing court’s reasoning).

55. 773 F.3d 1201 (Fed. Cir. 2014).

56. *Id.* at 1229–30 (criticizing district court’s use of *Georgia-Pacific* factors 4, 5, 8, 9 and 10). For a more detailed analysis of the Federal Circuit’s reasoning in this regard, see J. Gregory Sidak, *Apportionment, FRAND Royalties, And Comparable Licenses after Ericsson v. D-Link*, 2016 U. ILL.

of these factors, but declined to require any particular modifications in other cases involving FRAND commitments, leaving lower courts and, potentially, juries to make these assessments on a case-by-case basis.

The incremental nature of judicial decision making has led to a significant degree of divergence in FRAND royalty rate determinations, even when patents covering the same features of the same standard are at issue. For example, between 2013 and 2014 five different U.S. district courts calculated royalties for a total of thirty-five SEPs covering Wi-Fi standards, each using a slightly different methodology.<sup>57</sup> The aggregate royalty for these thirty-five patents amounted to approximately 4.5% of the total sale price of a typical \$50 Wi-Fi router.<sup>58</sup> Yet it has been estimated that there are approximately 3,000 patents covering the Wi-Fi standard,<sup>59</sup> nearly one hundred times the number subject to adjudication. Were the royalty for each of these patents to be calculated in a similarly uncoordinated, bottom-up manner, the aggregate patent royalty on a Wi-Fi router could easily surpass the product's total selling price by at least an order of magnitude. This is a prime example of how inconsistent and non-comprehensive bottom-up approaches to FRAND royalty calculation can lead to royalty stacking.<sup>60</sup>

## 2. *Top-Down Approach*

Given the shortcomings of bottom-up FRAND royalty calculations and the threat of royalty stacking when multiple firms hold SEPs covering a single standard,<sup>61</sup> commentators, courts, and policy makers have become increasingly attracted to mechanisms that take into account the aggregate

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L. REV. 1809, 1854–62 (critiquing Federal Circuit reasoning); Siebrasse & Cotter, *supra* note 54, at 374; Contreras & Gilbert, *supra* note 54, at 1485–86.

57. Bartlett & Contreras, *supra* note 27, at 296 tbl.2.

58. *Id.*

59. *In re Innovatio IP Ventures, LLC Patent Litig.*, No. 11 C 9308, 2013 U.S. Dist. LEXIS 144061, at \*179–80 (N.D. Ill. Sept 27, 2013) (“[T]he court determines that the PA Report’s number of approximately 3000 is a credible account of the number of potentially standard-essential patents.”).

60. *See supra* note 31. Some authors have observed that significant royalty stacking does not appear to have occurred in practice in some industries characterized by the presence of large numbers of SEPs. *See, e.g.*, Jonathan Barnett, *Has the Academy Led Patent Law Astray?*, 32 BERKELEY TECH. L.J. 1313, 1356–61 (2017); Alexander Galetovic et al., *Is There an Anticommons Tragedy in the World Smartphone Industry?*, 32 BERKELEY TECH. L.J. 1527 (2017). These scholars offer several possible reasons that royalty stacking has not manifested itself in these industries, a full discussion of which is beyond the scope of this Article. However, suffice it to say that the theoretical threat of stacking remains and is likely enhanced in new technology markets such as the Internet of Things (IoT) in which an increasing number of market entrants participate.

61. *See, e.g.*, Baron & Pohlmann, *supra* note 7 (upwards of sixty different firms have declared patents essential to widely adopted wireless telecommunications standards).



royalty burden associated with a standard when considering the royalties owed to any particular patent holder. Thus, as the U.S. District Court for the Northern District of Illinois explained in *In re Innovatio IP Ventures*,<sup>62</sup> “the determination of a [F]RAND royalty must address the risk of royalty stacking by considering the aggregate royalties that would apply if other [SEP] holders made royalty demands of the implementer.”<sup>63</sup> The European Commission echoed this sentiment in its 2017 Communication on SEPs, stating that “an individual SEP cannot be considered in isolation. Parties need to take into account a reasonable aggregate rate for the standard, assessing the overall added value of the technology.”<sup>64</sup>

Royalty calculation methodologies that take into account aggregate royalty levels can broadly be termed “top-down” approaches because they look first to the overall level of royalties associated with a standard and then allocate a portion of the total to individual SEP holders. Top-down approaches implicitly recognize that when multiple patents cover a single standard, the rate charged by one SEP holder will necessarily affect the rates that the other SEP holders can charge a single manufacturer.<sup>65</sup>

Several courts around the world have attempted to determine FRAND royalty rates using a top-down methodology, including the court in *Innovatio*, the Japanese Intellectual Property High Court in *Samsung v. Apple Japan*,<sup>66</sup> the U.K. High Court of Justice (Patents) in *Unwired Planet v. Huawei*,<sup>67</sup> and the U.S. District Court for the Central District of California in *TCL Communications v. Ericsson*.<sup>68</sup> In each of these cases, the court first sought to determine the aggregate royalty rate that should be attributed to all patents covering a particular standard and then allocated an appropriate portion to the SEPs in suit.<sup>69</sup> The court in *TCL v. Ericsson* identifies the following merits of a top-down approach:

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62. 2013 U.S. Dist. LEXIS 144061 (N.D. Ill. Sept 27, 2013).

63. *Id.* at \*66 (internal quotes omitted).

64. EC SEP COMM’N, *supra* note 34, at 7.

65. See Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 2011 (2007) [hereinafter Lemley & Shapiro, *Patent Holdup*] (“[T]he royalty rate negotiated by one patent holder is affected by the rates the downstream firm pays to *other* patent holders, so a proper analysis must account for the joint determination of all the royalty rates.”).

66. Chiteki Zaisan Koto Saibansho [Intellectual Prop. High Ct.] May 16, 2014, 2013 (Ne) 10043 (Japan).

67. [2017] EWHC (Ch) 711 (Pat) (Apr. 5, 2017), *aff’d* [2018] EWCA Civ 2344 (Oct. 23, 2018) (Eng.).

68. Nos. SACV 14–341 JVS(DFMx), CV 15–2370 JVS(DFMx), 2017 WL 6611635 (C.D. Cal. Dec. 21, 2017).

69. For a more detailed discussion of the use of top-down approaches in these cases, see Contreras, *Aggregate Royalties*, *supra* note 17.

While this approach is not perfect, it has merit because: (1) it relies on statements that Ericsson and other SEP owners made to induce people to adopt and invest in each standard when the risk of hold-up was low; (2) these statements were made before the standard was adopted, providing the SEP owners with incentive to be reasonable with their overall expectations and greatly reducing the risk of hold-up and royalty stacking; (3) Ericsson was a licensor and licensee, giving it stronger incentive to be fair and reasonable with its own estimate; (4) Ericsson still stands by this methodology . . . ; and (5) it at least provides the ceiling for a FRAND rate, because increasing the royalty rate after the standard has been adopted, without showing that the increase is due to additions to the standard, is the definition of hold-up. Use of an aggregate figure in fact hews to the principle of setting rates to reflect Ericsson's own estimate of the total value the licensed technology contributed to the product.<sup>70</sup>

But despite the appeal of top-down FRAND royalty calculation methodologies, reliable and consistent methods for determining the aggregate royalty burden on a particular standard have proven difficult to implement. A principal reason is the lack of transparency in FRAND transactions, which prevents any given licensee from knowing precisely what terms a SEP holder has offered to other licensees and which prevents courts from learning the rates charged by SEP holders that are not before them in a particular matter.<sup>71</sup> Faced with this challenge, courts using top-down methodologies have been forced to rely upon less reliable data. For example, in three of the four cases mentioned above,<sup>72</sup> the court utilized a combination of public statements by SEP holders and other industry participants coupled with other market factors to determine the aggregate royalty burden for a particular standard. In *Unwired Planet*, the court cited eight different press releases and public statements in which industry participants estimated either the total royalty burden for the relevant standards or their share of SEPs covering those standards.<sup>73</sup> In some cases,

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70. *TCL Commc'n Tech. Holdings, Ltd.*, at \*14.

71. *See supra* notes 21–23 and accompanying text.

72. *See supra* notes 66–68.

73. *Unwired Planet Int'l Ltd. v. Huawei Techs. Co. Ltd.* [2017] EWHC (Pat) 711 [264(i)–(vii)] (Apr. 5, 2017), *aff'd* [2018] EWCA (Civ) 2344 (Oct. 23, 2018). Similar statements were recently relied upon by the parties in TCL's Redacted Trial Brief at 8, *TCL Commc'n Tech. Holdings, Ltd. v. Telefonaktiebolaget LM Ericsson, Nos. SACV 14-341 JVS (DFMx), CV 15-02370* (C.D. Cal. Mar. 1, 2017) [hereinafter *TCL Trial Brief*].

these rates were no more than ballpark estimates<sup>74</sup> that the court found to be “obviously self-serving.”<sup>75</sup> Similar evidence was utilized by the Japanese IP High Court in *Samsung v. Apple Japan*, which established an aggregate baseline royalty rate of 5% for a standard—a figure derived from public statements and informal agreements among industry participants.<sup>76</sup>

This weakness in recent applications of the top-down approach to FRAND royalty calculation is compounded by the incremental nature of current FRAND litigation. Thus, just as with bottom-up approaches, courts adjudicating FRAND royalty rates are presented with evidence from only one SEP holder, rather than from the entire market, making it likely that their allocation of royalties to particular SEP holders will be inconsistent.<sup>77</sup> Absent the introduction of multi-party litigation mechanisms such as interpleader,<sup>78</sup> this incremental approach is an unavoidable feature of private litigation. This is one of the reasons that this Article proposes an alternative to conventional litigation for the determination of FRAND royalty rates.

#### B. *Other FRAND Rate Issues*

In addition to the choice between top-down and bottom-up royalty calculation methodologies, there are a number of additional controversies surrounding the calculation of FRAND royalties. For example, there is significant debate regarding the correct royalty “base” (the amount by which a percentage royalty is multiplied to derive the actual amount owed to the patent holder) for calculating FRAND royalties. Two competing approaches have emerged from the case law: the “smallest salable patent practicing unit” (SSPPU) approach, in which the royalty rate is multiplied by the sale price of the smallest infringing component that is sold as a

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74. For example, in one public statement by “wireless industry leaders,” the maximum reasonable aggregate royalty level for the 4G LTE standard should be a “single-digit percentage of the sales price.” *Unwired Planet* [2017] EWHC (Pat) 711 [264(i)]. Another press release by Huawei anticipated “a low single-digit percentage of sales prices as a reasonable maximum aggregate royalty rate applicable to end-user devices.” *Id.* at ¶ 264(iii).

75. *Id.* at ¶ 269.

76. *Apple Japan*, 2013 (Ne) 10043 at 131 (with respect to particular products, the baseline rate was discounted by a factor corresponding to the value contributed by the standard to the product).

77. *See, e.g.,* Fei Deng et al., *Comparative Analysis of Court-Determined FRAND Royalty Rates*, 32 *ANTITRUST* 47, 49 (2018) (comparing differing top-down methodologies in *Unwired Planet* [2017] EWHC (Pat) 711 [1] and *TCL*, Case No. SACV14-341 JVS, at 1).

78. *See* Bartlett & Contreras, *supra* note 27.

stand-alone unit (e.g., a chip or module),<sup>79</sup> and the “entire market value rule” (EMVR), in which the royalty is based on the value of the complete end product implementing the patented feature (e.g., a smart phone, computer, or game player).<sup>80</sup> Assuming that the royalty rate remains constant, the choice between the SSPPU and the EMVR approaches could yield significantly different returns to the patent holder. There is now a growing literature debating the relative merits of these differing approaches to FRAND royalty calculation,<sup>81</sup> and at least one major SDO has suggested that its participants consider SSPPU when negotiating FRAND royalty rates.<sup>82</sup>

Another area of disagreement arises with respect to the use of comparable license agreements as evidence supporting the determination of FRAND royalty rates. Some commentators support the use of comparable licenses as the best available evidence of royalty rates that the parties would have agreed to in a hypothetical negotiation.<sup>83</sup> Courts have likewise taken differing approaches to the comparable license agreements that will be admitted into evidence when calculating FRAND royalty rates, ranging from the admission of licenses with different parties and patent pools<sup>84</sup> to licenses granted solely by the SEP holder in suit under the same patent portfolio.<sup>85</sup>

Another contentious issue arises when a portion of the total value of an infringing product is apportioned to a particular patent holder and the product is covered by multiple patents. It is well-established that

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79. *See* Cornell Univ. v. Hewlett-Packard Co., 698 F. Supp. 2d 279 (N.D.N.Y. 2009) (first enunciating the SSPPU test).

80. *See* Ericsson v. D-Link, 773 F.3d 1201, 1227 (Fed. Cir. 2014) (comparing EMVR and SSPPU approaches in SEP cases).

81. *See* David Kappos & Paul R. Michel, *The Smallest Salable Patent-Practicing Unit: Observations on its Origins, Development, and Future*, 32 BERKELEY TECH. L.J. 1433 (2017); Nicolas Petit, *The Smallest Salable Patent-Practicing Unit Experiment, General Purpose Technologies and the Coase Theorem*, CPI ANTITRUST CHRON. (2017); J. Gregory Sidak, *The Proper Royalty Base for Patent Damages*, 10 J. COMPETITION L. & ECON. 989 (2014); Siebrasse & Cotter, *supra* note 54, at 375–77.

82. *See* IEEE Policy, *supra* note 15, at § 6.1; Business Review Letter from Renata B. Hesse, Acting Assistant Att’y Gen. to Michael L. Lindsay, Esq., Dorsey & Whitney LLP (Feb. 2, 2015) (approving IEEE policy amendments).

83. *See* Damien Geradin & Anne Layne-Farrar, *Patent Value Apportionment Rules for Complex, Multi-Patent Products*, 27 SANTA CLARA COMP. & HIGH TECH. L.J. 763 (2011); Sidak, *supra* note 56; Alexander Galetovic & Stephen Haber, *SEP Royalties: What Theory of Value and Distribution Should Courts Apply?* (Hoover Inst. Working Group, Working Paper No. 19001, 2019).

84. *Microsoft Corp. v. Motorola, Inc.*, 795 F.3d 1024, 1042–45 (9th Cir. 2015).

85. *Unwired Planet Int’l Ltd. v. Huawei Techs. Co.* [2017] EWHC (Pat) 711 [1]; *see also* Deng et al., *supra* note 77, at 48 (comparing differing methodologies used to assess comparable licenses in *Unwired Planet v. Huawei* and *TCL v. Ericsson*).

“reasonable royalty” patent damages should be “based on the incremental value that the patented invention adds to the end product.”<sup>86</sup> Determining this incremental value requires a court to determine the fraction of the overall product value that is contributed by the patented feature in view of all the other patented and unpatented features of the product. This analysis is often referred to as “apportionment.”<sup>87</sup> Aside from the difficulty of determining the overall value that a standard contributes to a particular product, the court must also determine how valuable one patent covering a standard is in comparison to the others. Individual patents and groups of patents have been valued in litigation using a range of methods including citation count, cost recovery, real option value, discounted cash flow, and comparison to comparable licenses.<sup>88</sup> But in many cases where multiple patents cover a single standard or product, royalties are allocated on the basis of one-patent-one-share (sometimes referred to as numerical proportionality).<sup>89</sup> While this last approach may seem unsophisticated in comparison to those better informed by economic analysis, it is frequently adopted by parties and courts during litigation. As explained by the lower court in *Unwired Planet*, “some sort of patent counting is the only practical approach at least for a portfolio of any size. Trying to evaluate the importance of individual inventions becomes disproportionate very quickly.”<sup>90</sup>

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

87. *See id.* at 1226–28.

88. *See* RICHARD RAZGAITIS, VALUATION AND PRICING OF TECHNOLOGY-BASED INTELLECTUAL PROPERTY 41–54 (2003); Bartlett & Contreras, *supra* note 27, at 308–09 (collecting literature); Thomas F. Cotter, *Patent Damages Heuristics*, 25 TEX. INTELL. PROP. L.J. 159, 175 n.52 (2018) (analyzing various methodologies adopted in recent SEP cases); Geradin & Layne-Farrar, *supra* note 83, at 781–84; Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEX. L. REV. 1031, 1059 (2005); J. Gregory Sidak, *Holdup, Royalty Stacking, and the Presumption of Injunctive Relief for Patent Infringement: A Reply to Lemley and Shapiro*, 92 MINN. L. REV. 714, 736–43 (2008); Patrick H. Sullivan, *Standardising IP Valuations: Whether, What and How*, INTELL. ASSET MGMT., Mar.-Apr. 2009, at 30 (noting that over fifty different methods for valuing IP are currently in use); David O. Taylor, *Using Reasonable Royalties to Value Patented Technology*, 49 GA. L. REV. 79, 131–39 (2014); Robert Pitkethly, *The Valuation of Patents: A Review of Patent Valuation Methods with Consideration of Option Based Methods and the Potential for Further Research* (Judge Inst., Working Paper No. 21/97, 1997), <http://users.ox.ac.uk/~mast0140/EJWP0599.pdf> [<https://perma.cc/Q9F2-827G>].

89. *See* Menno Treffers, *The Royalty Rate for a Subset of Standard Essential Patents – What Is Reasonable?*, IPWATCHDOG (May 22, 2016), <http://www.ipwatchdog.com/2016/05/22/royalty-rate-standard-essential-patents/id=69045/> [<https://perma.cc/XWH6-Z9JQ>]; Bartlett & Contreras, *supra* note 27, at 309. *But see* Geradin & Layne-Farrar, *supra* note 83, at 779–80 (critiquing this methodology).

90. *Unwired Planet* [2017] EWHC (Pat) 711 [182].

Another fundamental question regarding the determination of FRAND royalties is whether the value of the patented technology should be assessed prior to (*ex ante*) or after (*ex post*) the approval of the relevant standard. *Ex ante* evaluation eliminates from consideration value that is created simply by virtue of being included in a standard. U.S. courts,<sup>91</sup> enforcement agencies,<sup>92</sup> and commentators<sup>93</sup> have largely concluded that a FRAND royalty should reflect the *ex ante* value of a patented technology without considering the added value attributable to the inclusion of the technology in a standard. In *Unwired Planet*, however, the U.K. court expressly rejected the U.S. approach with little explanation, noting instead that it was permissible to let a patentee appropriate some of the value associated with the inclusion of its technology in a standard.<sup>94</sup>

Another point on which the U.K. court in *Unwired Planet* diverged from decisions in the United States was whether the FRAND royalty rate applicable to a particular patent is a single rate, or whether FRAND represents a *range* of possible royalty rates. In *Microsoft v. Motorola*, the U.S. district court determined a FRAND range for the SEPs covering each standard at issue in order to assess whether the SEP holder complied with its duty of good faith and fair dealing under applicable law; then, in setting a final royalty, the court picked a specific rate within the allowable range.<sup>95</sup> In *Unwired Planet*, however, the U.K. court reasoned that it is

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91. *Ericsson*, 773 F.3d at 1232; *In re Innovatio IP Ventures, LLC Patent Litig.*, 921 F. Supp. 2d 903, 907 (N.D. Ill. 2013); *Microsoft Corp. v. Motorola, Inc.*, No. C10-1823, 2013 U.S. Dist. LEXIS 60233, at \*61 (W.D. Wash. Apr. 25, 2013).

92. FTC, THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION 22–23 (2011) (“A definition of RAND based on the *ex ante* value of the patented technology at the time the standard is chosen is necessary for consumers to benefit from competition among technologies to be incorporated into the standard.”).

93. See Joseph Farrell et al., *Standard Setting, Patents, and Hold-Up*, 74 ANTITRUST L.J. 603, 610 (2007); Lemley & Shapiro, *Patent Holdup*, *supra* note 65, at 2036–39. Some commentators disagree. See, e.g., Sidak, *supra* note 56, at 1867 (“[T]he apportionment requirement cannot logically prohibit a SEP holder from receiving the value of the standard created by the technology in suit.”); Norman V. Siebrasse & Thomas F. Cotter, *The Value of the Standard*, 101 MINN. L. REV. 1159, 1164 (“[A] FRAND royalty should reflect the incremental contribution of the patent to the value of the standard to the user.” (emphasis omitted)).

94. *Unwired Planet* [2017] EWHC (Pat) 711 [97]. For a more detailed discussion of this aspect of the *Unwired Planet* decision, see Jorge L. Contreras, *Global Markets, Competition and FRAND Royalties: The Many Implications of Unwired Planet v. Huawei*, ANTITRUST SOURCE, Aug. 2017, at 8 [hereinafter Contreras, *Global Markets*].

95. *Microsoft*, 2013 U.S. Dist. LEXIS 60233, at \*203.

better to maintain, as a matter of law, that there is but a *single* royalty rate that qualifies as FRAND for any given set of SEPs and products.<sup>96</sup>

Finally, in addition to being “fair” and “reasonable,” FRAND royalty rates must be “non-discriminatory” or, in the phrasing adopted by ANSI, “demonstrably free of unfair discrimination.”<sup>97</sup> That is, a SEP holder may not discriminate in what it charges to different licensees. Today, most courts and commentators agree that in order to comply with the non-discrimination prong of a FRAND commitment, a SEP holder must treat “similarly situated” licensees in a similar manner. Commentators have understood this constraint to allow a SEP holder to charge differential royalty rates to product manufacturers based on their size or market share, even if they are otherwise similarly situated, on the basis that sellers of more products will pay more in royalties.<sup>98</sup> There is disagreement, however, regarding the degree of similarity that must be evidenced by potential licensees in order to benefit from the same royalty rate or rate schedule. In *TCL v. Ericsson*, the court held that that similarly situated firms include “all firms reasonably well-established in the world market” for telecommunications products, thus entitling TCL, a producer of relatively inexpensive smartphones, to the same favorable royalty rates that the SEP holder had previously offered to producers of more expensive smartphones such as Apple and Samsung.<sup>99</sup> Needless to say, different views regarding which firms are similarly situated can have a material impact on the rates charged by SEP holders.<sup>100</sup>

### C. *The Challenge of Global Rates*

Courts adjudicating FRAND royalty rates face a dilemma. On one hand, patents are artifacts of national law and, by definition, have force

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96. *Unwired Planet* [2017] EWHC (Pat) 711 [806(4)]. For a more detailed discussion of this aspect of the *Unwired Planet* decision, see Contreras, *Global Markets*, *supra* note 94, at 2–4 and J. Gregory Sidak, *Is a FRAND Royalty a Point or a Range?*, 2 CRITERION J. INNOVATION 401, 401 (2017).

97. See ANSI Essential Requirements, *supra* note 12, § 3.1.1(b). For a detailed discussion of the non-discrimination prong of FRAND commitments, see Jorge L. Contreras & Anne Layne-Farrar, *Non-Discrimination and FRAND Commitments*, in CAMBRIDGE HANDBOOK, *supra* note 6, ch. 12.

98. See Gilbert, *supra* note 14; Dennis W. Carlton & Allan L. Shampine, *An Economic Interpretation of FRAND*, 9 J. COMPETITION L. & ECON. 531, 548 (2013).

99. *TCL Commc’n Tech. Holdings, Ltd. v. Telefonaktiebolaget LM Ericsson*, No. CV 15-2370 JVS(DFMX), 2018 WL 4488286, at \*30 (C.D. Cal. Sept. 14, 2018). This decision is currently under appeal.

100. See, e.g., Peter Georg Picht, *FRAND Determination in TCL v. Ericsson and Unwired Planet v. Huawei: Same Same but Different?* (Max Planck Inst. for Innovation & Competition, Research Paper No. 18-07, 2018) (comparing how differently the courts in *Unwired Planet* and *TCL v. Ericsson* interpret the nondiscrimination requirement of FRAND).

only in the jurisdiction in which they are issued. On the other hand, the parties to FRAND disputes are often multinational corporations with operations (and patents) in dozens of jurisdictions across the globe.<sup>101</sup> In determining a FRAND royalty rate, should a court focus only on the patents issued and asserted in its own jurisdiction, or should it consider the global business relationship between the parties?

In the U.K. *Unwired Planet* case, Huawei, the potential licensee, argued that the court should determine a FRAND royalty only for Unwired Planet's U.K. patents, as foreign patents could not be enforced in the United Kingdom and were not the subject of the parties' litigation.<sup>102</sup> But the court disagreed. First, it observed that "the vast majority" of SEP licenses in the industry, including all of the comparable licenses introduced at trial, were granted on a worldwide basis, with only occasional exclusions.<sup>103</sup> It then noted that both Unwired Planet (which held SEPs in forty-two countries) and Huawei (which operated in fifty-one countries) were global enterprises.<sup>104</sup> Given these facts, the court reasoned that "a licensor and licensee acting reasonably and on a willing basis would agree on a worldwide licence."<sup>105</sup> In fact, the court considered the prospect of two large multinational companies agreeing to country-by-country licensing "madness."<sup>106</sup> Accordingly, it held that, on these facts, a FRAND license can *only* be a worldwide license, and it proceeded to determine the FRAND royalty rates that Huawei should pay to Unwired Planet on a global basis.<sup>107</sup>

The U.S. District Court for the Central District of California reached a similar conclusion in *TCL v. Ericsson*, also determining worldwide FRAND royalty rates that TCL should pay to Ericsson.<sup>108</sup> If courts in the United Kingdom and the United States can set global royalty rates, then why not courts in Germany, France, Canada, India, Korea, Japan, and

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101. See, e.g., David L. Cohen, *A Short History of Vringo's Battle with ZTE*, LINKEDIN (Oct. 11, 2017), <https://www.linkedin.com/pulse/short-history-vringos-battle-zte-david-l-cohen/> [<https://perma.cc/Q9H4-AX8L>] (describing the multijurisdictional litigation between Vringo and ZTE); Kurt Eichenwald, *The Great Smartphone War*, VANITY FAIR (May 3, 2014), <http://www.vanityfair.com/news/business/2014/06/apple-samsung-smartphone-patent-war> [<https://perma.cc/278Z-JWBT>] (describing litigation between Apple and Samsung across a dozen jurisdictions).

102. *Unwired Planet Int'l Ltd. v. Huawei Techs. Co.* [2017] EWHC 711 (Pat) [524].

103. *Id.* ¶ 534. Some comparable licenses, for example, excluded China.

104. *Id.* ¶ 538.

105. *Id.* ¶ 543.

106. *Id.*

107. *Id.* ¶¶ 583–89.

108. See *TCL Commc'n Tech. Holdings, Ltd. v. Telefonaktiebolaget LM Ericsson*, Nos. SACV 14-341 JVS(DFMx), CV 15-2370 JVS(DFMx), 2018 WL 4488286, at \*50–52 (C.D. Cal. Sept. 14, 2018).



China as well? In point of fact, a court in *any* jurisdiction that has the parties before it can establish a global royalty rate for them. And if the licensee refuses to agree to the global royalty rate determined by the court, the licensee risks being enjoined from selling products in the issuing jurisdiction. Thus, in *Unwired Planet*, Huawei could have refused to accept the U.K. court's global license, but if it did so, it would have had to sacrifice its lucrative U.K. market, valued at approximately one billion pounds per year. This is a Hobson's choice for any sizable product manufacturer: either accept a national court's determination of global FRAND royalty rates or lose access to that court's national market.

In sum, a court in any country with a large enough internal market can set worldwide FRAND rates for parties with international operations. And once a worldwide license is granted, the licensee is authorized to manufacture and sell licensed products around the globe, thereby mooting proceedings in other jurisdictions, at least with respect to the issue of FRAND royalties.<sup>109</sup> As a result, the *first* court to set a FRAND royalty rate will prevail over all other courts in the world.

As the author has discussed in other work, this situation sets the stage for two unhealthy forms of litigation "race."<sup>110</sup> First is a "race to the bottom" among jurisdictions—a well-known phenomenon that has been observed in contexts ranging from corporate law<sup>111</sup> to maritime vessel registration.<sup>112</sup> The willingness of judges in particular jurisdictions to set high global FRAND rates could attract SEP holders to those jurisdictions, much as U.S. patent holders were once attracted to the patent-friendly District Court for the Eastern District of Texas.<sup>113</sup> By the same token,

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109. In addition, a court that is in the midst of hearing a case may issue an anti-suit injunction prohibiting the parties from prosecuting the case in other jurisdictions pending resolution by the first court. See Jorge L. Contreras, *The New Extraterritoriality: FRAND Royalties, Anti-Suit Injunctions and the Global Race to the Bottom in Disputes over Standards-Essential Patents*, 25 B.U. J. SCI. TECH. L. (forthcoming 2019) (describing anti-suit injunctions in recent FRAND disputes).

110. See *id.* at §§ III.A, III.B; Contreras, *Global Markets*, *supra* note 94.

111. Eisenberg & Miller, *New York*, *supra* note 25, at 1482–87 (describing New York's sustained efforts to attract commercial contract litigation through both procedural and substantive rules); Daniel J.H. Greenwood, *Democracy and Delaware: The Mysterious Race to the Bottom/Top*, 23 YALE L. & POL'Y REV. 381 (2005) (discussing the view that Delaware adjusted its corporate law to attract business incorporations).

112. See Allan I. Mendelsohn, *Flags of Convenience: Maritime and Aviation*, 79 J. AIR L. & COMMERCE 151, 152–53 (2014) ("[I]t is fair to say that, as a direct consequence of what later became the highly popular and deregulated 'flag-out' movement, the world, and especially our own country, witnessed what can only be called a determined and successful race to the bottom.").

113. See, e.g., J. Jonas Anderson, *Reining in a 'Renegade' Court: TC Heartland and the Eastern District of Texas*, 39 CARDOZO L. REV. 1569, 1571 (2018) ("For many years, the judges in the Eastern District have encouraged patent plaintiffs to file their cases in the district."); Brian J. Love & James Yoon, *Predictably Expensive: A Critical Look at Patent Litigation in the Eastern District of Texas*,

jurisdictions that establish reputations for setting low global FRAND rates may attract standards implementers seeking to challenge the rates offered by SEP holders. When jurisdictions intentionally adapt their rules and procedures, not to mention their substantive law, to attract litigants, legal rules may progressively be diluted in an effort to respond to the wishes of private parties.<sup>114</sup>

A second unhealthy form of litigation race occurs when a litigant rushes to bring suit in a jurisdiction favorable to its position, often to foreclose suit in a less favorable jurisdiction. This situation is referred to as a “race to the courthouse”<sup>115</sup> and may prematurely drive parties to litigation rather than negotiation or settlement. In 1981, Senator Bob Dole described a similar patchwork of federal patent law as a “forum shopper’s delight and an innovator’s nightmare” before the creation of the Court of Appeals for the Federal Circuit.<sup>116</sup>

Given the disparities in treatment of the same issues by courts around the world, there is evidence that such forum shopping is already occurring in the area of patent litigation, and this trend is only likely to continue.<sup>117</sup> Huawei, in fact, raised the specter of such a race to the courthouse in its appeal of the U.K. *Unwired Planet* decision, arguing that “if any court can set a global rate then there will be a race between the SEP owner and the

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20 STAN. TECH. L. REV. 1 (2017). The peculiar dominance of the Eastern District of Texas in U.S. patent litigation may be coming to an end following the U.S. Supreme Court’s recent decision in *TC Heartland, LLC v. Kraft Foods Grp. Brands, LLC*, 581 U.S. \_\_\_, 137 S. Ct. 1514 (2017). See Anderson, *supra*, at 1571 (“The case struck a direct blow against what Justice Scalia famously referred to as the ‘renegade jurisdiction [of East Texas].’” (quoting Transcript of Oral Argument, *eBay, Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006) (No. 05-130), 2006 WL 846236, at \*11)).

114. See, e.g., Stefan Bechtold et al., *Forum Selling Abroad*, 92 S. CAL. L. REV. (2019, forthcoming) (observing phenomenon among German courts); Mark A. Lemley & Carl Shapiro, *A Simple Approach to Setting Reasonable Royalties for Standard-Essential Patents*, 28 BERKELEY TECH. L.J. 1135, 1163–64 (2013) (“competition between jurisdictions . . . creates comity concerns” as well as other issues).

115. See *Perez v. Ledesma*, 401 U.S. 82, 119 n.12 (1971) (Brennan, J., dissenting) (“The federal declaratory judgment is not a prize to the winner of a race to the courthouses, but rather a declaration of rights that obviates the need to risk a state criminal proceeding or a race to the courthouses.”).

116. 127 CONG. REC. S29,861 (daily ed. Dec. 8, 1981) (statement of Sen. Dole).

117. See, e.g., J. Gregory Sidak, *Memorandum: Will the International Trade Commission or the Antitrust Division Set Policy on Monopoly and Innovation?*, 3 CRITERION J. INNOVATION 701, 711 (2018) (“As the quality of administrative adjudication deteriorates at the ITC, patent holders engaged in global disputes over licensing or infringement can choose to litigate their multijurisdictional disputes before highly sophisticated tribunals in other countries.”); Matthew Bultman, *Patent Owners Taking Global View in Enforcement Efforts*, LAW360 (July 18, 2018) (“The more the U.S. system is out of harmony with international standards, the more your international corporations will prefer to litigate elsewhere.” (quoting Randall Rader, a former chief judge of the Federal Circuit)).

implementer to choose what each perceives to be the most favourable jurisdiction.”<sup>118</sup>

## II. ANTECEDENTS AND BUILDING BLOCKS FOR A FRAND RATE-SETTING TRIBUNAL

When a SEP holder and a product manufacturer disagree over the royalty rates that the SEP holder may validly charge, some form of dispute resolution is required. A typical form of dispute resolution is litigation. However, as discussed above, there are numerous areas in which courts disagree over the proper methodology for calculating FRAND royalties. Likewise, there are increasing indications that national courts will seek to make global FRAND rate determinations using their own favored methodologies. This, coupled with the lack of transparency of existing FRAND licenses and the failure of most FRAND calculations to address adequately the totality of patents covering a particular standard, suggests that any solution to the quandary of FRAND royalty rates must address the three issues of *transparency*, *consistency*, and *comprehensiveness*.<sup>119</sup> This Article proposes that this tripartite goal may be achieved through a global FRAND rate-setting tribunal rather than bilateral national litigation. This Part discusses existing precedents for such a rate-setting mechanism. These include existing alternative dispute resolution (ADR) procedures for resolving FRAND disputes, mandatory arbitration procedures in contexts such as Internet domain name disputes, and expert rate-setting authorities in areas including copyright and public utilities.

### A. Arbitration of Patent and FRAND Disputes

Binding arbitration is a common and legally respected mechanism for the resolution of commercial disputes.<sup>120</sup> Like other commercial disputes, many disputes regarding the terms of FRAND licensing commitments are

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118. *Unwired Planet* [2018] EWCA Civ 2344 at ¶ 101. The Court of Appeals found this argument unavailing, rejecting Huawei’s argument and reasoning: “It is true that a court in one country will decide, as between the parties, whether a global or multi-territorial license is FRAND but that is inevitable and we see nothing unfair about it . . .” *Id.* ¶ 104. For a more detailed discussion of this point, see Contreras, *Global Markets*, *supra* note 94.

119. See *supra* notes 20–32 and accompanying text.

120. See generally Jacques de Werra, *Global Policies for Arbitrating Intellectual Property Disputes*, in RESEARCH HANDBOOK ON INTELLECTUAL PROPERTY LICENSING, ch. 15 (Jacques de Werra ed., 2013); GARY B. BORN, INTERNATIONAL COMMERCIAL ARBITRATION: COMMENTARY & MATERIALS (2d ed. 2001); Cremades & Plehn, *supra* note 27, at 324–25 (noting that parties are free to develop their own dispute resolution tribunals and procedures so long as they do not violate national policy).

already resolved through arbitration and other private ADR mechanisms.<sup>121</sup> The European Commission recognized the following potential benefits of resolving FRAND disputes through ADR in 2014:

- (i) faster resolution of conflicts;
- (ii) lower costs [];
- (iii) a lower threshold for parties to seek a solution when bilateral negotiations fail;
- (iv) more consistent outcomes, as parties can no longer do forum shopping;
- (v) higher quality outcomes, as a result of applicable competences, specialism and cumulative knowledge by the arbiters;
- (vi) fairer outcomes, especially when licensing conditions are not discussed under the threat of injunction;
- (vii) more creative and more focused on problem solving than litigation, which has always been based on an adversarial model; and
- (viii) once the dispute is over, the parties face no appeals, delays, continuing expenses, or unknown risks.<sup>122</sup>

Another major benefit of arbitration over court adjudication is that, unlike judicial awards, most arbitral awards rendered in accordance with a customary set of due process procedures are recognized and enforceable in all countries that are parties to the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards.<sup>123</sup>

These benefits are widely recognized in different jurisdictions. The U.S. Federal Trade Commission has acknowledged arbitration to be a valid mechanism for resolving disputes over FRAND licensing.<sup>124</sup> Most

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121. Statistics on the number of FRAND disputes resolved through ADR are not available. Anecdotally, the author has served as an arbitrator in a large international FRAND dispute. *See also* Damien Geradin, *FRAND Arbitration: The Determination of Fair, Reasonable and Non-Discriminatory Rates for SEPs by Arbitral Tribunals*, CPI ANTITRUST CHRON. (Sep. 2016) (providing recommendations and observations based on experience as an arbitrator).

122. EUR. COMM'N, PATENTS AND STANDARDS: A MODERN FRAMEWORK FOR IPR-BASED STANDARDIZATION 178 (2014); EC SEP COMMC'N, *supra* note 34, at 11 (ADR “can offer swifter and less costly dispute resolution” than litigation.); *see also* Theodore Eisenberg & Geoffrey P. Miller, *The Flight from Arbitration: An Empirical Study of Ex Ante Arbitration Clauses in the Contracts of Publicly-Held Companies*, 56 DEPAUL L. REV. 335, 336–39 (2007) [hereinafter Eisenberg & Miller, *Arbitration*] (listing perceived benefits of commercial arbitration over judicial dispute resolution); Roger S. Haydock, *Civil Justice and Dispute Resolution in the Twenty-First Century: Mediation and Arbitration Now and for the Future*, 27 WM. MITCHELL L. REV. 745, 748–49 (2000) (listing twelve factors supporting arbitration of disputes).

123. Convention on the Recognition and Enforcement of Foreign Arbitral Awards, June 10, 1958, 21 U.S.T. 2517, 330 U.N.T.S. 38 [hereinafter New York Convention].

124. *See* Motorola Mobility LLC, Case No. 1210120 (F.T.C. July 23, 2013), <https://www.ftc.gov/sites/default/files/documents/cases/2013/07/130724googlemotorolado.pdf>

recently, the Japan Patent Office, which has published a comprehensive *Guide to Licensing Negotiations Involving Standard Essential Patents*,<sup>125</sup> has actively promoted the use of ADR to resolve FRAND disputes.<sup>126</sup> Adding to these governmental sources, numerous academic commentators,<sup>127</sup> government officials,<sup>128</sup> and legal practitioners<sup>129</sup> have encouraged the use of ADR in resolving FRAND disputes. These endorsements point to a growing recognition that ADR may offer satisfactory global solutions to FRAND disputes in a manner that can be more efficient than serial national-level litigation.

Numerous mechanisms exist that enable parties to resolve FRAND-related disputes through binding arbitration, and several institutions around the world have tailored rules and procedures for the adjudication of patent disputes. For example, the American Arbitration Association (AAA), which operates the International Center for Dispute Resolution (ICDR), has adopted Supplementary Rules for the Resolution of Patent Disputes.<sup>130</sup> These rules address patent disputes within the framework of AAA's Commercial Arbitration Rules and Mediation Procedures.<sup>131</sup> In addition, the World Intellectual Property Organization (WIPO), which established the WIPO Arbitration and Mediation Center in 1994, has

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[<https://perma.cc/8K4A-NBES>] [hereinafter Google Order] (decision and order) (binding arbitration is an acceptable method for resolving disputes over FRAND terms.).

125. JAPAN PATENT OFFICE, *GUIDE TO LICENSING NEGOTIATIONS INVOLVING STANDARD ESSENTIAL PATENTS* (2018), <http://www.meti.go.jp/press/2018/06/20180605003/20180605003-2.pdf> [<https://perma.cc/CN96-8MJL>].

126. Press Release, Japan Patent Office, Mock International Arbitration - Toward Early Dispute Resolution of Standard Essential Patents (SEPs) in the 5G Era - Held in Tokyo (June 29, 2018), [https://www.jpo.go.jp/shoukai\\_e/soshiki\\_e/photo\\_gallery2018062991.html](https://www.jpo.go.jp/shoukai_e/soshiki_e/photo_gallery2018062991.html) [<https://perma.cc/ME6R-QH59>] (describing mock international arbitration involving renowned international jurists).

127. See Contreras & Newman, *supra* note 22; Lemley & Shapiro, *supra* note 114; Lemley, *supra* note 43, at 155.

128. See Kühn et al., *supra* note 14, at 4; Renata Hesse, Deputy Assistant Att'y Gen., U.S. Dep't of Justice Antitrust Division, Six "Small" Proposals for SSOs Before Lunch 9 (Oct. 10, 2012), (transcript available at <http://www.justice.gov/atr/public/speeches/287855.pdf>) [<https://perma.cc/5MS6-4GNS>].

129. See FOER & VAHEESAN, *supra* note 37, at 17; David A. Balto & Daniel I. Prywes, *Standard-Setting Disputes: The Need for FTC Guidelines*, FTC WATCH (Mar. 25, 2002), <https://www.mlexwatch.com/ftcwatch/articles/177/ftc-watch-no-585> [<http://perma.cc/JSB7-KD44>].

130. RESOLUTION OF PATENT DISPUTES SUPPLEMENTARY RULES (AM. ARBITRATION ASS'N 2006), <https://www.adr.org/sites/default/files/Resolution%20of%20Patent%20Disputes%20Supplementary%20Rules.pdf> (last visited May 18, 2019).

131. COMMERCIAL ARBITRATION RULES & MEDIATION PROCEDURES (AM. ARBITRATION ASS'N 2013), <https://www.adr.org/sites/default/files/Commercial%20Rules.pdf> (last visited May 18, 2019).

recently developed a set of model agreements for the submission of FRAND disputes for WIPO mediation or arbitration.<sup>132</sup>

Despite these advances, bilateral arbitration is not a panacea for multinational FRAND disputes. As a general rule, arbitration proceedings are conducted privately. Thus all parties, including the arbitrators, are obliged, either by law, ethical obligation, or contract, to maintain the confidentiality of the evidence presented, the parties' arguments, and the arbitral award.<sup>133</sup> Thus, the requirement of *transparency* is not met. Moreover, arbitration proceedings are generally brought to resolve disputes between two parties only and have little to no bearing on disputes with other parties. They thus lack the element of *comprehensiveness*. Finally, there is no mechanism within the international arbitration framework for precedential or *res judicata* effect of one decision on another, thus eliminating any requirement of *consistency* from one decision to the next. Thus, while arbitration of FRAND disputes may have some advantages over litigation, arbitration does not satisfactorily address the most significant problems inherent in FRAND disputes today.

### B. *Mandatory Arbitration*

Arbitration generally takes place when parties mutually agree to forego judicial resolution of a dispute in favor of private resolution of their differences.<sup>134</sup> Non-judicial resolution of disputes cannot be compelled; the parties must, at some point, agree to it. Of course, not all arbitration agreements are negotiated between sophisticated parties. Standardized consumer contracts for telephone service, credit cards, and computer software, as well as employment agreements, often contain arbitration clauses that are routinely enforced by the courts even if poorly understood by consumers.<sup>135</sup> Similarly, the Uniform Domain Name Dispute

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132. See *WIPO ADR for FRAND Disputes*, WORLD INTEL. PROP. ORG., <http://www.wipo.int/amc/en/center/specific-sectors/ict/frand/> [<https://perma.cc/MR8G-DRME>].

133. See generally TREVOR COOK & ALEJANDRO I. GARCIA, INTERNATIONAL INTELLECTUAL PROPERTY ARBITRATION, ch. 9 (2010); de Werra, *supra* note 120, at 361–63 (“Confidentiality is generally viewed as one of the classic reasons why parties choose arbitration.”).

134. See, e.g., BORN, *supra* note 120, at 53 (“The foundation for almost every international arbitration is an international arbitration agreement. Absent a valid agreement to arbitrate, there is generally no basis for requiring arbitration or for enforcing an arbitral award against a party.”).

135. See *Epic Sys. Corp. v. Lewis*, 584 U.S. \_\_\_, 138 S. Ct. 1612 (2018) (upholding employment arbitration clauses prohibiting class action claims); Paul Bennett Marrow & Craig E. Penn, *The ‘Circle of Assent’ Doctrine and the Mandatory Pre-Dispute Arbitration Clause: When the Unconscionable Contract Analysis Just Won’t Do*, 68 DISPUTE RESOL. J., No. 3, 2013 (discussing enforceability of mandatory arbitration clauses in contracts of adhesion); Katherine V.W. Stone,

Resolution Policy (UDRP) for resolving Internet domain name disputes is mandated by agreements between the Internet Corporation for Assigned Names and Numbers (ICANN) and Internet domain name registrars, which, in turn, pass this requirement down to individual domain name registrants.<sup>136</sup> Thus, the term “mandatory” arbitration is something of a misnomer, as an agreement technically underlies all such arbitration proceedings.

Likewise, parties that participate in an SDO, either through formal membership or involvement in its standards-development activities, are generally deemed to have agreed to abide by the SDO’s rules and policies.<sup>137</sup> Thus, if an SDO, as part of its formal rules, requires that its participants submit disputes regarding FRAND royalties to binding arbitration in lieu of court adjudication, then the participants in that SDO who are bound by those rules must do so.

This “mandatory” arbitration approach is not uncommon in patent pools, several of which require their members to submit disputes to arbitration.<sup>138</sup> Likewise, a handful of SDOs require that certain disputes among their members be resolved through binding arbitration. These include the Digital Video Broadcasting (DVB) Project, which requires its members to resolve disputes regarding licenses of DVB standards under the arbitration rules of the International Chamber of Commerce (ICC);<sup>139</sup> the VMEbus International Trade Association (VITA), which requires patent-related disputes to be resolved through arbitration administered by VITA itself,<sup>140</sup> and the Blu-Ray Disc Association, which requires that

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*Procedure, Substance, and Power: Collective Litigation and Arbitration Under the Labor Law*, 61 UCLA L. REV. DISCOURSE 164 (2013) (discussing employment agreement arbitration clauses).

136. See *WIPO Guide to Uniform Domain Name Dispute Resolution Policy (UDRP)*, WORLD INTEL. PROP. ORG., <http://www.wipo.int/amc/en/domains/guide> (last visited Apr. 22, 2019); LAURA DENARDIS, *THE GLOBAL WAR FOR INTERNET GOVERNANCE* 192–94 (2014). There are four authorized providers of UDRP arbitration services: WIPO itself, the Forum (formerly the National Arbitration Forum), the Czech Arbitration Court (CAC), and the Asian Domain Name Dispute Resolution Centre (ADNDRC). See Doug Isenberg, *What It Costs to File a UDRP Complaint*, GIGALAW BLOG (Feb. 13, 2019), <https://giga.law/blog/2019/2/27/what-it-costs-to-file-a-udrp-complaint> (last visited May 18, 2019); DENARDIS, *supra*, at 193.

137. See Jorge L. Contreras, *A Market Reliance Theory for FRAND Commitments and Other Patent Pledges*, 2015 UTAH L. REV. 479, 503–04 (2015) (describing the means by which SDO policies are made binding on participants, either through contract or corporate policy).

138. See *Merges*, *supra* note 32, at 1344–46 (describing arbitration requirements for aviation and automobile patent pools).

139. Memorandum of Understanding from the Digital Video Broadcasting Project, § 14.7 (Jan. 3, 2014), [http://www.dvb.org/resources/public/documents\\_site/dvb\\_mou.pdf](http://www.dvb.org/resources/public/documents_site/dvb_mou.pdf) [<https://perma.cc/K9QJ-EK6Z>].

140. VITA, *VSO POLICIES AND PROCEDURES* § 10.5 (revision 2.8 Sept. 1, 2015), <https://www.vita.com/resources/Documents/Policies/vso-pp-r2d8.pdf> [<https://perma.cc/E6NN->

patent licensing disputes be resolved through arbitration by the AAA.<sup>141</sup> In contrast, other SDO policies merely state that members “may” arbitrate SEP-related disputes, in which case arbitration is voluntary.<sup>142</sup> In practice, it appears that neither the DVB nor the VITA arbitration policies have formally been invoked. Thus, the only documented invocation of a mandatory SDO arbitration policy has been at the Blu-Ray Disc Association.<sup>143</sup>

In 2013, Professors Mark Lemley and Carl Shapiro recommended that SDOs mandate that portfolio royalty rates for SEPs subject to FRAND licensing be determined through binding arbitration.<sup>144</sup> The form of arbitration they proposed for this purpose was so-called “baseball” or “final offer” arbitration.<sup>145</sup> Under this procedure, each party submits a sealed bid to an arbitrator, and the arbitrator is limited to choosing one of the competing bids without modification.<sup>146</sup> Lemley and Shapiro also

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ZM9E] (“Any VSO member who believes a WG Member or the VITA Member Company that the WG Member represents has not complied with his/her or its obligations under this Patent Policy, including but not limited to obligations under Section 10.3 to grant licenses on terms that are fair, reasonable and non-discriminatory, may submit his/her claim in this respect to the applicable WG Chairperson. If the claim is not thereupon resolved on an informal basis within fifteen (15) days of its submission, the WG Chairperson will commence an Arbitration Procedure in accordance with the provisions set forth below.”). The VITA patent policy is best known for its requirement that patent holders disclose the maximum royalty rates they will charge for patents essential to VITA standards on an *ex ante* basis, a provision that was the subject of considerable controversy. *See* Contreras, *Ex Ante*, *supra* note 36, at 173–74.

141. BLU-RAY DISC ASS’N, AMENDED & RESTATED BYLAWS OF BLU-RAY DISC ASSOCIATION cl. 16(5), (Oct. 1, 2010), [http://www.blu-raydisc.com/Assets/Downloadablefile/BDA\\_Bylaws\\_%28v2.0%29-18618.pdf](http://www.blu-raydisc.com/Assets/Downloadablefile/BDA_Bylaws_%28v2.0%29-18618.pdf) [<https://perma.cc/9ZHP-SUFW>].

142. An interesting hybrid “balanced safe harbour” approach was proposed at ETSI around 2014, in which SEP holders would have been prohibited from seeking an injunction to prevent an infringer from operating under a SEP until the SEP holder had submitted to binding arbitration or judicial determination of the appropriate FRAND rate. The proposal, which was backed by several major SEP holders, was not adopted. *See* Harri Kalimo et al., *EU Intellectual Property Rights Law – Driving Innovation or Stifling the Digital Single Market?*, in *EU ECONOMIC LAW IN A TIME OF CRISIS* 151, 155 (Harri Kalimo & Max S. Jansson eds., 2016).

143. The Blu-Ray arbitration policy became the subject of litigation in *Zoran Corp. v. DTS, Inc.*, No. C 08-4655 JF (HRL), 2009 U.S. Dist. LEXIS 6675 (N.D. Cal. Jan. 20, 2009), a dispute concerning the SEP licensing terms offered by DTS to its fellow SDO member Zoran. Zoran brought an arbitration claim against DTS, claiming that DTS violated its FRAND commitment and simultaneously filed an antitrust and patent misuse suit against DTS in federal district court. *Id.* at \*2–3. Among other things, the court validated the Blu-Ray arbitration policy and stayed Zoran’s antitrust and misuse claims pending resolution of the arbitration. *Id.* at \*19–20.

144. *See* Lemley & Shapiro, *supra* note 114, at 1138.

145. *See id.* at 1141, 1144–46.

146. There are several variants of baseball arbitration, including forms in which issues are decided serially, offers are revealed to or concealed from the counterparty, parties are permitted to submit two final offers, and more. *See* Elissa M. Meth, *Final Offer Arbitration: A Model for Dispute Resolution in Domestic and International Disputes*, 10 AM. REV. INT’L ARB. 383, 393–98 (1999).



proposed that the decision of the arbitrator be disclosed to other willing licensees of the relevant SEPs,<sup>147</sup> at least partially addressing the concerns over transparency raised above.

While some commentators supported the prospect of SDO-mandated arbitration of FRAND disputes,<sup>148</sup> the Lemley-Shapiro proposal precipitated a cascade of opposition from others on grounds ranging from due process concerns about requiring parties to waive their right to seek redress from the courts, concerns that the binary nature of baseball arbitration could not guaranty that a FRAND royalty would actually be chosen, concerns regarding bias and accuracy of the decision, and potential gamesmanship with respect to the parties' selected rates.<sup>149</sup> Despite some similarities in the FRAND rate-setting tribunal proposed in this Article and the Lemley-Shapiro proposal, the use of baseball arbitration is not suggested. While baseball arbitration may provide an expedient mechanism for disposing of disputes between two parties, it is not a suitable mechanism for determining an aggregate FRAND rate across multiple parties and patents (the need for *comprehensiveness*), nor does it satisfy the need for a solution that is *transparent* (given that the baseball-style arbitrator is not required to reveal his or her reasoning in reaching a decision) or *consistent* (given that baseball-style arbitrators cannot apply consistent methodologies when reaching decisions if they are bound only to select one of the two options presented to them by the parties).

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147. Lemley & Shapiro, *supra* note 114, at 1145.

148. See, e.g., FOER & VAHEESAN, *supra* note 37, at 17 (“SSOs should establish and require participation in dispute resolution processes that offer a quicker, more cost-effective alternative to litigation.”); Balto & Prywes, *supra* note 129 (“Standard-setting groups should be encouraged to require alternative dispute resolution procedures for resolving disputes about licensing terms.”).

149. See RÉGIBEAU ET AL., *supra* note 36, at 79 (“While the majority of respondents seem to be favourable to the introduction of arbitration mechanisms, few appear ready to support making them mandatory.”); Geradin, *supra* note 121, at 5 (objecting to loss of party freedom to self-determine arbitral rules and tribunal, as well as unsuitability of baseball arbitration to determining FRAND royalty rates); Pierre Larouche et al., *Settling FRAND Disputes: Is Mandatory Arbitration a Reasonable and Nondiscriminatory Alternative?*, 10 J. COMPETITION L. & ECON. 581, 584 (2014) (“[T]he mandatory-arbitration proposal is . . . an unnecessary intervention given the absence of market failure and, more importantly, given that it poses a significant risk of negatively impacting the successful adoption of technical, consensus-based industry standards.”); J. Gregory Sidak, *Mandating Final-Offer Arbitration of FRAND Royalties for Standard-Essential Patents*, 18 STAN. TECH. L. REV. 1, 38 (2014) (“The package that Lemley and Shapiro call ‘best practices’ is in fact not a narrow proposal for binding baseball arbitration but rather a roadmap to redefine patent rights in a manner that would transfer wealth from inventors to infringers.”); Contreras & Newman, *supra* note 22, at 43–44 (arguing arbitrators’ lack of enunciated reasoning in a baseball arbitration decision does little to guide future behavior, nor can the result be assumed to be FRAND).

### C. Rate-Setting

As discussed above, if parties cannot mutually agree on FRAND royalty rates, they currently have recourse to the courts as well as private arbitration. In either case, the parties are bound by the rate determination made by an independent adjudicatory authority (subject to permitted appeals) after applicable evidence is presented and arguments are made. Thus, the notion that FRAND royalties can be established by an external (non-party, non-SDO) body is not a new one. However, as discussed in the Introduction, courts around the world, and even within the same jurisdiction, may differ with regard to both the methodologies they use and the evidence that they consider in determining FRAND rates.<sup>150</sup> This inconsistency, which appears to be increasing, is one of the principal pitfalls of the current FRAND system. Thus, any effective solution should offer a consistent methodology for making FRAND rate determinations.

One well-known method for establishing rates in a consistent manner is allocating rate-setting authority to an expert body. Rate-setting bodies have been established in a multitude of contexts throughout history. Richard Epstein traces the origin of rate-setting authority to Sir Thomas Hale's influential 1670 treatise *De Portibus Maris*, which discusses the need to regulate the prices charged by owners of wharves and other public accommodations "affected with a publick interest."<sup>151</sup> Epstein goes on to recount the history of rate setting in England and the United States in industries including grain elevators, railroads, and public utilities.<sup>152</sup> Interestingly, many of the rate-setting tribunals established in these early proceedings sought to ensure that rates charged by regulated providers would be "reasonable and nondiscriminatory" (RAND),<sup>153</sup> echoing and foreshadowing the FRAND commitments of today.<sup>154</sup>

One of the touchstones of a rate-setting tribunal is that it should operate under a consistent set of principles and procedures, taking into account all

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150. See *supra* notes 25–28 and accompanying discussion.

151. Richard A. Epstein, *The History of Public Utility Rate Regulation in the United States Supreme Court: Of Reasonable and Nondiscriminatory Rates*, 38 J. SUP. CT. HIST. 345, 346 (2013) (quoting Matthew Hale, "De Portibus Maris", in A COLLECTION OF TRACTS RELATIVE TO THE LAW OF ENGLAND 77–78 (Francis Hargrave ed., 1787)).

152. *Id.* at 350–65.

153. *Id.* at 348–50, 352–57 (discussing, *inter alia*, the Minnesota Rate Cases, 134 U.S. 418 (1890) ("equal and reasonable" rates), and *Smyth v. Ames*, 169 U.S. 466, 527 (1898) ("reasonable" rates)).

154. See Jorge L. Contreras, *A Brief History of FRAND: Analyzing Current Debates in Standard Setting and Antitrust Through a Historical Lens*, 80 ANTITRUST L.J. 39, 47–48 (2015) (tracing origin of SDO FRAND commitments to 1912 *Terminal Railroad* case that required access to St. Louis railroad terminal on "just and reasonable" terms).

relevant evidence pertinent to the case at hand.<sup>155</sup> Its decisions should also be written and made public so as to offer as much guidance as possible to the industry in shaping future conduct. The rate-setting body should also continue in existence beyond the resolution of particular disputes, thus enabling its members to develop relevant expertise and custom that can be applied consistently from case to case.<sup>156</sup> The expertise and industry knowledge resident within such a body can reduce the cost of each case decided, as the parties need not educate novice judges or juries regarding the practices and norms of the industry with each new case.<sup>157</sup> Moreover, a rate setting tribunal can apply independent judgment and discretion when determining rates that must meet a loosely-defined standard, such as the “just and reasonable” rates that are established by public utility tribunals.<sup>158</sup>

The benefits of consistency and continuity in a rate-setting body were acknowledged by Congress in connection with royalties under the compulsory license provisions of the U.S. Copyright Act.<sup>159</sup> In 1993, Congress enacted the Copyright Royalty Tribunal Reform Act, which provided that such royalty determinations would be made by a series of ad hoc three-member Copyright Arbitration Royalty Panels (CARPs) appointed by the Librarian of Congress.<sup>160</sup> The CARPs and their rotating group of ad hoc arbitrators were heavily criticized, among other things, for unpredictability, inconsistency, lack of expertise, and potential bias.<sup>161</sup> As a result, in 2004 Congress replaced the ad hoc CARPs with a permanent Copyright Royalty Board (CRB) consisting of three full-time Copyright Royalty Judges.<sup>162</sup>

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155. See Epstein, *supra* note 151, at 366.

156. See, e.g., 2 NIMMER ON COPYRIGHT § 7.27[C] (2018) (discussing criticism of former ad hoc Copyright Arbitration Royalty Panels).

157. See Merges, *supra* note 32, at 1317 (noting inefficiencies of serial court litigation over copyright license rates and suggesting a “rate court” as a means for avoiding excessive transaction costs).

<sup>158</sup> See William Boyd, *Just Price, Public Utility, and the Long History of Economic Regulation in America*, 35 YALE J. REG. 721 (2018) (tracing history of “just price” determinations from Aristotle through modern public utility regulation).

159. The Copyright Act of 1976 established four categories of compulsory copyright license: musical mechanical, noncommercial broadcasting, jukebox, and cable television. See 2 NIMMER ON COPYRIGHT, *supra* note 156, § 7.27[A].

160. Copyright Royalty Tribunal Reform Act of 1993, Pub. L. 103-198, 107 Stat. 2304 (codified as amended in scattered sections of 17 U.S.C. and at 8 U.S.C. § 1288 (2018)). The 1993 Act replaced a prior rate-setting authority established under the 1976 Copyright Act. See 2 NIMMER ON COPYRIGHT, *supra* note 156, § 7.27[C].

161. See 2 NIMMER ON COPYRIGHT, *supra* note 156, § 7.27[C].

162. H.R. REP. NO. 108-408, at 20 (2004).

While there are clearly distinctions between the compulsory licensing of copyrights and the FRAND licensing of SEPs, many aspects of the CRB could be adopted in a new FRAND rate-setting tribunal. These similarities begin with the fundamental purpose of each body: to establish rates for IP licensing when private parties are committed to grant all users of the relevant IP a license at rates that are initially unspecified and when the parties are unable to reach agreement amongst themselves.<sup>163</sup> As such, several attributes of the CRB can usefully inform the design of a FRAND rate-setting tribunal. For instance, Copyright Royalty Judges are required by statute to possess certain expertise: one (the Chief Judge) must have experience in adjudications, arbitrations, or trials, and the other two Judges must have significant knowledge in the field of copyright law and economics, respectively.<sup>164</sup> Likewise, in making their determinations, the CRB evaluates substantial evidence and testimony from a range of fact and expert witnesses.<sup>165</sup> Illustrating the scale and scope of these hearings, the Board's 2015 proceedings regarding rates for noninteractive webcasting lasted four months and generated more than 12,000 pages of exhibits, with oral testimony from forty-seven witnesses (including fourteen economists).<sup>166</sup> These observations suggest that it is possible to establish an expert rate-setting board with the capability, capacity, and expertise to establish royalty levels with respect to complex intellectual property matters.

Likewise, the CRB is charged with allocating a large royalty pool to the owners of copyrights in television broadcasts after they have been retransmitted by cable providers.<sup>167</sup> In some cases, hundreds or thousands

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163. See, e.g., *Recording Indus. Assn. of Am. v. Librarian of Congress*, 608 F.3d 861, 863 (D.C. Cir. 2010) (“By law, the Copyright Royalty Board sets the terms and rates for copyright royalties when copyright owners and licensees fail to negotiate terms and rates themselves.”).

164. 17 U.S.C. § 802(a)(1).

165. See, e.g., *Recording Indus. Assn. of Am.*, 608 F.3d at 864 (describing CRB proceedings “involving 28 days of live testimony, more than 140 exhibits, and more than 340 pleadings, motions, and orders”).

166. David R. Strickler, *Royalty Rate Setting for Sound Recordings by the United States Copyright Royalty Board: The Judicial Need for Independent Scholarly Economic Analysis*, 12 REV. ECON. RES. ON COPYRIGHT ISSUES 1, 2 (2015); see also *Recording Indus. Assn. of Am.*, 608 F.3d at 864 (CRB hearings regarding compulsory license rates in 2006 involved “28 days of live testimony, more than 140 exhibits, and more than 340 pleadings, motions, and orders”).

167. 17 U.S.C. § 802(a)(1); see also *Indep. Producers Grp. v. Librarian of Cong.*, 792 F.3d 132, 135 (D.C. Cir. 2015) (“Under 17 U.S.C. § 111(c), after a broadcast television station transmits copyrighted material to its viewers, cable systems may retransmit that material without first obtaining the copyright owner’s permission. In exchange for that privilege, cable systems must deposit statutorily prescribed royalty fees with the Register of Copyrights. The Copyright Royalty Board is responsible for determining how to distribute those fees to the appropriate copyright owners.” (citations omitted)).

of copyright holders can be implicated in these proceedings. The procedure by which the CRB determines this allocation is informative. First, all copyright holders who wish to claim a share of the previous year's aggregate pool of cable retransmission royalties must file a claim with the CRB.<sup>168</sup> If all claimants agree how the pool should be allocated, then the CRB simply authorizes the distribution of funds to the claimants in the amounts agreed.<sup>169</sup> However, if the claimants cannot agree, then the CRB conducts a two-phase proceeding to determine the allocation of royalties.<sup>170</sup> These proceedings are explained by the D.C. Circuit as follows:

During Phase I, claimants may group themselves into categories based on the kind of programming that they own. Using evidence supplied by the claimants, the Board calculates the marketplace value of each category. It then assigns a percentage of the total royalty fee fund to each category based on its value relative to other categories. During Phase II, the Board subdivides the fees allotted to each category among the individual claimants within that category.

Phase I and Phase II proceedings follow the same set of procedures. First, the Board publishes a notice of the proceeding in the Federal Register. Claimants then petition to participate in the proceeding. A three-month voluntary negotiation period ensues, during which the participating claimants attempt to reach an agreement without assistance from the Board.

At the end of the voluntary negotiation period, if any disputes remain, the Board plays a more active role in the process. The Board accepts written statements from the participating claimants, allows the participating claimants to conduct discovery, and orders a post-discovery settlement conference. If the participating claimants are still unable to resolve their differences, the Board then conducts a hearing and issues a final determination. Finally, the Librarian of Congress publishes the Board's determination in the Federal Register and distributes the royalty fees.<sup>171</sup>

As the above description demonstrates, royalty determination and distribution proceedings conducted by the CRB are not dissimilar to the types of determinations that would be required of a FRAND rate-setting

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168. 17 U.S.C. § 111(d)(4)(A).

169. *Id.* § 111(d)(4)(B)–(d)(4)(C), 801(b)(7).

170. *Id.* § 111(d)(4)(B).

171. *Indep. Producers Grp.*, 792 F.3d at 135–36 (citations omitted).

tribunal: multiple parties with divergent interests are involved; the parties are initially permitted to work out an arrangement amongst themselves, but if they cannot, the tribunal's procedures are activated; and the tribunal is empowered to compel discovery, conduct hearings, and otherwise adduce all relevant evidence.<sup>172</sup>

The similarity between FRAND rate determinations and copyright royalty tribunal determinations has also been observed in the U.K. Sir Justice Colin Birss of the U.K. High Court (Patents) made a such an observation about the rate-setting capability of the U.K. Copyright Tribunal, of which he was once a member,<sup>173</sup> and its similarity to FRAND rate determinations: "Similar kinds of analysis are done in the United Kingdom Copyright Tribunal setting an appropriate royalty rate in a licensing scheme. The parties there are not challenging the underlying rights. The only issue is the tariff terms. There is nothing intrinsically unjudicial about the issue to be resolved."<sup>174</sup> A similar observation was made by Sir Justice Henry Carr in a recent case management decision, in which he noted that the mechanics of FRAND rate determinations "are entirely familiar" to "those familiar with . . . the Copyright Tribunal" and "are not that complicated, and the courts are used to dealing with them."<sup>175</sup>

It is important to note that the copyright rate-setting bodies discussed above are governmentally-chartered entities whose determinations are subject to review by the courts under both the tribunal's authorizing legislation and the Administrative Procedure Act.<sup>176</sup> This Article does not propose the creation of a new governmental rate-setting body. In fact, it is precisely the potential for national governmental bodies (e.g., courts, agencies) to diverge and compete in their rate-setting methodologies (i.e., the race to the bottom) that calls for the establishment of a single, international, non-governmental rate-setting tribunal for FRAND royalties, as discussed in greater detail in the next Part.

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172. This being said, not all observers are satisfied with the CRB's copyright royalty determinations. For example, Professor Mark Schultz has criticized the CRB for consistently favoring licensees in its sound recording royalty determinations, a bias that he also finds in the determination of SEP royalties. Mark Schultz, *The Market for Performance Rights in Sound Recordings: Bargaining in the Shadow of Compulsory Licensing* (Nov. 28, 2018) (unpublished manuscript), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3292512](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3292512) (last visited Apr. 28, 2019).

173. Beverly Barton, *An Interview with Mr Justice Birss: Part 1/3: Getting Personal*, THOMPSON REUTERS: DISPUTE RESOL. BLOG (Apr. 7, 2016), <http://disputeresolutionblog.practicallaw.com/an-interview-with-mr-justice-birss-part-13-getting-personal/> [<https://perma.cc/9BCY-5BQW>].

174. *Vringo Infrastructure, Inc. v. ZTE (UK) Ltd.* [2013] EWHC (Pat) 1591 [35] (Birss J).

175. *TQ Delta, LLC v. Zyxel Comme'ns UK Ltd.* [2019] EWHC (Pat) 353 [22] (Carr J). Mr. Justice Carr goes on to discuss several similarities between FRAND rate determinations and the determinations of the U.K. Copyright Tribunal. *Id.* at [24]–[25].

176. *See Indep. Producers Grp.*, 792 F.3d at 136.

### III. FRAMEWORK FOR A GLOBAL FRAND RATE-SETTING TRIBUNAL

As discussed in the preceding Parts, a mechanism is needed for the resolution of disputes concerning FRAND royalty rates that addresses the tripartite issues of *transparency*, *consistency*, and *comprehensiveness*. This Part outlines a proposal for global, non-governmental FRAND rate-setting tribunal that takes into account each of these issues.

The major features of the proposed FRAND Tribunal are the following: SDOs can require (mandatory version) or offer (optional version) that their participants resolve all disputes regarding the level of FRAND royalties to be charged for SEPs covering the SDO's standards through an international, non-governmental rate-setting tribunal. Once the tribunal is engaged, it will collect all available evidence regarding the patented and unpatented technology included in a particular standard, determine an aggregate royalty rate for the standard, and apportion royalties among all SEP holders. Other than these rate-setting matters, the tribunal would adjudicate no other issues, and related breach of contract, antitrust, and competition law claims would continue to be subject to adjudication by any court(s) having jurisdiction. SDO participants would be required to refrain from seeking injunctive relief against potential licensees during the pendency of rate-setting proceedings, but once FRAND royalty rates are determined for a specific standard, a SEP holder will be permitted to pursue injunctions against product manufacturers that refuse to accept a license at the designated rate within a reasonable time. The remainder of this Part discusses details of this proposal, including alternative structures that could be created.

#### A. *Mandatory and Optional Versions*

There are two versions of the FRAND Tribunal proposed by this Article: a *mandatory* version and an *optional* version.<sup>177</sup> The difference between these two versions relates solely to whether use of the FRAND Tribunal is mandatory or optional for participants in an SDO. In the mandatory version, use of the FRAND Tribunal would be *required* to

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177. An even stronger variant exists (“pre-emptive”), in which the SDO refers *all* standards covered by FRAND-encumbered SEPs to the rate tribunal, even before a dispute arises. A pre-emptive mechanism would result in rate-setting for all of the SDO's FRAND-encumbered standards. While there are benefits to such a pre-emptive approach (e.g., rates would be set early, before disputes arise in the market), it could also be more burdensome on SDO participants and could increase transactional costs in settings in which no dispute over FRAND rates may ever have arisen. As such, this Article does not recommend the pre-emptive approach.

determine FRAND royalty rates when the parties cannot mutually agree on them. Though such a requirement could be imposed through various mechanisms, including statutory, regulatory, and treaty obligations, the most effective mechanism for imposing such a requirement is through binding provisions of SDO policies.<sup>178</sup> In the optional version, the FRAND Tribunal is available for parties to use if they so wish, much as arbitration and other ADR mechanisms are currently available for the voluntary adjudication of FRAND disputes.<sup>179</sup>

The choice of private over governmental adjudication has longstanding precedent in the area of intellectual property pooling, where private mechanisms have historically been substituted for legal structures.<sup>180</sup> This Article likewise favors the use of a FRAND Tribunal under SDO policy requirements rather than governmental mandates (legislative or administrative rules) for several reasons. First, one of the problems affecting FRAND rate determinations today is that of inconsistency across jurisdictions. As mentioned previously, at least a dozen jurisdictions are involved in contemporary disputes over standardized products.<sup>181</sup> The prospect of a dozen jurisdictions enacting identical mandates ceding the power of local courts to an international non-governmental body appears slim and would most likely result in a patchwork of divergent and contradictory rules that would do little to alleviate the issues caused by inconsistency across jurisdictions. Of course, such consistency could be achieved, at least to some degree, if the commitment to utilize the tribunal were the subject of a treaty obligation. However, the difficulty of multilateral treaty negotiation is significant, particularly in the current geopolitical environment, and it is extremely unlikely that such a treaty could be negotiated and ratified within a reasonable period of time, if ever.

An SDO-based requirement, while not universal in scope (i.e., it pertains only to participants in SDOs that impose the requirement), at least offers consistency across licenses pertaining to the imposing SDO's standards, irrespective of the jurisdictions in which its participants operate. That is, if a particular SDO mandates—through its bylaws, corporate policies, membership agreements, or other documentation—that its participants utilize the proposed FRAND Tribunal to resolve FRAND rate disputes, then an SDO participant will be obliged to utilize

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178. See *supra* Section II.B and accompanying text (discussing imposition of binding requirements on SDO participants).

179. See *supra* Section II.A (discussing voluntary arbitration of FRAND disputes).

180. See Merges, *supra* note 32, at 1347 (quoting *Recording of Patent Pooling Agreements and Contracts with the Commissioner of Patents: Hearing on H.R. 4523 Before the H. Comm. on Patents, 74th Cong. 501, 529–30 (1935)* (statement of Sidney R. Kent, President, Fox Film Corp.)).

181. See *supra* note 101 and accompanying text.



the tribunal whether it is based in the United States, Europe, or Japan and whether an unlicensed manufacturer of standardized products is based in China, Korea, or Brazil.

The mandatory version of this proposal, though in some respects novel, is by no means unprecedented. As discussed in Section II.A above, a few SDOs already require arbitration of disputes by their participants, and in the one case in which this arbitration requirement was challenged, it was upheld.<sup>182</sup> Likewise, arbitration of disputes is mandated in a variety of other contexts, including WIPO's Uniform Dispute Resolution Procedure for Internet domain name controversies.<sup>183</sup>

One important question relating to mandatory use of the proposed FRAND Tribunal is the degree to which an SDO may require non-participants (i.e., manufacturers of standardized products that were not involved in developing the standard) to participate in such proceedings. As discussed above, an SDO may impose binding requirements upon its participants through a variety of contractual and corporate means, but it has less authority to bind organizations that have not voluntarily acceded to its rules and policies.<sup>184</sup> Yet in order for the proposed FRAND Tribunal to achieve the goal of comprehensiveness, it should take into account patents held by SDO non-participants. There are several ways that this issue could be addressed. First, the SDO could affirmatively require, as a condition to the use of its standards (through a clickwrap or similar agreement), that such user agree to resolve any disputes regarding FRAND royalties through the FRAND Tribunal. Second, if an SDO did not wish to impose such a condition on the use of its standards, it could simply impose the requirement on its participants and hope, not unreasonably, that non-participants would view this dispute resolution mechanism as superior to litigation and thus participate. In many cases, however, major product manufacturers participate in SDOs and even hold SEPs themselves.<sup>185</sup> Thus, the number of firms that would not be formally bound by the proposed adjudication requirements is likely to be small.

It is important to note that while the mandatory version of this proposal is recommended, the optional version could also have a significant positive impact on the FRAND royalty landscape. Under both versions of

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182. See *supra* note 143 and accompanying text (discussing *Zoran Corp. v. DTS, Inc.*, No. C 08-4655 JF (HRL), 2009 U.S. Dist. LEXIS 6675 (N.D. Cal. Jan. 20, 2009)).

183. See *supra* note 136 and accompanying text.

184. See, e.g., Jorge L. Contreras, *When a Stranger Calls: Standards Outsiders and Unencumbered Patents*, 12 J. COMPETITION L. & ECON. 507 (2016) (discussing the implications of SDO "outsiders" holding SEPs); Lemley & Shapiro, *supra* note 114, at 1153 (discussing issues relating to arbitration with unwilling implementers).

185. See Baron & Pohlmann, *supra* note 7, at 534, fig.A1.

this proposal, a rate-setting proceeding is triggered by the emergence of a dispute between a SEP holder and a product manufacturer over the appropriate level of FRAND royalties. Once the tribunal proceeding is triggered, whether by operation of the SDO's policy (mandatory) or by mutual agreement of the parties (optional), the tribunal will proceed to gather all relevant evidence concerning the value of patented and unpatented technology contributing to the standard. The tribunal will then develop both an aggregate royalty rate applicable to all SEPs covering the standard as well as an individual allocation of that aggregate royalty to each SEP holder (i.e., an allocation schedule listing each SEP holder and the portion of the aggregate FRAND royalty to which it is entitled). Thus, the FRAND Tribunal's findings will not be limited to the parties that initiated the proceeding—they will be *comprehensive*.

In the mandatory version of the proposal, every other SEP holder with patents covering the relevant standard is bound to offer FRAND royalty rates consistent with the allocation schedule developed by the tribunal. Additional proceedings are not required, thus reducing the overall transactional burden on the market.

In the optional version of the proposal, other SEP holders are not strictly bound by the findings of the FRAND Tribunal in the initial proceeding. However, the FRAND Tribunal's proceedings, and the resulting schedule of FRAND allocations to each SEP holder, will be made public<sup>186</sup> and will thus be available to any court or arbitral tribunal that later parties choose to adjudicate their dispute. As such, it is likely that the FRAND Tribunal's findings will serve, at a minimum, as informative to a subsequent court or arbitrator and, preferably, as a presumptive finding regarding the appropriate FRAND rate for the standard in dispute. Thus, even under the optional version of this proposal, litigation time and cost may be reduced on an industry-wide basis.

It is anticipated that some SDOs may be reluctant, at first, to adopt the mandatory version of this proposal and may, instead, choose the optional version.<sup>187</sup> Use of the optional version could serve as a "trial run" of the FRAND Tribunal for early-adopter SDOs, allowing them to observe the effectiveness of the FRAND Tribunal and its decision-making processes. If an SDO is satisfied with the FRAND Tribunal during such a trial period, it may later choose to adopt the mandatory version of this proposal.

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186. See *infra* Section III.G.

187. A similar pattern of adoption was observed in 2006–2007, when several SDOs considered the adoption of *ex ante* licensing disclosure policies. Of three SDOs that explicitly considered such policies, only one (VITA) adopted a mandatory version of the policy. The other two (IEEE and ETSI) adopted optional versions. See Contreras, *Ex Ante*, *supra* note 36 (discussing this episode).

*B. Establishment, Composition, and Compensation of Tribunal*

In terms of the institutional “home” of the FRAND Tribunal, it is likely that a governmental agency such as a national competition regulator or patent office, whether in the United States, Europe, Japan, or elsewhere, would raise issues of inherent bias and favoritism and thus attract less multilateral support than an international or non-governmental organization. Thus, a recognized non-governmental international body would likely be a better host for the FRAND Tribunal. Such bodies include institutions established specifically for the resolution of international disputes, such as the ICC, AAA, London Court of International Arbitration (LCIA), or an international non-governmental organization with a broader focus on technology and economic issues such as WIPO<sup>188</sup> or the Organization for Economic Cooperation and Development (OECD).<sup>189</sup> Though, as noted above, SDOs have traditionally been loath to become involved in royalty negotiations among their members,<sup>190</sup> an international SDO with a broad base of support and international recognition such as the International Organization for Standardization (ISO) might serve as a suitable host for the FRAND Tribunal. Finally, smaller and more specialized ADR bodies have arisen around the world, some of which advertise expertise in patent disputes.<sup>191</sup>

The initial expenses of forming the FRAND Tribunal and selecting its members will be borne by the FRAND Tribunal’s host institution, though it is not inconceivable that government agencies supporting the improved determination of FRAND royalties may also extend funding to this effort. Contributions from corporate donors could also be solicited, but it is important that the impartiality of the FRAND Tribunal be maintained. Thus, corporate interests should have no role, formal or informal, in the governance or oversight of the tribunal.

It is anticipated that the FRAND Tribunal will have ongoing existence and will thus have a pool of arbitrators available to hear cases as they arise. Individual matters will be heard by panels of three arbitrators

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188. WIPO is one of four authorized arbitral bodies for UDRP domain name disputes, the other three being the Forum (formerly the National Arbitration Forum), the Czech Arbitration Court (CAC), and the Asian Domain Name Dispute Resolution Centre (ADNDRC). *See supra* note 136 and accompanying text.

189. Care should be taken, however, to avoid linking the tribunal to an industry association with a clear bias either toward patent holders or product manufacturers.

190. *See supra* notes 16–18 and accompanying discussion.

191. *See, e.g.*, FEDARB, SPECIALIZED PANELS, <https://www.fedarb.com/specialized-panels/> [<https://perma.cc/C6VA-6NKJ>] (offering more than thirty retired judges and other experienced neutrals with expertise in patent law).

selected at random from the pool, with a chair selected from among the three panel members.<sup>192</sup> Individual compensation of the three panel members will be equal, with no additional compensation to the chair.<sup>193</sup>

All members of the FRAND Tribunal will be selected by consensus of the SDOs that have mandated the tribunal's use in resolving FRAND disputes. Each arbitrator must have substantial expertise in technical standardization processes and not be employed by, or serve as a consultant to, any private company having a direct interest in the outcome of such disputes (i.e., a SEP holder or product manufacturer).<sup>194</sup> The tribunal should not include individuals who serve primarily as government officials. It is anticipated that tribunal members will generally consist of retired judges, private legal practitioners, academics, and consultants.<sup>195</sup>

Unlike conventional arbitration, the fees of the tribunal will not be paid by the parties initiating the proceeding.<sup>196</sup> Rather, it is proposed that a small surcharge be imposed on each royalty payment concerning a SEP covering the relevant standard. These surcharges would be collected by the tribunal and used to cover the tribunal's costs and expenses, including payment to the individual arbitrators. This approach would fairly spread the cost of the tribunal among all users of the standard and holders of patents essential to the standard, rather than burdening the initial parties to a proceeding with the cost of a proceeding that is likely to benefit a much larger segment of the market.<sup>197</sup>

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192. See BORN, *supra* note 120, at 453–54 (describing current practices for arbitration panel selection).

193. See Thomas E. Carbonneau, *The Exercise of Contract Freedom in the Making of Arbitration Agreements*, 36 VAND. J. TRANSNATIONAL L. 1189, 1210 (2003) (describing methods for compensating arbitrators).

194. This proposed requirement finds support in the expertise requirements of the CRB. See *supra* note 164 and accompanying text.

195. With regard to the selection of a committee of impartial experts on FRAND-related issues, it may be informative to review the selection process and criteria used by the U.S. National Academies of Science when forming its Committee on Intellectual Property Management in Standard-Setting Processes. See, e.g., NRC REPORT, *supra* note 39, at v (listing committee members, including the author of this comment); *Call for Experts on Licensing and Valuation of Standard Essential Patents*, EUROPEAN COMM'N (July 5, 2018), [https://ec.europa.eu/growth/content/call-experts-licensing-and-valuation-standard-essential-patents\\_en](https://ec.europa.eu/growth/content/call-experts-licensing-and-valuation-standard-essential-patents_en) [<https://perma.cc/FN4V-LJG7>] (the European Commission's recent call for experts' applications).

196. These fees, which include both charges for the arbitrators' time and expenses, the facility, and the arbitral tribunal, can be sizable. See Christopher R. Drahozal & Stephen J. Ware, *Why Do Businesses Use (or Not Use) Arbitration Clauses*, 25 OHIO ST. J. DISP. RESOL. 433, 447–49 (2010) (discussing arbitral fees).

197. This approach bears similarities to the manner in which ICANN funds its operations through a surcharge on the fees paid by every domain name registrant. See MILTON L. MUELLER, *RULING THE ROOT* 188–90 (2002).

This being said, the compensation of individual members of the tribunal should be based on a fixed or hourly rate and should not be tied to royalty revenue. Creating any dependency between arbitrator compensation and patent royalty revenue would have the clear potential to bias tribunal rulings in favor of higher royalty determinations. Individual tribunal member compensation should thus be wholly independent of the outcome of any given rate determination.

### C. *Tribunal's Limited Authority*

The tribunal's authority will be limited to the determination of worldwide FRAND royalty rates for all SEPs covering the standard(s) in question, as well as the allocation of these royalties among holders of the relevant SEPs. To make these determinations, the tribunal will likely be required to consider issues of patent validity and essentiality.<sup>198</sup> The tribunal's authority will not, however, extend to royalty rates for patents that are not SEPs, making it important that SEP holders offer potential product manufacturers an option to obtain a license that includes only SEPs.<sup>199</sup> By the same token, manufacturers should have the option to pay royalties solely in cash at the determined rates, rather than through a combination of cash payments, rebates, marketing allowances, cross-licensing offsets and the like.

Likewise, the FRAND Tribunal's authority should not extend to the adjudication of other claims between parties (e.g., breach of contract, antitrust/competition law violations, patent misuse, fraud, inequitable conduct and other forms of malfeasance). While international arbitrators

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198. See Lemley & Shapiro, *supra* note 114, at 1152–56 (evidence regarding patent validity and essentiality should be considered). It is possible that an arbitrator's consideration of the validity and infringement of SEPs in determining a FRAND royalty rate might not require an individual determination of the validity and infringement of every patent under consideration, but could be assessed on a statistical or aggregate basis.

199. Some SEP holders—Qualcomm in particular—have in the past been reported to require manufacturers to license both SEPs and non-SEPs as a package, with no option to license SEPs alone. See, e.g., Lewis Ho & Monique Lee, *Qualcomm Transforms SEP-Licensing Landscape in China*, LAW360 (Apr. 8, 2015), <https://www.law360.com/articles/638183/qualcomm-transforms-sep-licensing-landscape-in-china> (last visited Apr. 28, 2019). This practice was among those condemned by the Chinese National Development and Reform Commission (NDRC) in 2015, resulting in a \$975 million fine against Qualcomm and an order requiring it to reform its licensing practices. *Id.* Recent testimony suggests that Qualcomm now offers a SEP-only licensing option to manufacturers. See Dorothy Atkins, *Qualcomm Exec Says Google, FTC Deal Was Royalties Model*, LAW360 (Jan. 18, 2019), <https://www.law360.com/articles/1120159/qualcomm-exec-says-google-ftc-deal-was-royalties-model> (last visited Apr. 28, 2019). According to a Qualcomm official, Qualcomm “generally charges a 5 percent royalty fee for its entire patent portfolio, a 3.35 percent fee for only its SEPs and a 2.275 percent fee for SEPs covering single-mode cellular technology.” *Id.*

are generally recognized as competent to adjudicate such issues under the New York Convention,<sup>200</sup> the introduction of non-rate disputes to the FRAND Tribunal's scope of activity has the potential to distract from the complex job of determining FRAND royalty rates and to burden proceedings with time- and resource-consuming matters that could delay rate determinations. Thus, it is recommended that all non-rate claims should remain subject to adjudication in any court having jurisdiction over the parties and that such court look to the FRAND Tribunal solely for the rates established as FRAND.

Though most recent disputes regarding FRAND licenses have involved the determination of royalty rates, many non-royalty terms and conditions are included in the license agreements between SEP holders and manufacturers (e.g., reciprocity, grant-backs, defensive suspension, transfer of obligations, term, termination, etc.).<sup>201</sup> In some cases, arbitrators and courts actively dictate these non-royalty terms.<sup>202</sup> However, this Article recommends that the FRAND Tribunal limit its findings solely to FRAND royalty rates and that disputes regarding other license agreement terms and their breach be decided through other adjudicatory mechanisms. This narrow and exclusive focus on FRAND royalty rates is critical, as the FRAND Tribunal, unlike an ordinary arbitrator, will consider the entire panoply of patents covering a particular standard held by multiple patent holders, rather than a particular licensing transaction between a single patent holder and manufacturer.

#### *D. Tribunal Procedure*

A FRAND Tribunal proceeding will be initiated when any SDO participant petitions the Tribunal for a FRAND rate determination with respect to a standard promulgated (or under development) by a participating SDO. In making its determinations, the FRAND Tribunal will consider evidence from all interested parties, including SEP holders,

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200. See generally BORN, *supra* note 120, at 6.

201. See, e.g., COMM. ON TECH. STANDARDIZATION, AM. BAR ASS'N, STANDARDS DEVELOPMENT PATENT POLICY MANUAL 56–67 (Jorge L. Contreras ed., 2007) (discussing material terms of SEP license agreements).

202. The FTC, in its Google/Motorola Order, required that Google commit to enter into license agreements on “terms and conditions established by the arbitrator,” including terms and conditions beyond the bare royalty rate. Google Order, *supra* note 124, at 10. Likewise, the U.K. court in *Unwired Planet* appended a draft license agreement to its opinion in the case, requiring that the implementer enter into an agreement on those precise terms. *Unwired Planet Int'l Ltd. v. Huawei Tech. Co.* [2017] EWHC (Pat) 1304 [Attachment].

implementers, and representatives of the SDO.<sup>203</sup> SDO participants will agree to provide the tribunal with all reasonable information concerning their SEPs covering a standard under review, including licensing terms offered to other parties (which will be disclosed confidentially to the tribunal and not shared with other SDO participants except on an aggregated basis). Like the Copyright Royalty Board, the tribunal may choose to admit hearsay evidence and allow limited discovery.<sup>204</sup>

Given historical evidence of over-declaration of SEPs at major SDOs,<sup>205</sup> the FRAND Tribunal will be authorized to consider the essentiality of patents to the standards in question. However, a patent-by-patent analysis, particularly when hundreds or thousands of patents are at issue, would be impractical. Thus, it is advisable that an essentiality analysis be conducted only in response to a party's presentation of some evidence that a particular patent or patents is not essential to the standard in question. That is, there should be a rebuttable presumption that declared SEPs are essential to the standard. However, if a SEP holder is found to have declared non-essential patents as SEPs, the FRAND Tribunal should also be authorized to impose reasonable penalties, such as reducing the SEP holder's apportioned share for those of its patents that are found to be SEPs.<sup>206</sup>

The FRAND Tribunal should aim to resolve all matters as expeditiously as possible, preferably within twelve months of initiation. While aggressive, this timing is feasible if all parties cooperate with the tribunal's requests and discovery is limited.<sup>207</sup> Unlike a court, the FRAND Tribunal panel in any given case will not have a docket of other matters to contend with, enabling it to devote substantial attention to the matter at hand.

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203. There is ample precedent for such multi-party proceedings—in the context of copyright rate-setting, for example. See Bartlett & Contreras, *supra* note 27 (discussing multi-party interpleader proceedings in a range of contexts); Strickler, *supra* note 166.

204. Cf. 17 U.S.C. § 803(b)(6)(C)(iii)–(iv) (2018) (Copyright Royalty Board - admissible evidence and discovery).

205. See *supra* note 38 and accompanying text.

206. See Contreras, *Fixing FRAND*, *supra* note 17, at 82–83 (proposing apportionment penalty for over-declaration).

207. It is worth noting that proceedings concerning patent infringement at the International Trade Commission are generally resolved in a speedier manner than district court litigation. See Rodney R. Sweetland III & Michael McManus, *Discovery Is Swift and Expansive at the ITC*, EXEC. COUNS., Jan. 2012, at 25, [https://issuu.com/todaysgc/docs/executive\\_counsel\\_decjan12](https://issuu.com/todaysgc/docs/executive_counsel_decjan12) (last visited Apr. 18, 2019).

The FRAND Tribunal's formal procedures<sup>208</sup> will be developed in compliance with the requirements of the New York Convention<sup>209</sup> so as to be binding and enforceable in all Convention signatory states. This feature of the FRAND Tribunal is critical, as recognition of its determinations under the New York Convention obviates the need for independent national rate-setting proceedings, thus eliminating the *inconsistency* that arises when multiple adjudicatory bodies address the same issues using different methodological approaches. Herein lies a significant advantage of situating the tribunal within a recognized international arbitral body that has already developed a baseline set of procedural rules and practices that are consistent with the requirements of the Convention.

### E. Stay of Injunctive Relief

The question whether a SEP holder is legally permitted to seek injunctive relief against a potential licensee to whom it owes a FRAND commitment has been debated extensively by commentators, governmental agencies, and courts.<sup>210</sup> Arguments have been made both for and against the availability of such injunctions under equitable remedies law, antitrust and competition law, and basic economic principles.<sup>211</sup> At most, it can safely be said that a FRAND commitment

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208. For example, time, location and language of proceedings, rules surrounding timing of discovery, length and format of written submissions, oral arguments, etc.

209. See New York Convention, *supra* note 123, art. II, V (requirements for enforceability of arbitral awards).

210. For an overview of this debate and the current state of the law in various countries, see Contreras, *Global Standards Wars*, *supra* note 1, at 24–29; Jorge L. Contreras et al., *The Effect of FRAND Commitments on Patent Remedies*, in PATENT REMEDIES AND COMPLEX PRODUCTS: TOWARD A GLOBAL CONSENSUS, ch. 5 (C. Bradford Biddle et al. eds., forthcoming 2019); Pierre Larouche & Nicolo Zingales, *Injunctive Relief in the EU – Intellectual Property and Competition Law at the Remedies Stage*, in CAMBRIDGE HANDBOOK, *supra* note 6, ch. 25; J. Gregory Sidak, *Injunctive Relief and the FRAND Commitment in the United States*, in CAMBRIDGE HANDBOOK, *supra* note 6, ch. 24.

211. Some litigants have argued that a SEP holder, by making a FRAND commitment, implicitly agrees not to exclude others from the market, but instead agrees to collect only a reasonable royalty for the use of its SEPs. As a result, it has been argued in the United States that a SEP holder should automatically be barred from seeking injunctive relief under the U.S. Supreme Court's four-part test in *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006). Considering this issue in *Apple v. Motorola*, 757 F.3d 1286 (Fed. Cir. 2014) the Federal Circuit held that while there should not be a per se rule prohibiting the holder of a SEP from seeking an injunction, a SEP holder could have difficulty showing "irreparable harm" under the *eBay* test if it has previously made a FRAND commitment. *Id.* at 1332. Further complicating matters, there are signs that the U.S. DOJ may now have a different view regarding injunctions and FRAND-encumbered SEPs. In a recent speech, the head of the DOJ's Antitrust Division was critical of the Federal Circuit's decision in *Apple v. Motorola* and expressed skepticism about the denial of injunctive relief to SEP holders. Makan Delrahim, Assistant Attorney



limits a SEP holder's ability to seek injunctive relief against an infringing product manufacturer, so long as that manufacturer is willing to accept a license on FRAND terms.<sup>212</sup> The precise contours and conditions of that limitation are dependent, however, on a variety of factors that vary from jurisdiction to jurisdiction and which have evolved over time.

One thing that is relatively clear, however, is the ability of parties *voluntarily* to waive their rights to seek injunctive relief through private mechanisms. Recently, such waivers have featured prominently in the standard-setting context. In 2012 and 2013, several large technology firms voluntarily committed not to seek injunctions under SEPs in connection with Department of Justice approval of their patent-related acquisitions.<sup>213</sup> And in 2015, the IEEE Standards Association (IEEE-SA), a major SDO, approved an amendment to its patent policy that required its members to forego injunctive relief against manufacturers of products implementing IEEE standards except under certain limited circumstances.<sup>214</sup>

This Article recommends that SDOs impose a moratorium on injunctive relief during the pendency of FRAND rate-setting proceedings, specifically those that are mandatory, but possibly optional proceedings

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Gen., Remarks at the U.S.C. Gould Sch. of Law Ctr. for Transnational Law & Bus. (Nov. 10, 2017) (transcript available at <https://www.justice.gov/opa/speech/assistant-attorneygeneral-makan-delrahim-delivers-remarks-usc-gould-school-laws-center> [<https://perma.cc/SV4T-Z8P6>]); Ryan Davis, *Antitrust Chief's SEP Injunction Speech Puts Focus on Courts*, LAW360 (Dec. 18, 2018), <https://www.law360.com/articles/1111832/antitrust-chief-s-sep-injunction-speech-puts-focus-on-courts> (last visited Apr. 28, 2019).

The analytical framework in Europe for assessing whether the enforcement of a FRAND-encumbered SEP constitutes an abuse of dominance was established by the European Court of Justice (CJEU) in Case C-170/13, *Huawei v. ZTE* (July 16, 2015), <http://curia.europa.eu/juris/document/document.jsf?doclang=EN&text=&pageIndex=1&part=1&mode=lst&docid=165911&occ=first&dir=&cid=3858> [<https://perma.cc/J8HR-GP5Q>]. In *Huawei*, the SEP holder sought an injunction against the implementer of a standard. *Id.* at ¶ 27. The CJEU held that if a SEP holder possesses market dominance, then in order to avoid violating Article 102 of the Treaty on the Functioning of the European Union (TFEU), the SEP holder must comply with a series of procedural steps. *Id.* at ¶ 71. Likewise, in order to preserve its ability to challenge the SEP holder's seeking an injunction, the infringer must comply with a similar set of procedural steps. *Id.* The combination of these behavioral requirements has been referred to as the *Huawei* "choreography". Since the *Huawei* decision, a number of cases in Germany and other EU member states have sought to interpret these requirements with mixed success. See ROBIN JACOB & ALEXANDER MILNER, 4IP COUNCIL, LESSONS FROM HUAWEI V. ZTE 10 (2016), <http://www.4ipcouncil.com/news/latest-research-4ip-council-lessons-huawei-v-zte> [<https://perma.cc/B9C5-E78V>].

212. See *Apple*, 757 F.3d at 1332; FTC, THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION 235 (2011).

213. See Contreras, *Global Standards Wars*, *supra* note 1 (discussing commitments made by Apple, Microsoft and Motorola to refrain from seeking injunctive relief against infringers of SEPs).

214. See IEEE Policy, *supra* note 15; Harri Kalimo et al., *supra* note 142, at 155 (discussing proposed ETSI "balanced safe harbour" approach).

as well.<sup>215</sup> Doing so will reduce potential disruptions to the market while the financial terms of required FRAND licenses are determined. It will also eliminate a significant potential threat that SEP holders could assert against product manufacturers to distort the testimony and evidence brought forward at rate-setting proceedings. This prohibition on seeking injunctive relief would not, however, be permanent. Once FRAND royalty rates are determined for a specific standard, a SEP holder will be permitted to pursue injunctions against product manufacturers that refuse to accept an otherwise fair, reasonable, and nondiscriminatory license at the designated rate within a reasonable period of time.<sup>216</sup>

#### F. Tribunal Determinations

The FRAND Tribunal will base its decisions on evidence and briefing presented by the parties, as well as its own investigation of applicable law and relevant SDO policies. If the legal rules governing a particular SDO policy are not within the competency of the Tribunal members (e.g., U.S. members of the Tribunal may not be versed in French law, which governs ETSI's policies),<sup>217</sup> then reliable testimony regarding the relevant laws should be obtained through unbiased expert testimony.<sup>218</sup> In some cases, extrinsic evidence regarding accepted interpretations of otherwise ambiguous or incomplete SDO policy language may be necessary, and the Tribunal should be authorized to seek such evidence through testimony of reliable witnesses.<sup>219</sup>

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215. See Lemley & Shapiro, *supra* note 114, at 1142–43 (“SSOs should explicitly state in their IP policies that a patent holder making a FRAND commitment has given up its right to seek an injunction against any willing licensee for infringement of its standard-essential patents.”).

216. A useful guide for determining when a potential licensee is not acting in good faith may be the line of cases deriving from the European Court of Justice decision in Case C-170/13, *Huawei* (providing guidelines for assessing whether SEP holder's seeking of injunctive relief constitutes violation of EU competition law, dependent in part on conduct of the potential licensee). See JACOB & MILNER, *supra* note 211; Larouche & Zingales, *supra* note 210; Nicolas Petit, *EU Competition Law Analysis of FRAND Disputes*, in CAMBRIDGE HANDBOOK, *supra* note 6, ch. 17.

217. See Contreras, *Lex Mercatoria*, *supra* note 26, ¶ 18 (describing application of French law in U.S. and U.K. cases involving ETSI standards).

218. See, e.g., Matthew J. Wilson, *Demystifying the Determination of Foreign Law in U.S. Courts: Opening the Door to a Greater Global Understanding*, 46 WAKE FOREST L. REV. 887 (2011) (describing how U.S. courts can and should gain understanding of foreign laws that they are required to apply).

219. It is not uncommon for courts to seek witness testimony to discern the intent of unclear or incomplete SDO policy language. See Jorge L. Contreras, *From Private Ordering to Public Law: The Legal Framework Governing Standards-Essential Patents*, 30 HARV. J.L. & TECH. 211, 219 (2017) (SDO policy interpretation informed by participant testimony in *Rambus, Inc. v. Infineon Techs. AG*, 318 F.3d 1081 (Fed. Cir. 2003) and *Qualcomm Inc. v. Broadcom Corp.*, 548 F.3d 1004 (Fed. Cir.

Following the model of the CRB, the FRAND Tribunal will make decisions by majority vote, with any dissenting views specifically set forth in the tribunal's written opinion.<sup>220</sup> The FRAND Tribunal's sole charge will be to determine a top-down, aggregate FRAND royalty rate applicable to the standard in question and establish an allocation of the resulting royalties among the different holders of SEPs covering that standard.<sup>221</sup> The FRAND Tribunal will be empowered to utilize any reasonable methodology to determine such rates. While, as noted in Section I.A above, courts that have adopted top-down royalty calculation methodologies to date have relied on data that can be characterized as incomplete, imprecise, and self-serving,<sup>222</sup> more sophisticated analytical methods are available and have been used in non-litigation contexts.<sup>223</sup> FRAND rates may be structured by the Tribunal according to any reasonable rate schedule (including rates that vary by country, are volume-based, and which vary by tier in the distribution chain), subject to any particular limitations of the relevant SDO rules.

The allocation of any aggregate (top-down) royalty established for a particular standard will be presumed to be divided among individual SEPs on a numerical proportionality basis (i.e., one patent, one share) unless the evidence strongly suggests that particular SEPs are deserving of a greater or lesser share.<sup>224</sup> It will be up to the FRAND Tribunal to evaluate such evidence and devise an appropriate allocation methodology.

Unlike arbitral and rate-setting bodies established under national law, decisions of the FRAND Tribunal will not normally be subject to judicial oversight or review.<sup>225</sup> The only challenges to tribunal decisions will be those judicial challenges permitted to be made to any arbitral decision under the New York Convention—i.e., on grounds of bias, contradiction

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2008)); Contreras, *Lex Mercatoria*, *supra* note 26, at 262–63 (proposing the codification of a set of common understandings relating to SDO policies).

220. *See* 17 U.S.C. § 803(a)(3) (2018) (Copyright Royalty Board makes decisions by majority vote).

221. *See supra* Section I.A.2 and accompanying text.

222. *See supra* notes 73–76 and accompanying text.

223. *See Independent Economic Study Suggests HEVC Royalties Should be Comparable to or Less than Rates for AVC*, UNIFIED PATENTS (Jan. 9, 2019), <https://www.unifiedpatents.com/news/2019/1/9/independent-economic-study-suggests-hevc-royalties-should-be-comparable-to-or-less-than-rates-for-avc> [<https://perma.cc/9FCN-CYMY>].

224. *See* Lemley & Shapiro, *supra* note 114, at 1151 (FRAND royalties need not be determined on a patent-by-patent basis).

225. For example, royalty rate decisions of the Copyright Royalty Board are subject to appeal to the Court of Appeals for the District of Columbia Circuit. 17 U.S.C. § 803(d)(1).

of law and public policy.<sup>226</sup> Otherwise, the only recourse when parties disagree with the FRAND Tribunal's decisions is for the relevant SDO to revise its policies so as to remove reliance on the FRAND Tribunal in future disputes.

Importantly, the FRAND Tribunal will have no enforcement or collection authority. It will merely determine FRAND rates as set forth above. In the event of non-payment, the relevant parties will be entitled to seek appropriate administrative or legal remedies.

### G. Public Disclosure

As noted above, arbitration proceedings are conducted privately and all parties, including the arbitrators, are required to maintain the confidentiality of the evidence presented, the parties' arguments, and the arbitral award.<sup>227</sup> The proceedings of the FRAND Tribunal, however, should be different. Its determinations, reasoning, and methodology should be made publicly available in the interest of transparency and fostering consistency of future decisions.

It is particularly important that the FRAND Tribunal explain its reasoning in a detailed written opinion that clearly enunciates any dissenting views. Reasoned decisions are valuable, as they inform the parties of the grounds on which the tribunal's rulings are based. Moreover, an unreasoned arbitral award is more vulnerable to subsequent judicial challenge on grounds of public policy.<sup>228</sup> As in judicial proceedings, certain highly confidential materials may be placed under protective order and excluded from the public record.<sup>229</sup>

Several positive effects are likely to arise from the public disclosure of the FRAND Tribunal's proceedings. As numerous commentators have noted, it is notoriously difficult to determine, or even estimate, a FRAND royalty rate when the license agreements and settlements relating to the relevant SEPs are confidential.<sup>230</sup> Opening the results of FRAND rate-

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226. See BORN, *supra* note 120, at 795–96.

227. See *supra* note 133 and accompanying text.

228. See BORN, *supra* note 120, at 832 cmt. 16 (unreasoned awards are vulnerable to revocation by courts based on public policy grounds); *id.* at 918 (unreasoned awards are less likely to be given collateral estoppel effect if re-litigated).

229. For example, certain documents, such as license agreements covering both SEPs and other intellectual property rights and non-standardized technologies, may have legitimate claims to some degree of confidentiality. It should be up to the tribunal to fashion reasonable rules regarding the protection of confidential information adduced during its proceedings.

230. See Contreras & Newman, *supra* note 22, at 40; Gilbert, *supra* note 14, at 870; Lemley & Shapiro, *supra* note 114, at 1145; Patterson, *supra* note 21, at 864.

setting proceedings to the public would begin to establish a base of information relating to SEP royalties that could begin to eliminate the uncertainty that currently exists in the market.<sup>231</sup> Such improved *transparency* could help parties to negotiate more appropriate FRAND licenses and make verification of SEP holders' compliance with the non-discrimination prong of the FRAND requirement easier.

#### H. *Antitrust and Competition Considerations*

As noted above, some SDOs have historically been wary of participating in or facilitating the discussion of patent royalty rates or other commercial issues pertaining to products implementing their standards.<sup>232</sup> These concerns have been fueled largely by fear of potential liability under antitrust and competition law. Specifically, it has been suggested that an SDO may act as a vehicle for product manufacturers to exert oligopsonistic anticompetitive pressure against a SEP holder, potentially depressing royalty rates below reasonable levels and even to zero.<sup>233</sup> Another objection is based on the potential chilling effect that such concerted action could have on innovation around standardized technologies.<sup>234</sup> These concerns have been rekindled recently by officials at the U.S. Department of Justice Antitrust Division, who have indicated that renewed scrutiny may be applied to collusive behavior within SDOs.<sup>235</sup> While numerous commentators, including the author, have attempted to assuage these concerns,<sup>236</sup> Pierre Régibeau and collaborators

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231. For similar reasons, Lemley and Shapiro propose that arbitration decisions be disclosed to "willing licensees." Lemley & Shapiro, *supra* note 114, at 1145–46 ("[S]ecrecy would undermine the effectiveness of the FRAND regime.").

232. See *supra* notes 16–18 and accompanying text (discussing SDO policies against intervening in FRAND licensing or interpretation).

233. J. Gregory Sidak, *Patent Holdup and Oligopsonistic Collusion in Standard-Setting Organizations*, 5 J. COMPETITION L. & ECON. 123, 126, 142–51 (2009) ("[E]x ante collective action that is privately undertaken in an [SDO] to counteract potential patent holdup may facilitate, if not serve as an outright façade for, horizontal price fixing by oligopsonists of the patented input.").

234. Farrell et al., *supra* note 93, at 632 ("The potential danger . . . is that by negotiating as a group, technology users could extract such favorable terms from patent holders (another form of hold-up) that they will inefficiently discourage future innovation.").

235. See Jorge L. Contreras, Essay, *Taking It to the Limit: Shifting U.S. Antitrust Policy Toward Standards Development*, 103 MINN. L. REV. HEADNOTES 66 (2018), [http://www.minnesotalawreview.org/wp-content/uploads/2019/02/Contreras\\_1fmt.pdf](http://www.minnesotalawreview.org/wp-content/uploads/2019/02/Contreras_1fmt.pdf) [<https://perma.cc/6NQH-DVSG>].

236. See, e.g., Contreras, *Aggregated Royalties*, *supra* note 17, at 705 ("Like the holders of pooled patents, SDO participants can achieve efficiencies and other procompetitive benefits by coordinating the aggregate rates at which SEPs covering a standard are licensed."); Farrell et al., *supra* note 93, at 635 (suggesting that one beneficial approach "would be to permit members of an SSO collectively to negotiate royalties with patent holders, so long as membership in the SSO does not preclude any

may be correct in their observation that “part of the antitrust community still has an almost instinctive allergy to the idea of rivals setting prices together.”<sup>237</sup>

The proposed FRAND Tribunal addresses these concerns by removing any price determination or negotiation activity from the SDO or its participants and placing rate-setting authority in the hands of an independent arbitral body. Moreover, the proposed public disclosure of FRAND Tribunal deliberations and decisions is likely to fit more comfortably within existing antitrust rules than the secrecy that currently pervades this market.<sup>238</sup> As a result, the proposed rate-setting mechanism, like any judicial or arbitration procedure, should remain less subject to antitrust and competition law concerns than private negotiation of FRAND royalty rates.

### *I. Tradeoffs: Precision Versus Efficiency*

Admittedly, there are tradeoffs involved when non-judicial dispute resolution mechanisms are used in lieu of litigation. In general, the arbitration of commercial disputes has been criticized due to the unavailability of appellate review of decisions: if an arbitrator makes a mistake, it is often difficult or impossible to correct.<sup>239</sup> As the Court of Appeals for the Tenth Circuit noted in 1994, “[a]rbitration provides neither the procedural protections nor the assurance of the proper application of substantive law offered by the judicial system.”<sup>240</sup> For these

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individual firm, or group of firms acting in concert, from producing competing products that do not comply with the standard”); Kühn et al., *supra* note 14, at 3 (“This joint action is acceptable for society because it trades off possible technology competition among SSO members for production of a standard that can speed innovation and expand output.”); Lemley & Shapiro, *Patent Holdup*, *supra* note 65, at 2043–44 (stating that collective negotiation of SEP royalty rates is “very likely to be procompetitive if the technology would otherwise be so encumbered by patent rights and blocking positions that the standard would have difficulty moving forward in the market”); Lemley, *Ten Things*, *supra* note 43, at 161 (“[T]he law ought to permit SSO members the latitude to discuss royalty rates collectively before the standard is set.”); Robert A. Skitol, *Concerted Buying Power: Its Potential for Addressing the Patent Holdup Problem in Standard Setting*, 72 ANTITRUST L.J. 727, 735 (2005) (noting that joint negotiation may improve the “quality of decision making” within an SDO and “increase[] the prospects for achieving a procompetitive ‘open’ standards outcome”).

237. RÉGIBEAU ET AL., *supra* note 36, at 45.

238. See Patterson, *supra* note 21 (raising antitrust concerns arising from lack of transparency in FRAND licensing transactions).

239. See Drahozal & Ware, *supra* note 196, at 455 (“Just as a trial court’s decision may be erroneous, so might an arbitrator’s award. But it is far more likely that a trial court’s erroneous ruling will be overturned on appeal than an arbitrator’s erroneous ruling will be vacated by a court.”); Eisenberg & Miller, *Arbitration*, *supra* note 122, at 340.

240. Bowles Fin. Grp., Inc. v. Stifel, Nicolaus & Co., Inc., 22 F.3d 1010, 1011 (10th Cir. 1994).

reasons, firms may feel that arbitration of disputes is risky, particularly in the case of “bet the company” litigation.<sup>241</sup> One well-known study of arbitration clauses in public company contracts found that only eleven percent of all business-to-business contracts (and thirty-three percent of licensing agreements) included arbitration clauses.<sup>242</sup>

Additionally, the FRAND Tribunal could face issues similar to those faced in bilateral arbitration. Specifically, the proposed rate-setting mechanism may not result in awards to individual patent holders that are equivalent to what they might receive in national litigation or in private negotiations.<sup>243</sup> Moreover, it is not expected that the allocations determined by the FRAND Tribunal will precisely account for the value of each patent held in a particular firm’s portfolio, nor does the tribunal format allow for appeal of results that are not to the liking of a particular party.

Nevertheless, it is worth remembering that a high degree of precision is neither expected nor delivered in the private bilateral negotiations that result in FRAND licenses today, where portfolios of hundreds or thousands of patents are licensed for a simple percentage royalty rate. Given the large number of patents and patent holders participating in many of today’s most critical industry standards, precise compensation on a patent-by-patent basis is not a realistic expectation nor a necessary condition to the functioning of the market. Rather, in order for the marketplace to operate efficiently and to enable the broadest dissemination of standardized technology around the world, the proposal set forth in this Article aspires to produce, in the words of the Internet standards body IETF, “rough consensus and running code.”<sup>244</sup> Thus, it is hoped that a small sacrifice in terms of precision will achieve larger gains in terms of overall efficiency, predictability, and market stability.

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241. Drahozal & Ware, *supra* note 196, at 455 (quoting Christopher R. Drahozal & Quentin R. Wittrock, *Is There a Flight from Arbitration?*, 37 HOFSTRA L. REV. 71, 79–80 (2008)).

242. Eisenberg & Miller, *Arbitration*, *supra* note 122, at 351, tbl.2.

243. Moreover, rates set by a FRAND Tribunal could effectively act as a ceiling on rates privately negotiated by parties, much as the compulsory mechanical copyright royalty rates set by the CRB have become ceilings on the amounts that can be charged for mechanical music licenses. See Howard B. Abrams, *Copyright’s First Compulsory License*, 26 SANTA CLARA HIGH TECH. L.J. 215, 235 (2009) (“The statutory royalty rate has become a ceiling rather than a floor for the earnings of music publishers and their composers and lyricists from recordings.”).

244. Dave Clark, *A Cloudy Crystal Ball - Visions of the Future*, Presentation at the Proceedings of the Twenty-Fourth Internet Engineering Task Force, in PROCEEDINGS OF THE TWENTY-FOURTH INTERNET ENGINEERING TASK FORCE 543, slide 19 (Megan Davies et al. eds., 1992), <https://www.ietf.org/proceedings/24.pdf> (last visited Apr. 18, 2019).

*J. Navigating the Political Economy of Standard-Setting*

Despite any overall welfare-enhancing benefits of the proposed FRAND Tribunal, one may legitimately ask why individual SDOs and SDO participants, each acting in its own fiscal best interest, would ever consent to such a system. SEP holders seemingly prefer the status quo, in which FRAND rates are largely determined in secret bilateral negotiations with product manufacturers and only occasionally reach a judicial determination.<sup>245</sup> Large manufacturers may prefer to take their chances in the national courts, particularly if local rules are perceived to favor their positions. And SDOs, which are ultimately dues-driven membership organizations, may be reluctant to adopt policy changes that are perceived to be detrimental to particular member interests, due to both the effort and resource commitment required to such amendments approved and the potential loss of members who opposed the policy change.<sup>246</sup>

Nevertheless, there are reasons to believe that the proposed FRAND Tribunal may find support where other proposals to reform the FRAND system have not. First, the cost of litigating complex patents and economic theories across multiple jurisdictions is significant, even for the largest firms.<sup>247</sup> The proposed FRAND Tribunal is likely to reduce the cost of dispute resolution for all parties involved, not to mention freeing valuable time currently spent by corporate executives and engineers on litigation.

Second, litigation over FRAND commitments often brings with it a number of ancillary claims that can have serious repercussions for firms, including claims sounding in fraud, unfair business practices, and violations of antitrust and competition law.<sup>248</sup> Resolving disagreements over FRAND royalty rates through non-judicial rate-setting could reduce

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245. Contreras, *Ex Ante*, *supra* note 36, at 206–07 (describing self-interested opposition to SDO transparency measures by patent-centric firms).

246. *See id.* at 174–77 (discussing member opposition to SDO policy amendments at VITA, ETSI, and IEEE); *supra* note 15 and accompanying text (discussing criticism of 2015 IEEE policy amendments).

247. *See, e.g.*, Mark A. Lemley, *Software Patents and the Return of Functional Claiming*, 2013 WIS. L. REV. 905, 932 n.107 (“[M]y estimate based on conversations with people close to the cases is that the parties in the ongoing smartphone litigation have already spent at least \$1 billion in legal fees, and the cases are far from over.”); Susan Decker et al., *Apple, Samsung Declare Peace in Biggest Modern Tech Patent Fight*, BLOOMBERG (June 27, 2018, 3:29 PM), <https://www.bloomberg.com/news/articles/2018-06-27/apple-samsung-settle-patent-infringement-dispute> (last visited Apr. 18, 2019) (“litigation cost each company hundreds of millions of dollars in legal fees.”).

248. *See* *Microsoft v. Motorola*, 795 F.3d 1024, 1034 (9th Cir. 2015); *Ericsson, Inc. v. D-Link Sys.*, 773 F.3d 1201, 1213 (Fed. Cir. 2014); *TCL Comm’n Tech. Holdings, Ltd. v. Telefonaktienbolaget LM Ericsson*, No. SACV 14-00341 JVS, 2016 WL 4150033, at \*1 (C.D. Cal. July 25, 2016).



or eliminate the risk of these ancillary but serious claims. That is, even though such ancillary claims could, in theory, result in a series of costly and time-consuming national actions, it is likely that the resolution of the principal issue at the core of these disputes—the FRAND royalty rate—will dissuade parties from pursuing these ancillary claims further.

Finally, parties in FRAND-related litigation have routinely sought to enlist the assistance of antitrust and competition enforcement agencies in advancing their causes, leading to numerous agency investigations, legal actions, and penalties against major market participants.<sup>249</sup> Resolving FRAND rate disputes early through a FRAND Tribunal would lessen the incentive of parties to draw the conduct of their negotiation adversaries to the attention of governmental officials and would thus reduce the likelihood of governmental intervention in these markets—a desirable outcome for many firms.<sup>250</sup>

## CONCLUSION

The commitment to license patents that are essential to technical interoperability standards on FRAND terms is intended to foster the rapid development and broad adoption of standards necessary to the modern technological infrastructure. Yet disputes over FRAND royalty rates continue to bedevil participants in global technology markets, leading to increased litigation and progressively inconsistent results from jurisdiction to jurisdiction. Moreover, the lack of transparency in current licensing transactions, coupled with the narrow focus of adjudicators on individual parties rather than the totality of rights associated with a particular standard, has added further uncertainty and instability to the FRAND licensing system. Any proposal to reform the FRAND licensing system must thus address three key aspects that are currently lacking in the system: *transparency*, *consistency*, and *comprehensiveness*.

This Article proposes the establishment of a global FRAND rate-setting tribunal designed to reduce negotiation, litigation, and other excess transaction costs while achieving a fair allocation of resources among affected stakeholders. It does so through a mechanism that seeks, to the greatest extent possible, to achieve the tripartite goals of transparency, consistency, and comprehensiveness. Specifically, it calls for the establishment of an international, non-governmental FRAND Tribunal and the modification of SDO policies either to mandate or make available

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249. See, e.g., Contreras, *Global Standards Wars*, *supra* note 1, at 5–13 (describing governmental investigations of and actions against Google/Motorola, Samsung, Qualcomm, and others).

250. This is not to say, of course, that governmental agencies should not maintain their vigilance and continue to bring appropriate enforcement actions to curb anticompetitive behavior.

the resolution of FRAND royalty disputes through this mechanism. Like existing rate-setting bodies such as the U.S. Copyright Royalty Board, the FRAND Tribunal will collect all available evidence regarding the patented and unpatented technology involved in a particular standard, determine an aggregate (top-down) royalty rate for the standard as a whole, and appropriately apportion royalties among all holders of essential patents. Beyond these rate-setting matters, the FRAND Tribunal will adjudicate no other issues, and related claims for breach of contract and antitrust and competition law violations would continue to be subject to adjudication by any court(s) having jurisdiction. SDO participants would be required to refrain from seeking injunctive relief against potential licensees during the pendency of rate-setting proceedings, but once FRAND royalty rates are determined for a specific standard, a patent holder will be permitted to pursue injunctions against product manufacturers that refuse to accept a license at the designated rate.

Though the proposed rate-setting mechanism will not result in awards to individual patent holders that precisely account for the value of each patent, this degree of precision is neither a realistic expectation nor a necessary condition to the functioning of the market. Rather, it is hoped that the proposed FRAND Tribunal will make the FRAND licensing marketplace operate more efficiently by eliminating excessive transaction costs and enabling broad dissemination of standardized technology around the world, while still achieving a fair distribution of proceeds among affected stakeholders. While further details regarding the implementation and operation of the FRAND Tribunal must be considered and debated, the general approach outlined in this Article has the potential to bring greater predictability and stability to the technology development ecosystem while reducing costly and disruptive litigation.