



FRAND ARBITRATION: THE DETERMINATION OF FAIR, REASONABLE AND NON-DISCRIMINATORY RATES FOR SEPS BY ARBITRAL TRIBUNALS



By *Damien Geradin*¹

I. INTRODUCTION

Standard-setting activities, which aim to achieve device interoperability and product compatibility, play a fundamental role in fostering innovation and competition in a variety of markets. In the information technology (“IT”) sector, standardization work is often carried out under the aegis of standard-setting organizations (“SSOs”),² such as ETSI³ or IEEE.⁴ Well known standards in the IT industry include mobile communication standards (such as 3G and 4G), Bluetooth, Ethernet, Wi-Fi, etc. Standards are implemented by manufacturers whose standard-compliant products compete with each other. There are, for instance, multiple manufacturers of smartphones and tablets that are compatible with the 3G and/or 4G standards.

Difficulties may, however, arise when the standard reads on multiple patents (standard-essential patents or (“SEPs”)), which must therefore be licensed by companies manufacturing

¹ Founding Partner, EDGE Legal, Brussels. Professor of Competition Law & Economics at the Tilburg Law & Economics Center (“TILEC”), Tilburg University and Visiting Professor, University College London. The author has assisted parties as counsel or expert in FRAND arbitrations. This paper represents his personal views only.

Dgeradin@edgelegal.eu

² See Mark Lemley, “Intellectual Property Rights and Standard-Setting Organizations,” 90 (2002) *California Law Review*, 1889.

³ See <http://www.etsi.org/>.

⁴ See <https://www.ieee.org/index.html>.



standard-compliant products (“standard implementers”).⁵ SSOs typically require that when one of its member firm active in the standardization process considers that it holds a patent that may be essential to the standard, it discloses it. Following disclosure, that firm will usually be requested to undertake in writing that it is prepared to grant irrevocable licenses on fair, reasonable and non-discriminatory (“FRAND”) terms and conditions.⁶

At the core of most disputes concerning the licensing of SEPs lies the inability of the SEP holder and the standard implementer to agree on FRAND license terms. While the SEP holder typically seeks to obtain a license fee (generally a running royalty, although other forms of consideration may also be envisaged) that maximizes the value of its SEP portfolio, the standard implementer tries to pay a fee that is as low as possible as it represents a cost that will burden its products. In many instances, the parties are far apart in their negotiations and there is no magic formula that allows them to determine in a simple and objective manner what FRAND terms should be in the specific context of their relationship.

Traditionally, the SEP holder could break the deadlock by seeking an injunction against the standard implementer from a patent court.⁷ As the injunction would generally have devastating effects on the implementer’s business (as the infringing products would have to be removed from the shelves), this could coerce the implementer into taking a license at terms that are acceptable to the SEP holder, but not necessarily to itself. Since the leverage created by the injunction triggers a risk of “hold-up,”⁸ antitrust authorities,⁹ courts¹⁰ and SSOs,¹¹ have taken steps to strictly limit the circumstances in which SEP holders can validly seek an injunction to enforce its patents.¹² For instance, in its *Huawei v. ZTE* judgment, the Court of

⁵ For instance, smartphones can potentially violate thousands of SEPs. See Ann Armstrong, Joseph J. Mueller, and Timothy D. Syrett, *The Smartphone Royalty Stack: Surveying Royalty Demands for the Components Within Modern Smartphones*, available at:

https://www.wilmerhale.com/uploadedFiles/Shared_Content/Editorial/Publications/Documents/The-Smartphone-Royalty-Stack-Armstrong-Mueller-Syrett.pdf.

⁶ See, e.g. Section 6.1 of ETSI’s IPR Policy ETSI Intellectual Property Rights Policy, available at: www.etsi.org/images/files/ipr/etsi-ipr-policy.pdf. For a discussion of the FRAND commitment, see Damien Geradin, “Standardization and Technological Innovation: Some Reflections on Ex-ante Licensing, FRAND, and the Proper Means to Reward Innovators,” 29 (2006) *World Competition* 511.

⁷ An injunction is a patent infringement remedy in the form of a court order that compels a party to stop infringing the patents. See Vincenzo Denicolo et al., *Revisiting Injunctive Relief: Interpreting eBay in High-Tech Industries with Non-Practicing Patent Holders*, (2008) 4 *Journal of Competition Law and Economics* 571. See also, James Ratliff and Daniel L. Rubinfeld, “The Use and Threat of Injunctions in the Rand Context,” 9 (1) (2013) *Journal of Competition Law & Economics*, 2.

⁸ On “hold-up” see Mark Lemley and Carl Shapiro, “Patent Holdup and Royalty Stacking” (2007) 85 *Texas Law Review*, 1991; Mark R. Patterson, “Leveraging Information About Patents: Settlements, Portfolios, and Holdups,” (2012) 50 *Houston Law Review* 483.

⁹ See, e.g. Case AT.39985, *Motorola - Enforcement of Standard Essential Patents*, 29 April 2014, C(2014) 2892 final; Case AT.39939, *Samsung - Enforcement of UMTS Standard Essential Patents*, 29 April 2014, C(2014) 2891 final.

¹⁰ See, e.g. C-170/13, *Huawei v. ZTE*, [2015] E.C.R.-I 0000.

¹¹ See IEEE - SA Standards Board Bylaws, Section 6, patents, available at: standards.ieee.org/develop/policies/bylaws/sect6-7.html.

¹² There is considerable debate in the legal and economic literature over the prevalence of hold-up. While the majority of authors consider that hold-ups regularly occur, others consider that while hold-up is theoretically possible it rarely occurs in practice. Compare, for instance, Lemley and Shapiro, *supra* note 8 with Kirti Gupta, “The Patent Policy Debate in the Real World,” 9 (2013) *Journal of Competition Law & Economics* 827.



Justice of the European Union (“CJEU”) developed a licensing framework that carefully circumscribes the circumstances in which an SEP holder can seek an injunction to enforce its patents without committing an abuse of a dominant position in breach of Article 102 of the Treaty on the Functioning of the European Union (“TFEU”).¹³

When parties are unable to agree on FRAND terms and an injunction is unavailable to the SEP holder, an obvious way for the parties to break the deadlock is to have FRAND license terms determined by an independent third-party. Courts are obviously well placed to set FRAND terms and there are a growing number of judgments setting such terms.¹⁴ But arbitral tribunals may represent an attractive alternative to court proceedings and a growing number of academics, agency officials and private practitioners have advocated arbitration of SEP-related disputes.¹⁵ In my experience, parties to licensing disputes also increasingly resort to arbitration to set FRAND terms, although given the secrecy of arbitral proceedings this phenomenon is hard to quantify.

The growing interest in FRAND arbitration is unsurprising as this dispute settlement mechanism typically presents a number of advantages over court proceedings, including (i) discretion (arbitration proceedings and awards are not public); (ii) speed (it is generally possible to obtain an award in less than one year); (iii) expertise (parties can select experts in the relevant fields to serve as arbitrators), (iv) costs (although not cheap, arbitral proceedings can be less expensive than the multi-million trials before U.S. and UK courts),¹⁶ and the (v) finality of the award (which avoids spending many years in court).¹⁷

Despite the growing enthusiasm for FRAND arbitration, there is hardly any literature

¹³ C-170/13, *supra* note 10. It is important to note that the judgment also places obligations on the standard implementer that need to be met if it wants to avoid an injunction.

¹⁴ See, e.g. *Microsoft v. Motorola*, 2013 WL 2111217 at *12 (W.D. Wash. Apr. 25, 2013); *In re Innovatio IP Ventures, LLC Patent Litig.*, 2013 WL 5593609 at *8-10 (N.D. Ill. Oct. 3, 2013).

¹⁵ See the references cited in Jorge L. Contreras and David L. Newman, “Developing a Framework for Arbitrating Standards-Essential Patent Disputes,” 2014 *Journal of Dispute Resolution* 23, at 23.

¹⁶ That is the case when the parties mutually agree to limit production and depositions.

¹⁷ See, e.g. 2015 EU Commission’s *Public Consultation on Patents and Standards - A Modern Framework for Standardisation Involving Intellectual Property Rights Summary Report*, available at: <file:///C:/Users/Utente/Downloads/Public%20consultation%20report%2027-10.pdf> (“A large number of respondents (thirty eight) pointed out that ADR can provide benefits for both parties when deciding on FRAND rates. It is often faster and less costly than court litigation, although some pointed out that this was not always the case. A particular benefit mentioned was also that ADR can provide global portfolio and freedom-to operate arrangements between companies, while litigation is nearly always limited to one jurisdiction and to a small selection of patents. The confidential nature of arbitration was mentioned as an interesting feature that can lead to efficient dispute resolution. Others however argued that the outcome should be made public to facilitate benchmarking. Stakeholders noted the benefit of specialist arbitrators familiar with the complexity of SEP disputes.”)

Arbitration is often considered to enjoy “seven advantages” over court litigation: speed, flexibility, confidentiality, cost, enforceability, expertise and informality. See Peter J. Rees, “Chapter II: The Arbitrator and the Arbitration Procedure, Does Arbitration Deliver?,” in Christian Klausegger, Peter Klein et al. (eds), *Austrian Yearbook on International Arbitration 2016*, 51; Christian Bühring-Uhle et al., *Arbitration and Mediation in International Business (Second Edition)*, International Arbitration Law Library, Volume 13 (Kluwer Law International 2006), 108; Julian J.D.M. Lew and Lukas A. Mistelis, *Comparative International Commercial Arbitration*, (Kluwer Law International 2003), 5; Gary B. Born, “Chapter I: Introduction to International Arbitration” in Born G.B., *International Arbitration: Law and Practice (Second Edition)*, (Kluwer Law International 2015), at para. 1.02.



discussing how arbitral proceedings to set FRAND terms work in practice, as well as the various challenges faced by arbitrators, parties and counsel involved in such proceedings. The purpose of this short paper is thus to discuss, based on my personal experience as counsel or expert in such proceedings, some of the main features of FRAND arbitration. This paper is not intended to be exhaustive. It is a modest attempt to bring some light on the ins and out of FRAND arbitration.

This paper is divided into five parts. Part II addresses an important policy question, which is whether SEP-related disputes should be subject to mandatory arbitration (as a requirement imposed by SSOs) or whether arbitration should remain one of the possible options open to the parties to settle such disputes. Parties should be free to opt for arbitration, as well as to select the key procedural features of the arbitration. Part III discusses the various initial steps that parties wishing to have FRAND licensing terms determined by arbitration need to take, i.e. the adoption of the arbitration agreement, the preparation of a draft licensing agreement and the setting up of the arbitral tribunal. Part IV exposes the various methodologies that can be used by the parties and the arbitrators to calculate FRAND licensing rates and discusses their respective pros and cons. Part V discusses the enforcement of the award. One of the advantages of arbitral proceedings is that the award is not subject to an appeal. Arbitral awards may nevertheless be declared invalid or unenforceable in a limited set of circumstances. Finally, Part VI contains a short conclusion.

II. SHOULD ARBITRATION OF SEP-RELATED DISPUTES BE MANDATORY?

In the past few years there has been a large amount of litigation involving SEPs, especially in the IT sector. Frequent high-stake disputes have arisen between SEP holders and manufacturers of mobile communications devices, such as smartphones and tablets.¹⁸ These disputes usually revolve over what the FRAND commitment made by SEP holders to the relevant SSO means in concrete terms.

Most observers agree that FRAND commitments have a dual objective: (i) to ensure the ability of standard implementers to bring products to market without impediment as long as they are willing to pay fair and reasonable compensation to the SEP holders and, conversely, (ii) to ensure that companies which have developed the technologies that are included in the standard receive fair and reasonable rewards for their research and development efforts. But beyond this, what FRAND licensing terms mean in practice is subject to considerable disagreement and, as a result, protracted litigation.

It is against that background that Lemley and Shapiro argued, in a paper published in 2013,¹⁹ that based on set of procedural rules to be developed, SSOs should subject their

¹⁸ The so-called smartphone patent war has triggered dozens of lawsuits across the world. See Marissa Oberlander, Martin Stabe and Steve Bernard, *The Smartphone Patent Wars*, Financial Times, October 17, 2011, available at: www.ft.com/cms/s/2/de24f970-f8d0-11e0-a5f7-00144feab49a.html#axzz4IQ9rTmoE.

¹⁹ See Mark Lemley and Carl Shapiro, "A Simple Approach to Setting Reasonable Royalties for Standard Essential Patents," 28 (2013) *Berkeley Technology Law Journal* 1138.



members to mandatory arbitration of their SEP-related disputes.²⁰ More specifically, when an SEP holder and a standard implementer are unable to agree on licensing terms, the SEP holder would be compelled to enter into so-called “final offer” arbitration (also known as “baseball-style” arbitration)²¹ with any willing licensee to determine the FRAND rate. As, under this type of arbitration, the arbitrator has to pick exclusively one of the two final offers made by the parties to the disputes, Lemley and Shapiro reason that this would force the parties to make reasonable offers, hence narrowing the large gap that traditionally exists between the respective offers of the SEP holder and the implementer. This proposal has been harshly criticized in two academic papers, which consider that, despite its attractive simplicity, this proposal had multiple disadvantages, including in particular the risk that it would systematically undercompensate SEP holders, hence weakening the standardization process.²²

Although a full discussion of the Lemley/Shapiro proposal goes beyond the scope of this paper, the imposition of mandatory “final offer” arbitration by SSOs is not desirable for the following reasons. First, the parties should have the freedom to select arbitration or court litigation. There may be instances where court litigation may be the preferred option, for instance because the parties also disagree on whether the patents at stake are valid and infringed in which case these issues may be better dealt with by a specialized patent court rather than arbitrators. Second, while final offer arbitration may be appropriate in certain circumstances, such as in salary disputes between baseball teams and their players,²³ it may not be well suited to SEP-related disputes. If the goal is to ensure that SEPs are licensed at FRAND terms, there is no reason to believe that the two final offers made by the parties, among which the arbitrators are bound to choose, will necessarily be FRAND. It is preferable to allow the arbitrators to decide, based on the evidence provided by the parties, the license terms they believe to be FRAND. Finally, as will be seen in Part III below, one of the merits of international arbitration is the great freedom it gives to the parties to select the arbitral institution, the seat of the arbitration, etc. and thus tailor the procedure to their needs. Imposing on the parties the procedural framework chosen by the SSO would largely eliminate this freedom without necessarily offering any countervailing efficiency.

²⁰ Note that several SSOs already provide for arbitration of SEP-related disputes. See, e.g. the Digital Video Broadcasting (“DVB”) Project’s Memorandum of Understanding requires its members to resolve all disputes related to the licensing of DVB Standards under the ICC arbitration rules. See Article 14(7) of the MOU, available at: https://www.dvb.org/resources/public/documents_site/dvb_mou.pdf. Similarly, the VMEbus International Trade Association (“VITA”)’s IPR Policy provides for an arbitration procedure to resolve disputes among its members. See Section 10.5 of the VSO Policies and Procedures, available at: www.vita.com/resources/Documents/Policies/vso-pp-r2d8.pdf. It seems, however, that these procedures have, so far, not been used. See Contreras and Newman, *supra* note 15, at 30-31.

²¹ See Christian Borris, “Final Offer Arbitration from a Civil Law Perspective,” 24 (2007) *Journal of International Arbitration* 307; Irene Welser and Alexandra Stoffl, “Chapter II: The Arbitrator and the Arbitration Procedure, Calderbank Letters and Baseball Arbitration – Effective Settlement Techniques?” in Christian Klausegger, Peter Klein et al. (eds), *Austrian Yearbook on International Arbitration 2016*, 87.

²² See, e.g. Pierre Larouche et al., “Settling FRAND Disputes: Is Mandatory Arbitration a Reasonable and Non-Discriminatory Alternative?,” 10 (2014) *Journal of Competition Law & Economics*, 581; J. Gregory Sidak, “Mandating Final-Offer Arbitration of FRAND Royalties for Standard-Essential Patents,” 18 (2015) *Stanford Technology Law Review* 1.

²³ See Sidak, *supra* note 22, at 10.



III. ARBITRATION AGREEMENT, DRAFT LICENSE AGREEMENT AND THE TRIBUNAL CONSTITUTION

As already noted, one of the advantages of commercial arbitration is that the parties can agree on the modalities of the proceedings by concluding an “arbitration agreement,” which will usually specify the key procedural aspects of the arbitration: *ad hoc* or institutional arbitration, the arbitral institution that will administer the proceeding (ICC, LCIA, etc.) if they elect institutional arbitration, the seat of the arbitration, the applicable law(s), the scope of the arbitration (i.e. the mission that is entrusted to the arbitrators), the rules on the taking of evidence, confidentiality measures, etc. In other words, arbitration is a “creature of contract,” which can be negotiated by the parties.²⁴

In addition to the arbitration agreement, the parties may also decide to conclude a draft license agreement, which spells out the elements of the license on which the parties are able to agree, leaving empty spaces for the elements on which they are unable to agree (usually the license fee) that will have to be completed by the arbitrators. The advantage of this approach is that it helps identify the elements of the license on which the parties agree and those for which they need the assistance of the arbitrators. It also makes the license executable once the arbitrators have ruled on the terms they were asked to settle without further negotiation needed. In addition, the parties may also provide some guidance to the arbitral tribunal by, for instance, writing some comments in the margin of the draft license agreement (which can clarify the aspects on which the parties disagree, as well as the respective positions of the parties on how the empty spaces should be filled).

Once the parties have the arbitration agreement on the draft license agreement in place, the arbitral tribunal has to be composed. In arbitral proceedings conducted under the 2012 ICC Arbitration Rules, where the arbitral tribunal is composed of three arbitrators (which is usually the case in high-stake proceedings, such as FRAND arbitration), each party will appoint one of the arbitrators and the ICC Court will appoint the third arbitrator that will serve as president of the arbitral tribunal, unless the parties have agreed upon another procedure for such appointment.²⁵

Various elements are generally taken into consideration when the parties select “their” arbitrator: (i) whether it is better to appoint a generalist arbitrator or a specialist in IP matters; (ii) whom among the various candidates they have in mind is the most likely to be favorable to their position (for instance, when academics are considered, the parties will typically review their relevant writings); (iii) the overall reputation of these people and their ability to

²⁴ See, *Siegel v. Lewis*, 40 N.Y.2d 687 (1976): “commercial arbitration is a creature of contract. Parties, by agreement, may substitute a different method for the adjudication of their disputes than those which would otherwise be available to them in public courts of law.” See also *Katz v. Feinberg*, 290 F.3d 95 (2d Cir. 2002) and *Edstrom Indus., Inc. v. Companion Life Ins. Co.*, 516 F.3d 546, 552 (7th Cir. 2008): “precisely because arbitration is a creature of contract, the arbitrator cannot disregard the lawful directions the parties have given them.”

²⁵ See, *2012 ICC Arbitration Rules*, (2012), Arts. 11 to 15. Available at: [file:///C:/Users/Utente/Downloads/ICC%20865-2-%20ENG%20Arbitration_Mediation%20Rules%20\(4\).pdf](file:///C:/Users/Utente/Downloads/ICC%20865-2-%20ENG%20Arbitration_Mediation%20Rules%20(4).pdf). See also, “Chapter 3: Arbitral Proceedings Under The ICC Rules of Arbitration of 2012,” in Verbist H., Schäfer S., et al., *ICC Arbitration in Practice (Second Edition)*, (Kluwer Law International 2015), pp. 23 et seq.



communicate effectively with the other arbitrators.²⁶ While the arbitrators chosen by the parties act independently,²⁷ the parties will usually try to identify an individual who is not only competent, but who will also give a fair hearing to their position.

The best arbitrators for FRAND proceedings are not necessarily those who have prior experience with SEP matters or even more generally IP-related matters. However, a skill that seriously helps in FRAND cases is for the arbitrators to be reasonably good with numbers as they will have to review fairly sophisticated expert witness statements describing manners in which parties have calculated their proposed FRAND rate. For instance, experience in rate-setting in other industries or in the setting of damages more generally is an asset. In this respect the advantage of having a tribunal with three arbitrators, as is generally the case in such proceedings, is they can effectively combine different skills.

In parallel with the formation of the arbitral tribunal or once the tribunal is in place, the parties will typically draw their list of experts, including technical experts (who will be asked to assess the strength of the SEP holder's portfolio), economic experts (who will advise on the economic meaning of FRAND),²⁸ forensic accountants (who will calculate the FRAND rate based on the methodologies selected by the parties they represent, although this work can also be done by economic experts) and in some cases standardization experts (opining, for instance, on the circumstances surrounding the adoption of a given standard). These experts will typically be asked to prepare statements expressing their views (with usually at least two rounds of statements so that the experts appointed by the parties can respond to each other's views), and testify at the arbitral hearings.²⁹ The challenge for the parties and their experts is that they need to explain in layman terms the various technical and economic considerations that support their proposed FRAND rates. In any event, issues that remain obscure can be clarified during the hearings.

Depending on the specific rules of evidence, parties will typically have to disclose a variety of documents, such as past licenses, statements made on the issues at stake in the arbitration, etc. Confidential documents will be subject to protective orders.

IV. THE DETERMINATION OF FRAND LICENSING TERMS

²⁶ This list of factors is not exhaustive and parties may have different priorities in their appointment strategy.

²⁷ See "Chapter 4: The Standard of Impartiality and Independence," in Alfonso Gomez-Acebo, *Party-Appointed Arbitrators in International Commercial Arbitration* (Kluwer Law International 2016), 69; Jacques Werner, "Editorial: The Independence of Party-Appointed Arbitrators: for a Rule of Reason," 7 (1990) *Journal of International Arbitration* 5.

²⁸ Many leading economists have published on the economics of FRAND. See, e.g. Richard Gilbert, "Deal or No Deal? Licensing Negotiations in Standard-Setting Organizations," 77 (2011) *Antitrust Law Journal* 855; See Dennis W. Carlton and Allan L. Shampine, "An Economic Interpretation of FRAND," (2013) 9 *Journal of Competition Law & Economics*, 531; Daniel G. Swanson and William J. Baumol, "Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power" (2005) 73 *Antitrust Law Journal* 1.

²⁹ The so-called "hot tubbing" technique, also known as "witness conferencing" or "concurrent evidence," is nowadays often used by arbitral tribunals to trigger a discussion between party appointed experts. See, e.g. Gordon Blanke and Thomas Eilmansberger, "Chapter 9: The Role of the Expert Witness in Antitrust Arbitrations," in G. Blanke and P. Landolt (eds), *EU and US Antitrust Arbitration: A Handbook for Practitioners*, (Kluwer Law International 2011), 288.



Unless the parties decide to go for “baseball-style arbitration,” the arbitrators asked to set the license fee (in this case, let us assume a “royalty rate”) have the freedom to adopt one of the rates proposed by the parties or a different rate provided it is FRAND. In their briefs and their expert witness statements, the parties typically rely on one or several calculation methodologies to support their proposed FRAND rate.³⁰ In my experience, excessively complex calculation methodologies will not go down well with arbitrators if only because they will not want to embrace a methodology that they fail to fully understand.

There is a fairly wide consensus among economists that FRAND rates should correspond to the rates that would result from *ex-ante* (before the adoption of the standard) competition between the selected technology (which is covered by the SEPs in question) and alternative technological solutions. In other words, economists consider that a FRAND rate should not exceed the price of the next best alternative plus the incremental value contributed by the patented technology.³¹ Such a rate would be capped to the inherent economic value of the patented technology and thus deprive the SEP holder from the rents created by the lock-in effect that is created by the insertion of a patent in the standard in question (also often referred to as “hold up” value).³² Because it is extremely difficult, if at all possible, to determine what *ex-ante* rate would have prevailed from technological competition at the time of standardization, this approach – although perhaps a useful theoretical benchmark – is not a convenient method to determine a FRAND rate.³³

A more practical method to determine a FRAND rate is to infer that rate from the rates or other forms of consideration included in “comparable” licenses. It is, for instance, regularly the case that the SEP holder has already concluded one or several license agreements with other standard implementers covering part or the whole of its portfolio of SEPs.³⁴ The challenge, however, in this case is to ensure that the licenses that are used as a benchmark to calculate the FRAND rate in the proceedings in question are sufficiently comparable to the license that the parties are seeking to conclude. This is important for at least two reasons.

First, it stands to reason that past licenses that are too different from the license that the parties are seeking to conclude (because of the scope of the past licenses is different, the legal and market circumstances in which they were concluded differ, etc.) will not represent credible benchmarks for FRAND rate determination purposes. Differences between licensing

³⁰ There is an abundant legal and economic literature on such methodologies. See, e.g. J. Gregory Sidak, The meaning of FRAND, Part I: Royalties, 9 (2015) *Journal of Competition Law & Economics* 931; Gregory K. Leonard and Mario A. Lopez, “Determining RAND Royalty Rates for Standard-Essential Patents,” (29) 2014 *Antitrust* 86.

³¹ See, e.g. Joseph Farrell et al., “Standard Setting, Patents, and Hold-Up” (2007) 74 *Antitrust Law Journal* 603. For a different view, see Richard A. Epstein et al., “The FTC, IP, and SSOs: Government Hold-up Replacing Private Coordination,” 8 (2012) *Journal of Competition Law & Economics* 1, 3.

³² Norman Siebrasse and Thomas F. Cotter, “The Value of the Standard,” July 2015, available at: papers.ssrn.com/sol3/papers.cfm?abstract_id=2636445.

³³ See *Microsoft v. Motorola*, supra note 14, at *79 (“In practice, approaches linking the value of a patent to its incremental contribution to a standard are hard to implement. Calculating incremental value for multipatent standards ‘gets very complicated, because when you take one patent out of a standard and put another one in you may make other changes, the performance of the standard is multidimensional, different people value different aspects.’”)

³⁴ That is the case because, at least in theory, all standard implementers need to take a license from the SEP holder. SEP holders seeking to monetize their patents will thus usually license them to multiple implementers.



agreements can, however, often be addressed through the calculation of their “effective rate,” i.e. the rate that is – all things being equal – effectively paid by the implementer to the SEP holder. For instance, a license agreement whereby the implementer agrees to pay to the SEP holder a lump sum fee of \$100 million combined with a \$0.1 per unit fee can, through economic adjustments, be boiled down to a given royalty rate (e.g., 0.2 percent of average sales price). Differences in the scope of the license, the presence or absence of a cross-license, etc., can also be factored in the calculation of the effective rates that are comprised in the licenses that are used as benchmarks. In this sense, past licenses may be useful benchmarks when economic adjustments accounting for such differences can reasonably be made.

Second, the principle of non-discrimination is an integral part of the FRAND commitment.³⁵ The “ND” of FRAND is necessary to ensure that a standard implementer is not commercially penalized by having to pay a higher license fee to an SEP holder than other similarly-situated standard implementers with which it competes on downstream product markets (e.g. computers, tablets, smartphones, etc.). The principle of non-discrimination does not require that similarly-situated standard implementers to pay exactly the same rate (as it could amount to discrimination in the presence of differences between the licenses that are considered), but the same “effective rate.”

In addition to looking at comparable licenses, the parties may also look at patent pools.³⁶ In certain circumstances, SEP holders, which are not interested in developing an individual licensing program, may decide to place their patents into a pool, which will be collectively licensed against a fee. Although the licensing fee charged by the pool may be a helpful element of information, pools may not always form reliable benchmarks.³⁷ That is, for instance, the case when most of the key SEP holders are not part of the pool, which only comprise a small number of patents. In some cases, the pool may also be formed by SEP holders with major manufacturing operations, which may be mainly interested in holding royalty expenses as low as possible. In that case, the pool rate may be too low.³⁸

In the absence of comparable licenses or relevant patent pools, other methodologies can be used to calculate the FRAND rate. One such method, generally referred to as “top down,”³⁹ consists in determining the cumulative royalty burden associated with the licensing of the total number of SEPs that should apply to the products in question⁴⁰ and then allocating this cumulative royalty burden among the different SEP holders based on one or several

³⁵ Generally, on non-discrimination, see Dennis W. Carlton and Allan L. Shampine, “Identifying Benchmarks for Applying Non-Discrimination in FRAND,” *CPI Antitrust Chronicle*, August 2014 (1), available at: <https://www.competitionpolicyinternational.com/assets/Uploads/CarltonShampineAUG-141.pdf>.

³⁶ A patent pool is an agreement between two or more patent owners to license one or more of their patents to one another or to third parties. For an example of a patent pool comprising SEPs, see Via Licensing’s LTE patent pool, available at: <http://www.via-corp.com/licensing/lte/index.html>.

³⁷ See *Microsoft v. Motorola*, supra note 14, at *80.

³⁸ Anne Layne-Farrar and Koren W. Wong-Ervin, Methodologies for Calculating FRAND Royalty Rates and Damages: An Analysis of Existing Case Law, *Law 360*, October 2014, papers.ssrn.com/sol3/papers.cfm?abstract_id=2668623.

³⁹ For a discussion of this approach, see Leonard and Lopez, supra note 30.

⁴⁰ This first apportionment step separates the value associated with all SEPs to the standard at issue and distinguishes that value from the value attributable to other factors.



criteria. The logic of this approach is that a FRAND rate must at the same time consider (i) the large number of patent holders and patents typically incorporated into the standard and (ii) the specific contribution to the standard of the patented technology developed by the SEP holder in question. While this methodology or some of its variations are regularly used by parties involved in FRAND proceedings, they nevertheless raise a series of challenges.

First, it is not necessarily easy to determine on what basis the cumulative royalty rates should be set.⁴¹ Should it be set at 5 percent, 10 percent or more of the value (the average sales price) of the relevant product(s)? From an *ex-ante* perspective, the maximum possible royalty burden should be limited to the total economic profits the manufacturers expected from the standard-compliant products.⁴² The calculation of these economic profits would take into account the other factors of production needed to bring these products to markets (design, manufacturing, transport, marketing, etc.).⁴³ In some circumstances, the maximum royalty burden can be informed by statements from the SEP holder in question or the industry generally as to what a reasonable cumulative rate should be.⁴⁴ The SEP holder may, for instance, have declared at the time of standardization that the cumulative royalty rate should be set at 5 percent.⁴⁵ Short of a better method, that statement may be used to set the cumulative royalty rate.

Second, assuming a cumulative royalty rate set at 5 percent, one needs to “allocate” it between the various SEP holders. The simplest, but also the least accurate, allocation method is to assume that all SEPs have the same value (“numerical proportionality”). To take a simple example, if there are 1,000 SEPs to the relevant standard and the SEP holder involved in the proceedings holds 100 SEPs, that SEP holder should be allowed to charge a 0.5 percent royalty rate to the licensing. The reality, however, is that not all SEPs have the same value and that independently of their numerical size some portfolios may be more valuable than others due

⁴¹ Another important issue relates to where in the manufacturing chain (the end product or a component of the end product) the aggregate royalty burden should be applied. In other words, what should be the royalty base on which the royalty rate would apply. While some argue that the end user device (e.g. the smartphone) should form the royalty base, others consider that the royalty should be applied on the smallest patent practicing unit (“SSPPU”), i.e. the smallest product sold in the marketplace that applies the substantive aspects of the patent-protected invention. On this issue, see Damien Geradin and Anne Layne-Farrar, “Patent Value Apportionment Rules for Complex, Multi-Patent Products,” 27 (2012) *Santa Clara High Technology Law Journal*, 763 (2012).

⁴² See Leonard and Lopez, *supra* note 30, at 89.

⁴³ *Id.*

⁴⁴ For instance, when 3G was first being commercialized, Nokia, NTT DoCoMo, Siemens, and Ericsson expressed a “mutual understanding” to license SEPs such that the cumulative royalty rate for WCDMA technology would be “at a modest single digit level.” See “Industry leaders NTT DoCoMo, Ericsson, Nokia and Siemens, and Japanese manufacturers reach a mutual understanding to support modest royalty rates for the W-CDMA technology worldwide,” Nokia Press Release, November 6, 2002, available at: <http://company.nokia.com/en/news/press-releases/2002/11/06/industry-leaders-ntt-docomo-ericsson-nokia-and-siemens-and-japanese-manufacturers-reach-a-mutual-understanding-to-support-modest-royalty-rates-for-the-w-cdma-technology-worldwide>.

⁴⁵ See, e.g. “Nokia advocates industry-wide commitment to 5% cumulative IPR royalty for WCDMA,” Press Release, May 8, 2002, available at: <http://company.nokia.com/en/news/press-releases/2002/05/08/nokia-advocates-industry-wide-commitment-to-5-cumulative-ipr-royalty-for-wcdma>.



to the technical strength of the patents they comprehend.⁴⁶

Various methods can be used by the parties to the proceedings in order to account for differences in value between SEPs. The parties can, for instance, hire technical experts and ask them to determine based on a technical assessment of the SEPs in question whether they are on average stronger/weaker than the other SEPs than need to be licensed and, if so, by which factor. The issue is that determining the strengths of the set of SEPs is often a matter of perspective and the experts hired by the parties will often have different views.

In that context, the parties may decide to rely on various proxies to determine the strength of the SEPs in question. For instance, economists regularly use “forward citations” as an indication of a patent’s value.⁴⁷ Forward citation analysis is a method used to assess relative patent value by examining the number of times a patent is cited as “prior art” by a later patent.⁴⁸ The economic logic behind this method is that a patent that is more important should be expected to be at the source of a greater number of future innovations that then cite back to the patent in question. Another proxy that can be used to assess the value of an SEP portfolio is to look at the number of “approved contributions” by the holder of the SEPs in question.⁴⁹ The rationale for using this proxy is that there is a correlative relationship between the number of approved contributions obtained by a patent holder and the number of truly essential patents contained in its patent portfolio. Looking at the number of “approved contributions” may thus help determining the percentage of truly-essential patents in a portfolio.

Of course, the list of FRAND rates calculation methodologies discussed above is not intended to be exhaustive, and new methods – or variations of existing methods – will certainly emerge given the creativity of economic experts.

V. ENFORCING THE AWARD

A significant advantage of arbitration over court proceedings when it comes to settling licensing disputes once and for all is that arbitral awards cannot be appealed (i.e. the review of the decision on the merits of the case is not, in most cases, permitted). Arbitral awards are indeed

⁴⁶ Economic research has shown that in the IT industry the distribution of value among patents is highly skewed, i.e. most of the value is concentrated in a small number of patents (i.e. the top 1-5 percent). On this issue, see Mark Shankerman, “How Valuable is Patent Protection? Estimates by Technology Field,” 29 (1998) *Rand Journal of Economics*, 77.

⁴⁷ See, e.g. Nathan Falk and Kenneth Train, “Patent Valuation with Forecasts of Forward Citations,” February 2016, available at: eml.berkeley.edu/~train/patents.pdf.

⁴⁸ On citation analysis, see, e.g. Dietmar Harhoff, et al., “Citation Frequency and the Value of Patented Inventions,” 81 (1999) *Review of Economics and Statistics* 511; Mark Shankerman, “How valuable is patent protection? Estimates by technology field,” 29 (1998) *RAND Journal of Economics*, 77.

⁴⁹ A “contribution” consists of a technological invention, submitted to a working group in a standards-setting organization (“SDO”), aiming to address a technical problem within a particular standard. The contribution is “approved” when the SDO votes (by consensus) to incorporate the comments or suggestions contained within the contribution in the standard.



final.⁵⁰ That being said, it remains possible for the party aggrieved by the award to have it set aside (annulled) by the courts of the seat of arbitration or declared unenforceable by the courts of the place where the enforcement is sought on the basis of a narrow set of grounds.

National arbitration laws based on the UNCITRAL Model Law⁵¹ (as well as the vast majority of arbitration laws not based on the Model Law) contain a provision on the basis of which arbitral awards can be set aside by national courts of the place where the arbitral tribunal was seated on the ground of lack of a fair and due process, the non-arbitrability of the subject-matter of the dispute or for the incompatibility of the award with public policy rules.⁵² Similarly, Article V of the “Convention on the Recognition and Enforcement of Foreign Arbitral Awards” (the “New York Convention”)⁵³ provides for a set of procedural and substantive grounds on which international arbitral awards may be refused enforcement. In particular, under Article V(2)(b), an award whose enforcement is contrary to the public policy rules of the country where the enforcement is sought may be declared unenforceable by the courts of such country.

In *Eco-Swiss v. Benetton*,⁵⁴ the CJEU established that the provisions of Article 101 TFEU must be regarded as rules of public policy within the meaning of Article V of the New York Convention and that “where its domestic rules of procedure require a national court to grant an application for annulment of an arbitration award where such an application is founded on failure to observe national rules of public policy, it must also grant such an application where it is founded on failure to comply with the prohibition laid down in Article [101(1) TFEU].”⁵⁵

In addition, in its Notice on the co-operation between the Commission and the courts of the EU Member States in the application of Articles 81 and 82 EC (now 101 and 102 TFEU), the European commission confirmed that article 102 TFEU was also a matter of public policy.⁵⁶ This means that awards that would breach public policy on the grounds that they violate Article 102 TFEU (because, for instance, the royalty rates set by the tribunal would be discriminatory) could in principle be declared unenforceable or set aside by the reviewing court.

Whether a party trying to set aside or block the enforcement of the award will succeed depends not only on the facts of the case but also on the standard of review applied by the

⁵⁰ On the finality of arbitral awards see, Jean Thieffry, “The Finality of Awards in International Arbitration,” 2 (1985) *Journal of International Arbitration*, 27; Alexis Mourre and Luca G. Radicati di Brozolo, “Towards Finality of Arbitral Awards: Two Steps Forward and One Step Back,” 23 (2006), *Journal of International Arbitration*, 171.

⁵¹ United Nations Commission on International Trade Law, “UNCITRAL Model Law on International Commercial Arbitration 1985 with amendments as adopted in 2006.”

⁵² See Article 34 of the UNCITRAL Model Law, available at:

http://www.uncitral.org/uncitral/en/uncitral_texts/arbitration/1985Model_arbitration.html.

⁵³ See Article V of the New York Convention, available at:

http://www.uncitral.org/uncitral/en/uncitral_texts/arbitration/NYConvention.html.

⁵⁴ Case C-126/97, *Eco Swiss China Time Ltd v. Benetton International NV*, [1999] I-03055. See also, Damien Geradin, *Public Policy and Breach of Competition Law in International Arbitration: A Competition Law Practitioner’s Viewpoint*, available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2786370.

⁵⁵ Case C-126/97, *Eco Swiss China Time Ltd v. Benetton International NV*, *supra* note 54, at § 37.

⁵⁶ The European Commission has expressly confirmed that Article 102 TFEU is part of international public policy: “[...] it should be remembered that [Article 101 TFEU] and [Article 102 TFEU] EC are a matter of public policy and are essential to the accomplishment of the tasks entrusted to the Community, and in particular, for the functioning of the internal market.” Commission Notice on the co-operation between the Commission and the courts of the EU Member States in the application of Articles 81 and 82 EC, OJ C 101, 27.4.2004, at § II-A-3.



reviewing court. Some domestic courts have, for instance, adopted a minimalist approach giving a great deal of deference to arbitral awards and limiting their intervention to situations where the award “blatantly” violates competition rules.⁵⁷ In that case, it would be almost impossible for the standard implementer to demonstrate that an award violates EU competition rules given the inherent complexity of FRAND arbitration. In its opinion in the *Genentech* case,⁵⁸ however, Advocate General Wathelet observed that such a superficial review of arbitral awards is contrary to the effectiveness of EU law.⁵⁹ The CJEU did not take position on this issue, hence leaving it unaddressed.⁶⁰

VI. CONCLUSION

Arbitral proceedings represent an efficient and, in principle, definitive method to settle licensing disputes involving SEPs. Such proceedings are well suited to hearing the evidence that needs to be presented by the parties to allow third-party determination of FRAND rates. For these reasons, I expect FRAND arbitration to continue to grow in the years to come.

⁵⁷ On the minimalist or maximalist approach towards the standard of review of arbitral awards see also, Gordon Blanke, “The ‘Minimalist’ and ‘Maximalist’ Approach to Reviewing Competition Law Awards: A Never-Ending Saga Revisited or the Middle Way at Last?,” in Devin Bray and Heather Bray (eds.), *PostHearing Issues in International Arbitration*, Juris Publishing, 2013, 169, at 185; Gordon Blanke, “Defining the Limits of Scrutiny of Awards Based on Alleged Violations of European Competition Law,” 23 (2006) *Journal of International Arbitration*, 249; Pierre Mayer, “The Second Look Doctrine: The European Perspective,” 21 (2010) *American Review of International Arbitration* 201.

⁵⁸ Opinion of AG Wathelet delivered on 17 March 2016, Case C-567/14, *Genentech Inc. v. Hoechst GmbH, formerly Hoechst AG, Sanofi-Aventis Deutschland GmbH*, [2016] E.C.R. I-000.

⁵⁹ *Id.* at § 58.

⁶⁰ Case C-567/14, *supra* note 58.