MIPLC Studies 9

Tuire Anniina Väisänen

Enforcement of FRAND Commitments under Article 102 TFEU

The Nature of FRAND Defence in Patent Litigation

Nomos

MIPLC Munich Intellectual Property Law Center

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Abstract

This paper analyses the role of intellectual property rights in the shaping of the GSM industry. The acronym FRAND oblige undertakings participating in the standardization process within a Standard Setting Organization ("SSO") to offer their intellectual property to third parties on fair, reasonable, and non-discriminatory terms.

Many patent holders have already committed themselves to FRAND licensing, but unfortunately, a number of controversies have arisen over licensing policy of standard-essential patents and placed the exploitation of these exclusive rights on a collision course with competition law. Given the divergences of stakeholders' interests involved, especially within the telecommunication industry, it is not surprising that the controversies surrounding this issue are subject of many ongoing litigations within several jurisdictions. This is to a large part due to the lack of clear SSO rules to assess the implications of FRAND commitments and, in particular, the compliance of royalty pricing with such commitments. As long as the standardization community is not able to reach consensus within the SSO regime and agree to clarify relevant SSO IPR policies, one inevitable source of guidance in the next couple of years will be the European Commission. The increasing number of complaints seems to suggest that eventually the licensing practices of FRAND commitments will be assessed under Article 102 TFEU.
Throughout Mrs Neelie Kroes' time as European Commissioner for Competition, the Microsoft saga has continued and the resulting workload may explain to some extent for the failure to open competition procedures in standard cases, despite their long-term importance for the European economy. Essential questions have been left without authoritative answers and it is not realistic to think that SSOs, which work by consensus, could solve all these problems without any guidance from the European Commission.

Against this background, the research and writing of this master thesis will be focused on analyzing the growing reliance to enforce FRAND commitments under Article 102 of the Treaty on the Functioning of the European Union ("TFEU"). The various licensing practices that may amount to abuse of dominant position under Article 102 (a) and (c) TFEU such as excessive pricing and price discrimination as well as deceptive behaviour within the SSO, raise a number of complex issues, which deserves to be critically discussed and properly assessed.

Particular emphasis will be put on the *Qualcomm* case, which currently is pending before the European Commission and on more recent patent infringement cases pending before the German courts, where standard-essential patent holders have attempted to enforce their patents through an injunction, without considering their obligations under antitrust laws. The perception is that where a standard-essential patent holder is committed to give an irrevocable license to third parties in the fist place and they are prepared to pay FRAND terms, in principle, no injunction should be available, since the only issue to be resolved in the litigation is the amount of the royalties to be paid by the licensee. Patentees' (mis-)use of injunction raises the risk that manufacturers faced with such a threat will be willing to pay considerable more than FRAND and that patentees as a result will be able to withdraw more surplus than their technology entitle them to. However, no authoritative precedents comparable to the *eBay* case to overcome this problem exist at the EC level. If the European Commission were to open formal proceedings under Article 102 TFEU based on Nokia's complaint against the patent holding company IPCom, it is expected that it will examine the use of injunctions by dominant undertakings and take also this aspect into account.

The importance of the currently pending cases is likely to reach beyond the EU, not only because of the huge economic importance of patented industry standards in general, but also because a significant number of ongoing patent suits related to the GSM standard is now pending before courts within various jurisdictions around the world. This paper will try to demonstrate that the FRAND debate is very controversial and that there are many unresolved issues and questions related to the enforcement of FRAND commitments under Article 102 TFEU. In essence, it is argued in this paper that even though the interface between IPRs and competition law within the standardized technology market is particularly complex and calls for extreme caution, this does not mean that EC competition law has no role at all to play in averting anti-competitive behaviour with regard to FRAND commitments within this area of business.

In the past, the European Commission has shown a tendency to be rather flexible when assessing the practical impact of FRAND commitments and therefore leaving this matter for will not necessarily lead to a drastic transformation of the entire licensing industry. The vague legal doctrines provided so far by the European Commission seem to indicate that the Commission wish to avoid the possible negative consequences, which could arise from too rigid price control. It is not likely that the Commission would change its current practice when dealing with FRAND commitments. Therefore, it can be assumed that the Commission will put particular focus on the procedure instead of the substance and approach

FRAND commitments in a pragmatic and flexible way in order to preserve appropriate licensing flexibility for the IPR holders.

Introduction

The interface between antitrust law and intellectual property rights has been in the spotlight for decades. Following the *IMS Health*[1] and *Microsoft*[2] decisions, discussions about, whether and under which circumstances the exploitation and enforcement of intellectual property rights may amount to abuse of dominant position under Article 102 TFEU (former Article 82 EC)[3] have been more lively than ever within the academic community as well as among legal practitioners.

More recently, the challenge of reconciling an increasing amount of conflicts between patents rights and standards has dominated the debate. Frequently used words such as "*fair, reasonable, and non-discriminatory"* have become even more emotionally charged when applied in the context of technology standardization.

So-called FRAND commitments obligate undertakings who participate in the standard setting process of Standard Setting Organizations ("SSO"s) to offer their intellectual property rights to third parties on "*Fair, Reasonable, And Non-Discriminatory"* ("FRAND") terms.[4] Today, many patent holders have already committed themselves to license on FRAND terms. However, especially the handling of standard-essential patent rights has proved difficult and led to controversies and collisions with competition law.

Most recently, the European Commission has also started to take an interest in the level of royalties charged by licensors, when their patents are essential to technology standards.[5] Once a proprietary technology has become part of a standard, right-owners are likely to extract higher royalties than before.[6] This phe-

1 Case C-418/01 *IMS Health v. NDC Health* [2004] ECR I-5039.

2 Case T-201/04, *Microsoft Corp. v. Commission* [2007] ECR II-3601.

3 All references to Art 82 EC should be understood as references to the current Article 102 of the Treaty on the Functioning of the European Union (as renamed by the Treaty of Lisbon, which entered into force on 1 December 2009).

4 *E.g.,* the standardization organisation ETSI requires IPR owners to submit a written declaration stating that they are prepared to grant licenses on *fair, reasonable and non-discriminatory terms and conditions* (Clause 6.1 of the ETSI IPR Policy).

5 See MEMO/07/389 of 1 October 2007 from the European Commission, "*Antitrust: Commission Initiates Formal Proceedings against Qualcomm*".

6 The so-called "*hold up*" theory. See Mark Lemley and Carl Shapiro, "***Patent Hold Up and Royalty Stacking In High Tech Industries: Separating Myth from Reality"***, Stan-

nomenon, some times referred to as *ex post* opportunism, in turn calls for mechanisms to control the level of royalties charged by standard-essential patent holders in order to avoid excessive pricing.

As a starting point, it is widely acknowledged that licensing agreements as such are pro-competitive.[7] Licensing agreements typically benefit the licensee as well the licensor and in the majority of cases, the parties are able to reach a mutually satisfactory agreement. Through the licensing agreement the licensee, on the one hand, gains access to new technologies, whereas the licensor, on the other hand, recoups money spent on initial research and development enabling him to reinvest and to develop new technologies.[8] This generates a virtuous cycle of innovation, which at the outset benefits the society as a whole.

However, tensions may arise when license agreements have significant financial value and their terms and conditions limit competition within a certain market. Given the divergence of the stakeholders and the financial implications often at hand it is not surprising that this has led to the institution of a number of legal actions in several jurisdictions.

Before engaging in litigation in the defence of patent rights deemed essential to a technical standard, it is, however, advisable to carefully consider possible antitrust implications. Antitrust rules and SSOs rules on the licensing of standard-

ford Law and Economics Olin Work Paper No.324, July 2006. 6 Case C-418/01 *IMS Health v. NDC Health* [2004] ECR I-5039.

6 Case T-201/04, *Microsoft Corp. v. Commission* [2007] ECR II-3601.

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6 The so-called "*hold up*" theory. See Mark Lemley and Carl Shapiro, ***"Patent Hold Up and Royalty Stacking In High Tech Industries: Separating Myth from Reality",*** Stanford Law and Economics Olin Work Paper No.324, July 2006.

7 See *e.g.* the European Commission's Guidelines regarding the application of Article 81 EC on technology transfer agreements, O.J. 2004, C 101/2 at § 9, stating as follows: "*Most licence agreements do not restrict competition and create pro-competitive efficiencies. Indeed, licensing as such is pro-competitive as it leads to dissemination of technology and promotes innovation.*"

8 Erik Stasik, *Patent or Perish, A Guide for Gaining and Maintaining Competitive Advantage in the Knowledge Economy,* Althos Publishing, 2003, p.35.

essential patents may thus provide the opposing party with additional arguments, against the patentee's claim of infringement and/or claim for injunction. In fact, in several recent cases exactly this type of defence has been in focus.

In 2008 for instance, six telecommunication companies have alleged that Qualcomm's patent licensing policies violate Article 102 TFEU.[9] In January 2009, Nokia has further lodged a formal complaint with the European Commission against the patent holding company IPCom, alleging that IPCom by failing to license a portfolio of patents acquired from Robert Bosch to Nokia has violated commitments undertaken by it under the FRAND regime.[10]

In this paper, I will seek to address some of the legal implications of applying EC competition law to FRAND commitments. In particular, I will address the apparent increased tendency to enforce FRAND commitments by invoking Article 102 TFEU.[11]

Particular emphasis will be put on the Qualcomm case, which is still pending before the European Commission and on recent patent infringement court proceedings, where essential patent holders have attempted to enforce their patent rights through injunctions, without first considering their obligations under antitrust laws.

I have chosen to focus on this type of cases due to their particular importance for companies' possibility to fund their research and development through technology licensing. The impact of these cases is likely to go beyond the EU, not only because of the crucial economic significance of patented industry standards in general, but also due to the fact that a considerable number of the presently pending patent suits around the world in fact all relates to GSM standards.

9 See MEMO/07/1567, "*Antitrust: Commission initiates formal proceedings against Qualcomm*", 1 October 2007. Within the US, Broadcom has alleged that Qualcomm's patent licensing policies violate its commitment to ETSI with regard to the mobile telephone 3G standards, and the Sherman Act, respectively.

10 The complain stems from proceedings initially filed by Nokia against Robert Bosch in December 2006 in Germany seeking a declaration from German courts to the effect that Robert Bosch is obligated to honour its agreement to grant a certain license to Nokia on FRAND terms. See LG Mannheim docket number: 2 O 1/07.

11 Both the European Commision's Technology Transfer Block Exemption Regulation and its supporting Technology Transfer Guidelines address the applicability of Article 81 EC to technology licenses, without prejudice to the possible parallel application of Article 82 EC. See the European Commission's Guidelines on the application of Article 81(3) EC [2004] O.J. L101/97.

The paper consists of five parts. In Part I, I address the importance of standardization and the FRAND regime of the European Telecommunications Standards Institute ("ETSI"). I will also highlight how standard-essential patents can be used as a powerful tool to gain market power or as a potential barrier for market entry, *e.g*. through the (mis-)use of patents included in the GSM standard.

In Part II, I address the rationale behind EC competition law and methods used to enforce it. In particular, I will discuss the application of Article 102 TFEU to dominant IPR holders.

In Part III, I will analyse the applicability of Article 102 TFEU to the FRAND regime. The various licensing practices that may amount to abuse of dominant position, such as excessive pricing and price discrimination under Article 102 (a) and (c) TFEU raise a number of complex issues in relation to technology licensing, which I find it important to discuss and assess. In connection hereto, I will also consider the doctrine of patent misuse under the recent *AstraZeneca* case.[12]

In Part IV, emphasis is put on recent high profile competition disputes concerning the apparent increased enforcement of FRAND commitments under Article 102 TFEU. The aim is to see if any general guidance can be drawn from the European Commission's handling of cases such as the *Qualcomm* case.

Finally, in Part V, I will discuss a number of decisions made by German courts regarding the admissibility and preconditions for invoking antitrust arguments as a defence in patent infringement proceedings in Germany.

12 Case COMP/A.37.507.F3, *Generic/AstraZeneca,* 15 June 2005, IP/05/737, on appeal Case T-321/05, *AstraZeneca v Commision*, pending judgment.

1. Objectives and Benefits of Standardization

"Without standardization there wouldn't be a modern economy."[13]

Standards influence our every day life as most products today consist of parts originating from multiple sources. The importance of standards is growing particularly within the area of information and telecommunication technology. It is a consequence of the increasing demand for interoperable networks, systems and handhelds, which allows consumers to use their handsets worldwide regardless of their origin. In turn, this allows for compatibility between complementary products and even between various parts of a particular product.[14]Also, the interoperability leads to increased network efficiency. As the former European Commissioner for Competition, Mrs Neelie Kroes recently stated, standards are the "foundation of interoperability".[15]

For the purposes of this paper, I have chosen to define standards rather broadly, as referring to any set of technical specifications, which identify a common design of a product or a process. In the field of network environment, where interoperability is absolutely essential, markets are prone to lean to a dominant design.[16] When a standard has become prevalent most, and in many cases, all market participants will make use of it in their product implementations. In fact, it may even become impossible to offer non-compliant products to the market, i.e. products that do not support the prevailing standards, since there may be not any consumer demand for such products. This is especially true in "network markets", where the value of the product to the consumer is entirely dependent on its compatibility functions.[17] Contrary, in the absence of standardization, inter-technology competition often results in only one of few technologies dominating the market. This means that consumers are faced with the risk of purchasing equipment that rapidly may become obsolete if the technology contained in the product they have chosen is marginalized. Indeed, the benefits of network efficiency and the increase in consumer benefits resulting from competitive supply,

13 James Surowiecki, ***"Turn of the Century"***, Wired Magazine, January 2002, http://www.wireeed.com/wired/archive/10.01/standars.thml, [cited on July 18, 2009].

14 Niklas Bruun, *Intellectual Property Beyond Rights* (WSOY 2005), p.160.

15 Speech delivered at the 2009 ABA Antitrust Spring Meeting in Washington.

16 Supra note Niklas Bruun, p.162.

17 Niklas Bruun, *Intellectual Property Beyond Rights* (WSOY 2005), p.160.

constitute strong public policy arguments in favour of standard based interoperability within the telecommunication industry.

1.1 ETSI GSM Standards

In the following, I will use the GSM industry as an example because this industry clearly demonstrates the tension that exists between intellectual property rights and competition law.

The GSM standard facilitates mainly telephony but also circuit switching, packet–switched data transmission, and the exchange of short messages.[18] GSM is nowadays, the most widely used mobile communication standard and covers roughly 4700 patents.[19]

In a GSM research project from 2002[20], *Rudi Bekkers, Geert Duysters* and *Bart Verspagen* have represented a statistical overview of the standard- essential IPRs used in the GSM standard by listing 140 patents held by 23 companies.[21] According to this overview, Motorola is the largest in terms of sheer numbers, with 27 patents. The next largest holders of standards-essential patents are Nokia with 19 patents, Alcatel with 14, Philips with 13, and Telia with 10.[22]

This overview further shows that overall five players hold approximately 85% of the GSM market. The same phenomenon is highlighted in an article "*Intellectual Property Rights, Strategic Technology Agreements and Market Structure, The Case of GSM"* according to which the high market shares of Motorola, Nokia and Siemens are directly correlated to their strong patent portfolios providing them with an essential competitive advantage.

The establishment of the 3G systems worldwide, required several years of work and massive capital investment by the operators. According to *Goldstein* and

18 See "ETSI World Class Standards", *Mobile technologies GSM*, available at: http://www.etsi.org/WebSite/Technologies/gsm.aspx (as of July 2009).

19 Rudi Bekkers, Geert Duysters, Bart Verspagen, ***"Intellectual Property Rights, Strategic Technology Agreements and Market Structure, The Case of GSM",*** Research Policy 31 (2002) 1141-1161.

20 Ibid.

21 According to the authors, this listing indicates a fair representation of essential IPRs.

22 Supra note Rudi Bekkers, Geert Duysters, Bart Verspagen, p.1149.

Kearsey[23], when first GSM mobile handset appeared to the market place, cumulative royalties amounted to as much as 35 to 40 percent of the selling price of the actual equipment.[24] This range has been alleviated by approximately 10 to 15 percent, but is still substantially higher than the rate commonly applied within the telecommunications industry, which is about 2-5 percent.[25] Assuming that the average cumulative royalty cost is 10 percent of the selling price of the equipment, *Goldstein* and *Kearsey* estimate that the actual costs of acquiring all needed 3G IPRs will exceed 100 billion U.S. dollars measured against the estimated technology life cycle.[26]

With multiple companies, owning essential IPRs embodied in a specific standard, strategic technology alliances are of crucial importance. The important role of strategic technology alliances in standardization has been particularly evaluated by *Goldstein* and *Kearsey* under the heading "*Technology Patent Licensing: An International Reference on 21st Century Patent Licensing, Patent Pools and Patent Platforms*".[27] According to *Goldstein* and *Kearsey*, holders of standard-essential IPRs may have strong incentives to cross-license from each other. Therefore, companies without standard-essential patents are forced to make use of strategic technology alliances, such as patent pools and platforms in order to gain access to the concerned technology markets and still they might be in a relatively weak position compared to their competitors holding the standard-essential patents.[28] According to *Goldstein* and *Kearsey,* even if cross-licensing and patent pools can help to solve the problems created by the overlapping patent rights to some extent, it is still apparent that high cumulative royalties act as a market entry barrier. They produce a distorted field of competition, since the major manufactures, which have large patent portfolios, can, and do, achieve substantial royalty reductions through cross-licensing.[29] In essence, according to these authors, the companies excluded are those without significant portfolios of standard-essential patents.

23 Both authors have extensive experience within the 3G patent licensing, since they have been actively involved in the launch of the Patent Platform for 3G W-CDMA technology. Mr. Goldstein is legal advisor and Mr. Kersey is the Managing Director within the 3G Patents Ltd.

24 Larry M. Goldstein & Brian N. Kearsey, "*Technology Patent Licensing: An International Reference on 21st Century Patent Licensing, Patent Pools and Patent Platforms"* (Aspatore Inc. 2004), p.44.

25 Ibid, p.44.

26 Ibid, p.56-57.

27 Ibid, p.44.

28 Ibid, p.29.

29 Ibid, p.44.

Most of the essential patents included in the GSM standard have been declared[30] as "standard essential". To determine whether a patent is essential to a certain standard the following ETSI definition provides guidance:
"ESSENTIAL" means that it is not possible on technical grounds (but not commercial) grounds, taking into account normal technical practice and the state of art generally available at the time of standardization, to make, sell, lease, otherwise dispose of, use or operate EQUIPMENT or METHODS which comply with a STANDARD without infringing that IPR".[31]

The main significance of essentiality for an implementer is that the use of the patent is not a matter of choice, and therefore for purposes of the standard compliant implementation, the implementer must obtain licenses for all relevant patents. All of these circumstances in turn have a huge impact on the dynamics of the licensing negotiations between implementers and patent holders. Therefore, as soon as a patent is included in a standard in such way that application of the standard necessarily requires the use of the patent in question, conflicts of interest are unavoidable

This is the reason why, standard-essential patent holders are obliged to adhere to royalty levels that are "*fair and reasonable*". This requirement highlights an important principle from a competition law point of view. Namely, that patent holders are not allowed to take undue advantage of their market power by misusing the standardization process to restrict market access and thereby contravene the purpose of competition law. However, as current litigation in several jurisdictions indicate, in the absence of specific rules, companies involved in standard setting processes may try to unduly influence the process so as to create an overlap between the standard and their "essential" patents.[32]

30 Decision made between the participants on the contents of the standard specification, e.g. which IPRs are described by standard in order for implementations to be compatible with each other, will determine which patents become essential of the standard.

31 See ETSI Guide on Intellectual Property Rights (IPRs), adopted by Board #70 on 27 November 2008, available at http://www.etsi.org/WebSite/document/Legal/ETSI_Guide_on_IPRs.pdf (as of July 2009).

32 In practice, essentiality is issued for a large number of patents that are not, in fact, essential. Such over declaration may occur in good faith but it may also be abusive. This aspect is outside the scope of this paper.

1.2 The Role of SSOs and Rational Behind the FRAND Commitments

In general, standards come in a variety of forms. This paper is primarily concerned with market-defining standards, because this type of standards most clearly demonstrates the very material anticompetitive effects that successful standardization may lead to.

One way to create new standards is through private standardization setting organizations. The organizations are open to all members of the markets wishing to take part in the creation of a single standard. In order to address the tension between standard-essential patents and effective competition within the market, SSOs make use of IPR and patent licensing policies. Such policies attempt to support a wide market implementation of standards and to solve, at least to some extent, antitrust conflicts through self-regulation. Since a very significant and important part of today's global standardization relies on FRAND commitments, the main purpose of self-regulation is to anticipate the *ex post* effects of standardization on licensing negotiations between implementers and holders of standard-essential patents.[33]

Although there are several dozen of SSOs that rely on FRAND type licensing policies, for the purposes of this paper the best example is the IPR policy developed within ETSI, and therefore the scope of this paper is limited hereto. ETSI is a leading international body for telecommunication technology standardization and the body responsible for the creation of harmonized standards in Europe.[34] As of today, ETSI has nearly 800 members drawn from 63 countries across 5 continents worldwide.[35] ETSI's IPR Policy implementation guidelines illustrate very clearly the fundamental issues arising from the intersection between IPR and antitrust law, *i.e.* the inherent conflict of numerous individual companies trying to impose their technologies in the standards in order to achieve commercial advantages as well as the strategic and business significance of defensive or offensive use of patent rights.

33 Timo Ruikka, ***"FRAND" Undertakings in Standardization- A Business Perspective",*** N.Y. Fordham IP Conference, March 28, 2008.

34 ETSI Guidelines for Antitrust Compliance, adopted on 27 November 2008, available at: http://www.etsi.org./WebSite/document/Legal/ETSI_Guidelines_for_ Antitrust_ Compliance.pdf (as of July 2009).

35 ETSI Guidelines for Antitrust Compliance, adopted on 27 November 2008, available at: http://www.etsi.org./WebSite/document/Legal/ETSI_Guidelines_for_ Antitrust_ Compliance.pdf (as of July 2009).

The ETSI IPR Policy can briefly be characterized as follows: The inclusion of a standard essential IPR plays a vital role, especially in the telecommunications sector where unprotected technology rarely exists.[36] According to Section 4.1 of Annex 6 of the IPR Policy Guideline, each participating member should identify and disclose its essential patents as early as possible in the process, including its patent applications.[37] It is important to note, that this obligation does not limit patent holders legitimate entitlement to exploit their IPRs, including the right to refuse the granting of license if the patent holder decides to "*opt out*" its patents from a given standard. The IPR Policy explicitly states that if certain essential patents or licenses are not available under FRAND terms, the specification has to be modified in order to avoid the use of such IPRs or then a specification cannot be adopted.

Contrary, in the scenario where a patent holder agrees to include his essential patents in a given standard, there is no reason for the standardization body not to integrate the patent in question in the standard. In return, so as to ensure the unhindered implementation of standards, ETSI will in conformity with Section 6.1 of the IPR Policy request that each holder of standard essential IPRs irrevocably declare that he will license the essential paten in question to third parties on fair, reasonable, and non-discriminatory terms.[38] In essence this means that the patent holder undertakes a commitment to respect FRAND licensing requirements in future bilateral negotiations with all concerned licensees. However, ETSI IPR Policy remains silent as regard what licensing on FRAND terms exactly means. Not surprisingly, this matter is left entirely to the licensor and licensee as a part of their regular business negotiation process.

Even though the standardization body does not provide an authoritative definition of what FRAND means, it is certain that the "*fair and reasonable*" requirement prohibits the licensor from unreasonably misusing his bargaining power in future licensing negotiations. When taking into account the purpose of ETSI IPR Policy, it is apparent that in order for the FRAND system to function and to achieve its purpose commitments undertaken by companies need to be binding and enforceable. Today, however, it is crucial to keep in mind that the binding nature of these obligations is purely of contractual nature. The enforcement

36 See ETSI Guide on Intellectual Property Rights (IPRs), adopted on 27 November 2008, available at http://www.etsi.org/WebSit Objectives and Benefits of Standardization e/document/Legal/ETSI_Guide_on_IPRs.pdf (as of July 2009).

37 ETSI IPR Policy, adopted on 26 November 2008, available at: http://www.etsi.org/WebSite/document/Legal/ETSI_IPR-Policy.pdf (as of July 2009).

38 Ibid.

measures under the ETSI IPR Policy are rather limited and therefore the successful functioning of standards today rather depends on the involved patent holders' own attitude.

In particular, this aspect I had the pleasure of discussing during a personal interview with *Mr. Timo Ruikka* held in March 2009. *Mr. Ruikka* has been with Nokia since 1988 and has extensive experience in standardization and industry policy issues. Also, he has represented Nokia in multiple litigations touching upon the issues discussed in this paper. During the interview *Mr. Ruikka* also highlighted how difficult and burdensome it is for licensees to challenge an offered royalty rate with reference to FRAND commitments, even if it is quite apparent that such commitments have been violated.[39]

1.3 Criticized Pitfalls of the Current FRAND Regime

While the SSOs have significantly contributed to the development of an effective standardization process, concerns remain as the current FRAND commitments are not deemed sufficient to reduce the risk of anti-competitive behaviour. For the purposes of this paper, the main conceptual difficulties under the current framework can be discerned into two different concepts. The owner of relevant standard-essential patents has in theory the ability to block the standard. Firstly, the standard-essential patent holder can choose not to disclose his essential patents and simply block the standardization process (also known as patent-hold up or patent ambush). Secondly, the standard-essential patent holder can take part in the standardization process and then block it subsequently by demanding royalties for his patents that are significantly higher than the royalties he could have charged before his IPRs were included into the standard (also know as royalty stacking).

1.3.1 The Patent Hold-Up Problem

In short, so-called patent hold-ups generally refer to a situation where a company holding a patent relevant for a specific standard emerges only after the standard has already been set and start to demand high royalty rates *ex post*. As described by *Shapiro* in his article *"Injunctions , Hold-Up, and Patent Royalties",* in this

39 Interview: Timo Ruikka, Nokia Corporation, Strategy Advisor of IPR Legal Department, personal interview, 28 March 2009.

type of situation the focus is on the rather questionable behaviour by one individual patent holder who only after the standard has already been adopted discloses its essential patents to the SSO and tries to set the level of royalties beyond the level acceptable under FRAND.[40] As mentioned above, ETSI's IPR Policy addresses this problem by imposing a general requirement on its members obliging them to "*reasonable endeavour*" to identify their standard-essential patents to other members during the standardization process.[41] However, as evaluated by *Shapiro*, despite the formal commitment to identify essential patents and licence it to third parties once implemented on FRAND terms, hold-ups regularly occur.[42]

As pointed out by *Shapiro*, outside the standardization context, patent owners are generally free to exploit their IPRs without the fear of competition law intervention. However, it is essential to understand that collective standardization imposes obligations on patent holders, which means that they are not any more allowed to freely exploit their rights, but has to consider possible antitrust limitations. In other words, if the patentee tries to abuse its position as a membership of a SSO and in order to gain extra market power within the respective technology market, he risks violating competition law. In fact, this type of practice has become increasingly risky during recent years, since a growing number of companies engaged in such kind of tactics have been prosecuted for patent misuse or breach of antitrust laws.[43]

40 See Carl Shapiro, *"Injunctions , Hold-Up, and Patent Royalties,"* Working paper draft, 17 April 2006, available at http://faculty.berkley.edu/shapiro/royalties.

41 See ETSI IPR Policy Clause 4.1.

42 Supra note Carl Shapiro.

43 The most famous patent ambush case is the *Rambus* case handled before the U.S. Federal Trade Commission in 2007. Interestingly, the EC is currently in the midst of a similar type of investigation concerning the computer memory technology, also know as the DRAM standard. In August 2007, the European Commission confirmed that is had sent a Statement of Objections to Rambus (US based developer and licensor of DRAM technology, who participated in the standardization process within the JEDEG) based on preliminary findings that Rambus had breached former Article 82 EC "*by not disclosing the existence of patents which it later claimed were relevant to the adopted standard"* and by *"subsequently claiming unreasonable royalties for the use of those relevant patents*". See the European Commission's Press Release of 23 August 2007, "*Antitrust: Commission confirms sending a Statement of Objections to Rambus*", MEMO /07/330.

1.3.2 Royalty Stacking

So-called "*royalty stacking*" is an established economic theory that can be explained as follows: If a company wishes to produce a good, especially one, which embodies technical standards, it needs to acquire licenses to all of the underlying IPRs from multiple licensors. When a good consists of complementary products each representing an essential input for the standard, multiple IP holders can set the price for all of these rights independently. As a result, the aggregate amount of the royalty fees can end up exceeding the cost rate and it will not any longer be feasible for the manufacturer to produce the good.[44] This phenomenon can occur even if the individual licensor would agree to offer his individual license on "*reasonable terms*", since when stacking up all of the licenses needed for producing the good, the overall royalty level will still amount to an unreasonable sum. As noted by *Mr. Ruikka* in article *"FRAND" Undertakings in Standardization- A Business Perspective"*: Even if some licensors may accede to royalty rates that are above FRAND, such excessive rates are not so high as to drive implementers completely from the market.

Lemley and *Shapiro* argue, in a paper published in 2006, that particularly licensing arrangements for mobile telecom standards are candidates for royalty stacking.[45] This is especially true since most often (i) the standard-essential patents are complementary (a license for one patent has no value unless all other essential patents are licensed too), (ii) there are large numbers of companies holding large numbers of standard essential patents, and (iii) the royalty rate is only mark-up since the marginal cost of licensing per unit produced is zero.[46] Accordingly, the risk of royalty stacking inherent in mobile telecoms standards, could, and according to many industry representatives, has exposed consumers to end up paying higher prices. Recently, Ericsson's representative *Mr. Philippe Chappatte* commented on this issue in the European Competition Journal, while referring to a MLex report on the significant consumer harm created by Qualcomm's abusive royalty practices.[47] According to *Chappatte,* excessive royalty rates result in increased consumer prices, which constitute an inherent risk in the mobile industry due to the longevity of the implemented standards.

44 Damien Geradin and Miguel Rato: *" Can Standard-setting Lead to Exploitative Abuse?"* European Competition Journal, Vol.3 Nr.1, June 2007, p.125.

45 Mark Lemley and Carl Shapiro, "*Patent Hold Up and Royalty Stacking In High Tech Industries: Separating Myth from Reality,"* Stanford Law and Economics Olin Work Paper No.324, July 2006.

46 Ibid.

47 See also Philippe Chappatte, "*FRAND Commitments- The Case of Antitrust Intervention,* "European Competition Journal, Vol.5 Nr.2, August 2009, p.334-335.

Recently, also the Düsseldorf District Court acknowledged the risk of royalty stacking with regard to the GSM standard in its so-called *Zeitlagenmultiplexverfahren* case dating from 2007.[48] In this case, the plaintiff held three percent of all standard-essential patents integrated into the GSM standard and therefore the Court found that there was a risk of this leading to an unreasonable accumulation of total royalties payable if all companies holding essential patents would ask comparable royalties as requested by the plaintiff. Interestingly, the Court suggested that this matter be handled in the same way as suggested by the six complainants in the *Qualcomm* case currently pending before the European Commission.[49] In essence, the Düsseldorf District Court suggests that royalties satisfying FRAND are those that are proportional to the number of essential patents contributed by a licensor to a standard.[50] In practical terms, this would mean that if 100 patents were essential to a standard, and company A holds 10 of them, company A should receive 10% of the total royalty the standard commands.

On the one hand, this proposal seems tempting since it makes it easier to calculate and administrate royalties, which naturally lowers the transaction cost of the licensing industry. It is also likely, that this method would satisfy the fair part of the FRAND commitment. However, a number of disadvantages offset this advantage. *Layne-Farrar, Padilla*, and *Schmalensee* have particularly discussed negative effects and practical difficulties arising from numeric proportionality method under the heading *"Pricing Patents for Licensing in Standard Setting Organizations: Making Sense of FRAND Commitments."*[51] According to these authors, one of the main difficulties arises from the fact that numeric proportionality rules requires that one assumes that all essential patents are equally valuable, which naturally is not the case. As stated in this discussion paper: "…*the intellectual property literature has made it clear that patents differ in their technological contributions, the value of the products which embed those contributions, and the nature of the best alternatives*".[52] In other words, if technology is

48 Landgericht (LG) Düsseldorf, 13 February 2007, Case 4a O 124/05-GPRS, BeckRS 2008, 07732.

49 See *e.g* Timo Ruikka, "*FRAND" Undertakings in Standardization- A Business Perspective*," N.Y. Fordham IPs Conference, 28 March 2008, where it is stated: "…*one must derive an appropriate value of single Essential patent, or of one patent holders portfolio of Essential patents licensed as a bundle, in relation to the cumulative value of all essential patents."*

50 Landgericht (LG) Düsseldorf, 13 February 2007, Case 4a O 124/05-GPRS, BeckRS 2008, 07732.

51 Anna Layne-Farrar, Atilano Jorge Padilla, Richard Schmalensee,*"Pricing Patents for Licensing in Standard Setting Organizations: Making Sense of FRAND Commitments,"* Discussion Paper No. 6025, January 2007, (Center for Economic Policy Research).

52 Ibid, p.13.

easy to invent or has substitutes it naturally should receive lower compensation than so-called break through inventions.[53] As argued by these authors, different IP valuation principles should not be applied more often in standard markets than in normal, non-standardized markets. It cannot either be deemed fair, reasonable, and non-discriminatory to offer, "*the holder of easily substitutable patents the same compensation as the holder of a critical, irreplaceable patented technology supporting the same standard*."[54] Consequently, it is suggested that the numeric proportionality makes sense only in circumstances where technology contributions are symmetric in value and where members' shares correlate with their contribution shares of the standards value.[55]

However, it is good to keep in mind that the determination of royalties on the basis of numeric proportionality rules so far has only been proposed in the litigation context. Many interesting proposals have been presented in the economic literature. All of these proposals are rooted in a desire to define FRAND from business perspective and specifically aimed at establishing the appropriate value of the patented technology.[56] However, this aspect falls outside the scope of this paper and therefore in this paper the evaluation of how to determine a correct pricing system is limited to the discussion of the possibility of applying a numeric proportionality as suggested by the Düsseldorf District Court and in the complainants lodged in Qualcomm case.

In conclusion, although most standard bodies provide rules covering topics such as the process for declaring essential technologies and the basis for FRAND commitments, they typically do not give sufficient guidance on the more essential questions listed above. Faced with this uncertainty, the war of attrition between those who believe that SSOs rules impose meaningful constrains on licensors and those who prefer to disregard them will continue.

In the meanwhile, as long as the industry is not able to reach consensus, one inevitable source of guidance in the next couple of years will be the European Commission. The increasing number of complaints seems to suggest that eventually the licensing practices of FRAND commitments will be assessed under Article 102 TFEU. In EC competition law the concept of fairness, reasonableness,

53 Supra note Anna Layne-Farrar, Atilano Jorge Padilla, Richard Schmalensee.

54 Ibid.

55 Ibid, p.14.

56 Particularly discussed by Layne-Farrar, Padilla and Schmalensee. This discussion paper analyses "*a market efficiency based approach*" developed by Swanson and Baumol, as well as "*a cooperative-game theoretic approach to FRAND*" developed by Shapley.

and non-discrimination does already form part of well established in case law, particularly case law related to Article 102 TFEU. Cases relating to excessive pricing, unfair trading terms and discrimination are all directly relevant.

2. Competition Law and Intellectual Property Rights

The goals of intellectual property and competition law are most often convergent. They share in the common purpose of promoting innovation and enhancing consumer welfare - also both areas of law are based on principles of efficiency.[57] As identified by *Fine* under the heading *"EC Competition Law on Technology Licensing",* as a starting point competition and innovation are therefore complementary rather than exclusive.[58] However, the two statutory frames also contain opposing elements. While the very objective of patents is to foster innovation by creating competitive advantage through exclusive rights, competition law, on the contrary, seek to eliminate any behaviour and practices that may restrict trade, something that in turn may discourage companies from investing in innovation. It is out of the friction between these two opposing and different goals that conflicts may arise.

Under the classical theory, a market[59] is defined as a self-regulating structure that balances demand and supply. Individual buyers and sellers have no power over the market and therefore they cannot directly influence the market price. This is important, as a competitive market allows for the enhancement of efficiency through maximizing consumer welfare and achieving the optimal allocation of resources and truly works at the equilibrium point where demand and supply are met.[60] Under this theory, a market is subject to a perfect competition; efficiency is automatically maximized and therefore cannot be improved through the application of competition rules.[61]

However, in reality, markets do not possess all the characteristics required for perfect competition. A truly competitive market only exists in theory not in reality, where several external factors influence the market. In reality, there is always a risk of the market transforming into a closed and monopolistic market[62] that

57 Frank L. Fine, *The EC Competition Law on Technology Licensing*, Sweet&Maxwell Ltd., London, 2006, p.14.
58 Ibid.
59 "*Market*"in the present context shall mean any market or markets irrespective of their nature and form.
60 Alison Jones & Brenda Sufrin, *EC Competition Law Text, Cases, and Materials,* Oxford University Press, third edition, 2008, p.3-10.
61 Ibid, p.7.
62 *E.g.* markets with high entry barriers.

works ineffectively. The underlying strategy of a monopolistic undertaking is to increase prices in order to maximize profits and thus decrease the overall size of the market instead of increasing supply, without having to take the interests of competitors and consumers into account.[63] This arguably may lead to excessive prices in the market place, which is the most obvious way in which a dominant undertaking usually will try to exploit its position.

Conversely, as analysed by *Jones* and *Sufrin,* even if economic theories demonstrate that dominant companies' pricing is likely to be higher than those operating in competitive markets, it is often argued that free market economy needs the lure of monopolistic pricing and price regulation is therefore seen rather as the antithesis of the underlying principles of a free market.[64] Furthermore, as argued by same authors, "*excessive pricing may be pro - rather than anti-competitive because high prices and profits may act as a signal to attract new competitors on to the market."*[65] Where this is not occurring, because of high entry barriers, the spectre of competition authorities and courts acting as price regulators looms.[66]

Accordingly, under European antitrust principles, it is normally left to the markets to regulate the prices, as long as the market itself is functioning. In the context of technology licensing this means that, if a potential licensee considers that the offered royalty rate is excessive, he eventually has to withdraw from using the patented technology in question. In turn, if the licensee does not accept the royalty rates offered to him by the patentee, the patentee must reconsider his pricing strategy. However, as stated above, if the market is not able to handle excessive pricing by itself, competition authorities and courts have to intervene and correct the situation.

Competition law has played an important role in the creation of the common market within the European Union. Accordingly, EC competition law serves two masters: on the one hand, the maintenance of effective competition and, on the other hand, the imperative of increased single market integration.[67] The Treaty of Lisbon has repealed Article 3(1) (g) EC, which listed one of the EU's objectives as the implementation of "*a system ensuring that competition in the internal market is not distorted*" and the new Article 3(3) TFEU states: *"The Union shall establish an internal market. It shall work for the sustainable development of*

63 Supra note Alison Jones & Brenda,. p.8-10.
64 Ibid, p.586.
65 Ibid.
66 Ibid.
67 Ibid, p.42.

Europe, based on balanced economic growth, price stability, high competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance". Some commentators have expressed concern that this change in wording will undermine the Commission's ability to enforce competition law and that it will alter the European courts' interpretation of the relevant Treaty provisions relating to competition law. However, there is still mention of "*ensuring that competition is not distorted*" in a new legally binding Protocol on Internal Market Competition which powers the Union to take competition actions under Article 352 TFEU if necessary. The real effect of this change may be limited therefore.

It is sometimes argued that the objectives of EC competition law have never been precisely articulated in any formal document or decision by relevant organs of the European Union. Therefore, the question of what the true aims of EC competition law are, is actually widely debated.[68]

This controversial aspect of antitrust law and IPR`s have particularly been discussed by *Etro* in his book *"Competition, Innovation, and Antitrust, A Theory of Market Leaders and Its Policy Implications*". In essence, *Etro* argues that while antitrust legislation was written with the purpose of benefiting consumers, when applied in practice it has sometimes been biased towards market leaders and been applied more in defence of their competitors rather than in the interests of consumers.[69] Thus, as argued by *Etro,* even if one accepts that the goal of competition law is to achieve efficiency and maximize consumer's welfare, there is an increasing tendency within a number of different jurisdictions towards using competition rules to protect competitors. This in turn, naturally causes a lot of uncertainty, in particular, within innovative markets. As stated by *Etro* "*the competition in high-tech markets is dynamic in the sense that it takes place in a so-called winner-takes-all race*."[70] In such a setting, companies compete mainly through innovation, and therefore due to this particularity a deeper evaluation of the true effects of competition cannot be assessed merely on the basis of a static concept of competition, but must be submitted to a deeper evaluation.[71] *Etro* further reminds that the credibility of the chosen competition policy, especially in innovative markets, is crucial in order for companies to have incentives to

68 Federico Etro, *Competition, Innovation, and Antitrust, A Theory of Market Leaders and Its Policy Implications,* Pringer-Verlag, Berlin Heidelberg, 2007, p.172-173.
69 Ibid.
70 Ibid, p.186.
71 Ibid.

innovate, since companies' investment in R&D mainly depends on their expectations as regards the level of protection of their innovations.

A similar tension arises in the relationship between competition law and standard-setting processes. As noted by *Hovemkamp* in an article titled *"Standards Ownership and Competition Policy":*

"While standard setting can enable firms to innovate along all…avenues of business progress, it can also facilitate both of antitrust twin evils: collusion and exclusion. When standards are created and enforced by competing producers, collusion is possible. When they are used to keep some producers out of the market anticompetitive, exclusion is possible."[72]

Therefore, also the European Commission has been closely scrutinising IP policies of SSOs with a view to prevent the adoption of rules that might infringe EC competition law, but at the same time the Commission has tried to maintain incentives for companies to invest.[73] As *Anderman* and *Kallaugher* suggest, standardization agreements can *"promote economic interpenetration in the common market or encourage the development of new markets and improved supply conditions."*[74] Accordingly, it is essential that standardization outweigh its anticompetitive effects. In general, standards are considered acceptable under competition law if they lead to efficiencies and ensure that fair parts of the benefits are passed on to consumers.

2.1 The Objectives of Article 102 TFEU

In the past, courts have had a tendency to limit the application of competition law within the field of IP. This did not mean that competition law is not applicable at all.[75] Many of the most controversial IP related decisions made by the European Commission have been decided under former Article 82 EC (new

72 Herbert Hovenkamp, ***"Standards Ownership and Competition Policy",*** available at: http://ssrn.com/abstract =889335.

73 See letter form Angel Tradacete, DG Competition, to Karl Heinz Rosenbrock, ETSI's Director General, dated 26 April 2005, as referred to in ETSI Directives, Version 20, July 2006, available at: htrp://etsi.org.

74 Steven D. Anderman & John Kallaugher, *Technology Transfer and the New EU Competition Rules, Intellectual Property Licensing after Modernisation,* Oxford University Press, 2006, p. 95.

75 Earlier Article 295 EC was interpreted so as to prohibite the application of EC competition rules to prejudice intellectual property ownership conferred by Member States.

Article 102 TFEU). The largest fine ever imposed in a single decision - EUR 497 million - was an Article 82 EC case, where Microsoft was considered to have abused its dominant position in the market for operating systems for personal computers. Also for the purposes of this paper, Article 102 TFEU, and in particular how it has been applied on intellectual property rights, will play a very important role.[76]

Article 102 TFEU prohibits the abuse of dominant position. It is irrelevant how the dominant position was obtained, including whether it is based on the grant of an intellectual property right. This was particularly addressed by the former European Competition Commissioner Mr. Mario Monti in the *Microsoft* case as follows: "*Dominant companies have a special responsibility to ensure that the way they do business does not prevent competition on the merits and does not harm consumers and innovation.*"[77]

An analysis of abuse under Article 102 TFEU involves three stages. First, the relevant market in which the alleged abuse has occurred must be defined. Second, it must be determined whether the undertaking suspected of abuse has a dominant position within the relevant market (as defined). Third, it must be analyzed whether or not the undertaking has in fact abused its dominant position.

Under Article 102 TFEU, the possession of a dominant position on a relevant market is not illegal *per se.* Even if a company creates an economic monopoly, *e.g.* through the establishment of an industrial standard, this does not automatically mean that this amounts to abusive conduct. Companies are encouraged to compete and at the end of the day, the most efficient players should be allowed to be successful within the market place. Thus, those companies who have been more efficient and attained a certain market power, *e.g.* through R&D resulting in superior innovations, should not be penalized for being dominant. As correctly pointed out by the European Commission: *"to maintain incentives to invest and innovate, the dominant firm must not be unduly restricted in the exploitation of valuable results of the investment*".[78]

76 Also, Article 81 EC plays an important role, since the collaboration of several undertakings can lead to application of Article 81(1) and 81(3) EC, respectively. This aspect falls, however, outside the scope of this paper.

77 See Press Release IP/04/382 by the European Commission: **"*Commission concludes on Microsoft investigation, imposes conduct remedies and a fine*"** of 24 March 2004.

78 Proposal by the European Commission 2005, see Federico Etro, "*Competition, Innovation, and Antitrust, A Theory of Market Leaders and Its Policy Implications,"* Pringer-Verlag, Berlin Heidelberg 2007, p.203.

However, as recent developments have shown, the standardized technology market raised several antitrust concerns and the competent competition authorities are called to monitor the enforcement of FRAND commitments. This was particularly addressed by the former Competition Commissioner *Mrs. Neelie Kroes* in the following way: "*standards are clearly more important than ever*" and where a technology owner is able to exploits its market power gained during the development of standards, "*then a competition authority or regulator may need to intervene*".[79]

79 The European Commissioner for Competition Neelie Kroes, "*Being Open About the Standards,*" Speech/08/317, 10 June 2008.

3. The Applicability of Article 102 TFEU to Enforce FRAND Commitments

Most often licensors and licensees are able to reach mutually satisfactory agreements when negotiating licensing agreements in so-called *ex ante* circumstances, *i.e.* before any industry standard has been chosen. However, in some instances licensors and licensees will have to negotiate under so-called *ex post* circumstances*, i.e.* when a standard has already been chosen and implemented. Under *ex ante* circumstances various attractive technologies are at hand, whereas under *ex post* circumstances, per definition technologies alternative to the technologies included in the standard have become less attractive. This is due to the fact that once a standard has been chosen, the industry will start to develop and produce goods, which comply with the standard specification. During this time, significant investments will be made, and once equipment manufactures and network operators have incurred such significant sunk costs, they will effectively become locked into the application of a particular technology for a long time. This unavoidably leads to a situation, where the standard imposes competitive constrains and restricts the development of future competing technologies.

The strong bargaining power of patent holders in *ex post* circumstances creates a significant risk that patent holders will demand royalty rates that do not comply with FRAND terms. In response, licensees may be tempted to rely on competition rules, namely Article 102 (a) and (c) TFEU.

In the absence of precedents defining the exact meaning of FRAND commitments, some commentators, such as *Anderman and Kallaugher,* have attempted to define FRAND commitments by reference to Article 102 (a) and (c) TFEU. Article 102 (a) TFEU requires that dominant companies refrain form imposing "*unfair*" prices and trading terms. Article 102 (c) in turn bars dominant companies from applying dissimilar conditions to equivalent transactions.[80] The discussion below attempts to determine the meaning of FRAND commitments against the principles developed under the underlying policy goals of Article 102 (a) and (c) TFEU.

80 Steven D. Anderman & John Kallaugher, *Technology Transfer and the New EU Competition Rules, Intellectual Property Licensing after Modernisation* ,Oxford University Press, 2006, p.253.

3.1 Market Definition in Technology Markets

In the following, I will only examine abusive pricing under Article 102 TFEU in the IP licensing context if imposed by a dominant company. When defining dominance, the European Court of Justice ("ECJ") has focused on the ability of a dominant undertaking to act independently of its competitors, customers, and consumers and to prevent effective competition.[81]

Before assessing whether a company possess a dominant position, the relevant technology market has to be defined. When doing so, it is important to remember that the market definition is not an end in itself. Rather, it is a preliminary step, a tool, aimed at making it possible to answer the real question: Does the undertaking concerned possess such market power that it amounts to dominance under Article 102 TFEU?

When defining the relevant product market, one first has to assess the so-called "*demand side substitutability*". In the context of patents incorporated into a standard, this means that the relevant market will consist of the licensed technology and its substitutes. Whether other technologies are substitutable or interchangeable to a licensed technology, depends primarily on whether the licensees concerned are able to switch to alternative technologies, *e.g.* in response to permanently increased royalty rates charged by a licensor for use of the standardized technology.[82] If the licensees can switch from the standardized technology to alternative technologies, then the alternative technologies will form part of the relevant product market.

Although the conceptual frame for standardized products, on a first glance, does not appear to differ from the one applicable to traditional product markets, it is should be kept in mind, as pointed out by *Anderman* and *Kallaugher,* that the task of defining the relevant market with regard to standardized technology products is much more complex.[83]

The increased complexity stems from the fact that the technology forms part of a standard. In many standards, multiple companies hold essential patents to a given standard. The IPRs of these companies will also typically cover different aspects

81 See *e.g.* case 85/76 *Hoffmann-La Roche v Commission* [1979] ECR 461, [1979] 3 CMLR, para. 38 and 39.

82 See *e.g.* the European Commission's Guidelines on the application of Article 81 EC to Technology Transfer Agreements, 2004 OJ C101/2, p.22.

83 Supra note Steven D. Anderman & John Kallaugher, p.150-159.

of the standard. Therefore, as discussed above, the potential licensee, who wishes to manufacture and sell standard-compliant products, must obtain a license for each of the patents included into the standard. Accordingly, these patents do not constitute a separate product market, since they are considered complements, not substitutes.[84] As stated by *Anderman* and *Kallaugher*, it is obvious that the existence of non-substitutable complements has profound implications on the market definition.

In several cases where the product assessed has been rather complex, the European Commission has used its discretion to define markets narrowly, which in turn also makes it easier to establish dominance.[85] For example, in the *Hilti* case,[86] the European Commission decided that the relevant market did not include the entire wall construction market, since separate markets for nail guns, nails, and patented cartridge strips were deemed to exist.

Existing case law on intellectual property rights and competition law shows that the European Commission's practice of defining markets narrowly is not targeted solely at giant IPR owners. As argued by *Etro*, the European Commission's practice can be seen as part of a wider strategy aimed at enabling the Commission to regulate essential infrastructures, which are dependent on IPRs or so-called "*lock-ins*" in after markets.[87] As shown by the European Commission's actions in the *Microsoft* case, there is arguably a legitimate desire and need to use Article 102 TFEU to supervise effective competition in the information technology markets.

3.2 Dominance in Technology Markets

In some cases, the ownership of intellectual property rights may lead to dominance. In the context of standards, the key question is whether the holding of a patent portfolio or even only a single patent may amount to the holder being deemed to possess a dominant position enabling him to impede competition to an appreciable extent on the relevant market.

84 Supra note Steven D. Anderman & John Kallaugher, p.156-157.

85 This can also be seen in the recent *AstraZeneca* case dealing with the pharmaceutical industry, Case COMP/A.37.507.F3, *Generic/AstraZeneca,* 15th June 2005, IP/05/737, on appeal Case T-321/05, pending judgment.

86 Case *Hilti v Commission* [1994] ECR I-667.

87 Supra note Federico Etro, p.241-240.

In the *Magill*[88] case, the ECJ concluded that the mere ownership of an intellectual property right did not amount to dominance. However, the ECJ also held that IPR owners' exercise of an exclusive right might be a factor contributing to the presence of dominance and in exceptional circumstances amount to abusive dominance.[89] In this particular case, the ECJ found that the licensor had abused its dominant position by refusing to license the only source of information needed to publish a weekly television-listing magazine, and thereby preventing new products from emerging to an extent that the ECJ found was not objectively justifiable. Accordingly, to the extent that an intellectual property right are deemed to control the access to the relevant market it may be relevant as a factor indicating dominance.

When applying this doctrine, the holding of a patent may amount to dominant position within a standardized technology market, if the patent concerned encompasses mandatory features of an industry standard, as for example in the case of standard-essential patents, and the licensed technology contained in the respective standard happens to be considered to constitute an upstream market of its own.[90] In case law, so far great emphasis has been placed on the market share, but already in the *Hoffmann-La Roche* case, the ECJ recognized that the significance of market shares may vary from market to market and acknowledged the relevance of other factors.[91] In the *AstraZeneca* case, the European Commission did in fact not rely on a market share analysis,[92] but highlighted the importance of patent protection being used as a barrier to entry into the relevant market.[93]

Under established case law, the lowest share at which an undertaking has been found to be dominant is 39.7 per cent.[94] It should, however, be noted, that as of yet the European Commission has not ruled out that market shares considerable below this point can amount to dominance.

88 Joined cases C-241/91P and C-242/91P, *Radio Telefis Eireann and others v Commission,* [1995] ECR I-743.

89 Joined cases C-241/91P and C-242/91P, *Radio Telefis Eireann and others v Commission,* [1995] ECR I-743. para.50.

90 Steven D. Anderman, *EC Competition Law and Intellectual Property Law: The Regulation of Innovation,* (Cambridge University Press 2nd ed. 2000) p.168.

91 Case 85/76 *Hoffmann-La Roche v Commission* [1979] ECR 461, [1979] 3 CMLR. para.41.

92 Case COMP/A.37.507.F3, *Generic/AstraZeneca,* 15th June 2005, IP/05/737, paras 567-600.

93 Ibid. paras 517-540.

94 Case T-219/99 *British Airways v Commission* [2003] ECR II-5917, para.225.

In addition, it is essential to remember that it is still an open question under EC competition law, whether one single patent is enough to constitute dominant position, in particular if the patent in question only represents a small partition of a complex standard. Some guidance in this relation can be found from a decision issued by the Düsseldorf District Court in 2007. In said decision, the Düsseldorf District Court held that three percent of all essential patents of the GSM standard were enough to constitute dominant position in the respective market.[95] The Court also highlighted the risk of standard-essential patents being used as potential barriers to entry, since the usage of the GSM standard was indispensable for companies wishing to sell standard compliant cell phones.[96]

As developments within the high technology industries have shown, the determination of market and dominance raises a number of complex issues, which the European Commission must assess with "*fresh eyes*" each time Article 102 TFEU is to be applied. Accordingly, the European Commission cannot automatically rely on findings of dominance made in previous cases. In particular, the Commission will have to take into account the particular facts of each individual case. For instance, the determination of the market share may be affected by the degree of product differentiation within the specific market at hand, an as the greater the extent of product differentiation is, the less reliable market share data alone will be.[97]

Without any further discussion at this stage, it is adequate to conclude that if the holding of a patent can be considered to amount to the possession of a dominant position under the principles described above, the restrictions set out in Article 102 TFEU would seem to apply also to FRAND commitments.

3.3 Abusive Conducts in a Standard-setting Context

The concept of abuse under Article 102 TFEU has been widely interpreted. "*Abuse*" is generally subjected to a general test established by the ECJ in 1979 in the *Hoffmann-La Roche* case.[98] The general test focuses on so-called "*exclusion-*

95 Landgericht (LG) Düsseldorf, February 13 2007, Case 4a O 124/05-GPRS, BeckRS 2008, 07732.

96 Ibid.

97 See The Commission Guidelines on the assessment of significant market power under the regulatory framework for electronic communications, networks and services [2002] OJ C165/15, para. 30-32.

98 Case 85/76 *Hoffmann-La Roche v Commission* [1979] ECR 461, [1979] 3 CMLR.

ary abuse", *i.e.* conduct that is designed to exclude a competitor from the market. In a licensing context, the application of this general abuse test could cover a broad range of conducts. It also needs to be taken into account that, although the general test as such only includes exclusionary abuse, Article 102 TFEU does also prohibit exploitative abuse.[99] Consequently, even in the absence of exclusionary practices, the mere charging of "*exploitative*" prices may amount to abuse of a dominant position.[100] However, excessive licensing royalty rates and discriminative licensing conditions are generally discussed under the specific categories of exclusionary practices set forth in Article 102 (a) and (c) TFEU.

3.3.1 Excessive Pricing Under Article 102 (a) TFEU

Excessive and unfair pricing is one of the most controversial aspects of EC competition law and IPRs. It is of particular interest to note that the European Commission generally has not shown much interest in pricing issues, appearing to agree with the view that interference with high prices and profits *per se* constitute a disincentive to innovation and investment.[101] This view was particularly addressed in the European Commission's Competition Report for the year 1994:

"The Commission in its decision making practise does not normally control or condemn the high level of prices as such. Rather, it examines the behaviour of the dominant company designed to preserve its dominance, usually directed against competitors or new entrants who could normally bring about effective competition and the price level associated with it."[102]

It is also interesting to observe that the European Commission so far has not applied Article 102 (a) TFEU to the high technology industry. Even in the Commission's controversial decision concerning Microsoft's alleged abuse of market power, the Commission did not seek to apply former Article 82(a) EC. Many commentators, such as *Geradin* in a paper published in 2007, have argued that the *Microsoft* case demonstrated the Commission's unwillingness to control

99 Supra note *Hoffmann-La Roche v Commission*, para.91.

100 Rober O´Donoghue and Jorge Padilla, *The Law and Economics of Article 82EC,* (Hart Publishing 2006) Chapter 12.

101 See, however, press release IP/98/141, IP 98/707, IP (98) 1036 concerning the European Commission's price investigations into the mobile telephone services within the EC, where the Commission had identified 14 cases of suspected discrimination and high pricing, but closed its files as the prices in questions were reduced or actions were taken by the domestic regulators.

102 The European Commission's XXIVth Report on Competition,1994, part 207.

licensing royalty rates and find them exploitative, by preferring to deal with the matter as a question related to the prevention of exclusionary behaviour in markets characterized by high rents.[103] As *Geradin* argues, this attitude on the part of the Commission is not surprising, since at the end of the day, licensing is a matter of strategic business planning between competitors and influenced by several complex factors specific to the case at hand.

However, the case law of the European Commission and the Court of Justice of the European Union provides some degree of guidance on how claims of excessive royalties should be assessed under Article 102 TFEU. The first European FRAND case, even though the acronym FRAND is not used directly, is the *United Brands* case.[104] In this case, the European Commission imposed a fine on a dominant undertaking for applying dissimilar conditions to equivalent transactions. More importantly, the ECJ confirmed that the charging of excessive prices might violate Article 82 EC, the former Article 86 EC.

According to the ECJ, a price becomes "*excessive*" if it does not relate to the economic value of the product supplied.[105] The fairness of the price may be determined by on the basis of the costs of providing the product to customers by reference to the prices in comparable markets, or by reference to the intrinsic value of the product.[106] According to the test developed by the ECJ in the *United Brands* case*,* one should, in particular, assess the following two matters:

Whether the difference between the costs actually incurred and the price actually charged is "*excessive*"; and

In the affirmative, whether the price is deemed either unfair in itself or unfair when compared to the price of competitive products.

The ECJ's judgment in the *United Brands* did not, however, provide any further analysis on how to determine whether a price-cost difference is excessive, or on how to determine the notion of unfairness under the second part of the test. It is therefore difficult to apply the principles developed by the ECJ in the *United Brand*s in order to assess under which circumstances a royalty rate would consti-

103 Damien Geradin, *"Abusive Licensing in an IP Licensing Context: An EC Competition Law Analysis,"* European Competition Law, 2007, p.25.
104 Case 27/76 *United Brands v Commission* [1978] ECR 207.
105 Ibid, para.250.
106 Ibid. para.252.

tute an unfair license term.[107] This is, in particular, problematic since the terms "*excessive*" and "*unfair*" as such are vague and devoid of meaning in the absence of specific application or precise economic test.

Jones and *Sufrin* discuss this particular problem in their latest book, published in 2008. As identified by these authors, if the competition authorities are to look at a cost-price comparison in order to determine possible excessive pricing under the first part of the *United Brands* test, they will need to first consider the undertakings' research and development costs, including costs that have not resulted in commercially exploitative products.[108] This is because innovative companies usually engage in dozens of research projects to develop one successful technology. Accordingly, considering only the R&D costs directly related to the development of a given technology would not be sufficient.[109] In other words, an undertaking that has devoted lot of resources to the development of new technology should be able to recover its investment costs through royalty revenues.

The negative effects of price control vis-à-vis innovation and investment has, in particular, been discussed by *Glader* under the heading *"Innovation Markets and Competition Analysis."* According to this author, setting royalties well in excess of the specific R&D costs should present a perfectly rational pricing policy, as it enables companies to compensate themselves also for failed R&D projects and thus provides a strong incentive to engage in further innovations.[110] Accordingly, a number of reasons support that the existing case law from the ECJ is poorly suited to control the level of royalties charged by licensors and thus hardly adequate to be used by competition authorities in Member States and by national courts seeking to determine whether a license royalty is excessive under EU competition law. Therefore, at this stage, as argued by *Anderman and Kallaugher* there simply is not enough experience regarding the application of Article 102 (a) TFEU in the context of licensing, leaving the industry with only an anecdotal basis for the assessment of what enforcing authorities might find constitute unfair or excessive pricing terms.[111]

107 Steven D. Anderman & John Kallaugher, 2*Technology Transfer and the New EU Competition Rules, Intellectual Property Licensing after Modernisation,"* Oxford University Press, 2006, p.273.

108 Supra, Jones & Sufrin, p.590.

109 See the European Commission's Guidelines on the application of Article 81 of EC to Technology Transfer Agreements, 2004 , OJ C101/2.

110 Marcus Glader,*"Innovation Markets and Competition Analysis,"* Edward Elgar Publishing Inc., 2006, p.262.

111 Supra note Steven D. Anderman & John Kallaugher, p. 272-275.

3.3.2 Price Discrimination under Article 102 (c) TFEU

On its face, Article 102 (c) TFEU requires that a two-step test be applied in order to determine whether a certain undertaking's pricing policy violates EC competition law. First, the licensing term should be "*dissimilar*" assessed against terms applied in equivalent transactions. Second, the pricing policy should result in the licensee alleging discrimination being competitively disadvantaged.

The wording of the first requirement is important because Article 102 (c) TFEU does not require licensors to treat licensees in the exact same way. It is sufficient if the conditions offered to licensees by the dominant undertaking are "*similar*". In other words, the licensing terms as between licensees can vary as long as such terms do not significantly affect the costs imposed to end consumers.[112] However, as identified by *Anderman* and *Kallaugher* in a licensing context it is difficult to determine whether two transactions are equivalent, as several factors can be invoked to justify possible differences. As identified above, this is due to the fact that many IP licensing agreements, especially within standardization, contain an element of cross-licensing and due to the fact that the size of patent portfolios of potential licensees tends to vary considerably. In other words, in reality most IP licenses do not fulfil the "*equivalent transactions*" requirement under Article 102 (c) TFEU.

The requirement under Article 102 (c) TFEU for competitive disadvantage to be at hand seems to suggest that the dominant company's customers should be competing with each other. This condition is more likely to be met in practise, as demonstrated for example within the area of the GSM standard where most of the licensees do indeed compete on downstream markets. However, all of this is only relevant where the first condition of Article 102 (c) TFEU is already met.

The above strongly suggests that, if one were to force FRAND undertakings to offer identical licensing terms to all licensees, this would prevent efficient price discrimination and arguably discourage innovation, as licensors no longer would be able to freely extract proper return for their patent portfolios.[113] As argued by *Geradin* and *Petit* in article *"Price Discrimination under EC Competition Law: Another Antitrust Doctrine in Search of Limiting Principles?*" such a system would lead to undue rigidity within the area of licensing schemes and in effect

112 Supra note Steven D. Anderman & John Kallaugher, p.275.

113 Damien Geradin, "Abusive Licensing in an IP Licensing Context: An EC Competition Law Analysis," European Competition Law, 2007, p. 26-28.

prevent that mutually acceptable licensing deals are made, and as a consequence negatively affect technology transfer and entry into downstream markets.[114]

In the light of the issues discussed above, it is interesting to see whether the above analysis would be different if a certain proprietary technology has been included into a standard. As discussed above, undertaking FRAND commitments forces a dominant undertaking to make a number of choices. Once an IP owner, who takes part in a standardization process, discloses its essential IPRs to the SSO, it is asked to assure that it will make its rights available through licenses on FRAND terms to third parties[115], including to licensees who are competing within same market as the licensor.

In light of the above, when considering the applicability of 102 (c) TFEU to dominant patentees, strong arguments have been presented in academic literature that a key distinction should be drawn between vertically and non-vertically integrated licensors. *Swanson* and *Baumol* have examined this aspect in article *"Reasonable and Non-discriminatory (RAND) Royalties, Standard Selection and Control of Market Power"*. According to these authors, non-vertically integrated licensors, who are active only on the upstream licensing markets, generally do not have incentives to price discriminate their licensees.[116] By contrast, vertically integrated companies, who are also present in downstream product markets, generally have an incentive to price discriminate between its downstream operations and the operations of its competitors.[117] It may be in the interest of the patentee to increase the costs of its licenses to a level where it may influence the licensee's possibility to compete against the licensor. According to *Rahnasto,* in *ex post* standard situations where it is not any more an option for the licensee not to take a particular license needed for the implementation of the standard, the extensive royalty rates can be used as a viable offensive strategy by the patentee.[118] Thus, in increasingly competitive markets, even small differences in the cost structure of competitors may have a substantial impact on the competitive position of companies. In the light of above, strong arguments support that par-

114 See Damien Geradin and Nicolas Petit, "*Price Discrimination Under EC Competition Law: Another Antitrust Doctrine in Search of Limiting Principles?"*Journal of Competition Law and Economics, 2006.

115 See ETSI's IPR Policy, Article 3.2.

116 Daniel Swanson and William Baumol, " Reasonable and Non-discriminatory (RAND) Royalties, Standard Selection. And Control of Market Power," Antitrust Journal 1, 2005.

117 Ibid.

118 Ilkka Rahnasto, "*How to Leverage Intellectual Property Rights,"* Faculty of Law University of Helsinki, 2001, p.169.

ticular attention be paid by competition authorities and courts when assessing acts of foreclosure exercised by vertically integrated dominant undertakings.

When considering situations where a standard involves the choice of a single technology to produce a given downstream product, *Swanson* and *Baumol* state as follows:

"While discriminatory license fees will generally not raise significant concerns, there are cases where potentially valid reasons exist for concern about discrimination in license fees for intellectual property: those instances when the owner of the IP uses it as an input in downstream market where competitors also require the IP for the same purpose. A licensor exercising bottleneck market power that discriminated in licensing in order to handicap its competitors and favour its own downstream sales can create or enhance market power in downstream markets for standard-compliant products and services. By contrast, a pure licensor (even one with monopoly power) will ordinarily lack anticompetitive reasons for engaging in discrimination."[119]

According to these authors, the risk of foreclosure presented by vertically integrated licensors is presenting strong arguments in support of the FRAND non-discrimination requirement being justified. This is especially true with regard to the 3G system that represents an unusual complex patent environment. When a large amount of the concerned competitive parties are both major players in the 3G product/service markets and major players in the licensing markets, the task of ensuring compliance with FRAND licensing terms with regard to standard-essential patents is vital for the concerned undertakings. This strongly suggests that particular attention must be given to ensuring compliance with the non-discrimination principle, which is "*necessary and sufficient for a license fee to be competitively neutral in downstream markets*".[120] The purpose of the non-discrimination requirement is to prevent any attempts by vertically integrated licensors to raise their competitors cost by giving more favourable treatment to their own operations.[121]

119 Supra note Daniel Swanson and William Baumol.
120 Ibid.
121 Ibid.

3.4 Other Exclusionary Practices

Excessive pricing and price discrimination are not the only types of abusive conduct under the FRAND regime in which Article 102 TFEU may come into a play. One has to remember, as discussed above, that the European Commission and the Court of Justice of the European Union recently have interpreted abuse under Article 102 TFEU broadly and have not required that proof of abuse necessarily relating to the actual effect of the abusive conduct complained be presented. For the purposes of establishing an infringement under Article 102 TFEU, it is thus sufficient to show that the abusive conduct of the undertaking tends to restrict competition. In other words, if it is shown that the object of the conduct pursued by the undertaking holding a dominant position is to limit competition, it is also likely that the conduct will be deemed to be abusive.[122]

3.4.1 The Misuse of Intellectual Property Rights

It is clear that any conduct, which prohibits effective competition within a certain market, can amount to exclusionary abuse. It is also possible that the mere intent to exclude can be relevant when assessing whether the behaviour is abusive. The European Commission recently applied this approach in the *AstraZeneca* case, concerning the acquisition of patents by deception.[123] In this particular case, the intent to exclude competitors seems to have been determinative for the outcome.[124] In the *AstraZeneca* case, the European Commission imposed a 60€ million fine to AstraZeneca for (i) misrepresenting certain dates before the national patent offices in order to extent its patent protection, and (ii) misusing marketing authorization procedures in order to delay the generic version of the drugs in question getting access to the market, which also hindered parallel import. As analysed by *Mr. Josef Drexl* in a recent article titled: *"Deceptive Conduct in the Patent World- A Case for US Antitrust and EU Competition Law?"*[125] the Commission's controversial decision in the *AstraZeneca* case clearly demonstrates the Commission's broad approach to the concept of abuse, striking at AstraZeneca's commercial strategy and stressing its intent to eliminate competition through patent exploitation.

122 See example Case T-23/01, *Michelin v Commission.*

123 Case COMP/A.37.507.F3, *Generic/AstraZeneca,* 15 June 2005, IP/05/737, on appeal Case T-321/05, pending judgment.

124 Ibid, para, 628, 632, 648, 789, 908.

125 See Josef Drexl, *"Deceptive Conduct in the Patent World- A Case for US Antitrust and EU Competition Law? Patents and Technological Process in a Globalized World,"* Springer-Verlag, Berlin Heidelberg 2009.

Interestingly, as *Mr. Drexl* points out in his article, deception under Article 102 TFEU may also arise in a standardization environment, in particular, where undertakings involved in the standardization process hold back relevant information about their patens or licensing policies.[126] Consequently, case law such the *AstraZeneca* case may also be relevant in a standardization context where dominant undertakings holding standard-essential patents pursue legal proceedings against its competitors.

The *AstraZeneca* case is also of particular interest to the technology industry in general as it contains observations by the European Commission about some of the factors which it may take into account when assessing whether a technology company is deemed to be in a dominant position. These factors, in particular, include: the strength of the company's patent portfolio and an examination of its enforcement policy and practice. After the decision in the *AstraZeneca* case, it is likely that the Commission, in particular, will put emphasis on assessing whether an undertaking holding standard-essential patents can be said to be in a "*striking position*" vis-à-vis its rivals.[127]

3.5 Conclusion on the Applicability of Article 102 TFEU on FRAND Commitments

In conclusion, when applying Article 102 TFEU and its established case law to technology licensing, competition authorities and courts are faced with significant theoretical and practical difficulties. In addition, it is generally considered a valid argument that competition authorities and courts should not engage in price control expect under extremely exceptional circumstances. One reason for the controversial nature of this area of law stems from the fact if these authorities were to have an obligation to control rates it is likely to turn competition authorities into quasi-permanent regulators even though they lack the resources to truly fulfil this task.[128] This may potentially lead to mistakes which in turn could have quite drastic consequences for the innovative industries.

126 Supra note Josef Drexl p. 137.

127 See Pierre-Anre Dupois, *"Technology sector- standardization, FRAND terms and patent misuse-recent developments,"* the European Commission's Antitrust Review, Kirkland & Ellis International LLP, 2007.

128 See speech delivered by Philip Lowe speech at the Fordham Antitrust Conference in Washington D.C., 23 October 2003, available at http://ec.europa.eu/comm/competition/index_en.html.

An interesting future question is whether the enforcing EU authorities will modify their interpretation of Article 102 TFEU in order to apply it to FRAND commitments. If not, competition authorities in Member States and national courts will have to determine whether a certain royalty price is excessive on the basis of the legal doctrine developed so far by the Court of Justice of the European Union in its case law, namely in the *United Brands* case.

Another important question is whether the concept of deceptive conduct by a dominant patent holder, as analyzed in the *AstraZeneca* case, is also applicable when assessing FRAND commitments under EC competition law. Equally, it will be interesting to see whether the European Commission is prepared to use this case law to key patents holders, who are initiating patent infringement proceedings by seeking injunctive relief and in this way effectively blocking the use of the standard by its competitors.

However, as the above analysis demonstrates, case law and relevant literature within this area of law are far from settled and many questions have not been answered.

4. Case Studies Related to the Enforcement of FRAND Commitments under Article 102 TFEU

In Europe, the relationship between the actual pricing level and the level compliant with FRAND commitments under Article 102 TFEU lies at the heart of the tension between intellectual property rights and competition policy. At present three disputes are pending before the European Commission[129] in which the Commission has been asked to investigate whether certain technology owners unlawfully have exploited their market power by failing to license their technology on FRAND terms. In the following, the conflict between patents and standards shall be analyzed in the light of these recent cases and patent infringement cases pending before courts of law. For this purpose I will distinguish between the following different scenarios:

First, whether and under which circumstances a company is likely to be deemed to abuse its dominant position on a certain market under Article 102 TFEU by refusing to license its patents to third parties on FRAND terms,
Second, whether and under which circumstances a company using a patent incorporated into a standard can defend itself against an injunction based on antitrust defences in patent infringement proceeding.

Under the first scenario, I will try to predict the position that the European Commission will take in cases such as the *Qualcomm* case concerning the application of Article 102 TFEU to FRAND commitments and possible general guidelines to be deducted here from. As discussed above, no clear SSO rules exist on how to assess the implications of FRAND commitments as regards pricing.

Under the second scenario, I will analyze recent legal developments in Germany regarding the admissibility and other preconditions for invoking antitrust law, as a defence is patent infringement proceedings. In this context, I will take into a consideration recent case law developed by German courts. Particular emphasis will be put on the *IPCom* case.[130]

129 Namely: Qualcomm, Rambus and IPCom.
130 At this point in time, the Commission has not yet announced whether it will open formal proceedings in this case.

4.1 The *Qualcomm* Case

As a starting point, it should be noted the European Commission is still in the process of investigating the *Qualcomm* case and that the Commission, as of yet, has not given any indication as to when it can be expected to decide this case. Accordingly, the official sources available at this point in time are limited. Already for this reason, readers are invited to critically assess my below arguments and to feel free to drawn his or her own conclusions.

However, since the *Qualcomm* case is the first "real FRAND case" under Article 102 TFEU put before the European Commission, it can be expected that the Commission's handling of this case will be of major importance for future developments within this area of law in Europe. It is for these reasons that I have chosen to focus on the *Qualcomm* case and to use this case as the basis for a concrete case study in this paper.

4.1.1 What is the Object of the European Commission's Decision to Initiate Proceedings in the *Qualcomm* case?

In 2005, Ericsson, Nokia, Texas Instrument, Broadcom, Nec and Panasonic lodged a complaint against Qualcomm Incorporated,[131] a US chipset manufacturer. On 1 October 2007, the European Commission announced that it had decided to open formal antitrust proceeding against Qualcomm under former Article 82 EC. All of the complainants are mobile phone and/or chipset manufactures. The alleged infringement concerns the terms under which Qualcomm licenses its patents essential to the so-called WCDMA standard, which forms part of the 3G standard.

The first relevant activities related to the establishment of the WCDMA standard began in 1990, *i.e.* prior to the launch of the GSM.[132] The standardization process took place within ETSI and proved to be extremely troublesome as already back then many companies failed to provide the requested FRAND declaration.[133] In fact, already at that time many industry experts warned that, if forced

131 See MEMO/07/389 of 1 October 2007 by the European Commission: "*Antitrust: Commission Initiates Formal Proceedings Against Qualcomm*",.

132 Rudi Bekkers and Joel West, ***"Standards, Patents and Mobile Phones: Lesson from ETSI´s Handling of UMTS"***, International Journal of IT Standards and Standardization Research, Vol.7 Issue 1, 2009, p. 16.

133 Ibid, p.18.

to pay stiff royalties, companies such as Ericsson and Nokia might be unable to afford the cots of developing and manufacturing third-generation WCDMA systems.[134] Indeed, the key obstacle was an IPR struggle between European vendors and Qualcomm.

In all 41 companies took part in the WCDMA standardization process, but roughly only four companies' hold 75% of the patents involved.[135] According to an ETSI listing from 2005, Nokia then claimed to hold 248 essential patents, Ericsson 244, Qualcomm 228 and InterDigital Communications 168 and represented together the largest patent portfolios holders.[136] According to *Goldstein and Kearsey,* the cumulative royalty rate for a company without essential patents in the WCDMA technology is believed to be within the range of 10-20 percent.[137] Individual patent owners usually charge between 0.5 and 4 percent on essential patents owned, a range which can seem small when considered with regard to a particular product, but huge when assessed together.[138] In addition, it has been estimated that the high cumulative royalty rates applied in the WCDMA market have indeed increased prices for end consumers.[139]

The European Commission's investigations are focused on two allegations. Firstly, the complainants' claim that Qualcomm is unfairly trying to exclude other mobile phone chip manufactures from the market by refusing to license its standard-essential patents on fair terms and by offering lower prices to handset makers who buy chip sets exclusively from Qualcomm. Secondly, the complainants are alleging that Qualcomm is charging excessive royalties for its standard-essential patents. The complaints are based on the understanding that the economic principle underlying FRAND commitments is that essential patents holders are not allowed to abuse the extra power they have gained during the standardization process by claiming royalties that do not comply with FRAND terms.[140]

134 Supra note Rudi Bekkers and Joel West.

135 Larry M. Goldstein & Brian N. Kearsey, "*Technology Patent Licensing: An International Reference on 21st Century Patent Licensing, Patent Pools and Patent Platforms"*, Aspatore Inc., 2004, p.52.

136 Ibid, ETSI listing from 2005.

137 Supra note Larry M. Goldstein & Brian N. Kearsey, p.52.

138 Ibid, p.53.

139 Philippe Chappatte, ***"FRAND Commitments- The Case of Antitrust Intervention"***, European Competition Journal, Vol.5 Nr.2, August 2009, p.334.

140 See MEMO/07/389 of 1 October 2007 by the European Commission: "*Antitrust: Commission Initiates Formal Proceedings Against Qualcomm*".

As mentioned above the investigations are still pending before the European Commission, but Qualcomm has already in a public statement denied all allegations.[141] In addition, already in the course of US litigation, Qualcomm has argued that *"charging what the market will bear…is not an anticompetitive or unreasonable act"*.[142] In essence, Qualcomm's reported responses to the claims in question can be summarized as follows: With regard to the alleged refusal to license on FRAND terms, Qualcomm asserts that this claim is disproved due to the availability and wide take-up of licenses for its essential patents. Also, most of the complainants are licensees and are therefore not excluded from the market. Further, Qualcomm claims that the complainants are seeking to use Article 102 TFEU in order to reduce their royalties and to strengthen their own position within the 3G market. In addition, Qualcomm claims that the complainants' allegations concerning exclusionary rebates and excessive royalties are "*misleading*", since Qualcomm's pricing practices merely reflects legitimate price competition.

It should be noted that the object of the investigations in the *Qualcomm* case has been changed significantly during the course of the investigations since the European Commission launched its inquiry in 2007. In particular, it should be taken into account that Nokia on 23 July 2008 withdrew its complaint with reference to that it had fifteen years cross-licensing agreement with Qualcomm.[143] Unfortunately, albeit not surprising, the specific terms of this agreement have not been made public. Therefore, one can only speculate as what has made Nokia withdraw its complaint. One possibility is of course that Nokia has obtained some royalty reductions.

4.2 Possible Doctrinal Solutions based on the Meaning of FRAND Terms

In the following, I will not go into the specific and complex facts of the *Qualcomm* case, but assume that the FRAND commitments undertaken by Qualcomm

141 See Qualcomm's Press Release, October 1st 2007, available at: http://www.qualcomm.de/news/releases/2007/071001_ec_initiate_proceedings.html

142 *Broadcom Corporation v Qualcomm Incorporated*, Civil Action 05-3350, District Court of New Jersey, Memorandum in Support of Defendants Motion to Dismiss, 9 December 2005, I.A.3.

143 See Press Release, ***"Nokia and Qualcomm Enter into a New Agreement",*** 24 June 2008, available at: http://nokia.com/A4136002newsid=1238093.

during the standardization process are subject to the limitations set out in Article 102 TFEU. In particular, this assumption is based on the fact that it does not seem to be in dispute that Qualcomm possess a dominant position in the supply of licenses to its 228 patens and that these patents have become essential when included in WCDMA standard.[144] When using this assumption as a starting point, the next logical and expected step for the European Commission to take is to determine how it will define FRAND commitments from an EC competition law perspective.

In doing so, it is likely that the European Commission, at least as a starting point, will seek guidance from existing doctrine on the topic. As explained above, no authoritative legal sources exist as to the precise meaning of FRAND commitments. Economists and industry representatives around the world have produced a vast number of articles and presented numerous theories regarding the economic ratio behind the FRAND requirement.[145] However, this material has to be reviewed with due care, since it seems that assumptions and methodologies differ and many theories and arguments even contradict one another.[146] Also, most of this material has been sponsored by one of the parties involved and hence, arguably the conclusions drawn and the economical analyses presented in this material may have been influenced by the authors' connection with the parties and/or their own role in ongoing litigations.[147] This, however, does not mean that this material could not be helpful when considering how to construct an optimal licensing policy in an individual case.[148]

An other question is whether it is at all desirable to create a uniform definition of the meaning of FRAND for the purpose of creating an effective and efficient setting for the implementation of standards.[149] In particular, it would be unprece-

144 If all these 228 patents are standard-essential then there is presumably no substitutions meeting relevant demands of 3G handset manufactures.

145 For a summary of possible interpretations see *e.g*. David Salant, ***"Formulas for Fair, Reasonable and Non- discriminatory Royalty Determination"***, MPRA Working Paper 8569, 2007, available at: http://mpra.ub-uni-muenchen.de/8569/.

146 Comments made during my personal interview of Mr. Timo Ruikka, Nokia Corporation, Strategy Advisor of IPR Legal Department, on 28 March 2009.

147 This can bee seen in most of the papers mentioned in the above footnote. *E.g*. it is stated in the referred material that:"*the author forms part of a team that represent*" (*e.g*. Qualcomm or Nokia) and similar statements to same effect, *e.g*. "*The views expressed in this papers cannot be attributed to the firm or to its law firm*."

148 See *e.g*. Joseph Farrell, John Hayes, Carl Shapiro, Theresa Shapiro, ***"Standard Setting, Patents and Hold-Up,"*** **American Bar Association**, Antitrust Journal No.3, 2007.

149 See e.g Nokia IPR manager Ilkka Rahnasto, *Intellectual Property R*ights*, External Effects, and Antitrust Law,* (Oxford University Press 2003), p.148.

dented if the European Commission on its own were to introduce a very concrete FRAND definition to be adhered to by all companies concerned. From a realistic perspective, based on a more or less rational business negotiation process, it is evident that any one-size-fit–all doctrine would change the current practice of the entire industry. This aspect has been particularly analysed by *Mr. Ruikka* in an article titled: *"FRAND" Undertakings in Standardization - A Business Perspective.*[150] As argued above, such type of doctrinal approach would also lead to inflexibility and limitations in the choice of licensing models. However, another thing is whether it is possible to set up general legal criteria against which to assess FRAND commitments. In the following, it is proposed that maybe it is after all not impossible to define the impact of FRAND commitments, at least to some extent.

4.2.1 The Meaning of FRAND Commitments under Article 102 (a) and (c) TFEU - Possible Doctrinal Solutions Based on Established EC Case Law

As pointed out above, both SSOs and courts of law have generally been reluctant to develop a "*FRAND doctrine*". Under EC competition law, the need for a cautious approach when assessing the applicability of Article 102 (a) TFEU has so far been most widely recognized in cases relating to the refusal to license. Those, who following the *IMS* case, [151] expected that the European Commission or the Court of First Instance (re-named as the General Court) in the *Microsoft*[152] case would finally clarify what constitutes a fair and reasonable royalty rate, must have been deeply disappointed. Instead, both the European Commission and the General Court explicitly left it to the parties to reach a "*mutual agreement*" on the prices that would meet the general criteria outlined by them, in the same way as done already in the *IMS* case.[153] Nonetheless, when one tries to apply these criteria in practice, it soon becomes apparent that they leave many critical questions unanswered.

150 Timo Ruikka, ***"FRAND" Undertakings in Standardization- A Business Perspective,"*** N.Y. Fordham IP Conference, 28 March 2008.

151 Case C-418/01, *IMS Health*, [2004] ECR I-5039.

152 Case C-201/04, *Microsoft v Commission,* [2004] II-1491.

153 It should be noted that the interpretation of "*FRAND*" applied in the Microsoft and IMS judgment concerned remedies. Also, it should be taken into account that these cases concerned refusal to license in the first place.

The "*fairness*" and "*reasonableness*" criteria applied by the European Commission in its case law with regard to licensing terms are almost completely devoid of any concrete meaning.[154] If the European Commission where to apply the *United Brands* doctrine to determine whether Qualcomm's prices are "*fair and reasonable*", the Commission would have to demonstrate that the difference between the costs actually incurred and the price actually charged by Qualcomm is "*excessive*". In addition, the Commission would also have to establish that Qualcomm's prices are "*unfair*". This would in turn require that the Commission examine the cost structure of the company. As stated by *Swanson* and *Baumol,* such an exercise would require that the Commission first identify the efforts invested and the expenses incurred by Qualcomm at creating the patens in question, and second that the Commission add a reasonable margin of profit as well as costs related to failed R&D projects in order to determine the correct royalty price. Finally, the price-cost comparison analyze would also have to take into account the transaction costs incurred in IP licensing.[155]

Given the complexity inherent in establishing one appropriate one-size-fit-all benchmark to determine what constitutes a reasonable royalty, not even making use of a "*rule of thumbs*" widely accepted within the industry[156] would probably provide generally acceptable results. Also, it should be kept in mind that, as identified by *Jones* and *Sufrin,* the EC case law relating to excessive pricing was established several years ago and was for the most part aimed at providing policy justifications in support of the creation of the Internal Market or the protection of end consumers.[157] Even in these cases, when confronted with the assessment of whether prices were excessive, the European Commission and the ECJ have

154 These terms are also used and recognized by the European Commission it its Guidelines on the Application of Article 81 EC to technology transfer agreements (2004/C101/02), paras 167 and 226.

155 See *e.g.* Daniel Swanson and William Baumol, *" Reasonable and Non-discriminatory (RAND) Royalties, Standard Selection. And Control of Market Power,"* 73 Antitrust Journal 1, 2005, p.22, stating as follows: "*The licensing of IP, in addition to involving costs of negotiation, contracting, accounting, monitoring and auditing, also frequently involves costs of instruction, training and 24-hour assistance."*

156 As a Harward Business School case study observes: "*…even organizations that are aware of their intellectual assets tend to choose royalty rates based on a rule of thumb rather than rates based on quantitative metrics or analysis of profitability. A common rule calls for 5% of sales revenues or 25% of operating profit margin is to be paid to the patent holder,"* Intellectual Assets Valuation, Harvard Business School, Case Study N9-801-192, p.4.

157 Supra note, *United Brand*s from 1979, and *British Leyland v Commission* [1986] ECR 3263.

always found insuperable difficulties in establishing a valid benchmark and sufficient evidences to conclude that the prices charged were excessive.[158]

This leads me to conclude that it can be expected that the European Commission will be very cautious when assessing the level of royalties charged by dominant standard-essential patent holders and act in line with the caution already shown by it in the *Microsoft* case regarding the pricing strategies of dominant IPR holders.

The non-discrimination part of the FRAND requirements appears to give guidance that is more concrete from a practical perspective, although it arguably is also open to interpretation. The following important guidance, which might also have a role to play within the telecommunication sector, was offered in *Microsoft* case:

"The mere fact that the contested decision requires that the conditions to which any licenses are subject be reasonable and non-discriminatory does not mean that Microsoft must impose the same conditions on every undertaking seeking such licenses. It is not precluded that the conditions may be adapted to the specific situation of each of those undertakings and vary, for example, according to the extent of the information to which they seek access or the type of products in which they intended to implement the information."[159]

Consequently, the CFI seems to accept that dominant licensors under certain circumstances may tailor different licensing options aimed at different users. For example, royalty schemes may legitimate companies to take into consideration how many rights the licensee receives and the volume of products produced under the relevant license. At least in the *Microsoft* case, this type of system seemed to be satisfactory, since the licensees could choose between various transparent licensing options.[160] Accordingly, in the absence of any generally defined doctrinal limitations applicable to royalty rates, it seems that a flexible market based approach aimed to solve the competition problem could provide a feasible way forward.

158 Supra Jones&Sufrin p. 586.

159 Case T-201/04, *Microsoft v Commission,* [2007] II-3601,para 811.

160 Microsoft had tailored 40 different licensing schemes aimed at different users. See Microsoft's "*Statement Regarding Licensing Flexibility*" of 7 June 2005, available at: download.microsoft.com/.../f/9/.../EU_Licensing_Flexibility.pdf.

In practice, the principle of non-discrimination can be used flexibly to achieve two different objectives when applied to FRAND commitments. Most straight forwardly, it can be used to ensure that IPR owners treat similarly situated licensees equally, so as to prevent them from distorting downstream competition. This interpretation is in line with the *Swanson* and *Baumol* model[161] that takes into account the risk that vertically integrated licensors may have strong incentives to discriminate competing licensees. In addition, the flexible approach provides the licensor with the possibility of objectively justifying different treatment of licensees without reference to exclusivity.

In the *Qualcomm* case, it seems clear that the licensees in question compete with one another in the downstream market. Accordingly, if Qualcomm were to deny a discount to one of these licensees on the grounds that such licensee did not wish to offer exclusivity to Qualcomm, it would place this licensee at a competitive disadvantage in the downstream market and therefore its behaviour would most likely be deemed abusive under Article 102 TFEU because of its exclusionary effect. However, under the flexible approach, described in the *Microsoft* case, Qualcomm could justify any differences in treatment based on legitimate reasons. Qualcomm could *e.g.* argue that the differentiation stems from different costs of supplying different volumes, or the presence of a cross-license element. If this analysis is correct, then the European Commission would, however, still have to make a difficult assessment of facts, namely: What discounts were actually given, and has Qualcomm been able to objectively justify such discounts based on legitimate licensing practices?

4.2.2 Deceptive Conduct in the Standard-Setting Process - Is the AstraZeneca "*Doctrine*" Applicable to FRAND Commitments?

In light of current developments regarding the applicability of Article 102 TFEU to dominant patent holders, it is of particular interest to analyse whether deceptive behaviour by an undertaking, when taking part in the standardization process within standardization committees, can amount to abuse of dominant position as defined in the *AstraZeneca* case. This is particular relevant in the *Qualcomm* case, because the complainants' allegations appear to suggest that Qualcomm in the complainants' view did not fulfil its commitments to provide them with sufficient information while taking part in the 3G standardization process.

161 Daniel Swanson and William Baumol, *"Reasonable and Non-discriminatory (RAND) Royalties, Standard Selection* ***And Control of Market Power,"*** 73 Antitrust Journal 1, 2005.

As a starting point, one has to be aware that no authoritative precedents on the application of Article 102 TFEU to allegedly deceptive conduct or misuse of procedures in the context of FRAND commitments exist.[162] However, as recent developments have shown, strong policy reasons support intervention especially in the following two scenarios. Firstly, in a scenario where it can be proven that an undertaking has misled the standardization committee, for example by not disclosing crucial information[163] or by giving false promises. Secondly, in a scenario where a patent holder has agreed to FRAND commitments, in principle, no injunction should be available, since the threat of obtaining an injunction enables the patent holder to negotiate royalties in excess of the economic value of the patent holder contribution.[164] This particular aspect is the subject of the *IPCom* case, pending before German courts.

As stated above, IPR holders participating in a standardization process are obliged to disclose all of the IPRs they owe which might be relevant for the standard under development and give irrevocable declaration that they will license all of such relevant patens to third parties on FRAND terms.[165] These obligations are critical to the entire process and serve as an important trade-off, which is instrumental in obtaining industry consent to include patented technology in the common standard in the first place. As argued by *Chappatte* in a recent article titled: *''FRAND Commitments - The Case of Antitrust Intervention"*, in exchange for obtaining market power, the patent holder must comply with the obligations it has undertaken during the process, which in turn promote downstream competition and protects consumers interest.[166] The question to be assessed is whether a patent holder by misleading other implementers about his licensing intentions, with the effect that the adopted technology depends on particular patents, can be

162 Interestingly, the EC is currently in the midst of such type of investigation concerning the computer memory technology, also know as DRAM standards. In August 2007, the Commission confirmed that is had sent a Statement of Objections to Rambus (US based developer and licensor of DRAM technology, who participated in the standardization process within JEDEG) based on preliminary finding that it had breached former Article 82 "*by not disclosing the existence of the patent which it later claimed were relevant to the adopted standard*" and "*by subsequently claiming unreasonable royalties for the use of those relevant patents.*" See the European Commission's Press Release of 23 August 2007, "*Antitrust: Commission confirms sending a Statement of Objections to Rambus,*" MEMO /07/330.

163 *E.g.* by not disclosing some of its essential patents or licensing policies.

164 See J Farrell, J Hayes, C Shapiro, and T Sullivan, ***"Standard Setting, Patents and Hold-Up",*** (2207) 74(3) Antitrust Law Journal 638 2007.

165 Supra note ETSI IPR Policy.

166 Philippe Chappatte,''*FRAND Commitments- The Case of Antitrust Intervention,"* European Competition Journal, Vol.5 Nr.2 August 2009, p.330.

said to amount to "*patent abuse*" within the meaning of Article 102 TFEU and its case law.

Although the *AstraZeneca* case is focused on issues of particular relevance to the pharmaceutical industry, it also captures the otherwise largely un-precedented doctrine of patent misuse under EC antitrust law and therefore it can be of interest also to other technology sectors. For instance, the European Commission's legal analysis in the *AstraZeneca* case effectively captures the special responsibility that dominant patent holders have towards their competitors. See in particularly the following statement made by the European Commission:
"The Court of First Instance has already considered that "an undertaking in a dominant position which enjoys an exclusive right with an entitlement to agree to waive that right is under a duty to make reasonable use of the right of veto conferred on it by the agreement in respect of third parties access to the market". Moreover, when an undertaking in a dominant position has a specific entitlement (in case marketing authorization), be it private or public, it has a duty, under its special responsibility mentioned above to make reasonable use of it and not to use it with the clear purpose of excluding competitors."[167]

In essence this recital seems to say that if a dominant undertaking voluntarily enters into an agreement to obtain exclusivity in a particular market, such as for instance a standardized technology market, it has a special responsibility towards its competitors to keep its promises in order not to impair genuine undistorted competition. This way of interpreting abuse under Article 102 TFEU would support that once a technology is adapted into a major standard, the owner of the technology in question is not allowed to abuse its substantial market power by charging excessively high royalty rates or discriminate between licensees.

On the assumption that all of the above apply to FRAND commitments, the specific responsibilities of a dominant undertaking towards its competitors under Article 102 TFEU could be assessed in at least two ways. Article 102 TFEU could be interpreted so as to require FRAND undertakings to comply with any promises they make, or should have made vis-à-vis other implementers during

167 Case COMP/A.37.507.F3, *Generic/AstraZeneca,* 15th June 2005, IP/05/737, on appeal Case T-321/05, pending judgment. In support of this assertation see the Commission's reliance in the cases: Joined cases T-24/93, T-25/93, T-26/93 and T-28/93 *Copmagnie Maritime Belge and others v Commission,* para. 108, and *British Leyland v Commission* [1986] ECR 3263, pare 21-24, as evidence for that a dominant undertaking must use public entitlements reasonably. In addition reference can be made to Case T-30/89 *Hilti v Commission,* para 99.

the standardization process. If so, third parties would be able to use Article 102 TFEU to enforce FRAND commitments made by dominant undertakings if relied upon by the standardization committee due to the special responsibility of dominant undertakings towards the standardized market as a whole. At least in the *AstraZeneca* case it was concluded that if a dominant licensor does not fulfil its promises, this kind of behaviour would be assessed as forming part of a concerted practice attempting to prevent competition. In this way, the objective of the enforcement would not be to penalize such misconduct *per se* but rather to prevent its anti-competitive effects in the market place.[168] This approach is supported by *Murphy*, who in his article *"Abuse of Regulatory Procedures- The AstraZeneca Case:Part III"* rejects that the *AstraZeneca* case would have introduced a concept of *per se* abuse under European competition law.

Nevertheless, this interpretation is subject to an important limitation and therefore one should be extremely cautious before applying it to FRAND commitments, namely the requirement of dominance. In a situation where an undertaking would give incomplete information about its licensing policies or give false promises to third parties prior to the acceptance of a particular standard, the question is therefore whether this deception "*leading"* to the dominance actually falls within the scope of Article 102 TFEU.[169] *Drexl* has examined this controversial question in an article titled: *"Deceptive Conduct in the Patent World - A Case for US Antitrust and EU Competition Law?"*

Even if one would attempt to answer this question in the affirmative, it should be taken into account that neither courts nor competition authorities are allowed to apply the law in the way they wish it to be. Most of all, it is important to keep in mind that the limitations arising from Article 102 TFEU do not apply to non-dominant undertakings as it only prohibits abuse of "*dominant position"*. As noted by *Drexl*, in contrast to Section 2 of the Sherman Act, Article 102 TFEU requires the presence of dominance and therefore does not censure the acquisition or attempted acquisition of a monopoly position as such.[170] In other words, contrary to US antitrust law, Article 102 TFEU is not targeted at the conduct leading to monopolization, irrespective of whether this position has been

168 It is also widely accepted that the concept of *per se* abuse under Article 82 EC has been progressively abandoned in case law, See Fances *"Abuse of Regulatory Procedures- The AstraZeneca Case:Part III,"* European Competition Law Review, Vol.30 Issue 7, 2009, p.291.

169 See *e.g*. Josef Drexl, "*Deceptive Conduct in the Patent World - A Case for US Antitrust and EU Competition Law?_Patents and Technological Process in a Globalized World*,"Springer-Verlag, Berlin Heidelberg, 2009, p.156.

170 Ibid.

achieved through the application of anti-competitive means, such as *e.g.* deception or misrepresentation before the standardization committee.

When analyzing the applicability of the findings in the *AstraZeneca* case to FRAND commitments, it should also be taken into account that this case contains elements that are materially different. In the *AstraZeneca* case the deceptive conduct considered abusive under Article 102 TFEU did not present the reason for AstraZeneca's dominance in the piston-pump inhibitors market.[171] At least, according to the European Commission, AstraZeneca's dominance existed already before the alleged deceptive conduct occurred.[172]

The question is whether Article 102 TFEU does at all apply to an IPR owner who obtains his dominant position in the market for standardized technology by demonstrating deceptive behaviour *ex post*. On its face, it would seem required for Article 102 TFEU to apply that the IPR owner enjoys a dominant position *ex ante* and not *ex post* of the standard. However, strong arguments support that the legal doctrines developed in the *AstraZeneca* case can also be applied to FRAND commitments, although only to a very limited extent.

Particularly in the *Qualcomm* case, it can be assumed that the European Commission will take a close look at the strength of Qualcomm´s patent portfolio and Qualcomm's position within the relevant technology market as a whole. In all circumstances, it should be kept in mind that this would require that the Commission assesses a number of complex matters. At least the following two significant problems would arise, none of which, as identified above, has been resolved so far. First, the mere possession of IPR does not necessarily confer dominance and before the acceptance of a new standard, a number of substitutable technological solutions might be at hand. Therefore, in order to conclude that an IPR holder taking part in standardization process has a dominant position within the relevant product market, it would require that the technology product market in question be defined narrowly. Second, it is still unclear how the relevant technology market should be defined. As seen in the *AstraZeneca* case, the European Commission seems to emphasise the strength of a company´ s patent portfolio and to have preferred a narrow definition of the relevant product market. Thus, as AstraZeneca within the pharmaceutical sector, also Qualcomm is clearly one of the pioneer inventors within the WDCAM technology market.

171 Fances Murphy, *"Abuse of Regulatory Procedures- The AstraZeneca Case:Part II,"* European Competition Law Review, Vol.30 Issue 7, 2009.

172 Case COMP/A.37.507.F3, *Generic/AstraZeneca,* 15th June 2005, IP/05/737, on appeal Case T-321/05, pending judgment, para 601, 774.

However, as the title of this chapter suggests, it remains to be seen how and to which extent the European Commission will apply the findings in the *Astra-Zeneca* judgment in its investigations of high-tech industries involving dominant IPR owners. The following statement, made on behalf of the European Commission in 2002, could serve as a starting point:

"As for Article 82, one must recall that unlike U.S. law, liability arises only for abuse of dominance, not anticompetitive creation thereof. Showing abuse may be problematic in a patent ambush context. The EC, moreover, has no equivalent to the Federal Trade Commission Act, which was the statutory basis for liability in Dell. To demonstrate this point: where a non-dominant SSO member intentionally conceals a patent that reads on the ultimate standard, and thereby becomes dominant as a result, it is difficult to say liability arises under Article 82. Similarly, the subsequent assertion of IP rights against other members of the SSO may not constitute abuse of dominance, since the patent itself was properly granted in the first place. The only apparent area for Article 82 liability might arise if the IP holder applies unfair license terms, engages in excessive pricing or refuses to license in order to monopolize a downstream market."[173]

This statement also highlights the differences between the US and the EU with regard to the application of antitrust law to dominant undertakings. As argued by *Drexl,* this deficiency of EC law may in fact prove to impose the most significant detrimental to the effective enforcement of FRAND commitments under EC antitrust law.[174]

4.3 Need for a Precedent from the European Commission

In the above, I have gone far in trying to contemplate the types of claims than one could invoke under the existing EC antitrust enforcement regime. Notwithstanding, it is essential to keep in mind that all of this is rather speculative, since only very limited case law exists. This being the case, I have little to lose by going one step further in my speculations.

Even if the European Commission were to find that Qualcomm's licensing practices with regard to the WDCMA standard do violate Article 102 TFEU the

173 Speech by Ms. Magdalena Brenning delivered at ABA's Anti-trust Spring Meeting in Washington D.C., 3 July 2002, available at: http://www.abanet.org/antitrust/committees/intell_property/july3.html.

174 Supra note Josef Drexl, p.156.

question still remains whether any conclusions drawn in this one particular case would provide any concrete operational future guidance for the enforcement of FRAND commitments in general. It is widely recognized, that one of the major problems in the standardized product market relates to the fact that companies' licensing policies usually are highly confidential. For instance, non-disclosure agreements are frequently used in licensing negotiations to assure confidentiality. The purpose of the non-disclosure agreement is to create a protected environment, which allows the parties to fully and freely disclose relevant business issues and risks without compromising their confidentiality. As argued by *Goldstein* and *Kearsey,* the core problem of using non-disclosure agreements when negotiating licenses for standard-essential patents is that many believe that this practice leads companies to cover-up non-FRAND practices.[175] Without transparent licensing schemes, one simply does not know on which terms individual licensing agreements have been made. Accordingly, as long as the rules of SSOs do not contain an obligation for licensors to reveal their licensing policies, the establishment of a valid "*benchmark*" for the assessment of whether competitive prices are offered to licensees remains extremely burdensome.

In my opinion, however, the above conceptual and practical obstacles do not imply that EC competition law has no role at all to play in averting anti-competitive behaviour vis-à-vis FRAND commitments. Future antirust policy guidance from the European Commission and more knowledge about remedies imposed by the Commission will be of major importance.

On the other hand, it is also important to maintain the role of Article 102 TFEU as preventive and keep in mind that solutions are ideally achieved through the reinforcement of the rules of SSOs. Accordingly, in order to enhance the transparency and predictability of the FRAND regime, the risk of patent holders exercising opportunism should preferably be reduced through the introduction of appropriate additions and clarifications of the existing rules of SSOs. In addition, action by the industry itself would constitute the least costly and most prompt way of addressing the issues at hand. Furthermore, such solution would have the advantages of the industry being itself in control to some extent.

175 Larry M. Goldstein & Brian N. Kearsey, "*Technology Patent Licensing: An International Reference on 21st Century Patent Licensing, Patent Pools and Patent Platforms,"* Aspatore Inc., 2004, p.33, The usefulness of non-disclosure agreements is not as such challenged, as they serve the purpose of protecting both parties, but it is recognized that the current practice may create some IPR problems relating to the use of non-FRAND licensing terms.

Also the European Commission has stressed the importance of SSOs considering EC antitrust rules as part of their internal rules, and that parties only under specific circumstances would turn to the European Commission for assistance. *E.g* former Competition Commissioner *Neelie Kroes* has stated:

> "Standards are of increasing importance, particularly in high-tech sectors of economy. It is crucial that standard-setting bodies establish rules, which ensures fair, transparent and early disclosure of relevant intellectual property. We will continue to monitor the operation of standard-setting bodies in this regard."[176]

However, individual companies cannot impose industry-wide solutions applicable to everybody. It is neither realistic to think that national SSOs, which work by consensus, could solve all the problems without any application of competition law. Accordingly, as long as it is not possible to obtain sufficient consensus in the SOS context, it is likely that further legal proceedings around these issues will be instituted until the matters in question have been resolved through clear jurisprudence from relevant authorities. The increasing number of complaints lodged with the European Commission indicates that the telecom industry urgently needs a precedent. Meanwhile, the industry is forced to litigate about same type of matters simultaneously within several jurisdictions. Furthermore, as pointed out by *Magdalena Brenning* from the Commission's Competition Directorate, in light of the Commission's limited resources, it is not appropriate for the Commission to be drawn into a large number of standardization disputes on a case-by-case basis.[177]

Although, the application of EC competition rules to the FRAND regime without doubt raises several conceptual, financial and practical difficulties, several arguments can, however, also be made in support of the Commission's involvement.

First, as *Chappatte* argues, there is a real risk that national courts in the absence of legal certainty and general principles from the European Commission will apply Article 102 TFEU in an inconsistent manner when essential patents are enforced.[178]

176 See *e.g.* the European Commission´s press release of December 2005 regarding their review of IPR rules under the ETSI regime, available at: http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/05/15/1565%type=HTML&aged=0%language=EN&guiLanguage=en.

177 This statement is available at: http://www.abanet.org/antitrust/committees/intell_property/july3.html.

178 Philippe Chappatte,''*FRAND Commitments- The Case of Antitrust Intervention,*"European Competition Journal, Vol.5 Nr.2, August 2009, p. 334.

Second, it can be argued that the European Commission is best placed to adequately assess the lawfulness of whether the conduct of a dominant undertaking amounts to abuse, because the Commission, as for example in the *Qualcomm* case, can require third parties operating in multiple jurisdictions to provide confidential information about their licensing policies. When determining what constitutes a fair, reasonable, and non-discriminatory royalty rate this tool will often be of essential importance in cross-border situations. Even after the implementation of the Enforcement Directive within EU Member States[179], allowing for discovery in IP cases, it is still very difficult to obtain access to all of the documents needed form third parties, *i.e.* parties who are not involved in the litigation proceedings. Also, outside the area of IP litigation, discovery as such is only available in very few jurisdictions, notably in United Kingdom and United States.[180]

Third, as demonstrated by IPR cases in the past, the European Commission has so far had a tendency to provide rather flexible future guidance and can also be expected to do so with regard to FRAND commitments. Therefore, leaving the matter to the European Commission will not necessarily lead to a drastic transformation of the entire licensing industry. The rather vague legal guidance provided by the European Commission in the past constitutes a clear indication that the Commission tries to avoid negative consequences and therefore can also be expected to refrain from issuing too rigid price regulations, which in turn could give reason to serious concerns within the innovative industries. Against this background, I have difficulties in believing that the European Commission would suddenly change its current practice when dealing with FRAND commitments. In my view, it is likely that the Commission will focus on procedure instead of substance, by approaching FRAND commitments in a pragmatic and flexible manner and by maintaining licensing flexibility for the IPR holders.

Fourth, as the chief guardian of EC antitrust law, the European Commission is best placed to protect continued availability of supply from multiple vendors and ensure the public interest in having interoperable systems within the area of information, communication and consumer electronics industries. Hence, I believe that it is feasible to argue that the application of Article 102 TFEU to dominant IPR holders is rather anticipatory. The Commission's aggressive fining

179 Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights (OJ L 157, 30.4.2004), Article 7.

180 David Wilson, "*International Patent Litigation: Developing an Effective Strategy*," Globe Business Publishing, 2009, p.13.

may very well lead to enforcement that is more effective.[181] From the companies' viewpoint, commitments should better than excessive fines.

181 The record fines imposed by the European Commission in *e.g.* the *Microsoft* case and the *AstaZeneca* case demonstrate well the preventive effects of Article 82 EC. The Commission's handling of these cases will definitely have a significant impact on the way that *Microsoft* or *AstraZeneca* will do business in the future.

5. FRAND Defence in Patent Litigation under German Law

I have chosen Germany as a model jurisdiction for several reasons. First of all, Germany constitutes a large market in Europe and is reputed for having an effective and highly specialised patent court system. Accordingly, Germany is often the jurisdiction of choice for many multinational companies and patentees seeking to protect and enforce their IPRs.[182] In fact, approximately 70 percent of all European patent litigation cases are filed before Germany courts.[183] Furthermore, after the ECJ's rejection of the "*spider in the web*" doctrine under Article 5(3) of the Brussels Regulation[184] and thereby effectively limited the possibility of obtaining cross-border injunctions in transnational patent disputes[185], it has been argued that this might add even more focus on Germany and make it one of the key jurisdictions within Europe for patent litigation.

Most of all, over the past five years, German courts have been involved in a number of FRAND cases in which the question of whether infringement claims can be made as claims for monetary compensation due to the market conduct or market power of the patentee has been raised. In these cases, the key question has been whether the use of injunctions[186] should be restricted to situations where a dominant patentee has discriminated the alleged infringer by granting licenses on terms that are not corresponding with other licenses agreements previously concluded by the patentee. In the following, I seek to provide a summary overview of recent legal developments on this front. In particular, I will deal with one subject, namely, under what circumstances the alleged infringer can raise FRAND as a defence in patent infringement proceedings in order to avoid the grant of injunction.

182 Alexander R. Klett, Mathias Sonntag, Stephan Wilske, "*Intellectual Property Law in Germany- Protection, Enforcement and Dispute Resolution,"* Verlag C.H. Beck, Munich, 2008, p. 21.

183 Ibid..

184 Council Regulation 44/2001/EC of 22 December 2000 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters.

185 Case C-539/03, *Roche/Primus* and Case C-4/03 *GAT v Luk.*

186 Under the German Patent Act (Patentgesetz PatG) §139(1), the patentee may assert a claim for injunctive relief against the infringer who is using the patented invention, if there is a risk for recurrence.

5.1 FRAND Defence and Limited Right to Injunctions

The first German landmark decision is the so-called *Standard Spundfass* decision by the Federal Supreme Court ("BGH").[187] In this case, the BGH admitted that antitrust was relied upon as defence in a patent infringement proceeding regarding alleged non-compliance under Section 19 and 20(1) of the German Act against Restrains of Competition[188] and former Article 82 EC. The defence was declared admissible by BGH because the Court considered that the licensing market for standard-essential patents constituted a market of its own in which the patentee held a dominant position. For these reasons, the Court further found that the alleged infringer was entitled to be granted a license on reasonable and non-discriminatory terms. The Court's finding was principally based on antitrust considerations. In its decision, the BGH also highlighted that where the use of a patent is indispensable for third parties, as is the case with patents included in standards, the patentee's discretion with regard to the license terms and conditions on which he is willing to grant license might be restricted.[189]

This defence was further developed on the basis of the so-called *dolo-agit*[190] principle set forth in Section 242 of the German Civil Code in the form of a general requirement of good faith. In accordance herewith, the Düsseldorf District Court in 2006, in the *Video Signal-Codierung I*[191] case concerning the MPEG-2 standard, affirmed that it in principle could deny the availability of injunction and damages. According to the Court, in case a patentee denies granting a license to a third party, as for instance a member of the MPGE patent pool, on FRAND terms and the defendant has requested such license before making use of the patent, the patentee has acted abusively. With regard to the anti-competitive behaviour of the plaintiff, the Court reversed the burden of proof and found that the defendant had failed to submit adequate evidences in support of abusive conduct on plaintiff's part.[192] As noted by *Schöler* two main questions need to be addressed for successfully raising an antitrust defence in patent infringement proceedings under German law. Firstly, the presumption of infringe-

187 Bundesgerichtshof (BGH), 13 July 2004, Case KZR 40/02, GRUR 2004, 966 – *Standard-Spundfass I.*

188 Gesetz gegen Wettbewerbsbeschränkungen (GWB).

189 Supra note 189.

190 This principle is originating from Roman law: "*Dolo agit, qui petit quad statim redditurus est"* (a claim is considered to be raised in bad faith, if the object of a claim is identical to that of a counterclaim for immediate return).

191 Landgericht (LG) Düsseldorf, 13 November 2006, Case 4b O 508/05, 7 InstGE 70-*Video-signal- Codierung I.*

192 Ibid.

ment is relatively easy to be met with regard to standard related patents, especially if defendant is manufacturing standard compatible products. Secondly, the reversed burden of proof part might cause significant obstacles for the defendant.[193]

In 2007, however, the Düsseldorf District Court allowed for the first time that a FRAND defence be made in the so-called *Zeitlagenmultiplexverfahren* case.[194] In this case, the Court found that the license offered was economically unfair for the defendant in a situation where the plaintiff owned only three percent of all relevant essential patents to the GSM standard. The Court considered that where all essential patent holders would ask equivalent royalties as defendant's, future potential costs for the licensees would exceed what the Court considered to be an amount appropriate to the price established under free market conditions.[195] In consequence, the Court ruled that plaintiff was bound by the ETSI regulation and therefore entitled to license on FRAND terms pursuant to Rule 6.1 of ETSI's IPR policy. This ruling by the Düsseldorf District Court is exceptional even seen from a global perspective. It seems to be one of the first patent disputes related to the GSM standard in which a court has accepted the FRAND defence as admissible based on plaintiff's commitments under the relevant SSO rules with the consequence that the plaintiff's request for injunction was rejected.

Finally, in May 2009, the BHG issued an important and long awaited decision in the *Orange Book* case[196]. In this decision, the BGH affirmed that antirust defences in principal are admissible in response to a claim for injunction, when the patentee is in a dominant position. This controversial decision has led to a vivid debate within the academic community as well as among legal practitioners. This is particularly due to the fact that the procedures suggested by the BGH are not entirely clear and leaves a lot of room for interpretation.[197] Irrespective of the fact that the decision is not entirely clear it is likely that it will play an important

193 Karoline Schöler, "*Patents and Standards: The Antitrust Objection as Defence to Patent Infringement Proceedings, Patents and Technological Process in a Globalized World,"* Springer-Verlag, Berlin Heidelberg, 2009, p.190.

194 Landgericht (LG) Düsseldorf, 13 February 2007, Case 4a O 124/05-GPRS, BeckRS 2008, 07732.

195 Landgericht (LG) Düsseldorf, 13 February 2007, Case 4a O 124/05-GPRS, BeckRS 2008, 07732..

196 Bundesgerichtshof (BGH), 6 May 2009, Case KZR 40/02, GRUR Int 2009, 747 – *Orange- Book Standard.*

197 A lot of attention was given to the *Orange Book* case at a Conference on Patent Exhaustion, jointly organized by EPO, the Japan Intellectual Property Association, MIPLC and GRUR held in Munich on 15 May, 2009.

role in a number of future patent infringement cases regarding standard-essential patents.[198]

The BGH introduces a number of strict perquisites, which must be met in order for the defendant to successfully rely on FRAND as its defence. First, it is required that the defendant has made a binding and unconditional offer on terms that the licensor cannot reject without at the same time violating the non-discrimination requirement or engaging in anti-competitive behaviour. In the case at hand, the BGH did not specify what it considered the payable amount of royalties should be, but indicated that the amount might be more than considered reasonable from the licensee's perspective. In essence, the BGH found it necessary that the defendant would act as a licensee who fulfils its royalty and accounting obligations to the licensor. In practical terms, licensees should escrow a sufficient amount to a blocked bank account, which would then be subject to judicial review.

It is obvious that the BGH in its decision imposes burdens on both parties. In order to avoid injunction, the alleged infringers must be prepared to make payments, as result of their use, which may involve rather large investments and this irrespective of whether this would be in line with the FRAND terms. Therefore, one of the biggest problem remains, namely how much the licensee should be prepared to offer in order for the patentee to be obliged to accept. This is not an easy task, especially if the licensor's standard conditions are not known. However, those dominant patentees who have believed that they could always use the threat of enforcing their patent rights through an injunction without considering their FRAND obligations, and in all cases obtain alleged excessive or discriminatory royalty rates in this way, will have to reconsider their strategy after this judgement. It remains to be seen how German courts will react to the BGH "Orange Book solution". Additional important cases have already arisen and are currently pending before German courts.

198 Ibid, panel discussion on the topic: "*FRAND/Antitrust Objection as Defence to Patent Infringement*," panelists: Gisbert Steinacker, former President Judge of the Patent Senate, Düsseldorf Court of Appeals, Circuit Judge Randall R. Rader, U.S. Court of Appeal for the Federal Circuit, Prof. Hans Ullrich, Max Planck Institute and Judge Ryoichi Mimure, the Tokyo High Court.

5.2 The IPCom v Nokia Case

In 2009 IPCom, a patent "*holding*"[199] company domiciled in Munich, was preparing a patent infringement proceeding against Nokia before the Mannheim District Court[200], in which it was claiming 12 billion euro in licensing fees and asking for injunction.[201] The dispute relates to 160 patent families worldwide, which IPCom acquired from Robert Bosch in 2007, out of which 35 have been declared essential to the GSM standard. The licensing negotiations between IPCom and Nokia had been going on for a long time without any results. In the proceedings, IPCom is claiming about 5 percent of Nokia's revenue in the countries covered by the Bosch patents, which Nokia refused to license to IPCom *inter alia* relying on FRAND as its defence. According to Judge Voss with the Mannheim District Court, 12 cases between IPCom and Nokia are currently pending before the Court.[202] On December 2009 the Court put on hold an application by IPCom for injunction, pending final decision on the validity of the patents by the European Patent Office.

In a dispute between IPCom and the Taiwanese smart phone maker HTC concerning patents identical to those in dispute in the IPcom v. Nokia proceedings, the Mannheim District Court has granted an injunction in March 2009 after ruling that HTC had infringed IPcom's patents.[203] It is therefore not surprising that IPCom also initiated its infringement proceedings against Nokia before the Mannheim District Court. As noted by *Meibom* and *Nack,* strategic planning forms an essential part of any patent litigation. The challenge is to find a strategy that enables the patentee to optimize its position and to avoid unpleasant surprises.[204] As affirmed by the injunction granted by the Mannheim District Court

199 Term patent holding company refers to the commonly used term for patent trolls, patent licensing enforcement companies and non-practising entities. The Managing Director of IPcom, Mr. Bernhard Frohwitter describes IPCom as an "*intellectual property asset manager*". IPCom is part of the Schoeller Group of Pullach, a packing, container and logistic company. 50% is of the company is held by the New York based private equity fund Fortress Investments. IPcom does not appear to have its own webpage.

200 LG Mannheim, file references 180/08, 181/08, 182/08.

201 Article in SüddeutscheZeitung: *"Warum die Finnen zwölf Milliarden Euro zahlen sollen",* 31 January 2007, available at: http://www.sueddeutsche.de/wirtschaft/872/431623/text/.

202 My phone interview of Judge Andreas Voß, the Mannheim District Court, conducted on phone 8 September 2009.

203 LG Mannheim, 27 February 2009, Case 7 O 94/08, GRUR-RR 2009, 222, (FRAND-Erklärung).

204 *Wofgang von Meibom* and *Ralph Nack, "Patents without Injunctions? Trolls, Hold-ups, and Other Patent Warfare*, *Patents and Technological Process in a Globalized World,"* Springer-Verlag, Berlin Heidelberg 2009, p.500.

in the IPCom-HTC case, this particular Court to be very much in favour of the patent owner and to more or less automatically acknowledge the patentee's right to obtain an injunction if infringement has been affirmed.

Nevertheless, Section 719 of the German Civil Procedure[205] provides the possibility for German courts to provisionally suspend the enforcement through injunction against the deposit of a security payment by the defendant. It falls within the discretion of the courts to decide whether or not to grant such type of injunction. Usually the courts will assess the potential losses of the defendant and try to balance the interest of the parties. Interestingly, the Court of Appeals of Karlsruhe used its discretion to suspend the enforcement injunction granted by the Mannheim District Court and to order HTC to post a 7.4 million bond.[206]

Cases such as the IPCom case highlights that requests for the enforcement of injunctions based on standard-essential patents might be rejected more easily than otherwise, especially if the plaintiff is a patent holding company, such as IPCom. In such cases, it is likely that the court, on the one hand, will put emphasise on the potential losses of defendant and, on the other hand, weigh this against the interest of the licensing company in enforcing the requested injunction under Section 719 of the German Civil Procedure.

In a controversial dispute between *eBay* and *MerxExcange,*[207] also the U.S. Supreme Court has recently acknowledged problems with the use of injunctions in a so-called patent troll scenario. Prior to the U.S. Supreme Court's ruling in the *eBay* case, injunctions preventing the defendant from continuing to sell its allegedly infringed products were automatically granted even if the patent in question covered only a minor feature of a complex product, once infringement had been established. According to the U.S. Supreme Court, this practice gave a strong bargaining power to the patentees and provided them with undue leverage in licensing negotiations. In the *eBay* case, the U.S. Supreme Court concluded that damages might well be sufficient to compensate the infringement and that an injunction might not serve public interests when the product or process in question is complex, valuable and popular to its users. Interestingly for the purposes of this paper, the problems identified by the U. S. Supreme Court are especially common in the standardized technology sector. Hence, as argued by *Shapiro* it is not a coincidence that many companies within the information technology sup-

205 Zivilprozessordnung.

206 See**:"*Patentstreit: Frohwitters IP.com darf doch nicht vollstrecken*".**available at: http://www.juve.de/cgi-bin/voll.pl?ID=13726.

207 *EBay Inc. et al. v MerxExcange, L.L.C.,* 126 U.S. 1837, 2006.

port the approach taken by the U. S. Supreme Court in the *eBay* case and see it as a way to prevent the threat of injunction being successfully invoked in patent litigation.[208]

In summary, the German court decisions discussed above further confirm concerns that have been on the agenda within the standardization industry for a long time. As many of the leading scholars in this area argue, patent holders should not be able to use the threat of injunction to push competing companies into paying higher royalties for a license than the underlying technology deserves. *Miller*, for instance, argues in a paper published 2006 that:

"Every participating patent owner has, by making the (F)RAND licensing promise, irrevocably waived its right to seek that most traditional of intellectual property law remedies, a court injunction against unauthorized access. The only relief a frustrated patent owner can seek against an adaptor therefore is the reasonable royalty expressly contemplated."[209]

The perception is that where an standard-essential patent holder has committed himself to irrevocably provide licenses to third parties and are prepared to offer FRAND terms, in principle, no injunction should be available since the only issue to be resolved in litigation is the amount of royalties to be paid.

However, at present no authoritative precedents comparable to the one set by the U.S. Supreme Court in the *eBay* case that could be invoked to support this view exists at EU level. If the European Commission decides to open formal proceedings under Article 102 TFEU based on Nokia's complaint against IPCom[210], it can, however, be expected that the Commission will also examine the use of injunctions by dominant undertakings .

It is apparent, that the recent *AstraZeneca*[211] case confirms that vexatious litigation can be abusive, provided that the patentee holds a dominant market position

208 Carl Shapiro, *"Injunctions, Hold-Up, and Patent Royalties,"* Working paper Draft, 17 April 2006, available at http://faculty.berkley.edu/shapiro/royalties.

209 See J Millers,*" Standard Setting, Patents, and Access Lock-in: RAND Licensing and Theory of the Firm, "* Indiana Law Review, 2006.

210 The complaint arise from initial proceedings filed by Nokia against Robert Bosch in December 2006 in Germany seeking a declaration that IPCom is obligated to honour its agreement to grant license to Nokia on FRAND terms. See *"Nokia Files Formal Complaint against IPCom in Telecom Patents Dispute,"* MLex Intelligence, 7 January 2009.

211 Case COMP/A.37.507.F3, *Generic/AstraZeneca,* 15 June 2005, IP/05/737, on appeal Case T-321/05, pending judgment.

and that the aim of the litigation is to eliminate competition. For the purposes of this paper, it is also interesting to note that the European Commission rejected the attempt by AstraZeneca to argue that the mere possession and enforcement of an intellectual property against a competitor could not be viewed as a violation of Article 102 TFEU. According to the European Commission, AstraZeneca imposed major competitive harm on its rivals mostly by suing them for patent infringement and settling cases on dictated terms and this clearly demonstrated an abuse within the meaning of Article 102 TFEU.[212]

To conclude, it is evident that the case law cited above cannot yet be characterized as settled and that many open questions remains, for example under what circumstance the courts can be expected to find that the use of injunction by dominant patentees amounts to harassment aimed at eliminating effective competition within the standardized product market. Nevertheless, it is clear that the FRAND defence has established itself as a deterrent in German patent litigation and that defendant using standardized technology should not hesitate to raise this as a defence in order to prevent injunction if called for.

As discussed above, the FRAND defence could turn out to be a powerful injunction exception, in particular, with regard to standard-essential patents and therefore patentees ought to carefully weigh in possible antitrust limitations when enforcing their patents, before German courts. However, in order to successfully invoke FRAND as a defence in patent infringement proceeding, one must be well prepared, since if the holder of a standard-essential patent is not considered to hold a dominant position and has not demonstrated anti-competitive behaviour towards its licensees, it can be expected that the courts will endorse patent infringement and grant injunction. Accordingly, as stated by the Bird&Bird attorneys[213] *Wofgang von Meibom* and *Ralph Nack* in a recent article: *"Under European/German law, the fundamental concept of exclusive right is not questioned. Absent additional circumstances, patent infringement is sanctioned by injunction, i.e. there are no patents without injunctions."*[214]

212 Supra note *Generic/AstraZeneca*, para 521.

213 Bird&Bird is representing Nokia in the IPCom patent dispute. During his course (Practical training Patent Law) held in MIPLC 2009, Mr. Meibom gave valuable practical considerations how to approach cases such *IPCom v Nokia* under the current antitrust enforcement framework.

214 *Wofgang von Meibom* and *Ralph Nack* "_**Patents without Injunctions?- Trolls, Hold-ups, and Other Patent Warfare**"_, *Patents and Technological Process in a Globalized World,* (Springer-Verlag Berlin Heidelberg 2009), p.510.

Conclusion

Defining the true meaning of the acronym FRAND reminds me of the parable of two political parties arguing before the elections: who is right and who is wrong, although they both know that no one truth exists and that most matters depend on the perspective from which you view them. In the same way, undertakings who have participated in the standard setting process and subsequently are accused of violating SSO rules and competition law due to alleged over-pricing, seem to argue that the current FRAND licensing regime performs well and that this type of accusations only are made in an attempt to unduly lower the level of royalties. On the contrary, undertakings who believe that they as a result of SSO standardization are forced to pay royalties which are not FRAND (*i.e. "Fair, Reasonable, And Non-Discriminatory"*) appear to believe that the very purpose of standardization and the public interest in establishing an interoperable multi vendor system are under threat and should be put on hold until truly effective and binding arrangements have been put in place.

Given the very substantial legal and business concerns involved, as outlined in this paper, conflicts seem to be unavoidable. As long as the standardization community is not able to reach consensus within the SSO regime and agree to clarify relevant SSO IPR policies, the competition authorities and courts of law will have to tackle these conflicts and act as referees on this battlefield. The analysis presented in this paper show that the FRAND debate is very controversial and that many questions related to the enforcement of FRAND commitments under Article 102 TFEU remain unsolved. In essence, this paper argues, that even though the interface between IPRs and competition law within the standardized technology market is particularly complex and calls for extreme caution, this does not mean that EC competition law has no role at all to play in averting anti-competitive behaviour with regards to FRAND commitments within this area of business.

In summary, it is demonstrated in this paper that FRAND commitments can be used as a powerful defence in order to prevent dominant patent holders from abusively exploiting their standard-essential patents. However, when determining the impact of FRAND commitments under Article 102 TFEU, it should be kept in mind that the test that complainants need to meet, is not merely a test based on the rational of FRAND commitments under the relevant SSOs rules. In other words, in the absence of dominance, even if a patentee in fact does not fulfil his FRAND commitments and asks for exorbitant royalty rates, this does not automatically provide complainants with an antirust remedy under the EC competition.

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