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Hold-up in relation to excessive royalties and injunctions

FRAND enforcement: A comparative view

Abstract: This thesis aims at establishing how FRAND have been enforced by competition authorities on the two sides of the Atlantic in relation to two hold-up problems; that of excessive royalties and the seeking of injunctions coupled with unfair terms. As this thesis establishes the first problem is only a EU competition law concern, which however has never been enforced, probably because of the difficulty in identifying a non-FRAND royalty in practice and because of enforcements' potential negative effects on the incentives to innovate and participate. The second, is however a concern in both, if it is sought against a licensee 'willing' to accept a FRAND royalty. The newly adopted US *Microsoft* case have finally set a precedent on the meaning of a FRAND royalty, although under US contract law. It might however provide guidance for the EU on the subject.

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Contents

Summary

Standards are important in the modern economy, as they promote innovation and facilitate interoperability and compatibility, thus benefiting consumers. Standard-setting can however have detrimental effects as well where a Standard Essential Patent (SEP) owner tries to extract unreasonable terms after implementers are locked in to the standard, known as the hold-up problem. Standard Setting Organizations (SSOs) commonly require members to license on Fair Reasonable and Non-Discriminatory (FRAND) terms to address this problem, but have for a number of reasons been ineffective. This thesis aims at establishing whether competition law has a role in enforcing FRAND in relation to two issues, that of excessive royalties and the seeking of an injunction. As well as what consequences a limitation of IPRs' might have.

EU competition law directly condemns the charging of exploitative excessive royalties under Art. 102 TFEU. However, the practical difficulties in carrying out such an assessment, especially in technology markets, has contributed to that no formal decision has condemned such conduct. The US is reluctant to intervene due to the potential negative effects on the incentives to innovate and participate in the standard-setting process this uncertain assessment has. The US only intervenes against hold-ups as a result of an exclusionary conduct. However, case-law indicates that it is also difficult to prove, meaning that the EU under such regulation would have very limited possibilities to act. Therefore, despite the difficulties of the assessment and the consequential uncertainty, this thesis argues that the possibility to condemn these types of abuses fulfils an important role in EU competition law to address conducts where no other means are possible.

Seeking an injunction coupled with a demand of unreasonable terms is a concern in both the EU and the US. The US is in the forefront since the EU has not (yet) condemned such conduct. The US has limited the possibility for a SEP owner to seek an injunction to only be available against an 'unwilling' licensee. The meaning of 'willing'/'unwilling' licensee is accordingly interlinked to the definition of a 'fair and reasonable' royalty. This decision has met some resistance as it might deprive the value to participate in the process.

The question is whether there is a way to make the assessment of an excessive royalty less uncertain or whether there is any other, more appropriate, remedy by which SSOs can avoid these *ex post* problems with. In the last chapter it is concluded that no one-size fits all approach exists, that different solutions could potentially function in appropriate circumstances, but that they all risk having negative effects on the market. Consequently, they are no better than the FRAND regime. In the authors opinion the best method to prevent these problems and identify an excessive royalty is the current FRAND regime, if supported by appropriate benchmarks. The recent US *Microsoft* case demonstrates the possibility to carry out such an assessment in practice and might provide guidance for future cases, also in the EU.

Sammanfattning

Standards är viktiga i dagens ekonomi då de främjar innovation och skapar interoperabilitet samt kompatibilitet, till fördel för konsumenter. Fastställandet av standarder kan dock även ha negativa effekter när innehavare av ett oumbärligt patent kräver orimliga villkor efter licenstagare blivit bundna till tekniken, det så kallade ”hold-up” problemet. Organisationer som fastställer standarder kräver vanligtvis att medlemmar åtar sig att licensiera sina ”oumbärliga patent” på FRAND (rättvisa, rimliga och icke-diskriminerande) villkor för att undvika detta problem. Denna uppsats ämnar utreda om konkurrensrätten kan verkställa FRAND och diskutera konsekvenserna av att begränsa patenthavares immateriella rättigheter. Två specifika problem utreds; när orimligt höga royalties krävs och när domstolsföreläggandenbegärs för att tvinga fram orimliga villkor.

Enligt artikel 102 FEUF är det i EU konkurrensbegränsande att kräva orimligt höga royalties. Bedömningen är dock svår att utföra i praktiken, speciellt inom teknologiska marknader, vilket har resulterat i att Kommission ännu inte har tagit något formellt beslut mot sådant missbruk. I USA betraktas detta inte som konkurrensbegränsande, då de anser att den ovisshet som bedömningen ger upphov till påverkar incitamenten till innovation och att medverka i standardiseringen negativt. I USA regleras endast ”hold-ups” om det är resultatet av ett utestängande beteende. Dock indikerar rättsfall att det kan vara väldigt svårt att påvisa en sådan effekt, vilket innebär att EU skulle ha begränsade möjligheter att agera under en sådan regim. Därför vidhålls det, trots svårigheterna i bedömning och ovissheten därav, att det nuvarande sättet att vidta åtgärder har en viktig roll i EU:s konkurrensrätt när det inte finns andra medel att tillgå.

En begäran om ett föreläggande anses vara ett problem i både EU och i USA. USA är dock längre fram i utvecklingen inom detta rättsområde, där EU (ännu) inte har tagit ett formellt beslut mot ett sådant missbruk. I USA har möjligheten för patenthavaren att begära ett föreläggande blivit begränsat så att det endast är möjligt när licenstagaren anses vara ”ovillig” att acceptera FRAND villkor. Innebörden av en ”villig”/”ovillig” licenstagare är således förknippat med definitionen av en rättvis och rimlig royalty. Konsekvenserna av ovissheten i en sådan bedömning gör att beslutet dock är ifrågasatt.

I det sista kapitlet utreds om bedömningen av royalties kan göras mindre oviss eller om det finns lämpligare lösningar för organisationer att undvika problemen med. Slutsatsen dras att det inte finns *en* lösning, utan att olika lösningar kan passa under lämpliga omständigheter. Dock är risken att även dessa har en negativ effekt på marknaden och utgör således inte nödvändigtvis ett bättre alternativ än FRAND. Enligt författarens mening är den för närvarande bästa metoden FRAND, avhängigt att FRAND baseras på lämpliga riktlinjer. Det aktuella rättsfallet *Microsoft* från USA påvisar möjligheten att genomföra en sådan bedömning i praktiken och kan eventuellt vara vägledande i framtida fall, även inom EU.

Preface

This thesis has been a work in progress for many months now and has not only affected my own everyday life but also those close to me. This thesis would not have been if not for my boyfriend, Karl-Henrik, who have been supportive throughout this process and have endured my many 'ups and downs'. I would also like to thank my parents, Per and Görel, who until the end have supported all of my endeavours and been there during 17 years of studies. Lastly, I would like to express my gratitude to my supervisor, Hans-Henrik Lidgard, not many professors are as dedicated to their students as you are. Thank you for all your support and encouragement.

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Abbreviations

ART	Aggregate Reasonable Term
CJEU	Court of Justice of the European Union
DOJ	United States Department of Justice
ETSI	European Telecommunications Standard Institute
EU	European Union
FRAND	Fair, Reasonable and Non-Discriminatory
FTC	Federal Trade Commission
IEEE	Institute of Electrical and Electronics Engineers
IP	Intellectual Property
IPR	Intellectual Property Rights
JEDEC	Joint Electron Device Engineering Council
RAND	Reasonable and Non-Discriminatory
R&D	Research and Development
SDO	Standard Development Organizations
SEP	Standard Essential patents
SO	Statement of Objection
SSO	Standard Setting Organisations
TFEU	Treaty on the Functioning of the European Union
US	The United States of America
USD	United States Dollars
VITA	VMEs International Trade Association

1 Introduction

1.1 Background

When a standard-setting organization (SSO) is assigned to create a standard that is practical, of benefit to its members, users or consumers, they are often given the unpleasant task of having to balance competing interests. A balance has to be reached between those who operate on the 'relevant market' but do not own standard essential patents (SEP) on the one hand with those who operate on the market but do own standard essential patents on the other as well as between members of the SSO. The question as to how this is done has been, over the past 10 years, a matter of intense debate on a practical as well as an academic level.

There are two common approaches taken by SSO's to these potentially dominant companies. The first is to obtain an agreement to licence on a royalty free basis and the second is to require members to license on FRAND terms.[1] Royalty free licensing have for a number of reasons not proven to be a popular approach amongst companies due to the high cost of research and development. This makes it difficult, if not near impossible to persuade a company to give up its otherwise enforceable intellectual property rights on a royalty free basis. As a result the more common approach by SSO's, and the one favoured by the European Commission and the Federal Trade Commission, is the use of FRAND or RAND in the US.[2] This means that the SSO seeks to obtain a commitment from the SEP owner to use it on fair, reasonable and non-discriminatory (FRAND) terms. In particular, FRAND commitments can prevent SEP owners from making the implementation of a standard difficult by refusing to license or by requiring unfair or unreasonable royalty fees after the industry has been locked in to the standard.[3] However, few SSOs have provided a definition of FRAND, this leaves the companies oblivious about what they are actually committing to. It has accordingly been left to the firm itself and finally the Courts to decide this matter.[4] Furthermore, where investments to implement a standard have already been made the possibility to exclude the SEP owner and hence enforce the FRAND commitment is limited.[5] Does this mean that SSOs can more effectively enforce their FRAND policies through

[1] Cary, George S., Nelson, Mark W., Kaiser, Steven J., Sistla, Alex R., *The Case for Antitrust Law to Police the Patent Holdup Problem In Standard Setting* (2011) p. 916.
[2] There does not seem to be any substantial difference between these concepts more then linguistics.
[3] *Guidelines on Horizontal co-operation Agreements* (2011) para. 287.
[4] Simcoe, Timothy., *Can standard setting organizations address patent hold-up? Comments for the Federal Trade Commission* (2011) p. 8.
[5] Chappatte, Philippe., *FRAND commitments-The case for antitrust intervention*, (2009), p 328.

competition rules? In the EU, as well as in the US, authorities encourage disclosure on FRAND terms in a standard setting process because of their pro-competitive effects. However, where a FRAND commitment is reneged upon, the SEP holder might run the risk of being caught under Art. 102 TFEU, and section 2 of the Sherman Act or section 5 of the Federal Trade Commission Act in the US.

In this thesis, two competition issues related to the enforcement of FRAND in case of a hold-up situation will be discussed; that of excessive royalties (where the SEP holder do not live up to its *ex ante* FRAND commitment by subsequently charging excessive royalties) and seeking injunctions (to prevent the use of the SEP until a settlement on the terms and conditions of the license has been reached). It is this element of the standard setting process that this study seeks to engage with, by evaluating whether the use of a SEP can be viewed as an anti-competitive action and at what point such conduct would be deemed anti-competitive. Furthermore, some scholars question whether competition authorities should intervene at all since the use of competition law to prohibit the strict exercising of a property right runs counter to the IPR (Intellectual Property Rights) of the SEP owner. Consequently, the effects of intervention will also be discussed and whether the enforcement of FRAND through competition law will negatively affect the incentives to innovate or the desire to participate in the standard setting process. These investigations will inevitably be followed by the continuous discussions on whether there are any other, more appropriate, solutions by which SSOs could address the hold-up problem with. Or whether there are any specific benchmarks that could bring more substance to the current FRAND regime. The importance of standardization for society as well as the effect it might have for innovation is indicative of it being an essential area of law, one that nonetheless is in need of some clarifications.

1.2 Purpose

Against this background, the purpose of this thesis is to identify the meaning of a FRAND commitment in relation to excessive royalties and injunctions as hold-up problems in the EU, and whether it can and should be remedied by competition law.

The investigation will thus investigate whether competition law can be used to limit the freedom to set royalties, and if so what limitations FRAND have imposed on royalty setting of SEP owners in the EU and the US. The investigation will also aim at establishing whether competition law can limit the well-recognized patent remedy to seek injunctions by a SEP owner against a licensee. Such an investigation will require an analysis of the purport given to FRAND and how it has been enforced over the past years in relation to these types of abuses, in the EU and the US. However, intervention against these types of abuses can have negative consequences for e.g. the incentives to innovation or the desire of patent holders to

participate in the standard. Therefore, is it desirable to enforce FRAND by using competition law?

The last chapter therefore seeks to address different solutions proposed by scholars to either improve the current FRAND regime or introduce alternative SSO IPR policies that would more effectively prevent the hold-up problem. Are there any appropriate benchmarks that can be used to identify a FRAND royalty and cure the uncertainties of the assessment carried out by competition authorities? Furthermore, are there any realistic pro-active alternatives to prevent the involvement of competition law altogether. One suggestion is the possibility for SSOs to prevent the *ex post* problems by e.g. requiring detailed royalty determinations *ex ante*. The question is whether these are more successful in preserving the benefits of the incentives to innovate, participate and preserve the benefits of the process? Do such IPR policies risk competition law intervention against anti-competitive agreements?

1.3 Method and Material

When proceeding to investigate the purpose, a traditional legal dogmatic method will be used to establish *de lege lata* in the EU. The method will be used to describe and analyse EU competition law and policy. By considering interpretations from relevant legislation, Commission decisions and case law this method aims to establish the approach taken toward excessive royalties and injunction in the EU (and the US) and how competition law has been used to limit the licensing freedom of SEPs. This method will also provide the reader with an understanding of the clash between IPR and competition law and the concerns raised in relation to this.

To broaden the discussions, a brief outlook toward the US will be given in order to highlight the different approaches taken as well as to highlight the EU and the US ideological differences. This comparative method is intended to give perspective to the issues under discussion, as the two systems somewhat diverge from each other. Main focus in the thesis will be given to the EU, the comparative method will therefore be aimed at providing the reader with an alternative perspective on the different reasoning taken toward the same issues, which subsequently might provide guidance on how the EU should proceed in the future.

The nature of the topic will also require a law and economics perspective when evaluating what effects an intervention of competition law might have upon investments on the industry and innovation. Competition law and IPR have been established to aim toward the same objective, to promote innovation and enhance consumer welfare. Does the current system effectively achieve these objectives or would a different approach be more appropriate?

To answer the question and following the method at hand the relevant material will be legislation, case law, legal doctrine and Commission notices as well as articles from both the EU and US. Material will be selected from prominent journals and mainly written from 2007 and onward to get the most updated discussions. There is not a large selection of case law and Commission decisions to choose between, however those that will be discussed in this thesis constitute guiding principles in their respective areas.

1.4 Delimitations

This thesis has its basis in Art. 102 TFEU and will accordingly not address the issues of the standard-setting process in relation to Art. 101 TFEU more than necessary. For instance in the futuristic chapter the different proposals' potential anti-competitive concerns under Art. 101 TFEU will merely be highlighted. A prerequisite for the application of Art. 102 TFEU is the existence of a dominant position. There is however no presumption that a SEP owner is in a possession or exercise of market power, such an assessment is made on a case-by-case basis.[6] For the purpose of this thesis the concept of dominance will not be elaborated upon and will therefore be assumed in the discussions.

There are different types of standard, such as *de facto* standard, where a standard has evolved as a result of a widespread adoption by purchasers. However, this thesis seeks to engage with *de jure standards* created through joint discussions within an SSO. One of the major concerns with standard-setting is the hold-up problem. The question of whether a hold-up situation is an existing problem or not has also been debated, however this is not something that this thesis seeks to elaborate upon.[7] The most common way of preventing this type of problem is for SSOs to require FRAND commitments. Nonetheless, some SSOs require royalty free and zero royalty commitments. These concepts will however not be developed upon.

Lastly, different solutions will be discussed to improve or change FRAND. This part does not seek to present an exhaustive list of solutions, it merely seeks to highlight some of the most discussed propositions, their benefits and drawbacks to conclude that there is no one-size-fits-all approach.

1.5 Disposition

Chapter II
Contains a general introduction to the interrelationship between competition law and IPR, which is seen in standardization. The benefits of the standard-

[6] *Guidelines on Horizontal co-operation Agreements* (2011) , para. 269.
[7] Geradin, Damien., Rato, Miguel., *Can Standard-Setting Lead to Exploitative Abuse? A Dissonant View on Patent Hold-up, Royalty Stacking and the Meaning of FRAND (*2007). They argue that the patent hold-up problem has been exaggerated.

setting process are also highlighted as well as its potential anticompetitive effects. SSOs commonly require FRAND commitments by their members to reduce these risks but are not clearly defined and not effectively enforced. Competition authorities have therefore been seen to intervene, the question is how to reach an appropriate balance between IPR and competition law, and between the members of the SSO when seeking to enforce FRAND.

Chapter III

In Part II, the limitation on SEP owners' freedom to determine **royalties** will be investigated. It is of central importance to evaluate previous case law to identify potential alternative benchmarks and the difficulties of identifying these in dynamic industries. A US comparison will provide for a discussion on the appropriateness of regulation and differences in addressing hold-ups.

Chapter IV

Part III will involve a debate on whether such a well recognized IPR as the right to exclude could be limited by competition law and the consequences thereof. The US has provided guidance in the new *Google* case on when a SEP owner should and shouldn't be allowed to seek injunction. Case law will be analysed to define the meaning of an 'unwilling' licensee, which will be interlinked with Part II of the thesis. The question is whether it is realistic that the EU will follow this approach.

Chapter V

This part seeks to present different proposals to better handle the uncertainties with the current regime. Firstly, proponents have suggested different solutions to strengthen FRAND, by introducing different possible benchmarks under which a FRAND royalty and a 'willing' licensee can be identified. Secondly, proponents have suggested alternative methods than FRAND to prevent hold-ups. These propositions are discussed in relation to each other with the intention of reaching a realistic *de lege ferenda* on how the EU could proceed.

Chapter VI

The final part of the thesis will contain concluding remarks on the topic in general. What is the meaning of fair and reasonable royalties in a standard setting process and when is a SEP owner allowed to seek injunctions to protect its IPR without the involvement of competition law? Finally, is competition law an appropriate remedy to address the hold-up problem and if so, what is the way forward?

2 Competition law, IP and standard-setting

2.1 The IP-Antitrust interface

Intellectual property law regulates the creation, use and exploitation of mental or creative labour. The rationale behind protecting such rights has its basis in different philosophical considerations, found in moral and ethical arguments of creators natural or human rights over the products of their labour[8]. As well as 'Law and Economics' arguments, where the time and money invested in the development of the product should be rewarded, otherwise nothing would prevent others from free riding on this intellectual property. Furthermore, where a creator cannot enjoy the fruits of their work, what would be the incentives to invest in research and development? Therefore, where a creator is not adequately granted these rights it is likely to be undercut by competitors who have not suffered from the costs of creation. Such a situation where the market cannot protect the innovator and guarantee that it can recoup its investments is sometimes referred to as 'market failure'.[9] It is accordingly these interests that IPR tries to protect and by doing so provide incentives to innovate.

Competition law on the other hand seeks to regulate the market and its participants and through such regulation achieve its ultimate aim of promoting efficient markets, both in static and dynamic terms, to the benefit of 'consumers welfare'.[10] The enforcement of IPRs may be considered as anti-competitive since the very nature of IPR provides the proprietor with exclusivity on the market, which in competition law generally is referred to as market power or monopoly power. A position of market power provides the proprietor with the possibility to exclude others from the market, reducing competition and consequently reduce output and increase prices.[11] An undertaking that, due to its market power, could act to an appreciable extent independently of its competitors, customers and ultimately of its consumers is in a dominant position, within the meaning of Art. 102 TFEU.[12] By introducing these two areas of law it becomes apparent that there is a tension between them.

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[8] *Universal Declaration of Human Rights*, Art. 27(2), which also have its foundation in John Locke's 'labour justification'; that individuals have a right to the fruits of their work.
[9] Bently, Lionel., Sherman, Brad., *Intellectual Property Law* (2009) pp. 4-5.
[10] The goal to promote consumer welfare was also stated by Commissioner Neelie Kroes in: SPEECH/05/512, 2005.
[11] Korah, Valentine., *Intellectual Property Rights and the EC Competition rules*(2006), p. 1.
[12] C-27/76, *United Brands v. Commission,* [1978] ECR 207, para 65.

The potential of competition law to limit a holders IPR has been demonstrated through the *Magill*[13], *IMS*[14] and *Microsoft*[15] cases where the European Commission issued a compulsory licensing due to a refusal to license their rights. The challenge for competition authorities is how to strike a balance between preserving effective competition on the market and rewarding investments in innovation. However, this balancing is not equal to competition law vs. IP law, on the contrary competition law also recognise the importance of providing incentives to innovate, which will benefit consumers in the long run. Therefore a balance within competition policy also needs to be achieved between, static and dynamic goals.[16] An example of a static, short term, goal would be to pursue allocative and productive efficiency by promoting lower prices as well as increase output and a wider choice of products. While from a dynamic, long term, perspective allowing unfair high prices for a limited period of time could promote innovation and bring new or improved products to the market, eventually bringing prices down.[17] This idea builds upon a theory by *Schumpeter*, who considered that the motivation to innovate is the prospect of monopoly profits, and even though innovators would be able to charge higher prices in the short run competitors would in the long run enter the market with superior technology to displace them.[18] *Kenneth Arrow* presents an opposing theory where he believes that competition provides more incentives for innovation than the aspiration of monopoly power. The competitive pressure and that innovation will contribute to success in the market would thus provide more incentives. It is against this economic background that both the US FTC and the EU Commission has relied upon when trying to reach an adequate balance between the aims of IP law and Competition law.[19]

The US, as the EU, recognize that in the absence of sufficient IPRs innovators would be deprived of an adequate compensation, which would deprive the incentives to invest and reduce the value of innovation.[20] At the same time it is also acknowledged that certain conduct with respect to Intellectual Property may have anti-competitive effects which antitrust laws can and do protect against.[21] Accordingly, a balance should be struck between the two. The US approach rests upon the belief in monopoly and

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[13] C-241/91 P, *Radio Telefis Eireann (RTE) and Independent Television Publications Ltd (ITP) v Commission of the European Communities*, (1995) ECR I-00743.
[14] C-418/01, *IMS Health GmbH & Co. OHG v NDC Health GmbH & Co. KG*, (2004), ECR I-05039.
[15] T-201/04, *Microsoft Corp. v Commission of the European Communities*, (2007) ECR II-03601.
[16] Scott-Morton, Fiona., *Antitrust Enforcement in High-Technology Industries: Protecting Innovation and Competition* (2012) p. 4.
[17] Anderman, Steven., Shmidt, Hedvig., *EU Competition Law and Intellectual Property Rights- The Regulation of Innovation* (2011) pp. 11-14.
[18] Whish, Richard., Bailey, David*., Competition Law* (2012) pp. 4-6.
[19] Anderman, Steven., Ezrachi, Ariel., I*ntellectual Property and Competition Law- New Frontiers* (2011), p. 62.
[20] US Antitrust Guidelines for the Licensing of Intellectual Property (1995), section 1.
[21] US Antitrust Guidelines for the Licensing of Intellectual Property (1995), section 2.1.

competition; that property rights should enjoy strong protection and that a successful competitor should not be 'punished' when he wins. The US is therefore less sceptical towards monopoly power than the EU.[22] It could therefore be argued that the US is fairly close to *Schumpeter'*s economic theory about monopoly. That does not however mean that IPRs are exempted from antitrust scrutiny, as argued in the 'old' *Microsoft* case[23], it does not 'act as a talisman that wards off all antitrust enforcement'.[24] These differences will be further discussed below in relation to the specific issues under discussion.

Against this background and irrespective of the tensions that exists between competition law and IPR, it has been established that they 'indirectly serve the aims of the other' by complementing each other in promoting innovation and competition dynamics to the benefit of consumers.[25] Competition law could therefore be seen as a kind of safeguard in situations where the market does not produce an adequate level of innovation. However, competition rules should not be enforced in such a way as to unnecessarily reduce the incentives to innovate in its effort to protect efficient competition.[26]

Standardization is one of the fields where the interaction between competition law and IPR becomes apparent and where competition authorities face challenges in reaching an appropriate balance.

2.2 The standard-setting process

'Standards are good because they create the level playing field on which all can compete. More than that, good standard-setting helps consumers, boosts competitiveness and can spur market growth.'[27]

Standards are extremely important in the current economic development and a key instrument in fostering innovation. The EU Commission has deemed the benefits that standards brought for the European industry as

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[22] Käseberg, Thorsten., *Intellectual Property, Antitrust and Cumulative Innovation in the EU and the US* (2012) pp. 252-253.
[23] *United States v. Microsoft Corp*., 253 F.3d 34 (D.C. Cir. 2001), Microsoft's primary copyright argument borders upon the frivolous. The company claims an absolute and unfettered right to use its intellectual property as it wishes. . . . That is no more correct than the proposition that use of one's personal property, such as a baseball bat, cannot give rise to tort liability.
[24] Pate, R. Hewitt., *Competition and Intellectual Property In the US: Licensing Freedom and the Limits of Antitrust* (2005), p. 2.
[25] Ghidini, Gustavo., *Part I Chapter 2: The Bride and the Groom. On the Intersection between Intellectual Property and Antitrust Law* (2012) , p. 29. And also US Antitrust Guidelines for the Licensing of Intellectual Property (1995), p. 2.
[26] Anderman, Steven., Shmidt, Hedvig., *EU Competition Law and Intellectual Property Rights- The Regulation of Innovation* (2011), p. 16.
[27] Speech by European Commissioner for Competition Policy Neelie Kroes, *'Setting the Standards high*', SPEECH/09/475.

tremendous.[28] Standards are requirements or agreements between market participants that determine certain specific aspects around a good or service to reduce the diversity of different technical forms.[29] Standards are generally considered to be pro-competitive. It promotes innovation, provides information as well as facilitates interoperability, compatibility and downstream competition. Furthermore, standardization generally increases competition and lower sales costs, thus benefiting consumers and economies as a whole.[30]

Although standardization is a very important aspect in the market economy and is generally considered to be pro-competitive, the standard-setting process risk creating anti-competitive effects. Especially concerning the risk that a SEP owner would unduly exploit the enhanced market power it has acquired through the standard-setting process. Where a standard has been adopted it will inevitably reduce the number of technical substitutes on the relevant market, reducing inter-technology competition.[31] Therefore the technology chosen to be included in the standard will consequently enjoy a significantly enhanced market power.[32] Furthermore, where investments have been made to implement a standard the industry becomes locked-in to that standard since these investments would be lost if they would switch to an alternative technology.[33] This could allow for a company to act anti-competitive by e.g. *holding-up* users, either by refusing to license or by trying to extract excessive royalties, in other words prevent an effective access to the standard.

Considering the diversity of interests between the members of an SSO it is not surprising that the terms and conditions of a license are disputed when the different members' expectations are different. First we have the upstream-only companies, which solely develop and markets technologies relying on licensing revenue. Secondly, we have the downstream-only companies that solely manufacture products or offer services based on technologies developed by others, for whom royalties represent a cost. Lastly, we have the vertically integrated companies, which both develop technology and sell products, where royalties both constitute a revenue but also a cost, they might therefore seek to cross-licence.[34] SSOs are therefore assigned to reach an adequate balance between the different interests between the licensor and the licensee, by securing an effective access as

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[28] Communication from the Commission, *A strategic vision for European Standards: Moving forward to enhance and accelerate the sustainable growth of the European Economy by 2020*, COM(2011) 311 final, p.6.
[29] Weber, Rolf H., *Competition Law versus FRAND Terms in IT Markets* (2011), p. 51.
[30] *Guidelines on Horizontal co-operation Agreements* (2011), para. 263.
[31] Inter-technology competition (i.e. competition between undertakings using competing technologies). Intra-technology competition (i.e. competition between undertakings using the same technology) *Guidelines on technology transfer agreements*, (2004), para. 11.
[32] Chappatte, Philippe., *FRAND Commitments- The Case for Antitrust Intervention* (2009), pp. 325-326.
[33] Chappatte, Philippe., *FRAND Commitments- The Case for Antitrust Intervention* (2009), p. 325.
[34] *Guidelines on Horizontal co-operation Agreements* (2011), para. 267.

well as making sure that SEP owners will be adequately compensated. SSOs have therefore commonly adopted IPR policies that seek to preserve the pro-competitive effects of the process by requiring members to disseminate their IP *ex ante* on fair, reasonable and non-discriminatory terms (FRAND).[35]

2.2.1 FRAND

By requiring a FRAND commitment, SSOs seeks to ensure that the SEP is available for implementation by members of the industry while making sure that the patent holders will be adequately compensated for their innovation. This commitment, when successfully applied, will minimize the anti-competitive risks of patent hold-up as well as accelerate implementation of valuable technology and also secure compensation to the SEP owner on competitive terms and conditions.[36] Even though FRAND licensing is commonly used by SSOs' few policies actually define the meaning of it or give guidance on how to interpret it. This has rather been up to Courts or the right holder itself.[37] Therefore, the FRAND regime offers no predictability and leaves licensors and licensees uncertain about the commitment. ETSI (the European Telecommunications Standard Institute) is one of the three major SSOs within the EU, which all require FRAND commitments from their members. In Section 4.1 of ETSI's IPR policy it requires its members to 'use its reasonable endeavours', especially during the development of a standard, to inform ETSI of any SEP in a timely fashion. Under section 6.1 a SEP owner shall be required to 'give within three months an irrevocable undertaking in writing that it is prepared to grant irrevocable licences on fair, reasonable and non-discriminatory terms and conditions…'.[38]

It is apparent that little guidance is provided by SSOs to its members since the IPR policies do not define FRAND as specifying or dictating a particular licensing result. In addition, the only course of action available for SSOs to enforce a FRAND commitment is to renegotiate the standard. This is however unlikely where no alternative technology exists or where heavy investments for the implementation already has been made.[39] Therefore, the enforceability and the meaning of FRAND have been discussed extensively as to what limitations it places on SEP owners. FRAND can be divided into two components, the 'fair and reasonable' and the 'non-discriminatory' part. The non-discriminatory part is rather straightforward and perhaps most useful component in ensuring equal licensing terms for similarly situated licensees.[40] However, concerning the meaning of the 'fair and reasonable'

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[35] Weber, Rolf H., *Competition Law versus FRAND Terms in IT Markets* (2011), p. 54.
[36] Cary, George S., Nelson, Mark W., Kaiser, Steven J., Sistla, Alex R., *The Case for Antitrust Law to Police the Patent Holdup Problem In Standard Setting* (2011), p. 915.
[37] Weber, Rolf H., *Competition Law versus FRAND Terms in IT Markets* (2011), pp. 54-55.
[38] ETSI Rules of Procedure, Annex:6 ETSI Intellectual Property Rights Policy (2011).
[39] Chappatte, Philippe., *FRAND Commitments- The Case for Antitrust Intervention* (2009), p. 328.
[40] Policy Roundtable discussions at the OECD, *Standard Setting*, DAF/COMP(2010)33, p. 45.

component scholars have to date not reached a consensus on the subject. On the contrary, many of the papers on the subject fundamentally contradict each other.[41] The inadequacy of SSOs to give any meaning to FRAND commitments, both in substance and enforcement, has lead to the involvement of competition authorities to intervene where the non-FRAND licensing has been deemed anti-competitive.

[41] Layne-Farrar, Anne., *Be My FRAND: Standard Setting and Fair, Reasonable and Non-discriminatory Terms (*2010), p. 2 And there cited articles.

3 Excessive royalties and the Hold-up problem

One element of the licensing process that FRAND seeks to prevent is the *ex post opportunism* that permits a SEP owner to extract more favourable terms than what would otherwise have been possible.[42] A hold-up situation often occurs when a SEP owner conceal or fail to disclose the patents which are essential or when it deceptively misrepresent that it will license on FRAND terms. After the standard has been adopted and implementers are locked in the SEP owner will demand excessive royalties.[43] The failure of SEP owners to comply with their commitment to licence on FRAND terms, by holding-up users and demand excessive royalties, is a concern in the EU both in general and within the standard-setting context, under Art. 102 TFEU.[44] The concern with excessive royalties have been exposed to much scholarly writing regarding the question as to what level a royalty would be deemed excessive and consequently not in accordance with FRAND. Both licensors and licensees are placed in a position of legal uncertainty, which might negatively affect the incentives to innovate and participate, where market participants cannot assess the legality of their own practices.[45]

The US, contrary to the EU, does not consider excessive prices to be an antitrust concern for a number of reasons addressed below. Therefore, to successfully challenge a hold-up situation under section 2 of the Sherman Act the conduct, be it a deceptive conduct or an excessive royalty, must be deemed exclusionary.[46] Nevertheless, recent tendencies have suggested that

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[42] Geradin, Damien., *Abusive pricing in an IP Licensing Context- An EC Competition Law Analysis* (2007), pp. 19-20.
[43] Hockett, Cristopher B., Lipscomb. Rosanna G., *Best FRANDs Forever? Standard-Setting Antitrust Enforcement in the United States and the European Union (*2009), p. 19.
[44] Treaty on the Functioning of the European Union, Art. 102 TFEU.
[45] Glader, Marcus., *Innovation Markets and Competition Analysis- EU competition law and US antitrust law* (2004), p. 65.
[46] US. Code Title 15 Chapter 1 §2, 'Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony, and, on conviction thereof, shall be punished by fine not exceeding $100,000,000 if a corporation, or, if any other person, $1,000,000, or by imprisonment not exceeding 10 years, or by both said punishments, in the discretion of the court'.
"the possession of monopoly power will not be found unlawful unless it is accompanied by an element of anti-competitive conduct." Such conduct often is described as "exclusionary" or "predatory" conduct, *Verizon Commons Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 US. 398, 407. And US Department of Justice*, Competition and Monopoly: Single-Firm conduct under section 2 of the Sherman Act*, (05/11/2009), Ch. 1.

there might be a possibility to use section 5 of the Federal Trade Commission Act, to mitigate a hold-up situation absent exclusion.[47]

3.1 The concept of exessive pricing

This chapter seeks to establish whether competition law can be used to limit the freedom to set royalties and compare with the US approach to provide the reader with a basic understanding of the issues inherent to such intervention.

3.1.1 EU regulation of excessive pricing

Royalty rates are generally not considered to be an antitrust concern. As stated in the 2004 Technology transfer guidelines, 'parties to a license agreement are normally free to determine the royalty payable by the licensee and its mode of payment without being caught by Art. 101(1) TFEU'.[48] However, where a unilateral conduct by a dominant undertaking, whether in a standardization context or not, leads to exploitative or exclusionary prices it risks being caught under Art. 102 TFEU. Art. 102(a) TFEU states that an abuse is to 'directly or indirectly imposing unfair purchase or selling price or other unfair trading conditions'. The article is in theory very straightforward, a dominant company setting prices significantly higher than those which would result from effective competition is an unfair price.[49]

The rationale behind regulating exploitative excessive prices, prices that are simply too high, has its basis in three main reasons. Firstly, the text and history of Art. 102 TFEU are straightforward in its purpose to regulate this type of conduct. The second reason lies with the previously addressed goals of antitrust; to protect consumers from high prices enabling a wealth transfer from the consumer to the monopolist, by directly intervening against too high prices. Lastly, the reason for regulating exploitive excessive prices lies with the so-called 'gap cases'. These cases exist due to the fact that Art. 102 TFEU does not prohibit the acquisition of dominance, but only anti-competitive conduct of firms already in a dominant position. The prohibition against exploitative excessive prices provides authorities with the possibility to address previously exclusionary conduct by linking it to

[47] US. Code Title 15 chapter 2 § 45.
(1) Unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce, are hereby declared unlawful.
(2) The Commission is hereby empowered and directed to prevent persons, partnerships, or corporations, [except certain specified financial and industrial sectors] from using unfair methods of competition in or affecting commerce and unfair or deceptive acts or practices in or affecting commerce.
[48] *Guidelines on the application of Article 81 to technology transfer agreements* (2004), para. 156.
[49] Whish, R., Bailey, David., *Competition Law* (2012), p. 721.

the present charging of excessive prices.[50] 'An excessive price case may then provide a possibility of "correcting" for a lacking intervention concerning exclusionary conduct *ex post*'.[51] One example of such application is where an undertaking has acquired its dominant position by not disclosing its patent when it was involved in discussions on setting a standard.[52]

From the foregoing the application of Art. 102 TFEU on excessive pricing might theoretically seem to be a straightforward task. However, in practice the Commission has rarely been seen to intervene and little guidance have been provided on when prices becomes excessive.[53] The presently leading case is *United Brands* where the Commission considered that *United Brands* had abused its dominant position by charging different prices in different Member States, which where '**excessive in relation to the economic value of the product supplied'**.[54] The CJEU stated that when a dominant undertaking use its position as a way to 'reap trading benefits which it would not have reaped if there had been normal and sufficiently effective competition' by 'charging a price which is excessive because it has no reasonable relation to the economic value of the product supplied would be… an abuse'.[55] The Court suggested a method by which it could be identified when a price is excessive comprised in a twofold test known as the cost-based approach.[56] A more recent case, where the *United Brands* two-fold test was considered, is the *Scandlines* case where the Commission claimed that the port of Helsingborg imposed excessively high port charges.[57] The Commission emphasised the difficulties that lies in applying the assessment in practice by stating that 'even if it can be determined that the price-cost margin is excessive, it is difficult, if at all possible, to draw any conclusions on whether the prices are unfair when comparisons are made'.[58] A number of cases have established methods of deciding the excessiveness of a price other than the test established in *United Brands* by solely relying on a benchmark to establish excessiveness.[59] Alternative suggested benchmarks of comparison proposed have been; value

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[50] *Competition and Regulation, Excessive Prices- European Union*, DAF/COMP/WP2/WD(2011)54, pp. 309-310.
[51] *Competition and Regulation, Excessive Prices- European Union*, DAF/COMP/WP2/WD(2011)54, p. 51.
[52] See: *Rambus* discussed in Section 3.2.1 below., *Competition and Regulation, Excessive Prices- European Union*, DAF/COMP/WP2/WD(2011)54, pp. 309-310.
[53] Coates, Kevin., *Competition Law and Regulation of Technology Markets* (2011), p. 83.
[54] C-27/76, *United Brands v. Commission,* [1978] ECR 207, para. 235.
[55] Ibid. para. 249-250.
[56] Ibid. para. 250-252.
The Two-fold test:(1) it is shown that the price-cost margin (comparison between the selling price and cost of production of the product, which would disclose the amount of the profit margin) is excessive and (2) that it is shown that the price imposed is either unfair in itself or when compared to competing products. This did not exempt the possibility to use other solutions.
[57] *Scandlines Sverige AB v. Port of Helsingborg*, [2006] 4 CMLR 1224.
[58] Ibid. p. 207.
[59] C-110/88 *Lucazeau v. SACEM,* [1989] ECR 2811, [1991] 4 CMLR 248.

comparison[60], price comparison[61], geographic comparison[62] and comparison over time[63].[64]

In relation to IPR the CJEU stated in the case *Parke Davis* that 'a higher sale price for a patented product as compared with that of an unpatented product does not necessarily constitute an abuse'.[65] This is the interpretation Advocate General Mischo in the *Maxicar* case makes by stating that 'it appears to mean that the inventor is entitled to recover not only his production costs in the strict sense but also his research and development expenditure'.[66] Furthermore in *STIM* the CJEU stated that the economic value of the service must be considered in relation to the copyright, to receive remuneration for the TV broadcasts of their works, and the interest of the television broadcasting companies, to be able to broadcast those works under reasonable conditions, and that an appropriate balance should be sought.[67]

Against this background the test of excessive royalties seem to be difficult in practice and even more difficult in relation to IPRs in technology markets, because of the problem with identifying an appropriate benchmark. In light of these cases scholars have expressed concern regarding intervention against excessive royalties in a licensing relation of IP.[68] The critique has largely been targeted towards the uncertainty of the test and the negative effects it might have on the incentives to innovate. Firstly, identifying the costs, under the first part of the *United Brands* test, in a technology market may be very difficult since the costs of bringing a product to the market cover not only the production costs. For example, the huge investment costs in R&D (Research and Development) should also be taken into account, as well as the possibility to recover the costs from failed

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[60] 'the price for a product should be reasonable in relation to the economic value of the product'.

[61] C- 26/75, *General Motors Continental v. The Commission* [1976] ECR 1367 and C-52/07, *Kanal 5 Ltd, TV 4 AB v. STIM*, [2008] ECR I-9275, comparison with prices of competing products.

[62] C-110/88 *Lucazeau v. SACEM,* [1989] ECR 2811, [1991] 4 CMLR 248 and C- 395/87, *Ministère Public v. Tournier*, [1989] ECR 2521, *comparison with price differences between Member States.* The court concluded that a company in a dominant position charging appreciably higher royalties in one Member State compared to royalties charged in other Member States, and where those are being charged on a consistent basis, must be regarded as indicative of an abuse of a dominant position. Para. 25, 29.

[63] C-226/84*, British Leland v. Commission* [1986] ECR 3263, [1987] 1 CMLR 185, A dramatic increase of price over time can indicate an excessive price.

[64] Lidgard, Hans-Henrik., *Part I Competition Classics, Material & cases on European Competition Law and Practice* (2011), pp. 239-241.

[65] C-24/67, *Parke, Davis and Co. v. Probel, Beintina-Interpharma and Centrafarm*, [1968] ECR 55, para 72.

[66] Opinion of Mr. Advocate General Mischo in C-53/87, *CICRA and another v. Renault (Maxicar),* [1988] ECR page 06039, OJ C 284, para. 62.

[67] C-52/07, Kanal 5 Ltd, TV 4 AB v. STIM, [2008] ECR I-9275, para. 28-31.

[68] Geradin, Damien., *Abusive pricing in an IP Licensing Context- An EC Competition Law Analysis* (2007), p. 14.

R&D.[69] This is why the possibility of charging prices above the unit cost of production is facilitated by IPR legislation, since it reflects the competitive rewards for an innovation.[70] To identify what 'costs' should be included could be very problematic and may require expertise knowledge on the particular area. Secondly, it is difficult to identify an appropriate benchmark when it might be difficult to find something to benchmark with at all, considering the unique character of an IP. Thirdly, identifying a separate geographic market might also be problematic since a technology market often will be EU or worldwide. Furthermore, even if comparable patents would exist each negotiation is unique and might include other kinds of compensation such as cross-licensing. Therefore, an assessment would require an in depth analysis of the licensing contract, which is both resource demanding and might require expertise knowledge.[71]

Against the foregoing, there is a widespread opinion that the EU Commission should no act as price regulators and intervene against the charging of excessive prices, especially in technology markets. Nevertheless, 'to date, no decision of the Commission or judgement of the Community Courts has formally condemned a dominant firm for charging excessive royalties for a patent licence.'[72] Perhaps it is because of the complicated nature of such an assessment. Therefore although the possibility to address and condemn excessive prices of IPRs exists it has been restrictively applied.

3.1.2 US non-regulation of excessive pricing

As already mentioned the US does not consider that simply charging too high prices, without more, to be an anti-competitive concern. These differences will be highlighted to provide the reader with an understanding of the complications underlying this area of law. In the US an unregulated market is considered to be competitive as long as an artificial barrier has not been created. In other words, the US antitrust law is concerned with exclusionary conduct that a monopolist has exercised, either in order to maintain that position or in order to acquire one.[73] The position taken by the US is supported by case law, where the Court has held that mere high prices resulting out of a monopoly power, without excluding competitors by improper means, is not in itself anti-competitive.[74] As *Hewitt* puts it 'We

[69] Ibid. p. 14-15.
[70] Bishop, S., Walker, Mike., *The Economics of EC Competition Law: Concepts Application and Measurement* (2010), pp. 237-238.
[71] Geradin, Damien., *Abusive pricing in an IP Licensing Context- An EC Competition Law Analysis* (2007), p. 16-17.
[72] Ibid. p. 9.
[73] Gal, Michal S., *Monopoly pricing as an antitrust offence in the US and the E.C: Two systems of belief about monopoly?* (2004), p. 4.
[74] *Berkey Photo, Inc. v. Eastman Kodak Co*., 603 F.2d 263, 297 (2d Cir. 1979). and *US. v. Aluminium Co. Of America*, 148 F.2d 416, 430 (2d Cir. 1945).

protect a competitive process, not a particular result, and particularly not a specific price'.[75]

One strong argument against intervention of excessive prices is the belief in the self-correcting tendencies of the market. It rests upon the idea that high prices attract new firms to the market seeking to enjoy the high profits attainable, in accordance with the theory proposed by *Schumpeter*. The fear of such entry, or that there is new entry, will tend to make prices and profits falling. Excessive pricing action may disrupt this process by taking into consideration static (short term) benefits of bringing prices down instead of dynamic (long term) considerations that might impede new market entry, which could have otherwise taken place.[76] Regulating excessive pricing might also impede the dominant firms incentives to invest in further innovation, hence charging high prices and profits should be seen as a reward for the firm's efforts, innovations and investments.[77]

Another argument against intervention is governments' efficacy in regulating prices. The difficulty in determining what is 'excessive' and 'reasonable' could be nearly impossible where costs, demand and technological functions are constantly changing. That could create a high level of uncertainty, further undermining the investment incentives.[78] The US Supreme Court has stated that competition laws are not sufficiently equipped to make an assessment of what is a reasonable or what is an excessive price.[79] Furthermore an intervention would lead to a price regulation by the authorities, which would lead them in to a role of price regulation, which is undesirable.[80] Therefore, a claim of exploitive excessive pricing will not have a successful outcome under US antitrust law, unless there has been an unlawful anti-competitive acquisition of a monopoly power.[81]

3.1.3 Conclusions

This part of the thesis demonstrates the possibility to intervene against the charging of excessive prices in the EU. Under such regulation it can be

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[75] Pate, R. Hewitt., *Competition and Intellectual Property In the US: Licensing Freedom and the Limits of Antitrust* (2005), p. 8.
[76] *The Pros and cons of High Prices* (Swedish competition authority, 2007), p.18.
[77] *Ibid.* p.18-20. And *Verizon Commons Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 US. 398, 407 (2004): "The opportunity to charge monopoly prices at least for a short period is what attracts business acumen in the first case; it induces risk taking that produces innovation and economic growth".
[78] Gal, Michal S., *Monopoly pricing as an antitrust offence in the US. and the EC: Two systems of belief about monopoly?* (2004), p.17.
[79] *Pacific Bell Telephone Co. V. linkLine Communications, Inc*., 555 US. 438 (2009), 129 S. Ct. 1109 (2009), at. 1121.
[80] *Berkey Photo, Inc. v. Eastman Kodak Co*., 603 F.2d 263, 297 (2d Cir. 1979). And *The Pros and cons of High Prices* (Swedish competition authority, 2007), pp.18-20.
[81] Geradin, Damien. Layne-Farrar, Anne., Petit, Nicolas., *EU competition Law and Economics* (2012), p. 4.436.

claimed that EU favour the static goals of competition.[82] This chapter also emphasise the difficulties in assessing when a price becomes 'excessive'. Firstly, from the case-law of the EU it is apparent that it is a challenging assessment to make due to the difficulty in identifying appropriate benchmarks, which is even more difficult in technology markets. Secondly, the stance taken by the US underlines how the application of such a prohibition might negatively affect the incentives to innovate and invest, due to the uncertainties of the assessment. Furthermore, competition authorities would be placed in a position as price regulator, which both the EU Commission and the FTC have established to be undesirable. It therefore does not come to any surprise that the Commission have rarely intervened. Nevertheless, in the present legal environment exploitative excessive pricing fulfils a role in EU competition law as a safe guard against anti-competitive conducts where no other means are available. It is therefore not possible to conclude that the intervention against these type of abuses is undesirable. However, because of the negative aspects such intervention might have it is important to emphasise that where the Commission can identify an appropriate benchmark and considers intervention, it is crucial that the costs of R&D needs to be taken into account, including the costs of failed R&D. The Commission is conclusively tasked with reaching an appropriate balance between the interests of the licensee and licensors as well as IP and competition law.

3.2 EU - FRAND limitiation on royalties

The different interests between members of an SSO have contributed to an increasing number of disputes concerning the meaning of a 'fair and reasonable' royalty. The starting point of determining whether a royalty is not 'fair and reasonable' and thus in violation of EU competition law is to evaluate it under Art. 102 TFEU, according to the test set out in *United Brands*. Standards are commonly set around IPR, which means that enforcers are faced with the already discussed issue of identifying an appropriate benchmark. If that was not enough, the very purpose of standardization is to exclude alternatives, which means that the possibility to find a comparison could be particularly complicated. As already mentioned, the difficulties inherent to the test in technology markets provide companies with a high level of uncertainty that risk harming the incentives to innovate and invest. Therefore, some have suggested that competition law is not the right instrument to address the hold-up problem.[83] There are two relevant cases that have recently been scrutinized by the European Commission, the *Rambus* and *Qualcomm* cases.

[82] Gal, Michal S., *Monopoly pricing as an antitrust offence in the US and the E.C: Two systems of belief about monopoly?* (2004), pp. 2-4.
[83] Geradin, Damien., *Reverse Hold-ups: The (Often Ignored) Risks Faced by Innovators in Standardized Areas* (2010), p. 23.

3.2.1 Rambus

Rambus was a member of JEDEC (Joint Electron Device Engineering Council), a US based world-wide SSO for computer memory chips, requiring their members to disclose their patent on FRAND terms. In 2002 two competing companies filed a complaint with the Commission against *Rambus*, which was the starting point of its investigation. The Commission issued a SO in 2007 where the Commission raised concerns about *Rambus* conduct, stating that it was aware of the benefits resulting from keeping its patent secret. Furthermore, without the so called 'patent ambush' *Rambus* would not have been able to charge the royalty rates they did. The Commission referred to its 1992 Communication 'Intellectual Property Rights and Standardization', which stated that 'an IPR holder would act in bad faith if they were aware that its IP read on a standard in development and did not disclose its IPR until after the adoption of the standard. This would force its competitors to accept higher licensing fees than those which could have been negotiated at an earlier stage before the adoption of the standard.'[84] The Commission thus claimed that *Rambus* had infringed Art. 102 TFEU by intentionally breaching JEDEC's patent policy, aimed at preventing the manipulation of the standard-setting process and ensuring that licences were offered to JEDEC members on reasonable terms. Furthermore, it stated that *Rambus* had, by undermining the standardization process, harmed technical development and the development of the market to the detriment of consumers.[85]

In response to the Commissions SO *Rambus* settled with the Commission (although expressing disagreement with the findings) in 2009 to put a cap, a maximum royalty rate, for products subject to the JEDEC standard for five years. After the settlement the Commission stated that 'there was no significant degree of Community interest for conducting a further investigation into the alleged infringement'. [86]

3.2.2 Qualcomm

In October 2007 The EU Commission decided to open formal anti-trust proceedings against *Qualcomm* Inc., a US chipset manufacturer, following complaints from a number of mobile phone and chipset manufacturers (among others Nokia and Broadcom). *Qualcomm* was an IPR holder in the mobile telephone standard sector, which formed part of the 3G standard for European mobile phone technology. *Qualcomm* possessed SEPs to the standard and had committed to licence these on FRAND terms.[87]

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[84] Commission Communication "*Intellectual Property Rights and standardisation*", COM(1992) 445, paragraph 4.4.1. Also, referred to in the *Rambus* decision at point 32.
[85] Commission decision, *Rambus* (2009), Case COMP/38.636, para. 27-29.
[86] Ibid. para. 49-50.
[87] Commission initiates formal proceedings against Qualcomm, (2007), MEMO 07/389.

The claimants asserted that *Qualcomm*'s licensing terms and conditions did not comply with their FRAND commitment and accordingly breached EU competition rules. The complainants argued that a SEP owner should not be able to exploit its acquired market power resulting from the implementation to the standard. They furthermore claimed that non-FRAND royalties could lead to increased prices for consumers, as well as decrease present and future developments on the standard. The Commission accordingly investigated whether there was an alleged abuse of a dominant position in violation of Art. 82 [102] TFEU. According to the Commission, the assessment of whether *Qualcomm* had exerted exploitative terms on its competitors, contrary to Art. 102 TFEU, may depend on whether the licensing terms are in breach of its FRAND commitment.[88]

The complainants withdrew their complaints (probably due to a behind the scenes settlement), which resulted in that the Commission closed all formal proceedings and left the case without any formal decision. The Commission stated that although the illegal behaviour by dominant companies, especially in innovative sectors, are important to address due to the detriment of consumers' benefit of competition and choice, the assessment of the conduct in question 'may be very complex, and any antitrust enforcer has to be careful about overturning commercial agreements'.[89]

3.2.3 The 2011 Horizontal Guidelines

The 2011 Horizontal Guidelines was adopted after the settlement was reached with *Rambus* and proceedings against *Qualcomm* were closed. To the disappointment of many, neither the *Qualcomm* nor the *Rambus* case gave any precedential value to the interpretation of FRAND. The Commission have however to some extent responded to the issues at stake in these cases in the newly adopted 2011 Horizontal Guidelines.

The Guidelines states that in case of a dispute, the assessment of whether fees charged for access to the standard is unfair, and thus contrary to the SEP owners FRAND commitment, 'should be based on whether the fees bear a reasonable relationship to the economic value of the IPR'.[90] The FRAND commitment could therefore be claimed to be no more specific than the concept referred to by CJEU in *United Brands*.[91] The Commission however recognise the difficulties inherent to the cost-based method suggested in *United Brands*, since it does not satisfactorily take into account the costs of the R&D of a particular patent. A few alternative benchmarks are therefore suggested by the Commission to render the assessment more effective;

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[88] Ibid.
[89] Commission closes formal proceedings against Qualcomm (2009), MEMO/09/516.
[90] *Guidelines on Horizontal Co-operation Agreements* (2011), para. 289. Established in Case 27/76, *United Brands*, para. 250.
[91] Geradin, Damien., *Abusive Pricing in an IP Licensing Context- An EC Competition Law Analysis*, (*2007)*, p. 23.

- *ex ante*/*Ex post benchmark*, compare the licensing fees charged by the company in question before the standard was adopted in a competitive environment and before the standard has been locked in, with those charged after the standard has been adopted. Such an assessment must however be carried out in a consistent and reliable manner, as established in *Tournier* and *SACEM*.[92]
- *independent expert assessment*, such an assessment would establish the objective centrality and essentiality of the standard to the relevant IPR portfolio.[93]
- *Ex ante disclosure of licensing terms,* Such disclosures would make it possible to compared the *ex ante* disclosed terms with those required *ex post*.[94]
- *Comparable standards*, where an appropriate comparable standard for an IPR can be established the royalty rates can be compared with each other.[95]
- The Commission also leaves the possibility open for parties to settle this *contractually* in civil or commercial courts.[96]

In conclusion, following the failure of the Commission to set some guiding principles in the *Rambus* and *Qualcomm* cases the Commission has somewhat clarified some guiding principles in relation to FRAND. They clarify that standards are generally pro-competitive and that standardization agreements, which ensure an effective access to the standard in a transparent process, normally would enjoy a sort of safe harbour position.[97] Furthermore, the importance of reaching an adequate balance between licensors and licensees are emphasised. Previous chapters discuss the difficulty in identifying an appropriate benchmark and accordingly reach such a balance. Accordingly, different possible benchmarks and other identified solutions have been discussed extensively. However, all of these raise different complications such as implementation problems or anti-competitive concerns, as will be discussed in greater length below.[98]

3.3 US-FRAND no limitation on royalties?

The US, similar to the EU, recognise the importance standards have in the modern economy, but that collaboratively determined standards can reduce consumer choice and competition. Courts have therefore found liability where the standard-setting process has been manipulated or where the resulting standard has been used deceptively to gain a competitive

[92] *Guidelines on Horizontal Co-operation Agreements* (2011), para. 289.
[93] The problem is that two independent experts may disagree on the assessment of the same patent. *Guidelines on Horizontal Co-operation Agreements* (2011), para. 290.
[94] Ibid. para. 290.
[95] Ibid. para. 290.
[96] Ibid. para. 289.
[97] Emanuelson, Anna., *Standardisation agreements in the context of the new Horizontal Guidelines* (2012) p. 6.
[98] *See:* section 5 below.

advantage over rivals.[99] Accordingly, the US also recognise the problem with hold-ups and the negative impact it might have on a competitive environment. However, considering the previously discussed difference in application between Art. 102 TFEU and section 2 of the Sherman act, the focus is not on establishing the excessiveness of a price. The focus is rather on whether a deceptive conduct, which has excluded competitors, has created an unlawful monopolization.[100] Nevertheless, the FTC has, similar to the EU, taken a stance against hold-up situations in some cases, which (relevant or not) leads to excessive prices. Therefore the US approach to regulate this type of behaviour is interesting to address in relation to the EU. Two recent cases addressing these concerns are the *Rambus* and *N-Data* cases, where the latter was brought under section 2 of the Sherman Act and the former under section 5 of the FTC Act.

3.3.1 Rambus

The US *Rambus* case precedes the EU investigation of the very same company, nonetheless the investigation revolves around the same issue of an alleged 'patent ambush'. As already mentioned in the previous chapter[101], *Rambus* distorted the standard setting process by engaging in deceptive conduct, the 'paten ambush', that resulted in a hold-up situation of the patented technology as well as the subsequent charging of royalties of its own choice. The FTC accordingly found that it constituted a deceptive exclusionary conduct and unlawful monopolization of the market contrary to section 2 of the Sherman Act and section 5 of the FTC Act.[102] The complaint was issued in June 18, 2002.

Rambus appealed the FTC decision to the DC Circuit on the question of whether it had been engaged in deceptive conduct at all, and that 'deceit merely enabling a monopolist to charge higher prices than it otherwise could have charged would not in itself constitute monopolization' *Rambus* furthermore stated that the JEDEC policy was vague and that it therefore had not violated any clear duty to disclose patents.[103] The FTC focused entirely on the allegation of monopolization under section 2 and claimed that absent *Rambus* deceptive conduct, JEDEC would have either excluded its technologies from the standard or required it to license its technology on [F]RAND terms with an opportunity for *ex ante* licensing negotiations.[104]

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[99] US DOJ and FTC, *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition* (2007), p. 35.
[100] Abbott, Alden F., Kim, Nicholas J., *Standard Setting and Hold-ups under section 5 of the Federal Trade Commission Act* (2011) pp. 338-339.
[101] *See:* Section 3.2.1.
[102] Opinion of the Commission, Public Record Version, *In the Matter of Rambus Inc*. Docket No. 9302, p. 3.
[103] *Rambus Inc. v. FTC*, 522 F.3d 456, (D.C Circ. 2008), p. 2.
[104] Ibid. p. 4.

The Court disagreed with the FTC and considered that it had failed to demonstrate that *Rambus*'s conduct was exclusionary and thus harmed competition and that the FTC's theories was not satisfactorily supported by evidence.[105] Interestingly, the Court of Appeals considered the claim of deceptive conduct to be an insufficient antitrust claim since 'an otherwise lawful monopolist's use of deception simply to obtain higher prices normally has no particular tendency to exclude rivals and thus to diminish competition'[106] and that a mere loss of a commitment to license on FRAND terms does not harm competition by excluding alternative technologies.[107] On these grounds the DC Circuit found, contrary to the FTC opinion, that *Rambus* conduct was not an anti-competitive concern under section 2. The Court also commented on Commissioner Leibowitz concurring opinion suggesting a stand-alone action under section 5. It expressed serious concerns about the strength of the evidence relied on to support the Commissions findings, due to the unclear evidence of a duty to disclose under the SSO's IPR policy and what *Rambus* had failed to disclose.[108]

3.3.2 N-Data

In late January 2008 the FTC issued a Consent Order where it settled with *N-Data* to limit the company's ability to charge negotiated royalty rates for patents that had previously been integrated into an Ethernet standard for local area networks adopted by the SSO IEEE (The Institute of Electrical and Electronics Engineers).[109] The previous owner to the patented technology, the inventor, was a member of the SSO and had committed to license its technology to any requesting party, on a non-discriminatory basis, and for a one time fee (1,000 USD).[110] A few years later the patent was assigned to another company. It proposed a change of the previous commitment to the SSO and instead makes it available on a non-discriminatory basis and on reasonable terms and conditions including its then current royalty rates, which it claimed would supersede previous commitment (seeking to disavow the 1,000 USD licensing term).[111] Subsequently, *N-Data* acquired the technology, whereby it threatened to initiate proceedings against companies that did not respect its new licensing terms and refused to pay the new royalty demands, which was far in excess to the original amount.

The case was argued under section 5 of the FTC Act, regulating unfair methods of competition and unfair acts or practices, where the FTC claimed

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[105] Ibid. pp. 8-9.
[106] Ibid. p. 6. And case *NYNEX Corp. v. Discon, Inc.,* 525 US. 128, 119 S. Ct. 493, 142 L. Ed. 2d 510 (1998).
[107] Ibid. p. 8.
[108] Ibid. p. 9.
[109] Analysis of proposed consent order to aid public comment, *In the Matter of Negotiated Data Solutions LLC*, File No. 051 0094, p.1.
[110] Ibid. p. 2.
[111] Ibid. p. 3.

that the two limiting principles were met.[112] First, the requirement of 'coercive or oppressive conduct' was satisfied due to creation of a hold-up situation (that it exploited its power against implementers lacking any practical alternatives). Second, the requirement that there's an 'adverse effect upon competition', was met due to the charging of excessive royalties and the undermining effect such conduct poses to the standard setting process, to the detriment of consumers.[113] The majority of the FTC considered that *N-Data* had violated section 5. Importantly, the FTC did however state that 'merely breaching a prior commitment is not enough to constitute an unfair act or practice under section 5' but, that the standard-setting commitment, lock-in effect as well as the widespread use of the standard, are important factors in this case.[114]

Then-Chairman Majoras dissented from the *majority's* opinion and stated that condemning a party for breaching its prior licensing commitment without finding a concurrent determination that the conduct violates the Sherman Act, would lead the Commission down a 'slippery slope'. Mojaras furthermore stated that the Commission failed to identify any meaningful limiting principles of what constitutes an 'unfair method of competition'.[115] Lastly Majoras expressed serious policy concerns about using a consumer protection authority to intervene in a commercial transaction to protect the alleged 'victims' [the computer manufacturers].[116]

3.3.3 US Case analysis

The *Rambus* case confirms the general approach to excessive pricing. Thus, where no evidence of an exclusionary conduct can be established, a lawful monopolist merely charging high prices is not sufficient to constitute liability under section 2 of the Sherman Act.[117] However, these types of conducts are not easily proven and it requires clear and precise, not 'murky' IPR policies, as expressed by the Court in *Rambus*. The D.C Circuit took the opportunity to comment on a prior decision by the Third Circuit in Broadcom v. *Qualcomm*.[118] The *Qualcomm* case was also brought under section 2 where liability was claimed due to its false promise to license on FRAND terms.[119] The Court concluded that Broadcom's claim was viable under section 2 since: '(1) in a consensus-oriented private standard-setting environment, (2) a patent holder's intentionally false promise to license essential proprietary technology on FRAND terms, (3) coupled with an SDO's reliance on that promise when including the technology in a standard,

[112] Ibid. p. 4.
[113] Ibid. p. 5.
[114] Ibid. p. 9.
[115] Dissenting Statement of Chairman Majoras *In the Matter of Negotiated Data Solutions LLC,* File No. 0510094, p. 4.
[116] Ibid. p. 5.
[117] *Rambus Inc. v. FTC*, 522 F.3d 456, (D.C Circ. 2008), pp. 6-7.
[118] Ibid. p. 8.
[119] For a more extensive factual background *see:* section 3.2.1.

and (4) the patent holder's subsequent breach of that promise, is actionable anti-competitive conduct'.[120] Contrary to the *Rambus* case the Court in *Qualcomm* found that strong evidence existed for the argument that without *Qualcomm*'s false commitment, the SSO would have chosen another technology. The DC Circuit did not find this decision helpful for the FTC in *Rambus* to establish that deceit lured the SSO away from a non-proprietary technology. The court stated that such a finding would conflict with 'controlling' Supreme Court precedent and should not be regarded as anti-competitive.[121] It is apparent that there exists a tension between the Third and the DC Circuit regarding the application of section 2 to Hold-up cases. The main reason might be that the Courts' interpretation of the relevant IPR policies lead to different conclusions concerning the existence of a clear and binding duty to disclose, which might have changed the SSO's decision to include the relevant technology into the standard. It might therefore be difficult to provide sufficient evidence to prove causation between the alleged anti-competitive conduct and an exclusionary effect. This demonstrates the importance of SSOs' to require clear and binding IPR policies. Nevertheless, as highlighted by *Hockett* and *Lipscomb*, parties found liable by the FTC are likely to appeal to the DC Circuit rather than the Third Circuit, which might indicate that the FTC will not be able to benefit from the *Qualcomm* case.[122]

Therefore, some have argued that section 5 is the most effective instrument to combat hold-ups. The *N-Data* case particularly illustrate the ability of section 5 to prevent the undermining of standard-setting processes beyond the traditional reach of the Sherman Act and the ability of SSOs' to mitigate the problem themselves.[123] Following the *N-Data* decision, a lot of critic was raised due to the 'unlimited expansion' of the application of section 5 of the FTC Act, especially in the dissenting opinion of then-Commissioner Majoras. The struggle between the different opinions regarding its application has primarily been around the fact that hold-ups are a concern between the market participants and not necessarily a harm to consumers. Nevertheless, the FTC and DOJ have stated that the costs of hold-up might be hidden because participants can simply pass on these costs to consumers. Therefore, absent antitrust involvement consumers can be the final victims.[124] Chairman Leibowitz of the FTC responded to the failure of the FTC to address the hold-up problem in the *Rambus* case by stating that unilateral conduct cases are very difficult to win, even when the evidence is strong, which *Rambus* is a perfect example of. He believes that antitrust enforcement in the US have been enormously circumscribed during the last thirty years, some of which have gone too far. The purpose of antitrust law

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[120] *Broadcom v. Qualcomm*, 501 F.3rd 297 (3d Circ. 2007), p. 13.
[121] *Rambus Inc. v. FTC*, 522 F.3d 456, (D.C Circ. 2008), p. 8.
[122] Hockett, Cristopher B., Lipscomb. Rosanna G., *Best FRANDs Forever? Standard-Setting Antitrust Enforcement in the United States and the European Union* (2009), p. 20.
[123] Abbott, Alden F., Kim, Nicholas J., *Standard Setting and Hold-ups under section 5 of the Federal Trade Commission Act* (2011), p. 353.
[124] US DOJ and FTC, *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition* (2007), p. 40.

is however to prevent anti-competitive conduct that harms consumers, and therefore section 5 of unfair method of competition provides a possibility to prevent this type of behaviour also outside the antitrust laws.[125]

3.4 Conclusions

This thesis set out a number of objectives, the first seeking to establish a comparative view on how FRAND have been enforced in relation to excessive royalties as a hold-up problem under competition law and what limits it has placed on a SEP owners freedom to determine royalties. Against the foregoing it is clear that the EU Commission have not enforced a single case concerning the interpretation of FRAND, although both *Rambus* and *Qualcomm* was under investigation. Disregarding the Commission's failure to set any precedent on the subject they nevertheless demonstrate that it is prepared to take action against such conduct. The Commission could however be claimed to indirectly succeed in enforcing such a commitment by settling with *Rambus* to lower its royalty rates. It does however strengthen the theory that the EU approach of condemning exploitative excessive pricing, under the *United Brands* test, is too difficult to carry out in practice. *Geradin* is of the opinion that 'in the absence of and exclusionary behaviour, EU competition law is not the right instrument to address hold up cases allegedly committed by essential patent holders'.[126] This would point in the direction of a similar application of competition rules as in the US.

In the US, absent an exclusionary conduct, section 2 of the Sherman Act cannot be used to establish liability. Therefore 'excessive pricing' within the US standard-setting context, as in general, is not an antitrust concern, as was stated in the *Rambus* case.[127]. However, as illustrated in abovementioned cases hold-ups can be a concern under US antitrust law when it is created through an unlawful monopolization or deceptive conduct that will exclude competitors. The charging of excessive royalties is possible due to the creation of a hold-up situation, where implementers are locked-in to the standard and have no other choice than to pay the royalties. Therefore, by addressing hold-ups it can be argued that authorities indirectly address excessive royalties. The potential of section 2 to address hold-ups is demonstrated in the US *Qualcomm* case where it was established that a false promise to license on FRAND terms could also be regarded as a deceptive conduct, resulting in an unlawful monopolisation. However, considering the DC circuit's statement in *Rambus* such a conclusion seem to presuppose that the SSO IPR policy is clear and binding; that absent a FRAND commitment

[125] Roundtable Conference with enforcement Officials, American Bar Association Section of Antitrust Law (2009), pp. 13-14.
[126] Geradin, Damien., *Reverse Hold-ups: The (Often Ignored) Risks Faced by Innovators in Standardized Areas* (2010), p.23.
[127] 'an otherwise lawful monopolist's use of deception simply to obtain higher prices normally has no particular tendency to exclude rivals and thus to diminish competition'.

another technology would be chosen. Accordingly, causation must be established between the deceptive conduct and the unlawful monopolization, i.e. that the SSO would have implemented an alternative technology.[128] As this thesis have already discussed, providing sufficient evidence of such causation and bring a successful claim under section 2 is not an easy task. As Chairman Leibowitz stated, unilateral conducts are difficult to address under section 2, even when the evidence is strong.[129] Against this background, the statement that EU should not intervene absent exclusionary conduct might instead leave EU unable to intervene at all.

Interestingly, the *N-Data* case, although criticised, indicate on the contrary a converging trend between the EU and the US.[130] Chairman Leibowitz, suggests that hold-ups should be addressed under the broader section 5 FTC Act, which could provide the possibility to address these problems also outside the antitrust laws. Following the *N-Data* decision it may be possible to claim a stand-alone action under section 5 against hold-ups, absent an exclusion of rival. However, it is not yet clear what the full extent of section 5 in relation to hold-up is. Nevertheless, the reasoning presented by the FTC is interesting. It states that the creation of a hold-up situation where competitors are locked in to the standard and subsequently increase royalty demands could increase prices to the detriment of consumers, is very similar to the reasoning carried out in the EU when addressing 'excessive royalties'.[131] One should however be aware of that the *N-Data* case was specific since the inventor had set a specific royalty rate, which *N-Data* had largely excessed. It is possible that the US would not have so easily established liability under other circumstances, and probably not where the excessiveness needs to be calculated.

In conclusion, the enforcement of FRAND is applied differently on the two sides of the Atlantic. Under US antitrust law FRAND does not impose any limitations on the freedom to set royalties and the true impact of section 5 will remain to be seen. In the EU there has sill not been a formal decision where FRAND have been enforced against the charging of an excessive royalty, although the possibility exists. The key of such an assessment lies in identifying an appropriate benchmark, which is particularly difficult in technology markets. Authorities also needs to take into consideration the costs of R&D, which true amount is difficult to establish, otherwise innovation and participation would be a losing strategy. [132] It is clear that the assessment of the excessiveness of royalties is difficult to carry out in

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[128] Weber, Rolf H., *Competition Law versus FRAND Terms in IT Markets* (2011), p. 69.
[129] Roundtable Conference with enforcement Officials, American Bar Association Section of Antitrust Law (2009), pp. 13-14.
[130] Hockett, Cristopher B., Lipscomb. Rosanna G., *Best FRANDs Forever? Standard-Setting Antitrust Enforcement in the United States and the European Union* (2009), p. 24.
[131] Analysis of proposed consent order to aid public comment, In the Matter of Negotiated Data Solutions LLC, File No. 051 0094, p. 8.
[132] The writer mainly refers to the importance to take into consideration the costs of R&D and that remuneration does not always take the form of royalty payments. For a more extensive discussion *see:* section 3.1.1.

practice, which leaves firms uncertain about what to expect as a result of their business decisions. As a result, firms might hesitate to participate in the standard setting process, which would deprive consumers of the benefits of the standard setting process. However, although it might be difficult to establish what a 'fair and reasonable' royalty is, the creation of a hold-up situation leading to excessive royalties undermines the standard-setting process and deprives consumers of its benefits. These types of conducts therefore need to be addressed in one way or the other.

4 Injunctive relief and the Hold-up problem

"The protection of intellectual property is a cornerstone of innovation and growth. But so is competition. I think that companies should spend their time innovating and competing on the merits of the products they offer – not misusing their intellectual property rights to hold up competitors to the detriment of innovation and consumer choice."[133]

Concerns have not only been raised in relation to the charging of excessive royalties that creates a hold-up situation. In recent years there has been an increase of cases concerning injunctions sought where the terms and conditions of a license cannot be agreed upon. Such conduct has been used between mobile telephone manufacturers *Apple*, *Microsoft*, *Samsung* and *Motorola* against each other, the so-called smartphone war, over the meaning of FRAND.[134] Similar to the concern with excessive royalties, such conduct could undermine the pro-competitive effects stemming from the standardization process.

One of the basic rights of an IP owner is the right to prevent others from exploiting the fruits of their work. By seeking an injunctive relief a patent owner can prevent the accused infringer from continuing to exploit the IPR without a license to do so.[135] The right to seek injunctions is an important factor in patent law both in the EU and the US, without which there no longer would be 'as great an incentive to engage in the toils of scientific and technological research'[136]. Some scholars have however argued that within a standard-setting context injunctions could unduly affect the negotiation strength of the parties in a licensing situation, in favour of the licensor. Accordingly, the proprietor of a SEP could with the threat of an injunction increase its bargaining position in order to negotiate excessive royalties where implementers are locked into the standard, i.e. create a typical hold-up situation. Some scholars have therefore argued that a proprietor who has made a FRAND commitment therefore should never be able to seek an injunctive relief.[137] Enforcers are once again faced with the difficult task of balancing the interests at stake between licensor and licensee as well as between competition- and IP law.

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[133] Commission Vice President in charge of Competition Policy, Joaquín Almunia, in the Samsung SO, IP/12/89.
[134] Langus, Gregor., Lipatov, Vilen., Neven, Damien., *Standard Essential Patents: Who is really holding up (and when)?* (2013), p. 1.
[135] Shapiro, Carl., *Injunctions, Hold-Up, and Patent Royalties* (2010), p. 281.
[136] *Smith Int'l, Inc. v. Hughes Tool Co*., 718 F.2d 1573, 1578 (Fed. Cir. 1983).
[137] Chappatte, Philippe, *FRAND Commitments- The Case for Antitrust Intervention* (2009), p. 331.

4.1 FRAND limitation on injunctions in the EU

The 2011 Horizontal Guidelines does not address the issue with injunctions in relation to FRAND specifically. Nevertheless, as previously discussed, where the pro-competitive benefits of the standard-setting process risk being distorted, by preventing an effective access to the standard and used to extract more favourable licensing terms, the Commission is likely to raise some concerns. Two recent cases concerning injunctions within the standard-setting context have been brought to the attention of the Commission, The *Google/MMI* merger decision and the *Samsung* Statement of Objection.

4.1.1 The Google/MMI merger decision

In late November 2011 the EU Commission was notified of a proposed concentration by which *Google* Inc. would acquire *Motorola* Mobility Holdings, Inc. *Motorola* was the proprietor of a number of SEPs to which it had committed to license on FRAND terms.[138] *Google* promised in a legally binding and irrevocable letter to various SSOs to: (1) honour *Motorola's* pre-existing FRAND commitments, (2) honour the maximum per-unit royalty rate of 2.25% of the net selling price for the relevant end-product, (3) continue to negotiate in good faith for a reasonable period unless either party initiate legal proceedings against the other or seek injunctive relief based on its SEP.[139]

In its investigation the Commission firstly stated that, the very purpose of FRAND is to prevent SEP owners from making the implementation of a standard difficult by imposing excessive or discriminatory fees after the industry has been locked-in.[140] Secondly, it stated that when a SEP owner seek an injunction against its 'good faith' counterpart in Court it could, depending on the circumstances[141], significantly impede effective competition by forcing the counterpart to agree on terms and conditions that it would not otherwise have agreed to. It could also harm consumers by reducing output since products could be excluded from the market. Although the Commission expressed concern of such conduct it did not provide any specific guidance on the meaning of a 'good faith' licensee. Some third parties worried that *Google* would use its potentially acquired SEPs in such a way, but the Commission dismissed those concerns. It stated that *Google* had limited ability/incentive to seek injunctions due to its

[138] Commission decision, *Google/ Motorola Mobility*, Case No. COMP/M.638, para. 5-7.
[139] Ibid. para. 8-9.
[140] Ibid. para. 105.
[141] The Commission is referring to whether it is a threat of an injunction, seeking of one or the actual enforcement of an injunction against a good faith potential licensee.

FRAND commitment, especially against those who was already in possession of an existing license.[142]

4.1.2 The Samsung statement of objections

In January 2012 the Commission opened formal proceedings against *Samsung* to assess whether it had acted anti-competitive by seeking injunctions against users of their SEPs and reneged on its FRAND commitment to ETSI.[143] In December *Samsung* dropped its lawsuit against Apple, probably with the hope of encouraging the Commission to stop their investigation.[144]

Irrespective of *Samsung*'s action, the Commission, only a few days later sent a Statement of objections (SO) where it set out its preliminary view. The Commission states that although 'injunctions are a possible remedy for patent infringement, such conduct could be abusive where SEPs are concerned and the potential licensee is willing to negotiate a licence on FRAND terms'. According to the Commissions preliminary view, the potential licensee (Apple) had shown to be willing to negotiate a FRAND license, accordingly the injunction could harm competition.[145]

4.2 FRAND limitations on injunctions in the US

The seeking of an injunction based on its SEP against a willing licensees and where a FRAND commitment has been made, have been challenged by the FTC as an unfair method of competition under section 5 of the FTC Act in two recent cases Bosch[146] and *Google/MMI*. *Google/MMI* is the most recent, decided in the beginning of January this year (2013 and it provided some new guiding principles in this legal area of law.

4.2.1 The Google/MMI consent order

Before *Google*'s acquisition, *Motorola* had reneged on its commitment to licence its SEPs on FRAND terms by seeking injunctions against willing

[142] Commission decision, *Google/ Motorola Mobility* (2012), Case No. COMP/M.638, para. 116, 124, 149.
[143] European Commission- Press Release, Antitrust: Commission opens proceedings against Samsung (2012) IP/12/89 Event.
[144] BBC News, Samsung drops Apple sales case in Europe, 18 December 2012, Available at: http://www.bbc.co.uk/news/business-20773678 .
[145] European Commission- Press Release, *Commission sends Statement of Objections to Samsung on potential misuse of mobile phone standard-essential patents* (2012), IP/12/1448.
[146] Analysis of agreement containing consent orders to aid public comment, *In the matter of Robert Bosch GmbH,* File No. 121-0081, Docket No. C-4377.

licensees. After the purchase of *Motorola* in June 2012 *Google* continued *Motorola*'s previous (anti-competitive) conduct. The FTC initiated proceedings claiming that such conduct might constitute an unfair method of competition, as well as unfair acts and practices, in violation of section 5 of the FTC Act. The case never went to Court as *Google* settled with the FTC to withdraw its already sought injunctions against so called 'willing licensees' as well as assuring that no such future claims would be brought.[147]

In the consent order the FTC recognize the pro-competitive effects of the standardization process and the role of FRAND to secure the efficacy of that process. Therefore, where FRAND is reneged upon it threatens to increase prices, reduce quality and hinder market entry. Consequently, the FTC established that breaching a FRAND commitment made to a SSO might injure competition.[148] In comparison to previous precedents the FTC established a certain negotiation procedure that should be followed when claiming injunctions against FRAND-encumbered SEPs, set out in part III of the Consent Order.[149] Furthermore, the FTC states under which narrowly-defined circumstances it would be permitted for *Google* to seek an injunction: (1) the potential licensee is not subject to United States jurisdiction; (2) the potential licensee has stated in writing or in sworn testimony that it will not accept a licence for *Google*'s FRAND-encumbered SEPs on any terms; (3) the potential licensee refuses to enter a licence agreement for *Google*'s FRAND-encumbered SEPs on terms set for the parties by a Court or through binding arbitration; or (4) the potential licensee fails to assure *Google* that it is willing to accept a license on FRAND terms.[150] Accordingly, *Google* may not seek an injunction simply because the potential licensee challenges the validity, value, infringement or essentiality of *Google*'s FRAND-encumbered patents.[151] *Google* may however file for injunctive relief against a potential licensee that itself files a claim for injunction based on its FRAND encumbered SEPs.

Commissioner Ohlhausen dissented from the majority as she considered this to be another undisciplined expansion of section 5. [152] Firstly Ohlhausen stated that she did not consider that seeking an injunction against a 'willing' licensee was sufficient to qualify as a stand-alone action of section 5. Secondly, she considered that the *Noerr-Pennington* doctrine[153] preclude liability under section 5 for a legitimate pursuit of an injunction or any threats related to it, except under a handful exceptions not established here. Third, she disagrees with the majority's finding that Apple should be

[147] Analysis of proposed Consent Order to aid public comment*, In the matter Motorola Mobility LLC and Google Inc*., File No. 121-0120, p. 1.
[148] Ibid. p. 4.
[149] Ibid. p. 7.
[150] Ibid. p. 6.
[151] Ibid. p. 7.
[152] Dissenting Statement of Commissioner Maureen K. Ohlhausen*, In the matter of Motorola Mobility LLC and Google Inc*., FTC File No. 121-0120, 2013, p. 1.
[153] *Eastern R.R. Presidents Conference v. Noerr Motor Freight*, 365 US 127 (1961) and *United Mine Workers of Am. V. Pennington*, 381 US 657 (1965).

regarded as a willing licensee, since Apple had stated in Federal Court that it would only 'abide by the royalty rates it saw fit'.[154] Lastly, she states that the Consent Order does not provide sufficient guidance on what the FRAND obligations actually entails and therefore leaves patent owners to guess in most circumstances whether they can safely seek an injunction on a SEP. She concludes by stating that this 'sows additional seeds of confusion as to what can create liability'.[155]

4.3 Conclusions

The effects of an injunction is, against the foregoing, a concern under both EU and US competition law. The EU Commission as well as the FTC has stated that injunctions should not be an available remedy within the standard-context where a licensee is 'willing' to accept a license on FRAND terms. However, in the EU, the Commission has not provided any guidance on the meaning of a 'willing' licensee and many commentators are therefore eager to see whether Commission will take the opportunity to do so in the *Samsung* case. Furthermore, in May this year the Commission also sent a SO to *Motorola* on the same grounds as in *Samsung*, which shows that the Commission is prepared to take this type of conduct seriously.[156] Even more interesting to follow will be the Preliminary Ruling Request to the CJEU from the Regional Court of Düsseldorf concerning the availability of remedies for SEP owners, including injunctions, who have committed to license on FRAND terms.[157] Such a decision would not only give effect to the Commission investigation of *Samsung* and *Motorola*, it would give widespread effects on all Member States in the EU. It is very probable that the US will lead the way forward with its new *Google/MMI* decision.

The FTC prohibited *Google*/*MMI* from seeking injunctions based on their SEPs, to which they had committed to license on FRAND terms, unless the licensee refused to participate in the special negotiation procedure set out in the order or under the four very limited defined circumstances. These does however seem to provide a SEP owner with a very limited possibility to seek an injunction.[158] However, *Microsoft*, in its reaction to the Consent order, argues that the Consent Order does not sufficiently limit *Google*'s possibility to seek an injunction since it will be able to do so where it considers that an injunctive relief sought against it is based on a SEP. This is a problem since it is often difficult to determine which patents are essential

[154] Dissenting Statement of Commissioner Maureen K. Ohlhausen, *In the matter of Motorola Mobility LLC and Google Inc.*, FTC File No. 121-0120, 2013, p. 4.
[155] Ibid. p. 2.
[156] Commission sends Statement of Objections to Motorola Mobility on potential misuse of mobile phone standard-essential patents (2013), IP/13/406.
[157] Commission Sends Statement of Objections to Motorola Mobility on potential misuse of mobile Phone standard-essential patents- Questions and Answers (2013), MEMO/13/403.
[158] Geradin, Damien., *Ten Years of DG Competition Effort to Provide Guidance on the Application of Competition Rules to the Licensing of Standard-Essential Patents: Where Do We Stand? (*2013), p. 19.

or not, meaning that firms would be 'dissuaded' from seeking to enforce their non-SEP.[159] Whether this will be a future problem following this decision remains to be seen.

Competition law can accordingly be used to enforce FRAND in relation to injunctions in both the EU and the US. The question is what consequences such intervention might have where SEP owners have a very limited possibility to seek to protect their own property. One aspect is that he alleged strong bargaining position of the patent holder would be shifted to the licensee, which would have little to loose in refusing to take a license. In the worst case scenario it would retroactively have to pay owed license rates (which it would have paid in any case) and at best the Court would lower the royalty rate. Therefore, a no-injunction rule would shift the bargaining position too heavily in favour of the licensee, which could cause a situation of reverse hold-up since the SEP owner could be insufficiently compensated.[160] As already discussed, a reverse hold-up situation would consequently reduce the incentives to invest and innovate as well as to participate in the standard-setting process where they find no value in participating and decide that their patents are more valuable when not bound by a FRAND commitment. Therefore, the practical implications of the FTC decision in *Google/MMI* remains to be seen. What is clear is that the FTC has changed the negotiation dynamics, by somewhat adjusting the bargaining positions.

The most imminent problem is however how to define what a 'willing' licensee is, which Ohlhausen argued that the FTC provided insufficient guidance of. Patent owners are therefore uncertain about what would cause liability and accordingly when an injunction safely could be sought. It is however possible from the foregoing to conclude that the concepts of 'willing' and 'unwilling' is directly linked to the meaning of FRAND. We are accordingly back to the previous discussion on what a reasonable royalty is and to what extent a licensee must accept a SEP owners level of royalties before it becomes excessive, i.e. in conflict with FRAND. US authorities will be forced to calculate such a royalty in order to decide whether a licensee is 'willing' or not as well as to find an appropriate remedy where an injunction has been denied.[161]

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[159] Response to the FTC-Google settlement, *The FTC and Google: A missed opportunity*. Available at: http://blogs.technet.com/b/microsoft_on_the_issues/archive/2013/01/03/the-ftc-and-google-a-missed-opportunity.aspx.

[160] Layne-Farrar, Anne., B*e My FRAND: Standard Setting and Fair, Reasonable and Non-discriminatory Terms* (2010), p. 12.

[161] Report of the Federal Trade Commission, *The Evolving IP Marketplace: Aligning Patent Notice and Remedies With Competition* (2011), p. 235.

5 Prospects for future developments

Competition authority intervention relies on the meaning of FRAND and to what extent such a commitment can limit SEP owners IPR. However, as the previous chapters demonstrate this is not an easy task. The 'right' way to identify appropriate benchmarks in the EU has been subject to heated debates. This is perhaps not surprising considering that both over- and under compensation might harm consumers, by either raise prices or deprive the incentives to invest and innovate. Some proponents have therefore suggested different methods for the EU to improve its current practice by suggesting alternative benchmarks to identify a FRAND royalty. Others have suggested that competition law should only be seen as a second best alternative and that instead of relying on *ex post* enforcement, *ex ante* methods by strengthening the SSO IPR policies should be promoted. This chapter seek to present some of the most discussed solutions and analyse their benefits as well as their drawbacks. Furthermore, a recent decision adopted by a US District Court demonstrates the possibility to address excessive royalties under contract law, outside the boundaries of antitrust law, as well as identifies potential benchmarks.

5.1 Ex ante/Ex post Benchmark

This is perhaps the most common suggestion put forward by scholars seeking to prevent the *ex post opportunism* resulting from hold-up. They consider that the best model of calculating the reasonableness of royalties is to compare the rate offered *ex post*, after the standard is adopted, with the rate the SEP owner offered for the same patents *ex ante*. Such a model would ensure the reasonableness of a royalty since it would reflect the price the firm would be able to charge while it was competing to be included in the standard and before it has become more valuable through the standardization process.[162] The model does however presume that the patent has been offered for license in a competitive environment *ex ante.* Such a benchmark could in some situations be identified without the involvement of SSOs, however, it largely relies on SSOs adopting clear and binding IPR policies regulating such disclosure.

[162] Chappatte, Philippe., *FRAND Commitments – The Case For Antitrust Intervention* (2009), p. 337-339. And Gupta, Kirti., *The Patent Policy Debate in the High-Tech World- A Literature Review* (2013), p. 21.

5.1.1 Ex ante auction

Swanson and Baumol have proposed a model of *ex ante* auction within the SSOs. The auction would be held between competitors before the standard was adopted and they would submit to license their technology for a certain fee. The SSO members would then chose which technology should win and be incorporated into the standard. According to their concept the outcome of the auction would provide a benchmark for what is fair and reasonable, the so-called efficient component pricing rule (ECPR), since it would reflect the price at a fully competitive environment.[163] So far so good, but opponents have argued that such a model would be over simplistic since a standard generally is comprised of several firms and different types of patents. In such a case an auction system would become very complicated, raise costs of participation and slow down the process.[164]

5.1.2 Ex ante joint negotiation

Another suggestion to avoid the hold-up problem is for SSOs to organize joint *ex ante* royalty negotiations between the SEP owner and the implementer. The idea is that joint negotiation would create a collective buyer power that would counterbalance the SEP owner's seller power.[165] This will provide SSO members with the possibility to choose a SEP with the most reasonable terms, leading to lower marginal costs and perhaps lower consumer prices.[166] There are however some setbacks to this solution. Firstly, a negotiation process would require not only technical expertise but also lawyers and economists, which would result in additional costs being added to the process for the firms. Secondly, the negotiation method could also lengthen the standard-setting process where so many parties would be involved. The possible additional costs coupled with a lengthened process could in the end discourage firms from participating at all.[167] Third, there is a risk that the negotiation model could force patent owners to settle for royalties which are set below their R&D costs, causing a so called 'reverse hold-up' situation where SEP owners would be undercompensated. This would deprive them of their incentives to invest and innovate.[168] Lastly, to jointly discuss prices between competitors would for a competition law

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[163] Swanson, Daniel., Baumol, William., *Reasonable and Non-discriminatory (RAND) Royalties, Standards Selection, and Control of Market Power* (2005).
[164] US DOJ and FTC, *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition* (2007), p. 49.
[165] Geradin, Damien., *Reverse Hold-ups: The (Often Ignored) Risks Faced by Innovators in Standardized Areas* (2010), p. 10.
[166] Policy Roundtable discussions at the OECD, *Standard Setting*, DAF/COMP(2010)33, p. 43.
[167] US DOJ and FTC, *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition* (2007), p. 50.
[168] Geradin, Damien., *Reverse Hold-ups: The (Often Ignored) Risks Faced by Innovators in Standardized Areas* (2010), pp. 11, 13-14. And, Gilbert, Richard., *Deal or no Deal? Licensing Negotiations by Standard Development Organizations* (2010).

attorney trigger a concern for anti-competitive conduct regarding cartel formation under Art. 101 TFEU. However, the Commission has in its 2011 Horizontal Guidelines stated that such discussions that are reasonably necessary to avoid hold-up do not warrant a *per se* condemnation.[169] The US competition authorities have also stated that such a model would not warrant a *per se* prohibition, but that the pro- and anti-competitive effects would be balanced under a rule of reason review.[170]

5.1.3 Mandatory Ex ante disclosure

Under this theory members would disclose their upper limit of compensation that they would expect for their SEP, and possibly their most restrictive terms as well.[171] This solution does to some extent also risk causing anti-competitive concerns, by e.g. functioning as a price signal for coordination, although the anti-competitive risks are perhaps less apparent than with joint negotiations. Another concern is that SEP owners might be undercompensated, once again risk harming the incentives to innovate and invest. VITA (the VMEs International Trade Association) has adopted such an IPR policy requiring its members to *ex ante* declare a maximum royalty rate as well as their most restrictive non-royalty terms for all their patents that may become essential for the implementation. However, in an empirical report some of the interviewees argued that the adoption of a mandatory *ex ante* disclosure made the main players leave VITA.[172] The policy to impose a sort of binding price cap has been reviewed by the US DOJ, which stated that it has no intention to challenge such disclosure, but reserved to bring action if proved in the future to be anti-competitive in purpose or effect.[173] The European Commission have also declared that they encourage the adoption of a patent policy which requires a duty to disclose e.g. maximum royalty rates *ex ante*.[174]

In conclusion, *ex ante* benchmarks are generally positive, as the reasonable price would be set under a competitive environment. Furthermore, members of the SSO would take into consideration technical superiority, ease of implementation and price, meaning that a price set to high would probably not be chosen for implementation. The methodology for an assessment under an *ex ante* benchmark could be structured in the following way: '(1)

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[169] *Guidelines on Horizontal Co-operation Agreements*, (2011), para. 299.
[170] US DOJ and FTC, *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition* (2007), pp. 55-56.
[171] Including royalties, cross-licensing or other types of compensation, Geradin, Damien., Layne-Farrar, Anne., *The Logic and Limits of Ex ante Competition in a Standard-Setting Environment* (2007), pp. 104-105.
[172] Study on the Interplay between Standards and Intellectual Property Rights(IPRs), (2011) Tender No ENTR/09/015, p. 80
[173] Response to VMEbus International Trade Association(VITA), Department of Justice Thomas O. Barnett, (2006).
[174] Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee, *An Industrial Property rights Strategy for Europe*, COM(2008) 456/3, p. 9.

ex ante, a credible alternative to the adopted technology exists; (2) *ex ante*, prospective licensees cannot reasonably anticipate the licensor's *ex post* requests; (3) *ex post*, the licensor requests worse licensing conditions than *ex ante*; and (4) *ex post*, the licensee is locked into the technology'.[175] *Ex ante* benchmarks face a number of problems. Firstly, it is not certain that competing technologies exists at the time of implementation, which would deprive this solution from one of its starting points.[176] Secondly, it might deprive inventors with the incentive to innovate where the value of the invention is unclear at the time of the adoption of the standard.[177] For example determining the value *ex ante* would mean that the firm would not be able to adjust prices to market changes or the changes in the value of the standard over time. Lastly, it is also argued that such a price determination would give an IP-holder negative incentives to update or amend the product.[178]

5.2 ART and numeric proportionality

This idea has its basis in that a FRAND rate should correspond to the level of contribution the SEP has made to the standard in question. Under the method the calculation of a reasonable royalty should be based on the share of essential patents a firm has. So, where a standard is comprised of 100 patents that are deemed essential and a firm own 10 of those SEPs, this firm would be entitled to 10% of the *total royalty the standard commands*.[179] The 'total royalty the standard commands' would be based on the 'Aggregate Reasonable Terms' that each SEP owner would determine on its own. These would add up to the cumulative royalty rate that the numeric proportionality would be applied to.[180] However, the different interests involved in an SSO will make the determination of an appropriate ART difficult, implementers will seek to have as low ART as possible and SEP owners as high ART as possible. Chappatte is a proponent of this method and suggests that a patent owner could through this method compare its royalty with other patent owners' and decided if it is proportionate. If it is not, objective justifications should be presented. This method, compared to the *ex ante* suggestion, would duly take into account negotiations between multiple patent owners and adjust to the dynamics of the market as the proportion of the aggregate maximum rate can vary over time in accordance with R&D carried out *ex*

[175] Mariniello, Mario., *Fair Reasonable and Non-discriminatory (FRAND) terms: a challenge for Competition Authorities* (2011), p. 13.
[176] Geradin, Damien., Layne-Farrar, Anne., *The Logic and Limits of Ex ante Competition in a Standard-Setting Environment* (2007), p. 96.
[177] Weber, Rolf H., *Competition Law versus FRAND Terms in IT Markets* (2011), p. 59-60.
[178] Ibid. pp. 56-57.
[179] Layne-Farrar, Anne., B*e My FRAND: Standard Setting and Fair, Reasonable and Non-discriminatory Terms* (2010), p. 8.
[180] NORMAPME position paper on transparency and predictability of IPR Treatments in ICT standardization, *Proportionality and mandatory ex ante disclosure of licensing terms* (2012), p. 2.

post.[181] However, instead of disputes concerning the definition of a reasonable rate disputes would arise about whether a patent is essential or not.[182] Geradin presents some opposing arguments against the use of this method. Firstly, such a calculation would inevitably put a cumulative price cap on a technology that could mean that innovators might be undercompensated for their work. Secondly, this model presumes that all SEPs have an equal value, which is not always the case in practice, as patents provide different benefits and have different value to the industry and consumers.[183] Therefore, this method is perhaps best suited in e.g. patent pools where participants regard their patents as roughly equivalent to other participants value.

5.3 Contract law and US (F)RAND royalty

Because of the inadequacy of competition law to define FRAND and provide appropriate tools to identify what constitutes a 'fair and reasonable' royalty another suggestion is to interpret FRAND as a contractual obligation between the SSO and the SEP owner. Contract law would accordingly govern a breach of a FRAND commitment.[184] Such an action was recently brought under the US District Court concerning a dispute between *Microsoft* and *Motorola*, decided on 25 April 2013. The case is also interesting as it is the first judicial decision concerning the interpretation of RAND royalties and might be useful as guidance in EU competition law proceedings.

5.3.1 Microsoft v. Motorola

*Microsof*t claimed that *Motorola* had breached its RAND commitment to the relevant SSOs by seeking excessive royalties. In a precedent it had been established that a standard user, as a third-party beneficiary, could enforce these contracts.[185] In assessing whether the royalties was in accordance with RAND the Court adopted a modified version of the *Georgia-Pacific factors*[186] to recreate a hypothetical negotiations between the parties. The

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[181] Chappatte, Philippe., *FRAND Commitments- The Case for Antitrust Intervention* (2009), p. 341.
[182] Layne-Farrar, Anne., Padilla, Jorge A., Schmalensee, Richard., *Pricing Patents for Licensing in Standard Setting Organizations: Making Sense of FRAND Commitments* (2007), p. 11.
[183] Geradin, Damien., *Reverse Hold-ups: The (Often Ignored) Risks Faced by Innovators in Standardized Areas* (2010), pp. 18-19.
[184] Marinello, Mario*., European Antitrust Control and Standard Setting* (2013), p. 4. Also *Guidelines on Horizontal Co-operation Agreements* (2011), para. 289.
[185] *Microsoft Co. V. Motorola Inc*., Case No. C10-1823JLR, (2013), p. 5.
[186] *Georgia-Pacific Corp v. US. Plywood Corp.,* 318 F. Supp 1116, 1120 (S.D.N.Y.1970) The Georgia- Pacific factors is a set of 15 factors that serves as a set of guiding principles when determining a reasonable royalty through a hypothetical negotiation or the 'willing licensor-willing licensee' approach. The modification of these factors to fit in to the standard-setting context are presented in, *Microsoft Co. V. Motorola Inc*., Case No. C10-1823JLR, (2013), para. 99-110.

hypothetical negotiation recreated the *ex ante* licensing negotiation scenario and the agreement that would have prevailed at the time.[187] The methodology would take into account the value of the SEP to the standard as well as the importance of the SEP and the standard to the final product.[188] *Judge Robart* states that a proper methodology to determine RAND royalty should seek to mitigate the risk of hold-ups and royalty stacking that RAND intends to avoid. While at the same time preserving the incentives to innovate and participate by guaranteeing a reasonable reward.[189] The decision is very long, 207 pages, and provides a reader with a very detailed presentation and assessment of the factors taken into consideration. These will however only be presently briefly in the following.

Judge Robart firstly assessed the relevance of the standard and whether it was reasonable in relation to the final price of the end product. He stated that if all SEP owners to the relevant standard would charge similar royalties as *Motorola* it would exceed the total product price of *Microsoft's* end product (the X-box). In addition to these concerns of royalty-stacking the Court found that *Motorola's* SEP portfolio only constituted a minimal contribution to the relevant standards.[190] Another indicator, suggested by *Microsoft*, was to compare the royalty with what was charged in a patent pool, which was the 'closest real-world comparable' for the determination of RAND for *Motorola's* SEPs.[191] The Court did however consider that using a patent pool as a comparable would not duly take into consideration the importance of a patent to the standard, and that technologies important for the standard should be able to enjoy higher royalties. In a patent pool royalties are distributed equally regardless of the importance of the technology.[192] This could result in that SEP owners would hesitate to participate in the standard-setting process.[193] However, in some circumstances a patent pool can constitute at good comparable. Therefore, if it is to be used an assessment should take into consideration both the royalties received by the pool, but also other values for the company, such a rapid and broad adoption of the technology. The Court concluded that in this instance the patent pool royalty was an indicator of a RAND royalty rate as the characteristics of the pool closely aligned with all the purposes of RAND.[194] Other considered suggestions to be used as indicators of a RAND royalty were ARM[195] and InteCap Analysis[196]. These will however not be addressed further, due to their specifics to this particular case.

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[187] *Microsoft Co. V. Motorola Inc.*, Case No. C10-1823JLR, (2013), p. 35.
[188] To assess whether there's a risk of royalty-stacking and determine the level of contribution of the SEP. Ibid. p. 7, 23. 'Royalty stacking', is the payment of excessive royalties to many different holders of SEPs.
[189] Ibid. p. 25.
[190] Ibid. Para, 456-457, 459.
[191] Ibid. Para. 496.
[192] Ibid. Para. 500.
[193] Ibid. para. 502.
[194] Ibid. para. 504-508, 514.
[195] Ibid. para. 583-590. ARM, suggests a 1% rate which represent a reasonable 'high ceiling' royalty rate in semiconductor intellectual property licensing.

Against this background the Court concluded that the royalty rates charged by *Motorola* was not in accordance with its RAND commitment and established specific royalty rates per unit it should be able to charge, which was significantly lower than what *Motorola* had charged.[197]

5.4 Conclusions

The objective of this chapter was to provide the reader with a *de lege ferenda* perspective on how the EU best should proceed in the future. The level of uncertainty the assessment entail and the risk it poses to the incentives to innovate and participate as well as the fact that Competition authorities would take a role as price regulators leaves us with the same conclusion as this chapter started out with. Competition law should only be used in the extreme to mitigate the hold-up problem and should therefore be used as a second-hand alternative. Competition authorities should instead work pro-actively by requiring SSOs to adopt policies stipulating a transparent process, unrestricted access as well as clear and binding IPR policies.[198] The above mentioned suggestions have for example been deemed by the EU and US Commissions' to not warrant a *per se* condemnation as anti-competitive agreements. In light of the foregoing it is however clear that the different alternative IPR policies requiring *ex ante* disclosure have their benefits as well as their drawbacks. The adopted IPR policy, whether FRAND or any other IPR policy, needs to be agreed upon between members of the SSO, adopted according the market environment at hand and reflect the different interest between them in order to an as far extent as possible preserve the benefits of the standard setting process without depriving the incentives to innovate and participate. It is however clear that although some alternatives might prevail in different sectors they do not introduce a one-size-fits-all approach that will mitigate the hold up problem. Therefore, when considering the implementation problems as well as the risks they could pose to the incentives to innovate and participate many of the suggested IPR policies are no better than FRAND. Until a silver-bullet appears the best alternative to balance competing interests and preserve the incentives to innovate and participate is probably the FRAND regime. I therefore find myself torn, on one hand FRAND is uncertain and the assessment is undesirable as it is difficult to carry out in practice, risking a reverse-hold-up situation and market failure. On the other hand by not intervening the whole standard-setting process risks being undermined and depriving society of its benefits. However, the newly adopted *Microsoft*

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[196] Ibid. Para. 591-612. InteCap was a previous consulting firm for Motorola that performed valuation analysis.
[197] Ibid. Conclusion, p. 207.
[198] a safe harbour, where; (1)Participation in the standard-setting is unrestricted, (2)The procedure for implementing a standard is transparent, (3)There is no obligation to comply with the standard and (4) SSO IPR policies should ensure an effective access to the standard on FRAND terms, *Guidelines on Horizontal Co-operation Agreements* (2011), para. 280.

case brings some clarity to FRAND and might contribute in providing it with some substance. The case also demonstrate the possibility to identify a reasonable royalty by using different benchmarks and assess them in relation to each other.

First, a hypothetical negotiation situation was established, under which it was considered what would have been negotiated between the parties ***ex ante***. The Court tried to reason with what indicators the parties would reasonably have considered when assessing whether the negotiated royalty was reasonable, by using the *Georgia-Pacific factors* as guiding principles. Second, a **proportionality** assessment was considered, although not the same as the ART and Numeric proportionality the underlying concept is the same; that the value should be proportionate to its contribution to the standard and to the final product. The Court found that if all SEP owners to the final product would charge the same royalty rate the cumulative royalty rate would exceed the final price of the product. This rate could not be justified by the value of the SEP, since the Court found that it had minimal value to the final product. The third important indicator considered was to identify a **comparable**, as already discussed such a comparable can be very difficult to identify. However, where it can they provide a strong indicator to whether a royalty is excessive or not. In the *Microsoft* case a similar patent pool technology was used as a comparable (although it should be mentioned that specific circumstances should be at hand for such a comparison). Against this background one can conclude that benchmarks can be identified where specific market requirements are at hand and when identified they should be considered in their full commercial context (value of the patent, types of compensation etc.). This is as mentioned the first judicial decision (finally) setting a precedent on the subject, although brought under US contract law, and it is probably going to be extensively cited. It is possible the EU will find support in this case to bring some substance to future competition proceedings concerning the meaning of 'fair and reasonable' terms by setting a precedent. The question is whether the Commission is equipped for this type of extensive economic assessments? Would these types of proceedings therefore have a future under EU contract law?

Conclusively, where appropriate benchmarks can be identified I find myself supportive of the FRAND regime as the presently best alternative to address hold-up problems. However, to ensure to an as far extent as possible that the 'right' price is identified, not one but a number of different benchmarks, as was done in *Microsoft*, should be used and compared with each other. Furthermore, it cannot be emphasised enough how important it is that the court identifies and takes into account the right 'costs'. As the US courts have stated competition authorities are not equipped enough to make this type of in depth economic assessments that to some extent also require expertise knowledge. Whether these concerns will be best addressed under EU competition law or follow the US route under contract law remains to be seen. What is clear however is that the only way to cure these uncertainties is to set some precedents.

6 Concluding remarks

The balancing between competition law and IP law as well as between static and dynamic goals is as already mentioned a delicate matter within a standard-setting context. The balancing has been applied differently on the two sides of the Atlantic, because of the underlying different objectives, beliefs and interests. Furthermore, the EU and US competition laws are structured differently, where the US have the possibility to condemn an unlawful acquisition of dominance, while the EU can only condemn an anti-competitive conduct in the existence of dominance. These differences coupled with their different beliefs in property and monopoly power have, as this thesis have established, contributed to a difference in application particularly in regard to excessive pricing. As the reasoning behind US non-intervention against excessive pricing demonstrates, the assessment of such conduct can have detrimental effects to the incentives to innovate and participate. This might undermine the whole standard-setting process and deprive consumers from enjoying the benefits resulting thereof. The EU has in Art. 102 TFEU the possibility to intervene against exploitative excessive pricing, under which regime the EU have been claimed to favour static goals instead of recognizing the importance of the dynamic, long term, perspectives However, no decision of the Commission or community Courts have officially condemned an excessive price within a technology market. Probably because of the much discussed difficulties with the test.

The enforcement of FRAND in relation to exploitative excessive royalties has also been applied differently between the two. In the EU the Commission have not enforced a single case against a non-FRAND royalty, although both *Rambus* and *Qualcomm* was under investigation. Which strengthens the theory that the test is simply too difficult and uncertain to carry out in practice. However, adopting a similar approach as the US and only address exclusionary behaviours would not, considering the US case law, provide the EU with a more effective way to tackle the hold up-problem. In the US, liability cannot be established under section 2 of the Sherman Act absent an exclusionary conduct. Therefore, excessive royalties is within the standard-setting context, as in general, not an antitrust concern. FRAND have however been enforced successfully against a hold-up situation (indirectly serving to reduce the royalty rates) in *Qualcomm* where causation between a deceptive conduct (a false promise to license on FRAND) and an exclusionary conduct (that the SSO would have chosen an alternative technology had it known *Qualcomm*'s intentions). Nevertheless, as the *Rambus* case demonstrates and as Chairman Leibowitz states, unilateral conducts are difficult to address even where the evidence is strong. There might also be a possibility to address hold-ups absent exclusion under section 5, as the *N-Data* case indicates. This case have however been criticised, therefore it remains to be seen whether section 5 will be a viable alternative in the future. The US, does not help in bringing

any clarity to how the assessment of an excessive royalty should be carried out in practice. The US case does however confirm that for the EU to rely solely on exclusionary conducts could be just as troublesome to prove as an excessive price. However, this type of conducts needs to be addressed in one way or the other, which is also supported by the fact that the US have expanded section 5 to address hold-ups. It is therefore difficult to argue that the EU is not right to intervene against excessive royalties, where no other means are available. Nevertheless, this thesis maintains that competition law should only be used in the extreme, due to its potential detrimental effects, and should accordingly place more focus in securing transparent processes and clear and binding IPR policies within SSOs.

The identification of a FRAND royalty is closely connected to defining a 'willing/unwilling' licensee and the right of a SEP owner to seek an injunctive relief. The US is in the forefront in this area of law, but the EU is (probably) not far behind. Much indicates that the EU will find inspiration in the recent US *Google/MMI* consent order. The FTC established that SEP owners could not seek an injunction, unless the licensee refused to participate in the special negotiation procedure set out in the order or under the four very limited defined circumstances. These do however seem to provide a SEP owner with a very limited possibility to seek an injunction. The effects of such intervention are that the dynamics of a negotiation is changed and the bargaining position could be shifted too heavily in favour of the licensee, causing a situation of reverse hold-up since the SEP owner could be undercompensated. Furthermore, the uncertainties of what a FRAND royalty is leaves SEP owners uncertain of when they could safely seek an injunction. The risk is therefore that SEP owners might find that their property is more valuable when not included in a standard

Against the foregoing there is a need to make the assessment of excessive royalties more effective and less uncertain or perhaps replace the current FRAND regime with other *ex ante* methods, who's meaning would be less uncertain. It is concluded in this thesis, that it is desirable to introduce effective IPR policies that *ex ante* will prevent hold-ups or at least reduce the uncertainties of not knowing what will be considered as reasonable and that competition authorities should provide some sort of safe harbours for these types of policies. However, the proposed alternative IPR policies makes it clear that although some might prevail in different sectors they do not introduce a one-size-fits-all approach that will mitigate the hold up problem. Therefore, when considering the implementation problems as well as the negative effects on incentives to innovate and participate, many of the suggested IPR policies are no better than the current FRAND regime. The recent *Microsoft* decision demonstrate the potential of identifying a FRAND royalty by using indicators sought from a number of different sources and compare them, all to ensure that the balancing between IPR and competition law is satisfactorily made. Where a number of appropriate benchmarks can be identified and the right 'costs' are taken into account, FRAND seems to be the currently best alternative to cure the hold-up problem of excessive royalties. However, whether the Commission is the right instrument for

these assessments remains to be seen. Against this background, is the US *Microsoft* case brought under US contract law, an interesting aspect for the future. It demonstrates the possibility to identify different benchmarks and how to value them. Furthermore, it might also suggest that contract law might provide a better alternative for future FRAND disputes also within the EU. It will be interesting to follow these developments

In conclusion, Competition law can and have been used to limit the IPRs of a SEP owner. What this thesis boils down to is what a 'fair and reasonable royalty' is? These types of disputes will continue to play an important role within both EU and US standard-setting and the only way to cure these uncertainties is to (continue) to bring precedents.

Bibliography

Legislative materials

International
United Nations General Assembly, *Universal Declaration of Human Rights*, adopted by General Assembly Resolution 217 A (III), 1948. Art. 27(2).

EU
Consolidated version of the Treaty on the Functioning of the European Union, Official Journal 115, 09/05/2008 P. 0089-0089, Art. 102 TFEU.

Communication from the Commission, *Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements,* 14 December 2010, OJ 2011 C 11/1.(Cited as '*Guidelines on Horizontal co-operation Agreements* (2011)')

Commission Notice- *Guidelines on the application of Article 81 of the EC Treaty to technology transfer agreements*. OJ C 101, 27.04.2004. (Cited as '*Guidelines on technology transfer agreements*, (2004)')

US
US. Code, Title 15 Chapter 1 §2.

US. Code, Title 15 chapter 2 § 45. For full text see: http://uscode.house.gov/uscode-cgi/fastweb.exe?getdoc+uscview+t13t16+590+90++%28%29%20%20AND%20%28%2815%29%20ADJ%20USC%29%3ACITE%20%20AND%20%28CHAPTER%20ADJ%20%282%29%29%3AEXPCITE%20%20%20%20%20%20%20 .

Antitrust Guidelines for the Licensing of Intellectual Property, Issued by the US Department of Justice and the Federal Trade Commission, 1995.

Literature

Anderman, Steven., Ezrachi, Ariel., *Intellectual Property and Competition Law- New Frontiers*, 2011, Oxford university press, New York.

Anderman, Steven., Schmidt, Hedvig., *EU Competition Law and Intellectual Property Rights- The Regulation of Innovation*, 2nd Edition, 2011, Oxford University press, New York.

Bently, Lionel., Sherman, Brad., *Intellectual Property Law*, 3rd edition, 2009, Oxford University Press, New York.

Bishop, Simon., Walker, Mike., *The Economics of EC Competition Law: Concepts Application and Measurement*, 3rd edition, 2010, Sweet & Maxwell, London.

Coates, Kevin., *Competition Law and Regulation of Technology Markets*, 2011, Oxford University Press, New York.

Geradin, Damien. Layne-Farrar, Anne., Petit, Nicolas., *EU competition Law and Economics*, 2012, Oxford University press, Oxford.

Glader, Marcus., I*nnovation Markets and Competition Analysis- EU competition law and US antitrust law*, 2004, Lund University.

Korah, Valentine., *Intellectual Property Rights and the EC Competition rules*, 2006, Hart Publishing, Oregon.

Käseberg, Thorsten., Intellectual Property, *Antitrust and Cumulative Innovation in the EU and the US*, 2012, Hart Publishing, Oregon.

Layne-Farrar, Anne., *Be My FRAND: Standard Setting and Fair, Reasonable and Non-discriminatory Terms,* March 30, 2010.

Lidgard, Hans-Henrik., *Part I Competition Classics, Material & cases on European Competition Law and Practic*e, 2011, Maria Magle Publishing, Lund.

Whish, Richard., Bailey, David*., Competition Law*, 7th edition, 2012, Oxford university Press, New York.

Articles

Abbott, Alden F., Kim, Nicholas J., *Standard Setting and Hold-ups under section 5 of the Federal Trade Commission Act*, *in* Anderman, Steven., Ezrachi, Ariel., Intellectual Property and Competition Law- New Frontiers, 2011, Oxford University Press, New York.

Cary, George S., Nelson, Mark W., Kaiser, Steven J., Sistla, Alex R., The Case for Antitrust Law to Police the Patent Holdup Problem In Standard Setting, Antitrust Law Journal, Vol. 77 2011.

Chappatte, Philippe., *FRAND commitments-The case for antitrust intervention*, 2009, ECJ (European Competition Journal) VOL. 5 NO. 2.

Emanuelson, Anna., *Standardization agreements in the context of the new Horizontal Guidelines*, E.C.L.R. 2012, 33(2).

Gal, Michal S., *Monopoly pricing as an antitrust offence in the US and the E.C: Two systems of belief about monopoly?*, 49 Antitrust Bulletin (2004) 343

Geradin, Damien., *Abusive pricing in an IP Licensing Context- An EC Competition Law Analysis*, in Ehlermann and Marquis, European Competition Law Annual 2007: A Reformed Approach to Article 82 EC, Hart Publishing, Oxford/Portland, Oregon.

Geradin, Damien., *Reverse Hold-ups: The (Often Ignored) Risks Faced by Innovators in Standardized Areas*, Paper prepared for the Swedish Competition Authority on the Pros and Cons of Standard-Setting, Stockholm, 12 November 2010.

Geradin, Damien., *Ten Years of DG Competition Effort to Provide Guidance on the Application of Competition Rules to the Licensing of Standard-Essential Patents: Where Do We Stand?,* Paper prepared for the Research Roundtable on Innovation and Technology Standards, February 7-8, 2013, Searle Centre on Law, Regulation, and Economic Growth, Northwestern University School of Law.

Geradin, Damien., Layne-Farrar, Anne., *The Logic and Limits of Ex ante Competition in a Standard-Setting Environment*, in Competition Policy International, Volume 3 No. 1, Spring 2007.

Geradin, Damien., Rato, Miguel., *Can Standard-Setting Lead to Exploitative Abuse? A Dissonant View on Patent Hold-up, Royalty Stacking and the Meaning of FRAND,* 2007, 3. European Competition Law Journal, 101.

Ghidini, Gustavo., *Part I Chapter 2: The Bride and the Groom. On the Intersection between Intellectual Property and Antitrust Law* in Caggiano Giandonato., Muscolo, Gabriella, et al.(eds*), Competition Law and Intellectual Property*, International Competition Law Series, Volume 50 (Kluwer Law International 2012).

Gilbert, Richard., *Deal or no Deal? Licensing Negotiations by Standard Development Organizations*, August 2010, Available at: http://escholarship.org/uc/item/1642q403 . (Last visited 22-05-2013)

Gupta, Kirti., *The Patent Policy Debate in the High-Tech World- A Literature Review*, January 30, 3013.

Hockett, Cristopher B., Lipscomb. Rosanna G., *Best FRANDs Forever? Standard-Setting Antitrust Enforcement in the United States and the European Union*, *Antitrust*, Vol. 23, No. 3, Summer 2009, by the American Bar Association.

Langus, Gregor., Lipatov, Vilen., Neven, Damien., *Standard Essential Patents: Who is really holding up (and when)?*, February 2013, p. 1 Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2222592 . (Last visited 22-05-2013)

Layne-Farrar, Anne., B*e My FRAND: Standard Setting and Fair, Reasonable and Non-discriminatory Terms*, March 30 2010.

Layne-Farrar, Anne., Padilla, Jorge A., Schmalensee, Richard., *Pricing Patents for Licensing in Standard Setting Organizations: Making Sense of FRAND Commitments*, CEMFI Working Paper No. 0702, January 2007.

Mariniello, Mario., *Fair Reasonable and Non-discriminatory (FRAND) terns: a challenge for Competition Authorities,* Working Paper version- July 2011, p. 13. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2186052 . (Last visited 22-05-2013)

Marinello, Mario., *European Antitrust Control and Standard Setting*, Bruegel Working Paper, 2013/01.

Pate, R. Hewitt., Assistant Attorney General Antitrust Division US. Department of Justice in *Competition and Intellectual Property In the US: Licensing Freedom and the Limits of Antitrust*, 2005, EU Competition Workshop, Florence, Italy.

Scott-Morton, Fiona., *Antitrust Enforcement in High-Technology Industries: Protecting Innovation and Competition*, Remarks prepared for the 2012 NYSBA Annual Antitrust Forum, December 2012, New York.

Shapiro, Carl., *Injunctions, Hold-Up, and Patent Royalties*, 2010, University of California at Berkeley, Published by Oxford University Press on behalf of the American Law and Economics Association.

Simcoe, Timothy., *Can standard setting organizations address patent hold-up? Comments for the Federal Trade Commission*, 2011, Boston University School of Management. Request for Comments and Announcement of Workshop on Standard-Setting Issues, Project No. P111204, Available at: http://www.ftc.gov/os/comments/patentstandardsworkshop/00040-80169.pdf . (Last visited 22-05-2013)

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

Weber, Rolf H., *Competition Law versus FRAND Terms in IT Markets*, in José Rivas (ed.), World Competition Law and Economic Review, Kluwer Law International 2011, Volume 34 Issue 1.

Public Reports

EU

Commission Communication *"Intellectual Property Rights and standardisation",* COM(1992) 445.
Speech by European Commissioner for Competition Policy Neelie Kroes in: SPEECH/05/512 of 15 September 2005.

The Pros and cons of High Prices (Swedish competition authority, 2007), Available at: http://www.konkurrensverket.se/upload/Filer/Ovrigt/Konferenser/Pros_Cons/Pros%20and%20Cons%20of%20High%20Prices.pdf . (Last visited 22-05-2013)

Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee, *An Industrial Property rights Strategy for Europe*, COM(2008) 456/3.

Roundtable Conference with enforcement Officials, American Bar Association Section of Antitrust Law Spring Meeting, Washington D.C. April, 2009, p. 13-14. Available at: http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/Apr09_FullSource.authcheckdam.pdf . (Last visited 22-05-2013)

Speech by European Commissioner for Competition Policy Neelie Kroes, *'Setting the Standards high'*, Address at Harvard Club of Belgium, 'De Warrande', Brussels 15th October 2009, SPEECH/09/475.

Policy Roundtable discussions at the OECD, *Standard Setting*, DAF/COMP(2010)33, p. 45.
Available at: http://www.oecd.org/daf/competition/prosecutionandlawenforcement/47381304.pdf. (Last visited 22-05-2013)

Working party No.2 on *Competition and Regulation, Excessive Prices-European Union*, DAF/COMP/WP2/WD(2011)54. Available at: http://ec.europa.eu/competition/international/multilateral/2011_oct_excessive_prices.pdf. (Last visited 22-05-2013)

Communication from the Commission to the European Parliament, The council and the European Economic and Social Committee, *A strategic vision for European Standards: Moving forward to enhance and accelerate the sustainable growth of the European Economy by 2020*, Brussels 1-2-2011, COM(2011) 311 final.

US

US Department of Justice, Competition and Monopoly: Single-Firm conduct under section 2 of the Sherman Act, (05/11/2009), Ch. 1. Available at: www.usdoj.gov/atr/public/reports/236681.htm . (Last visited 22-05-2013)

US Department of Justice and the Federal Trade Commission, *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition*, April 2007.

Report of the Federal Trade Commission, *The Evolving IP Marketplace: Aligning Patent Notice and Remedies With Competition*, March 2011,

Electronic sources

BBC News, Samsung drops Apple sales case in Europe, 18 December 2012, Available at: http://www.bbc.co.uk/news/business-20773678. (Last visited 22-05-2013)

ETSI Rules of Procedure, Annex:6 ETSI Intellectual Property Rights Policy, 30 November 2011. Availbale at: http://www.etsi.org/images/etsi_ipr-policy.pdf . (Last visited 22-05-2013)

NORMAPME position paper on transparency and predictability of IPR Treatments in ICT standardization, Proportionality and mandatory *ex ante* disclosure of licensing terms, 29 March 2012. Available at: http://www.normapme.eu/public/uploads/files/20120328%20NORMAPME%20position%20IPRs%20in%20ICT%20standardisation.pdf . (Last visited 22-05-2013)

Response to the FTC-Google settlement, The FTC and Google: A missed opportunity. Posted by Dave Heiner- Vice president & Deputy General Counsel Microsoft. Available at: http://blogs.technet.com/b/microsoft_on_the_issues/archive/2013/01/03/the-ftc-and-google-a-missed-opportunity.aspx. (Last visited 22-05-2013)

Response to VMEbus International Trade Association(VITA), Department of Justice Thomas O. Barnett, Available at: http://www.justice.gov/atr/public/busreview/219380.htm . (Last visited 22-05-2013)

Table of Cases

EU

CJEU

C-24/67, *Parke, Davis and Co. v. Probel, Beintina-Interpharma and Centrafarm*, [1968] ECR 55.

C-27/76, *United Brands v. Commission,* [1978] ECR 207.

C-226/84*, British Leland v. Commission* [1986] ECR 3263, [1987] 1 CMLR 185.

C- 395/87, *Ministère Public v. Tournier*, [1989] ECR 2521.

C-110/88 *Lucazeau v. SACEM,* [1989] ECR 2811, [1991] 4 CMLR 248.

C-241/91 P, *Radio Telefis Eireann (RTE) and Independent Television Publications Ltd (ITP) v Commission of the European Communities*, (1995) ECR I-00743.

C-418/01, *IMS Health GmbH & Co. OHG v NDC Health GmbH & Co. KG*, (2004), ECR I-05039.

General Court

T-201/04, *Microsoft Corp. v Commission of the European Communities*, (2007) ECR II-03601.

Opinion of Advocate General

Opinion of Mr. Advocate General Mischo in C-53/87, *CICRA and another v. Renault (Maxicar),* [1988] ECR page 06039, OJ C 284

EU Commission Decision

Commission decision of 23.07.2004, *Scandlines Sverige AB v. Port of Helsingborg*, [2006] 4 CMLR 1224.

Commission decision of 9.12.2009, *Rambus*, Case COMP/38.636.

Commission decision of 13.02.2012, *Google/ Motorola Mobility*, Case No. COMP/M.638.

EU Commission Press Release

Commission initiates formal proceedings against *Qualcomm*, 1st October 2007, MEMO 07/389.

Commission closes formal proceedings against *Qualcomm*, 24th November 2009, MEMO/09/516.

European Commission- Press Release, Antitrust: Commission opens proceedings against Samsung, IP/12/89 Event, 31/01/2012. Available at: http://europa.eu/rapid/press-release_IP-12-89_en.htm . (Last visited 22-05-2013)

European Commission- Press Release, *Commission sends Statement of Objections to Samsung on potential misuse of mobile phone standard-essential patents*, IP/12/1448, 21/12/2012, Available at: http://europa.eu/rapid/press-release_IP-12-1448_en.htm . (Last visited 22-05-2013)

Commission sends Statement of Objections to Motorola Mobility on potential misuse of mobile phone standard-essential patents, IP/13/406, May 2013, http://europa.eu/rapid/press-release_IP-13-406_en.htm . (Last visited 22-05-2013)

Commission Sends Statement of Objections to Motorola Mobility on potential misuse of mobile Phone standard-essential patents- Questions and Answers, MEMO/13/403, May 2013, Available at: http://europa.eu/rapid/press-release_MEMO-13-403_en.htm . (Last visited 22-05-2013)

United States

Court decision

US. v. Aluminium Co. Of America, 148 F.2d 416, 430 (2d Cir. 1945).
Eastern R.R. Presidents Conference v. Noerr Motor Freight, 365 US 127 (1961).

United Mine Workers of Am. V. Pennington, 381 US 657 (1965).
Georgia-Pacific Corp v. US. Plywood Corp., 318 F. Supp 1116, 1120 (S.D.N.Y.1970).

Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263, 297 (2d Cir. 1979).
Smith Int'l, Inc. v. Hughes Tool Co., 718 F.2d 1573, 1578 (Fed. Cir. 1983).
NYNEX Corp. v. Discon, Inc., 525 US. 128, 119 S. Ct. 493, 142 L. Ed. 2d 510 (1998).

United States v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001).
Verizon Commons Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 US. 398, 407 (2004).

Broadcom v. Qualcomm, 501 F.3rd 297 (3d Circ. 2007).

Rambus Inc. v. FTC, 522 F.3d 456, (D.C Circ. 2008).

Pacific Bell Telephone Co. V. linkLine Communications, Inc., 555 US. 438 (2009), 129 S.Ct. 1109 (2009).

Microsoft Co. V. Motorola Inc., Case No. C10-1823JLR, (2013) United States District Court Western District of Washington at Seattle.

FTC decisions

Opinion of the Commission, Public Record Version, In the Matter of Rambus Inc. Docket No. 9302.

Analysis of proposed consent order to aid public comment, In the Matter of Negotiated Data Solutions LLC, File No. 051 0094.

Analysis of agreement containing consent orders to aid public comment, *In the matter of Robert Bosch GmbH,* File No. 121-0081, Docket No. C-4377.

Analysis of proposed Consent Order to aid public comment*, In the matter Motorola Mobility LLC and Google Inc*., File No. 121-0120.

FTC dissenting opinions

Dissenting Statement of Chairman Majoras *In the Matter of Negotiated Data Solutions LLC,* File No. 0510094.

Dissenting Statement of Commissioner Maureen K. Ohlhausen*, In the matter of Motorola Mobility LLC and Google Inc*., FTC File No. 121-0120, January 3, 2013.