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Article 82 and hold-ups

Is Article 82 EC an appropriate tool to remedy
hold-ups in standard-setting?

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Summary

Standard-setting is undoubtedly beneficial to society. Its foremost advantage is that it ensures interoperability between products and thereby increases consumer welfare. Standardization covers a wide range of activities, but for the purpose of this thesis it can be defined as activities that set technical specifications that seek to provide a common design for a product or process. Standards thus build on technologies that can in turn be protected by intellectual property rights (IPRs). This may potentially create a hold-up situation where the patent holder's negotiating power is increased once his/her patent is included in the standard. This may put the patent holder in a position to potentially extract "unreasonable" royalties.

In order to mitigate the effects of hold-ups in relation to standards, SSOs adopt disclosure policies and make participating firms, whose patents will be included in a standard, commit to license on FRAND terms. In the EU, FRAND has been an essential feature of SSOs to immunize these from antitrust liability under Article 81 EC, given that members of an SSO may often be competitors or at least potential competitors. Competition concerns can arise when individual firms try to circumvent the SSO's disclosure and FRAND policies thereby creating a hold-up situation in the SSO. Two cases of this type of unilateral "abuse" of SSOs, *Rambus* and *Qualcomm*, have been tried under Section 2 of the Sherman Act in the US with different outcomes. In the EU, the European Commission is currently trying the same cases under Article 82 EC. In light of the US experience, the purpose of this thesis is therefore to investigate if Article 82 EC offers an appropriate remedy to hold-ups in standard-setting.

Article 82 EC does not appear to have the necessary conceptual tools to challenge the hold-up directly because Article 82 EC only comes into play once a firm already enjoys a dominant position. Therefore, the European Commission will attempt to investigate if the royalties charged by *Rambus* and *Qualcomm* are "unreasonable" and an abuse of dominance. This thesis therefore outlines the legal framework of Article 82 EC in respect to dominance and pricing abuses. It underlines the difficulties associated with the assessment of price; especially in the context of royalties and SSOs. The US legal framework and practical experience are used for comparative purposes in order to highlight the relevant concerns associated with using antitrust law to assess hold-ups.

The thesis focuses on factors that are important when defining the relevant market in the context of intellectual property rights. In respect of abuse under Article 82 EC it highlights the potential consequences of applying the principles of excessive pricing, developed by competition law, to define a "reasonable" royalty.

In addition, the analysis shows which consequences an antitrust assessment may have for the future existence and exercise of SSOs, the concept of FRAND and for innovation at large. In conclusion, the author will explain the difficulties involved when attacking hold-ups by means of excessive pricing. EC law suggests that the EU may not have the right tools

to challenge the real issue: deception of SSOs that creates hold-ups. Thus, by assessing the subsequent royalties the Commission risks doing more harm than good. Consequently, the European Commission may need to develop its tools in order to target hold-ups directly instead of challenging the reasonableness of royalties in light of Article 82 EC.

Sammanfattning

Standardisering är utan tvekan fördelaktigt för samhället i stort. Den främsta fördelen är att det säkerställer interoperabilitet mellan produkter, vilket i sin tur ökar deras värde för konsumenterna. Standardisering omfattar en mängd olika typer av aktiviteter, men för den här uppsatsens ändamål kan det definieras som en serie av tekniska specifikationer som har till syfte en enhetlig utformning av en produkt eller process. Med andra ord bygger standarder på tekniker som i sin tur kan skyddas av immateriella rättigheter. Det här kan potentiellt orsaka en "blockad" där patentinnehavarens förhandlingsposition stärks när dennes patent används i standarden. Detta, kan i sin tur ge patentinnehavaren möjlighet att kräva "orimliga royalties".

För att begränsa konsekvenserna av den här typen av "blockad" inom standardiseringsorganisationer har dessa antagit policier som uppmanar de deltagande företagen att redogöra för vilka patentanspråk de har samt förbinda sig att licensiera på FRAND-villkor. Inom EU har FRAND varit ett väsentligt villkor för att standardiseringsorganisationer ska bli undantagna ansvar enligt Artikel 81 EC eftersom de deltagande företagen ofta är konkurrenter eller åtminstone potentiella konkurrenter.

Konkurrensrättsliga problem kan uppstå när enskilda företag försöker undgå standardiseringsorganisationers krav på öppenhet vad gäller patentanspråk samt FRAND-villkor. Två enskilda företags, *Rambus* och *Qualcomm*, påstådda "missbruk" av standardiseringsorganisationer har prövats enligt Section 2, Sherman Act, i USA med olika utgång. I EU prövas samma fall av Europeiska Kommissionen enligt Artikel 82 EC. Mot bakgrund av de amerikanska fallen är syftet med den här uppsatsen att undersöka om Artikel 82 EC erbjuder en lämplig bot för "blockader" i standardisering.

Artikel 82 EC verkar inte ha de nödvändiga verktygen för att pröva "blockaderna" direkt eftersom Artikel 82 EC bara kan användas när ett företag redan har en dominerande ställning. Den Europeiska Kommissionen kommer därför att försöka undersöka om de royalties som *Rambus* och *Qualcomm* tagit ut varit "orimliga" och utgjort missbruk av respektive företags dominerande ställning. Den här uppsatsen ger därför riktlinjerna för Artikel 82 EC med hänsyn till dominans och prismissbruk. Den understryker svårigheterna med att bedöma pris, särskilt med hänsyn till royalties och standarder. Amerikanska lagrum och erfarenheter används i ett komparativt syfte för att belysa de svårigheter som kan förknippas med att använda konkurrensrätten för att angripa "blockader".

Den här uppsatsen kommer att fokusera på vilka faktorer som är viktiga för att definiera den relevanta marknaden för immateriella rättigheter. Dessutom understryks vilka konsekvenser som användningen av konkurrensrättsliga principer kan ha när det gäller att definiera en "rimlig" royalty. Vidare visar analysen på vilka potentiella konsekvenser en konkurrensrättslig bedömning kan ha för hur standardiseringsorganisationer utformas och används i framtiden, FRAND-konceptet och innovation i stort. Slutligen kommer författaren att förklara vilka svårigheter som finns med att

pröva ”blockader” genom att använda konkurrensrättens principer för ”orimlig” prissättning. EU:s praxis antyder att EU kanske inte har de rätta verktygen för att angripa det faktiska problemet: förledande av standardorganisationer. Därför riskerar Kommissionen att göra mer skada än nytta genom att bedöma ”rimligheten” av royalties. Följaktligen kan Kommissionen behöva utveckla sina verktyg för att kunna komma åt blockaderna direkt istället för att pröva royalties ”rimlighet”.

Preface

This has been an interesting journey. When I started this project I was happily unaware of what lay ahead of me. Many people have helped me along the way with valuable advice and support. However, there are a few people that I would like to thank by name. Robert Schwartz, showed me Westlaw and my life was never the same after that. Robert is always eager to share his knowledge and for that I am thankful. Karl Olsson, at Awapatent, guided me along the way with his insightful questions and Hans-Henrik Lidgard convinced me to believe in myself. Finally, I would like to thank my parents, Marianne and Gunnar, who I can always turn to for endless support.

Abbreviations

CDMA	Code Division Multiple Access.
DRAM	Dynamic Random Access Memory.
(F)RAND	(Fair,) Reasonable and Non-Discriminatory terms.
FTC	Federal Trade Commission.
IPR	Intellectual Property Rights.
JEDEC	Joint Electron Device Engineering Council.
R&D	Research and Development.
SACEM	Société des auteurs, compositeurs et éditeurs de musique.
SSNIP	Small but Significant and Non-transitory Increase in Price.
SSO	Standard-setting organization.
STIM	Svenska Tonsättares Internationella Musikbyrå.
TRIPS	Agreement on Trade-related Aspects of Intellectual Property Rights.
TTBER	Technology Transfer Block Exemption Regulation.
WCDMA	Wideband Code Division Multiple Access.

1. Introduction

Hold-ups in standard-setting raise interesting questions concerning the interface between IP- and competition law. Hold-ups can occur in two situations: either a firm does not disclose patents that are relevant to the standard or it breaches previously made FRAND commitments. These situations can result in the firm charging “excessive” royalties for its patents. Consequently, hold-ups may undermine many of the benefits inherent in standard-setting, but it is unclear if competition law, specifically Article 82 EC, is the appropriate remedy.

In Europe, there are no formal decisions made but the Commission has sent a statement of objections to *Rambus* and initiated an investigation against *Qualcomm*. What this will result in is yet to be seen. However, what is sure is that the Commission will analyze these firms’ conduct in light of Article 82 and more specifically if they have abused their dominant positions by claiming “unreasonable” royalties. For guidance, one can look across the Atlantic where hold-ups and antitrust law are in the spotlight, especially after the Supreme Court denied the Federal Trade Commission a certiorari in *Rambus* on 23rd February 2009. Thus, in the US there appears to be two conflicting rulings. On the one hand, *Qualcomm*’s breach of FRAND commitments constituted unlawful monopolization in violation of Section 2 of the Sherman Act while, on the other hand, *Rambus* non-disclosure of patents did not constitute unlawful monopolization.

In the light of the above one wonders how hold-ups in standard-setting should be addressed and if antitrust remedies are the right way forward. The US had led the way. However, one must not forget the fundamental differences between the EU and the US in the field of antitrust law, especially their views on monopolization, dominance and abuse of dominance.

1.1 Purpose

Against this background, I intend to investigate if Article 82 EC offers an appropriate remedy to hold-ups that create “unreasonable” royalties in standard-setting.

This investigation first includes looking at standard-setting as a concept and more specifically hold-ups. Secondly, I will look at how Article 82 addresses dominance in respect of IPRs. Thirdly, I will look at pricing abuses in the US and in the EU, which results in a discussion of “unreasonable” royalties. My analysis will focus on how Article 82 can address hold-ups in standard-setting and discuss which potential consequences this may have for the future of SSOs, FRAND and innovation. The US experience is used for guidance but at the same time, I recognize the fundamental differences between the European and the American system.

1.2 Delimitations

This topic touches on a number of issues, many of which can be explored individually within the scope of a thesis. Therefore, I have set certain limits to my investigation. The meaning(s) of FRAND and its implications are unclear and interesting in the context of standard-setting. However, I have chosen only to provide an overview of the concept in order to furnish the reader with a background to the problem of hold-ups.

Hold-ups and their effects have been debated extensively in the doctrine. I will highlight the divergences, but I will not scrutinize the underlying reasons that are based on thorough economic analysis.

Further, there are many different types of standards that can be categorized as *de jure* and *de facto* standards. *De facto* standards are created by the market itself while *de jure* standards are created by coordinated or exogenous efforts. This thesis is limited to *de jure* standards.

1.3 Method and material

At the heart of my investigation are hold-ups and I use a *traditional legal method* to establish the present legal position in Europe. There is no specific legislation on hold-ups, but antitrust law may be used to assess it. I therefore have to penetrate Article 82 EC to the extent that it may apply to standards and hold-ups. I will have a specific focus on *Rambus* and *Qualcomm* who are currently under the loop in the EU. For a critical outlook I have used doctrine, and mostly high-profile law journals, to access the most updated views possible. I have also used a *traditional legal method* to analyze the concept of “unreasonable” royalties in the EU as it is interpreted today.

To assess the appropriateness of using Article 82 EC as a remedy for hold-ups in standard-setting I have used a *comparative method*. There are no official decisions from the EU on hold-ups and I have therefore found it necessary to use decisions and views from the US focusing on Section 2 Sherman Act and Section 5 FTC Act.

There are lengthy economic discussions regarding hold-ups and their effects on royalties based on economic theory. At the heart of this debate is an influential article by Carl Shapiro and Mark Lemley¹, known as the Lemley-Shapiro model, which has been heavily criticized. I have therefore chosen a *law and economics “perspective”* to my investigation in order to be able to highlight the effects that antitrust assessment may have on industry and innovation.

1.4 Outlook

In the second chapter I set the scene by describing standard-setting and hold-ups. In the next chapter I describe how hold-ups have been addressed by antitrust law in the US and how the Commission is likely to assess it in

¹ Lemley A Mark & Shapiro Carl. *Patent Holdup and Royalty Stacking*. Texas Law Review. Vol 85:1991.

the EU. Subsequently, I describe Article 82 EC and how it is used to assess dominance in respect of IPRs. Next, I move on to the notion of abuse and look at how the EU and the US deal with pricing abuses with a concluding analysis of “unfair” royalty rates. Lastly, the analysis, in chapter six, considers if Article 82 EC should be used to remedy hold-ups in standard-setting. The US experience is used for guidance.

2. Standard-setting

“A standard can be defined as a set of technical specifications which seeks to provide a common design for a product or process.”² To show the variety of standards examples include automobile parts, data formats, electrical and other engineering codes and accreditation bodies.³ Standards have evolved because of product interoperability, public health and safety and global competitiveness. Interoperability is the largest driving force.⁴ The leading three SSOs in the EU are public-sponsored organizations: the European Telecoms Standardisation Institute (ETSI), the European Committee for Standardization, and the European Committee for Electrotechnical Standardization (CENELEC).⁵ In the US, private standard-setting organizations are the most common, for example, JEDEC and VESA.⁶

2.1 Benefits

Interoperability between products increases consumer welfare by enlarging consumer choice and decreasing the costs of goods. Moreover, it allows consumers to trade information in between one another. This is known as the coordination value. Standards are in themselves beneficial and thus the inherent benefit of the technology incorporated in a standard is only one element of the total social benefits of standards.⁷ Standards can also be used to promote a technology with intrinsic additional advantages, for example, a low-emission fuel standard that promotes a clean environment.⁸

Standardization provides especially large benefits in network markets in which *the value of a product is a function of how many other consumers use a compatible product.*⁹ Examples are the ICT sectors,

² 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.* April 2006. P. 2.

³ Hurwitz. Justin (Gus). *The value of patents in industry standards: avoiding license arbitrage with voluntary rules.* 36 AIPLQJ. 1. Winter 2008. P. 3.

⁴ Mueller M. Janice. *Patenting Industry Standards.* 34 J. Marshall L. Rev. 897. Summer 2001. P. 899.

⁵ Staniszewski Piotr. *The interplay between IP rights and competition law in the context of standardization.* Journal of Intellectual Law & Practice. Vol. 2. No. 10. 2007. P. 667.

⁶ Ibid. Pp. 668-669.

⁷ Geradin Damien & Rato Miguel. *Can Standard-Setting Lead to Exploitive Abuse? A Dissonant View on Patent Hold-up, Royalty Stacking and the Meaning of FRAND.* April 2006. P. 2.

⁸ Staniszewski Piotr. *The interplay between IP rights and competition law in the context of standardization.* Journal of Intellectual Law & Practice. Vol. 2. No. 10. 2007. Pg. 667.

⁹ Alban. David. *Rambus v Infineon: patent disclosures in standard-setting organizations.* 19 Berkeley Tech. L. J. 309. P. 309.

where protocols that allow devices to communicate flawlessly and networks owned by different producers to work together are essential.¹⁰

2.2 Anticompetitive concerns

Anticompetitive concerns relate to the variety of technical options available and access to the standard itself.¹¹ If standards have negative effects, the Commission recognizes that those are “*likely to be on innovation or the variety of products. They may also give rise to foreclosure problems.*”¹² Standards can be detrimental to existing competitors by increasing costs or eliminating alternative technologies without economic rationale.¹³

Moreover, network effects that promote the adoption of a standard can lock an industry into using an outdated technology, which undermines the purpose of IP-law namely enhance innovation. An IP-owner whose technology is used in a dominant standard can exercise significant control over innovation in that market. Innovation can be undermined since monopolists have less incentive to innovate, which constitutes a risk to them of losing their monopoly profits. Finally, technology can develop rapidly but because standards involve large capital investments to existing technologies, members of an SSO may not be inclined to switch to a new technology.¹⁴

2.3 Tensions of standards

There is unavoidable tension within an SSO. This is because, on the one hand, a firm wants to have its patented technology included in the standard and, on the other hand, firms need to cooperate to create, maintain and promote the standard. This tension is enforced in network markets where the winner of the technology race takes it all. Another reason for this tension is that members of SSOs play different roles.¹⁵ This problem has been exacerbated in the last couple of years because, previously, almost every patent holder who participated in standards was also a manufacturer.¹⁶

¹⁰ Geradin, Damien and Rato Miguel. *Can Standard-Setting Lead to Exploitive Abuse? A Dissonant View on Patent Hold-up, Royalty Stacking and the Meaning of FRAND*. April 2006. P. 3.

¹¹ Geradin, Damien and Rato Miguel. *Can Standard-Setting Lead to Exploitive Abuse? A Dissonant View on Patent Hold-up, Royalty Stacking and the Meaning of FRAND*. April 2006. P. 3.

¹² Commission’s notice. *Guidelines on the applicability of Article 81 of the EC Treaty to horizontal cooperation agreements*. (2001/C 3/02). § 22.

¹³ Anton J James and Yao A Dennis. *Standard-Setting Consortia, Antitrust, and High-Technology Industries*. 64 *Antitrust L.J.* 24. Fall 1995. P. 25.

¹⁴ Alban, David. *Rambus v. Infineon: patent disclosures in standard-setting organizations*. 19 *Berkeley Tech L.J.* 309. 2004. P. 310-311.

¹⁵ Geradin, Damien and Farrar Anne-Layne. *The logic and limit of ex ante competition in a standard-setting environment*. January 2006. Pp. 4-5.

¹⁶ Temple Lang, John. *Industry standardization and IP as hold-up*. Presentation at the Conference on the interface between competition law and intellectual property rights. University of Lund, January 23, 2009.

Today, firms are (1) **pure innovators**, i.e. upstream firms or (2) **pure manufacturers**, i.e. downstream firms, with no IPRs or (3) **vertically-integrated firms**, i.e. firms that are both innovators and producers of products that are based on other firms' technologies or (4) **buyers** who are neither inventors nor manufacturers but who buy products that are based on patented technologies. Consequently, the firms have different interests, which influence their behaviour in the SSO.

The first category, **pure inventors**, depends completely on royalties to finance their R & D. These rewards should cover the costs of developing the technologies that they want to license, including costs of failed projects, and should give them enough incentive to undertake risky projects in the future. For the second category, **pure manufacturers**, royalties equal costs and consequently they want to reduce them as much as possible. The lower the royalties they pay to IP holders the larger their profits. The third category, **vertically-integrated firms**, has mixed interests. They can obtain profits from royalties but they are also dependent on licences from other firms. Generally, the biggest part of their aggregate revenues are collected on the downstream market, from product sales, and they are therefore a lot less dependent on revenues from royalties than pure licensors. Instead, they wish to cross-license essential IPRs with other firms. This way they can protect their downstream business from potential litigation. The incentives of the fourth category, **buyers**, are similar to those of manufacturers'. Buyers' tend to reason that smaller royalties result in lower prices.¹⁷

2.4 Hold-ups

Intellectual property can create hold-up problems. These problems are not confined to standard-setting, but since participating firms make large investments to adhere to standards, the effects of hold-ups are aggravated. Once a patent holder manages to include his/her patent into a standard he/she has enhanced his/her negotiating power and can allegedly demand higher royalties than what the patent is actually worth, which is known as *ex post opportunism*. The patent holder can sometimes do this under the threat of injunction, which further enhances his/her bargaining power.

SSOs adopt policies to mitigate the effects of hold-ups (see below). However, these policies become useless if the patent holder does not disclose his/her relevant patents before the standard is adopted and, once the standard is implemented, he/she demands "excessive" royalties¹⁸.

In an influential article Mark A Lemley and Carl Shapiro,¹⁹ argue that under the current US patent system, hold-ups lead to "excessive" royalties, which justifies patent reforms. Using bargaining theory, they show that the threat to obtain permanent injunction significantly enhances the patent holder's negotiating power. This leads to royalty rates, which are

¹⁷ Geradin, Damien and Layne-Farrar Anne. *The logic and limits of ex ante competition in a standard-setting environment*. Pp. 4-5.

¹⁸ This is referred to as "patent ambush".

¹⁹ Lemley A Mark and Shapiro Carl. *Patent Holdup and Royalty Stacking*. Texas Law Review. Vol 85:1991.

above the natural benchmark level based on the value and strength of the patent. They argue that “excessive” royalties are a problem even if the alleged infringer was aware of the patent when he/she began to design the product. Furthermore, they show that *royalty stacking*²⁰ magnify hold-up problems. As a result, they suggest patent reforms that would allow courts to issue a stay of injunctive relief that would allow the infringer to design around the patent if it can. Their conclusions have become known as the Lemley-Shapiro model.

The Lemley-Shapiro model has been questioned by a number of scholars and some even suggest that undercompensation to patent holders is a greater problem than “excessive” royalties.²¹ This demonstrates the delicacy of hold-ups and the difficulties associated with calculating what “excessive” and “reasonable” royalties are.

2.5 Ex post opportunism- really?

Once a standard has been adopted the cost of switching to an alternative technology (=switching costs) becomes very high. This presumably increases the patent holder’s bargaining power. The holder of an essential patent²² can thereby demand higher royalties ex post standardization than she/he could have done ex ante standardization. This is called *ex post opportunism*.²³ This theory can be questioned as it neglects a number of issues. The theory is based on the fact that there are alternative technologies when the technology was adopted and that the included technology would not have been chosen because of the difference in licensing terms. This raises the difficult question: What *would* the SSO have done if the world had been different? This depends on the specific facts of the case and the greater the advantages of the chosen technology are the less likely it is that an alternative would in fact have been chosen.²⁴

If there are no viable alternatives one can argue that the standard-setting process does not give the patent holder additional market power because there was no competition neither before nor after the standard was adopted. Any market power the technology gains existed prior

²⁰ *Royalty stacking* = one standard depends on a number of different patents and patent holders. The patent holder may then, individually, demand reasonable royalties but when these are added together the sum is so high that it is no longer economically viable to manufacture the product. (Geradin Damien and Rato Miguel. *Can Standard-Setting Lead to Exploitive Abuse? A Dissonant View on Patent Hold-up, Royalty Stacking and the Meaning of FRAND*. April 2006. Pp. 22-23)

²¹ Elhauge Einar. *Do patent holdup and excessive royalty stacking lead to systematically excessive royalties?* Journal of Competition Law & Economics, 1-36; Sidak J Gregory. *Holdup, royalty stacking, and the presumption of injunctive relief for patent infringement: a reply to Lemley and Shapiro*. Minnesota Law Review. Vol 92. No. 3. 714-748. 2008.

²² *Essential patent* = as applied to IPR means that it is not possible on technical (but not commercial) grounds, taking into account normal technical practice and the state of the art generally available at the time of standardization, to make, sell, lease, comply with a STANDARD without infringing that IPR. (Clause 15.6 of the ETSI IPR Policy.)

²³ Geradin Damien. *Pricing abuses by essential patent holders in a standard-setting context: A view from Europe*. 4-5 June 2008. P. 12.

²⁴ Teece J David and Sherry F Edward. *Standards setting and antitrust*. 87 Minn. L. Rev. 1913. June 2003. P. 1939.

to the adoption of the standard and were a result of the uniqueness and superiority of the technology in question. What standardization might do is enhance the value of the technology since the patent holder is able to obtain royalties on a larger scale from products sold in compliance with the standard. This is inherent in the standard itself and not a consequence of the patent holder's so called opportunistic behaviour.²⁵ Patent holders may also face various other restraints. Irrespective of whether or not alternative technologies existed prior to the adoption of the standard the patent holder must take into account complementary patents found within the standard and the prices charged for these. Further restraints can exist on the downstream and upstream level in the shape of substitutable technologies. Inherent in the standardization process is also dynamic constraints. When technology evolves standards need to adopt and create new versions and a patent holder who once charged "excessive" royalties or abused market power may not be chosen the next time. Opportunistic patent holders may therefore find themselves excluded.²⁶

If the standardization process enhances the value of a patent one can ask why the holder of the essential patent should not be able to reap part of the benefits of that value. *Ex post opportunism* seems to suggest that the patent holder is not entitled to any additional value created from the standardization process itself. However, the standardization process is an expensive, cooperative effort that needs both innovators and manufacturers. Standardization compensates innovators by giving their patents more value and manufacturers by giving them access (on FRAND terms) to innovative technologies. It is this compensation that provides incentives for participating. Relying too much on *ex post opportunism* may therefore undermine innovators willingness to participate and halt innovation.²⁷

2.6 SSOs IP policies

Irrespective of if hold-ups are a myth and if *ex post opportunism* is overestimated, SSOs have adopted various types of policies in order to mitigate the effects of hold-ups. In light of recent cases, *Rambus* and *Qualcomm*, SSOs have begun to question if existing policies are sufficient. IP policies range from requiring IP owners to provide royalty-free licenses to anyone using the standard to completely closed standards with no IP policies at all. Most policies are somewhere in the middle of these two extremes and contain disclosure policies and licensing terms (RAND/FRAND).²⁸

²⁵ Geradin Damien. *Pricing abuses by patent holders in a standard-setting context: A view from Europe*. June 2008. P. 12.

²⁶ Ibid.

²⁷ Ibid. P.13.

²⁸ David, Alban. *Rambus v. Infineon: patent disclosures in standard-setting organizations*. 19 Berkeley Tech. L.J. 309. 2004. P. 312.

2.6.1 Disclosure policies

It is important to underline that patent holders may be reluctant to reveal potentially essential patents during the adoption process of a standard or even after the standard has been adopted. There are a number of reasons for this. One might simply be ignorance; it can sometimes be impossible for a multinational company to be aware of all the relevant information concerning IPRs because of their large patent portfolios. Another reason may be the complexity of the standard itself and the difficulties associated with which IPRs it reads on. Finally, there may be justified doubts about the specific details of the standard and the relevant technology.²⁹ These problems are enhanced by the fact that standards develop and patent applications are modified over time.³⁰ Because of these difficulties, SSOs do not oblige members to search their patent portfolios or *guarantee* that all relevant patents are disclosed. One example is the ANSI patent policy, which does not ascribe knowledge of the patent portfolio to an employee who represents a firm in standard-setting.³¹

These uncertainties make disclosure policies vary a great deal regarding the timing and scope of disclosure.³² Across many industries, SSOs have adopted rules that require members, at least to, disclose any IPR that it considers for incorporation in the standard. This is to ensure that the SSO knows which alternative technologies exist. Subsequently, this might allow the SSO to set a standard that excludes proprietary technology and thereby avoid potential patent infringement. Furthermore, this avoids the patent holder to be conferred unjustified ex post monopoly power.³³ One example is from the ANSI patent policy, which requires its members to disclose any patent that it considers to be “essential” for its implementation.³⁴

US case-law; *Dell*³⁵, *Qualcomm*³⁶ and *Rambus*³⁷ have put SSOs disclosure policies in the spotlight. In *Rambus*, JEDEC’s disclosure policy was especially debated due to its ambiguousness. There is a constant discussion as to whether disclosure policies shall be ascribed a broad or restrictive obligation. Thus, the fact that the implications and obligations of SSOs disclosure policies have been the source of conflict has caused some

²⁹ Dolmans, Maurits. *Standards for standards*. May 2002. P. 18.

³⁰ Geradin Damien and Rato Miguel. *Can Standard-setting Lead to Exploitive Abuse? A Dissonant View on Patent Hold-up, Royalty Stacking and the Meaning of FRAND*. Pp. 6-7.

³¹ Guidelines for the implementation of the ANSI Patent Policy. See § III

³² Rubin L Jonathan. *Patents, Antitrust, and Rivalry in Standard-Setting*. 38 Rutgers L.J. 509. Winter 2007. P. 512.

³³ Cary S George, Hayes Paul S, Work-Dembowski C Larry. *Antitrust implications of abuse of standard-setting*. 15 Geo. Mason L. Rev. 1241. August 2008. P. 1250.

³⁴ Guidelines for the implementation of the ANSI Patent Policy at § III.

³⁵ In the Matter of DELL COMPUTER CORPORATION, 121 F.T.C. 616, 1996 WL 33412055 (F.T.C.) (May 20, 1996).

³⁶ BROADCOM CORPORATION, v. QUALCOMM INCORPORATE, 501 F. 3d 297 (3d Cir. 2007).

³⁷ *RAMBUS INCORPORATED, v. FEDERAL TRADE COMMISSION*, 522 F. 3d 456 (D.C. Cir. 2008) Cert. Denied sub nom. Federal Trade Commission v Rambus Incorporated _U.S._, 129 S. Ct. 1318, (2009).

to criticize “*the inadequacy of typical SSO disclosure policies*”.³⁸ Some think that this is because current policies given participants a false sense of security.³⁹ Others consider this criticism unjustified.⁴⁰

2.6.2 (F)RAND

(F)RAND implies that patent holders will license their patents on (*fair*), *reasonable and non-discriminatory terms*. Generally, FRAND and RAND are considered equivalent.⁴¹ The exact meaning of the concepts is open to fierce debate and I will therefore only highlight some of the different interpretations that exist.⁴²

2.6.2.1 Why FRAND?

The notion of FRAND is recognized by the European Commission in relation to standards and competition law. It is essential in order to exempt members from antitrust liability under Article 81(3). Thus, if the use of cross-licenses amount to a de facto standard the technologies used must be licensed on *fair, reasonable and non-discriminatory terms*. Closed standards are considered to have substantial exclusionary effects and in order to avoid these third parties must also be able to access the technology on FRAND terms.⁴³ The main concern for the European Commission is to keep standards as open as possible.⁴⁴

FRAND has two main objectives: Firstly, it ensures that essential IPRs can be diffused and available for use by the members of the standard. Secondly, it makes sure that IPR holders are adequately rewarded for their innovations.⁴⁵ One example is the ETSI’s IPR policy. According to Article 6.1 of the ETSI, IPR owners of patents shall give “*an irrevocable undertaking that it is prepared to grant irrevocable licenses on fair, reasonable and non-discriminatory terms*” and, according to Article 3.2, IPR holders “*should be adequately and fairly rewarded for the use of their IPR.*” SSOs acknowledge that IPR holders have to be able to claim compensation that is adequate to keep investment incentives. The terms and conditions that FRAND suggest are consistent with normal commercial negotiation between the licensor and the licensee. It is a market-driven

³⁸ Skitol Robert. *Concerted Buying Power: Its Potential for Addressing the Patent Holdup Problem in Standard-Setting*. 72 Antitrust L.J. 727-743. 2005. P. 728.

³⁹ Webb Robert M. *There is a better way: It’s time to overhaul the model for participation in standard-setting*. 12 J. Intell. Prop. L. 163. Fall 2004. P.175.

⁴⁰ Geradin Damien and Rato Miguel. *Can Standard-setting Lead to Exploitive Abuse? A Dissonant View on Patent Hold-up, Royalty Stacking and the Meaning of FRAND*. April 2006. Pp. 6-7.

⁴¹ Hereinafter I will only refer to FRAND.

⁴² For a more thorough review of the concept see Höök, Helana. *Compulsory licensing- at what cost? – An international study of what constitutes RAND terms*.

⁴³ Commission’s notice. *Guidelines on the application of the EC Treaty to technology transfer agreements* (2004/C 101/02). § 167.

⁴⁴ Commission’s notice. *Guidelines on the applicability of Article 81 of the EC Treaty to horizontal cooperation agreements* (2001/C 3/02). § 174.

⁴⁵ Geradin Damien and Rato Miguel. *Can Standard-Setting Lead to Exploitive Abuse? A Dissonant View on Patent Hold-up, Royalty Stacking and the Meaning of FRAND*. April 2006. P. 9.

negotiation of licensing terms proposed by FRAND and justified from an economic perspective, since it promotes dynamic competition and innovation incentives.⁴⁶ This is also recognized by the European Commission, which says that innovative firms “*must not be restricted in the exploitation of intellectual property rights*”⁴⁷ because of fear of restricting their incentive to innovate.

It is important to remember that standard-setting is based on cooperative consortia. If IP holders do not feel they are properly compensated for their IPRs, they will consequently leave the standard-setting process. IP holders are an essential part of standardization in order to create standards that are based on the best available technology. FRAND is therefore a flexible tool, which exists to satisfy the needs of both inventors and manufacturers.⁴⁸

2.6.2.2 The meaning(s) of FRAND

Most SSOs IPR policies refer to FRAND, but no policy actually defines the term, which has caused extensive speculation. Defining FRAND license terms runs the risk of creating forbidden cartels that contain price-fixing and delimitations of markets.⁴⁹ If the fact that there is not a definition of FRAND is a strength or shortcoming of IP policies of SSOs remains unclear. *Fair* and *reasonable* is what causes the most concern and will be the focus of this section.

The very purpose of FRAND is said to ensure the dissemination of technology and can therefore be said to entail a sense of good faith on the part of the licensor. Its intention is to prevent an explicit refusal of the licensor to license its technology or to set royalty rates so high that it amounts to an indirect refusal to supply.

Economists, lawyers and industry representatives have suggested a range of different assessment theories to interpret FRAND. The following are examples of these. Using industry comparators in the same or compatible markets; using the available share of profit from the standard-process and sharing it between the IP holder and product manufacturer; considering the cumulative royalty rate that a manufacturer faces; the number of patents owned by the IP-holder in comparison with the total number of patents in the standard; the *ex ante* value of the patent to avoid rewarding the IP-holder for the general benefits of standardization; the level of the IP-holder’s R&D expenses. Obviously, there are a number of different theories in circulation, which shows the complexity of the issue.⁵⁰

⁴⁶ Ibid. P. 12.

⁴⁷ Commission’s notice. *Guidelines on the applicability of Article 81 of the EC Treaty to horizontal cooperation agreements* (2001/C 3/02). § 8.

⁴⁸ Geradin Damien & Rato Maignel. *Can Standard-Setting Lead to Exploitive Abuse? A Dissonant View on Patent hold-up, Royalty Stacking and the Meaning of FRAND*. April 2006. Pg. 9-10.

⁴⁹ Staniszewski Piotr. *The interplay between IP rights and competition law in the context of standardization*. Journal of Intellectual Property Law & practice. Vol.2, No. 10. 2007. P. 679.

⁵⁰ Treacy Pat & Lawrence Sophie. *FRANDly fire: are industry standards doing more harm than good?* Journal of Intellectual Property Law & practice. Vol. 3, No.1. 2008. P. 24.

A common view amongst economists is that a reasonable royalty is one that would have been negotiated before the standard was adopted, i.e. on an *ex ante* basis. This presupposes an *ex post opportunism* where standardization, in itself, confers market power beyond that given by the patent, which is not necessarily true. Others consider that *reasonable terms* are the level of royalties that the market is prepared to pay for a patent. i.e. how valuable the patent is to them. Thus, when agreeing on FRAND the patent holder undertakes not to act contrary to good faith, but the specific terms of this are determined by the parties' negotiations. According to this line of thinking, FRAND does not actually bind the parties to any actual obligations and instead they mean, "*terms determined through fair, bilateral negotiations between individual IPR owner and standard-adopter in accordance with the market conditions prevailing at the time of such negotiations*".⁵¹ FRAND is thus not a license in itself. True licensing negotiations are undertaken outside the SSO. Many SSOs specify that such discussions fall outside the scope of their activities, since their purpose is to discuss technical rather than commercial issues.⁵²

The ultimate question is how one can determine if a royalty rate is consistent with a FRAND commitment. Its terms cannot be determined in the objective without recognizing the particular circumstances of the case. Royalties are only one of the terms that the parties agree to. A more accurate definition of FRAND would therefore be "[r]oyalty rate established under an agreement in accordance with a FRAND commitment."⁵³ An independent royalty can be misleading, since payments can take the form of cross-licenses to the licensee's IPR or a one-time fee. In those cases, royalties themselves give little information concerning the overall fairness and reasonableness of royalties.⁵⁴ It is important to note that the fact that a particular licensee might be unhappy with a royalty rate claimed by a patent holder does not automatically mean that the royalty rate is in breach of FRAND. Allegations of "unreasonable" royalties would otherwise only be a wish by potential licensees to circumvent royalty rates that it is unhappy with.⁵⁵

Royalty rates are not quite as mysterious as the obscure FRAND provision implies. Participants can usually predict the level of royalties that the IP holder can be expected to charge. One has to remember that an IP holder has reasons to initiate *ex ante* licensing as this increases the chances that his/her particular technology will be used in the standard.⁵⁶ This is recognized by the SSO, ANSI.⁵⁷

⁵¹ Geradin Damien & Rato Miguel. *Can Standard-Setting Lead to Exploitive Abuse? A Dissonant View on Patent Hold-up, Royalty Stacking and the Meaning of FRAND*. April 2006. P. 12.

⁵² Geradin Damien & Layne-Farrar Anne. *The logic and limit of ex ante competition in a standard-setting environment*. January 2006. P. 8.

⁵³ Ibid. P. 13.

⁵⁴ Ibid. Pp. 13-14

⁵⁵ Geradin Damien. *Abusive Pricing in an IP licensing context: An EC competition law analysis*. June 2007. P. 23

⁵⁶ Ibid. P. 14.

⁵⁷ Guidelines for the implementation of the ANSI Patent Policy. § IIIB.

2.7 Conclusions

Standard-setting can be difficult to define because of the wide range of activities that it covers. However, this thesis focuses on standards that define technical specifications that permit a common design of processes or services. This makes products interoperable with one another, which in turn benefits consumers. Further, advanced technology can be disseminated by the use of standards and therefore benefit a wide range of users.

Nevertheless, standards are not completely frictionless. First of all, they are essentially cooperations between competitors or potential competitors, which may raise anticompetitive concerns in terms of foreclosure of markets and limited access by third parties. To counteract this, the European Commission has made FRAND an essential condition to exempt SSOs from antitrust liability under Article 81(3). Second of all, there are tensions within the SSO itself. This is, to a great extent, due to the different roles that members of SSOs play; they can either be pure inventors, pure manufacturers, vertically-integrated firms or pure buyers. Depending on which role a participating firm has it may have a different perception of how high or low royalties should be set. Third of all, individual firms may attempt to “abuse” the SSO to ensure more benefits. In light, of recent developments, this can take the shape of “hold-ups”.

Hold-ups are defined as the increased negotiating power awarded to firms who have their technology included in a standard. This can potentially give rise to “excessive royalty” rates that may be exacerbated under the threat of injunction. Hold-ups are essentially created when firms either do not appropriately disclose their patents that are relevant to the standard or they breach their previously made FRAND commitments. The Lemley-Shapiro model uses economic theory to show by how much hold-ups can increase royalty rates, but this model has been extensively challenged.

Hold-up theories are founded on *ex post opportunism*. However, *ex post opportunism* has also been questioned because it allegedly ignores some essential issues. The theory implies that alternative technologies existed prior to standardization and these would have been chosen if the SSO knew of the patents or if it knew that the firm would breach its FRAND commitment. If the technology would have been chosen anyhow one can question if the SSO confers any unjustified market power. Further, it implies that patent holders are not entitled to reap any additional benefits inherent to the standard-setting process itself which has been challenged. Lastly, *ex post opportunism* involves the very difficult question of answering what *would* have been done had the situation been different.

Regardless of whether or not hold-ups, “excessive” royalties, and *ex post opportunism* are sincere threats SSOs adopt disclosure policies to mitigate hold-ups by encouraging members to disclose patents and make FRAND commitments. Generally, these policies are not absolutely binding nor do they force members to guarantee what they say. It is therefore interesting what effects antitrust law can have on these obligations. Will antitrust law put larger responsibilities on firms than SSOs do themselves? Furthermore, FRAND has two main objectives: to make essential IPRs

available and give patent holders adequate reward. Since SSO are based on consortia, FRAND is a flexible tool that needs to satisfy both manufacturers and inventors. However, what it actually means is open to large debate and suggestions range from an abstract sense of good faith to the ex ante value of patents prior to standardization. Ex ante value is commonly supported by economists and presupposes *ex post opportunism*.

This chapter has set the framework for SSOs and described hold-ups from a standard-setting perspective. The next section will focus on how hold-ups and have been assessed by antitrust law in practice.

3. Hold-ups

In Europe no formal decisions have been issued regarding hold-ups in standard-setting, but pending cases are reviewed under Article 82 EC. It is therefore useful to look across the Atlantic to see how the FTC and US courts have used antitrust law to address hold-ups in standard-setting.

3.1 US case-law

In the US, hold-ups in standard-setting has been addressed either through Section 5 FTC Act, which deals with unfair trading methods including unfair or deceptive acts or practices or Section 2 Sherman Act, which targets monopolization and attempted monopolization. The first case, *Dell*, is a consent decree and has not been reviewed by the court and it therefore does not have any precedent value. Nevertheless, it is important as it was the first case that dealt with hold-ups in standard-setting in the US and it raised concerns regarding the effect of antitrust law on SSOs' disclosure policies and these concerns are still relevant today. For *Rambus* and *Qualcomm* focus will be on Section 2 of the Sherman Act.

3.1.1 Dell

This was the first case where the FTC dealt with a patent holder who had failed to disclose its patents to a standard-setting body. The Commission and *Dell* entered into a consent decree under which *Dell* agreed not to enforce its patent at issue against anyone implementing the VESA standard. One Commissioner dissented.⁵⁸ The Commission alleged that *Dell*'s behaviour constituted unfair methods of competition in or affecting commerce in violation of Section 5 of the FTC Act.

Dell was involved in innovation, development, manufacture and sale of personal computer systems in the US. It was a member of the SSO VESA. Practically all major US hardware and software manufacturers were members. VESA began to develop a standard for the VL-bus.⁵⁹ Prior to the adoption of the standard *Dell* had obtained a patent that covered the VL-bus. VESA asked its members to disclose any *conflicting patent interests* but a representative of *Dell* certified in writing, that to the best of his knowledge “*this proposal [did] not infringe on any trademarks, copyrights, or patents*” that *Dell* had.

Once the standard was implemented *Dell* informed members of the VESA who were manufacturing computers using the VL-bus standard that the use of the VL-bus was a violation of *Dell*'s exclusive rights. Further, *Dell* asked the members to meet and discuss how *Dell* should be compensated accordingly.

According to the FTC, *Dell* had, by its actions, unreasonably

⁵⁸ Mary L. Azcuenaga.

⁵⁹ A mechanism to transfer instructions between the computer's central processing unit and its peripherals.

restrained competition. It had done so in the following ways: the industry's acceptance of the standard was delayed because some computer manufacturers postponed the use of the VL-bus design until the patent issue was solved; manufacturers avoided systems that used the VL-bus design because they were afraid that the patent issues would affect the success of the VL-bus design as an industry standard; uncertainty regarding the VL-bus design raised costs of implementing the standard and developing competing bus designs; manufacturers became less willing to participate in standard-setting.⁶⁰

The consent order prohibited *Dell* from enforcing its patent rights against manufacturers using the VL-bus standard. The FTC considered that VESA would have implemented another technology had it known of *Dell*'s patent and *Dell* acted contrary to good faith by not disclosing its patents. Therefore, the FTC deemed enforcement action to be appropriate in order to prevent harm to competition and consumers. Once the standard had been widely accepted it would have given *Dell* market power as the patent holder. This market power could have been avoided if VESA had chosen a different, non-proprietary technology. If *Dell* had been allowed to claim royalties on each VL-bus used, consumer prices would likely have increased. The industry's acceptance of the standard precluded any real alternatives for manufactures.

3.1.2 Qualcomm

In the case of *Qualcomm*, the District Court's decision was appealed to and overruled by the Court of Appeals third circuit.⁶¹ The District Court dismissed abuse of a private standard-setting process as a monopolization claim under antitrust laws. The Court of Appeals found that the District Court had mistakenly dismissed the claim and that such abuse could in fact constitute a monopolization claim.

Qualcomm produced technology used in cellular telephones. *Qualcomm* was a member of ETSI, which developed the UMTS standard used for a technology called GSM. *Qualcomm* supplied WCDMA technologies for which it held patents. WCDMA was included in the UMTS standard. *Qualcomm* promised to license its patents on FRAND terms before the standard was adopted but once the standard was in place *Qualcomm* withdrew its promise. *Broadcom*, one of *Qualcomm*'s competitors claimed that this constituted monopolization in breach of Section 2 of the Sherman Act. The District Court found that abuse of a private SSO could not constitute an antitrust claim.

The Court of Appeals⁶² reversed the District Court's decision and found that "(1) *In a consensus-orientated 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*

⁶⁰ *In the Matter of DELL COMPUTER CORPORATION*, 121 F.T.C. 616, 1996 WL 33412055 (F.T.C.) (May 20, 1996). *618.

⁶¹ For the purpose of this paper only the claim related to monopolization will be referred.

⁶² Hereinafter referred to as the Court.

standard, and (4) the patent holder's subsequent breach of that promise, is actionable anticompetitive conduct."⁶³

The Court concluded that the Complainant had shown that *Qualcomm* had obtained and maintained monopoly power wilfully and that this power was not "a consequence of a superior product, business acumen, or historic accident."⁶⁴ *Qualcomm* had excluded competition and had not competed on the merits. The anticompetitive conduct was "the intentional false promise that *Qualcomm* would license its WCDMA technology on FRAND terms..."⁶⁵. The other members relied on this promise when they chose to include the WCDMA technology in the proposed standard. Without *Qualcomm*'s promise, the members would not have included *Qualcomm*'s patented technology. *Qualcomm* had therefore obtained and maintained its monopoly power wilfully.

Concerning whether or not there existed alternative technologies, the Court was satisfied to conclude that even if there had been no alternative technologies the SSO would never have chosen the WCDMA technology without a FRAND commitment. Competition was harmed since *Qualcomm*'s FRAND commitment was a major part of the reason why its technology was included. This sufficed to conclude that *Qualcomm*, by its deception, harmed competition. The Court deals with pleading requirements and thus remands for further proceedings consistent with its opinion.

3.1.3 Rambus

In the Case of *Rambus*, the FTC's order was appealed to and overruled by the United States Courts of Appeals, District of Columbia Circuit. The FTC found that *Rambus*' act of deception constituted exclusionary conduct under Section 2 of the Sherman Act.⁶⁶ The Court of Appeals disagreed since the FTC had ruled in the alternative: *Rambus* deception prevented JEDEC either from adopting a non-proprietary standard or from extracting a RAND commitment. The Court therefore found that the FTC had not proved that *Rambus* had engaged in exclusionary conduct in breach of Section 2 of the Sherman Act.

Rambus developed computer memory technologies. *Rambus* was a member of JEDEC, an SSO that functioned on a cooperative basis. *Rambus* participated with other members of JEDEC to develop the DRAM standard. Once the DRAM standard was in place, *Rambus* informed several manufacturers using DRAM that they infringed *Rambus* patents that DRAM read on. The Commission alleged that *Rambus* had breached JEDEC's disclosure policies relating to IPRs and thereby unlawfully monopolized the technology markets on which *Rambus*' technologies competed.

⁶³ BROADCOM CORPORATION, v. QUALCOMM INCORPORATE, 501 F. 3d 297 (3d Cir. 2007). *312.

⁶⁴ UNITED STATES v. GRINNELL CORP., 384 U.S. 563, 570-71, 86 S.Ct. 1698, 16 L.Ed.2d 778 (1966).

⁶⁵ BROADCOM CORPORATION, v. QUALCOMM INCORPORATE, 501 F. 3d 297 (3d Cir. 2007). *315.

⁶⁶ The FTC's reasoning concerning Section 5 of the FTC Act will be excluded since the Commission confined its theory of liability to *Rambus*' potentially unlawful monopolization in breach of Section 2 of the Sherman Act.

The Court's finding that *Rambus* had *not* engaged in exclusionary conduct is not dependent on whether or not *Rambus* had acted in breach of JEDEC's disclosure policy.⁶⁷ The reference of FTC's and the Court's reasoning will revolve around possession of monopoly power and the causation link i.e. whether *Rambus*' exclusionary conduct was linked to its monopoly power.

3.1.3.1 The Federal Trade Commission's reasoning

Either monopoly power can be shown by direct evidence of power, i.e. the ability to raise prices above competitive levels or exclude competition, or by indirect evidence, i.e. high market shares in a defined relevant market with high barriers to entry.⁶⁸ Market shares are not determining and monopoly power needs to be durable in order to be a violation of Section 2 of the Sherman Act.⁶⁹

The Commission found that there was a *causal link* between *Rambus*' conduct and JEDEC's adoption of standards using *Rambus*' patents. Additionally, there was a causal link between the adoption of the standards and *Rambus*' acquisition of monopoly power.

The first allegation concerned the link between *Rambus*' conduct and JEDEC's adoption of standards using *Rambus*' patents. The "*law directs itself not against conduct which is competitive, even severely so, but against conduct which unfairly tends to destroy competition itself.*"⁷⁰ In order for conduct to be unlawful one needs to show an anticompetitive effect. The purpose of the conduct cannot replace effect but it is established that "[e]vidence of the intent behind the conduct of a monopolist is relevant...to the extent it helps us understand the likely effect of the monopolist's conduct."⁷¹ Further, according to the Supreme Court "*knowledge of intent may help the court to interpret facts and predict consequences*".⁷² The Commission relied on its finding that *Rambus* strategy was to adopt standards that used *Rambus* patents and then charge manufacturers using these standards royalties of its choice. The Commission therefore found that if *Rambus* had not deceived JEDEC it would "*either have excluded Rambus' patented technologies from the JEDEC standards, or would have demanded RAND assurances, with an opportunity for ex ante licensing negotiations.*"⁷³ The Commission found this to be enough

⁶⁷ The FTC's thorough analysis of JEDEC's disclosure policy with its implications and *Rambus*' alleged deception will therefore not be reproduced.

⁶⁸ See UNITED STATES v. DENTSPLAY INT'L, INC., 399 F. 3d 181, 187 (3d Cir. 2005) and UNITED STATES V MICROSOFT CORP., 253 F.3d 34., 51 (D.C. Cir) cert. denied, 534 U.S. 952 (2001).

⁶⁹ See TOPS MARKETS, INC. V. QUALITY MARKETS, INC., 142 F.3d 90, 99 (2d Cir. 1998) and UNITED STATES V. SYUFY ENTERS., 903 F.2d 659, 665-66 (9th Cir. 1990).

⁷⁰ BROWN SHOES , 370 U.S. at 320, 82 S.Ct. (1502); SPECTRUM SPORTS INC, V, MCQUILLAN, 506 U.S. 447, 458, 113 S. Ct. 884, 122 L.Ed.2d 247 (1993).

⁷¹ UNITED STATES V MICROSOFT CORP., 253 F.3d 34., 51 (D.C. Cir) cert. denied, 534 U.S. 952 (2001).

⁷² CHICAGO BOARD OF TRADE V. UNITED STATES, 246 U.S. 213, 238 (1918).

⁷³ RAMBUS INCORPORATED, v. FEDERAL TRADE COMMISSION, 522 F. 3d 456 (D.C. Cir. 2008) Cert. Denied sub nom. Federal Trade Commission v Rambus Incorporated _U.S._, 129 S. Ct. 1318, (2009).* 460.

evidence to show that JEDEC's adoption of the standards was a consequence of *Rambus*' exclusionary conduct.⁷⁴

The second allegation concerned the link between the adoption of the standards and *Rambus*' acquisition of monopoly power. The Commission bases this allegation on three factors: (1) *Rambus*' patents were essential to make, use, or sell DRAMs that were consistent with JEDEC's standards; (2) The majority of DRAMs sold were consistent with JEDEC's standards; (3) *Rambus* gained a 90 % market share in the relevant markets.

Rambus' market shares were a consequence of the characteristics of the DRAM industry and the DRAM products. Firstly, JEDEC was comprised of almost every DRAM manufacturer and their biggest consumers. Subsequent to an agreement within JEDEC, DRAM manufacturers made products that were conform to the standard. Secondly, DRAMs had to be able to interoperate with complementary products, which gave a compelling incentive to develop standardized requirements. JEDEC as a SSO made this standardization possible. As a result, the industry was very keen to adopt standards. The Court concluded that once the standard had been adopted, *Rambus* would automatically obtain substantial market shares.

3.1.3.2 The Appellate Court's reasoning

The Court relied on the two antitrust principles used in *Microsoft* to scrutinize *Rambus*' alleged exclusionary conduct. Firstly, the court concluded that "[t]o be condemned as exclusionary, a monopolist's act must have 'anticompetitive effect'. That is, it must harm the competitive process and thereby harm to consumers, harm to one or more competitors will not suffice."⁷⁵ Secondly, the plaintiff (including the government) bears the burden of proving the anticompetitive effect of the monopolist's conduct.⁷⁶

The Court recognized that if a more complete disclosure had made JEDEC adopt a different standard, *Rambus*' deception would have harmed competition and would have supported a monopolization claim. However, the Commission only proved that *Rambus*' non-disclosure made the adoption of its technologies more likely than full disclosure would have done. This did not exclude the possibility that JEDEC would have chosen *Rambus*' technology even if it had known about the patents. In that case, it had to be shown that *Rambus*' non-FRAND commitments could harm competition alone.

Deceptive conduct in itself cannot constitute a monopolization claim. The plaintiff has to prove an anticompetitive effect, established by *Brooke Group*.⁷⁷ Raised prices due to deception are beyond the scope of

⁷⁴ In the Matter of *Rambus, Inc* Docket No. 9302, Opinion of the Commission. P. 77.

⁷⁵ UNITED STATES V MICROSOFT CORP., 253 F.3d 34., 51 (D.C. Cir) cert. denied, 534 U.S. 952 (2001) *58

⁷⁶ *Ibid.* * 58-59

⁷⁷ BROOKE GROUP LTD. V. BROWN & WILLIAMSON TOBACCO CORP., 509 U.S. 209, 22-24, 113 S. Ct. 2578, 125 L.Ed.2d 168 (1993): *Even an act of pure malice by one business competitor against another does not, without more, state a claim under the federal antitrust laws*" without proof of "a dangerous probability that [the defendant] would monopolize a particular market".

antitrust laws if they do not harm competition. In order to recognise deception as anticompetitive it has to harm rivals in a way that causes or protects the defendant's monopoly power. One example is Microsoft, who was condemned for monopolization because it made independent software developers think that they were producing cross-platform JAVA applications when they were, in fact, making applications that only fit the Windows platform.⁷⁸ The analysis is thus focused on the effect rather than the deception itself.

The Court differentiates this from lawful monopolists, who use deception to raise prices but who do not exclude competitors and thus do not cause harm to competition. It cites *NYNEX Corp. v. Discon. Inc.*, 525 U.S. 128, S. Ct. 493, 142 L.Ed.2d 510 (1998)⁷⁹, where a New York Telephone Company, a lawful monopoly, charged higher prices to consumers as a result of fraudulent actions. The Court found that this did not harm the competitive process. Further, the Court stated that a loss of RAND commitment does not harm competition from alternative technologies. "*An antitrust plaintiff must establish that the standard-setting organisation would have adopted the standard in question but for the misrepresentation or omission.*" According to the Court, RAND commitments would have resulted in less competition from alternative technologies since high prices restrained output tend to attract competition not deter it. The Court considered its decision to be consistent with *Qualcomm* since the Third Circuit "*rested on the argument that deceit lured the SSO away from non-proprietary technology*". In conclusion, the Court states that to treat non-disclosure in standard-setting as monopolization the plaintiff has to show that disclosure would have made the SSO choose a different technology. The simple loss of RAND commitments is not sufficient.

3.2 Analysis of case-law

3.2.1 Conflicting judgments?

Rambus and *Qualcomm* led to different outcomes. However, the two rulings are not necessarily in tension. In *Rambus*, the court specifically noted that the FTC had not shown that JEDEC would have chosen a different technology had *Rambus* disclosed its patents. Thus, the decision was based on FTC's shortcomings. In *Qualcomm*, on the other hand, it was established that its FRAND commitments were a fundamental reason to why *Qualcomm*'s technology was chosen and its conduct denied the SSO from the possibility of choosing non-proprietary technology.⁸⁰

⁷⁸ UNITED STATES V MICROSOFT CORP., 253 F.3d 34., 51 (D.C. Cir) cert. denied, 534 U.S. 952 (2001). *76.

⁷⁹ NYNEX was a telephone company that served five New England States as well as New York from 1984 through 1997.

⁸⁰ Cary. S George, Hayes S Paul, Work-Dembowski. *Antitrust implications of abuse of standard-setting*. 15 Geo. Mason L. Rev. 1241. August 2008. P. 1246.

3.2.2 The legal basis for Rambus?

First, the DC Circuit, in *Rambus*, based its decision on NYNEX. However, commentators have identified some important differences between *Rambus* and NYNEX. NYNEX was a legal monopolist before it engaged in deception. Further, it did not use this deception to maintain its monopoly power. Consequently, the NYNEX decision was coherent with the well-established principle that only being a monopolist does not infringe Section 2 of the Sherman Act.⁸¹ *Rambus*, on the other hand, engaged in its alleged deception *before* the standards were adopted and before it acquired a legal monopoly. The D.C. Circuit's use of NYNEX can therefore be considered unfounded.⁸²

Further, commentators believe that the Court in *Rambus*, interpreted the NYNEX decision too broadly. In NYNEX, the court found that there is no per se rule against deception by monopolists but in *Rambus*, this was allegedly used to inoculate any conduct that originated from a regulatory grant of market power.⁸³

Others question both the NYNEX and the *Rambus* decision because they believe they pay undue respect to legal monopolists. This is because the anticompetitive harm in NYNEX did not only originate from the market power conferred to NYNEX by the government but also by NYNEX's efforts to expand its market power by misleading the regulatory agency, thereby stopping it from controlling NYNEX's behaviour. In *Rambus*, a comparable situation arose. The anticompetitive harm in *Rambus* was a combination of its lawfully acquired patent *and* its deception of the SSO. Absent these, the SSO would have constrained *Rambus*' ability to charge super competitive prices. These judgments make "...challenges to regulatory gaming more difficult".⁸⁴ The cases involve an indirect form of regulatory respect that implies that antitrust law should not challenge conduct made possible by regulation.⁸⁵

Other criticisms arise from the court's ignorance of the economic significance to SSOs, connected to the choice of different technologies before the adoption of a standard. The D.C. Circuit "assume[d] without deciding" that if the SSO had adopted a "different (open, non-proprietary)" standard absent *Rambus*' deception, then *Rambus*' deception would have been anticompetitive.⁸⁶ From a law and economics perspective, some scholars maintain that the court should not only have considered if non-proprietary technologies would have been chosen. Instead,

⁸¹ See *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407 (2004). "To safeguard the incentive to innovate, the possession of monopoly power will not be found unlawful unless it is accompanied by an element of anticompetitive conduct."

⁸² Cary S George, Hayes S Paul, Work-Dembowski. *Antitrust implications of abuse of standard-setting*. 15 Geo. Mason L. Rev. 1241. August 2008. P. 1247.

⁸³ Dogan L Stacey and Lemley Mark A. *Antitrust law and regulatory gaming*. 87 Tex. L. Rev. 685. March 2009. FN 177-182.

⁸⁴ *Ibid.* FN 184.

⁸⁵ *Ibid.* FN 185.

⁸⁶ *RAMBUS INCORPORATED, v. FEDERAL TRADE COMMISSION*, 522 F. 3d 456 (D.C. Cir. 2008) Cert. Denied sub nom. *Federal Trade Commission v Rambus Incorporated* _U.S._, 129 S. Ct. 1318, (2009).* 463.

their evaluation should have included anything that “*would have constrained the monopolist before its alleged wrongful conduct but does not constrain it afterwards.*”⁸⁷ Examples include another patent holder’s proprietary technology combined with a FRAND commitment. However, despite that the Court recognized that higher royalties might lead to higher downstream prices the Court dismissed this as an antitrust concern by relying on that *Rambus* had acquired its monopoly power “legally” like NYNEX.⁸⁸ Nevertheless, the Court has been criticized for having used “*an unduly narrow concept of relevant alternatives that is neither justified in economics nor required by case-law.*”⁸⁹

3.2.3 Is it justified to use Section 2 of the Sherman Act?

Some have raised concerns regarding the use of antitrust law to scrutinize SSOs and their members’ activities and question if the deception of SSOs can be considered anticompetitive at all.⁹⁰ People have raised concern that antitrust assessment will deter firms from participating in standards; more specifically disputes over FRAND terms will raise costs for participation in SSOs. In light of the importance of standards, this would be detrimental to the overall economy.⁹¹ Others underline that patents confer legal monopolies and consequently, firms are free to decide their own licensing terms.⁹² This line of thought was supported by the District Court in *Qualcomm*, which accepted *Qualcomm*’s defence that it was merely exercising its patent rights.⁹³ Similarly, other district courts have concluded that breach of SSO policies cannot constitute antitrust abuse.⁹⁴ Commentators in doctrine agree and view *Qualcomm*’s royalty claims as a legitimate exercise of its patent rights and the conflict was rather a conflict concerning the parties’ differences in how they valued the patent rights. Without taking either party’s side, the authors feel that *Qualcomm* gave rise

⁸⁷ Cary S George, Hayes S Paul, Work-Dembowski. *Antitrust implications of abuse of standard-setting*. 15 Geo. Mason L. Rev. 1241. August 2008. P. 1247.

⁸⁸ *RAMBUS INCORPORATED, v. FEDERAL TRADE COMMISSION*, 522 F. 3d 456 (D.C. Cir. 2008) Cert. Denied sub nom. Federal Trade Commission v Rambus Incorporated _U.S._, 129 S. Ct. 1318, (2009).* 466

⁸⁹ Cary S George, Hayes S Paul, Work-Dembowski. *Antitrust implications of abuse of standard-setting*. 15 Geo. Mason L. Rev. 1241. 2008 P. 1247.

⁹⁰ Royall Sean M, *Standard-setting and exclusionary conduct: the role of antitrust in policing unilateral abuses of standard-setting processes*. Antitrust Magazine, Spring 2004. P. 45.

⁹¹ *ALLIED TUBE & CONDUIT CORP. V. INDIAN HEAD, INC.*, 486 U.S. 492, 514-515 (1988) (White, J., dissenting) and Curran Patrick D. *Comment, Standard-Setting Organizations; Patents, Price Fixing and Per se Legality*. 70 U. Chi. L. Rev. 983. 2003. P. 994.

⁹² Klitzke Ramon A. *Patents and Monopolization: The Role of Patens under Section Two of the Sherman Act*. 68 Marq. L. Rev. 55. 557 1982. Pg. 567.

⁹³ *BROADCOM CORPORATION, v. QUALCOMM INCORPORATE*, 501 F. 3d 297 (3d Cir. 2007). *305

⁹⁴ *HYNIX SEMICONDUCTORS INC. V. RAMBUS INC.*, 401 F. Supp. 2d 1066, 1080-81 (N.D. Cal. 2006) and *TOWNSHED V. ROCKWELL INT’L CORP.*, 55 U.S.P.Q.2d 1011, 1024 (N.D. Cal. 2000).

to traditional patent principles, namely validity, infringement and remedies and patent law should therefore be applied “*without reference to the notion of standards estoppels.*”⁹⁵ Despite this, the third circuit found *Qualcomm*’s conduct to be abusive under Section 2 of the Sherman Act.

The Third Circuit focused on *Qualcomm*’s actions during the standard-setting process. It recognized the precompetitive advantages of standard-setting while identifying the potential anticompetitive result that abuse of the process could amount to. The Court provided an enforcement mechanism for SSO policies. Nevertheless, FRAND is no closer to a definition. The decision in *Qualcomm* even implies that it will be the courts who will determine what constitutes fair and reasonable licensing terms in the future. This is something that they are not necessarily fit to do.⁹⁶ Despite that *Rambus* was not convicted for monopolization in breach of Section 2 Sherman Act, this has not necessarily precluded all antitrust interference in the context of SSOs. This is because SSOs themselves and antitrust laws and agencies, cannot necessarily address antitrust harm and courts therefore play an important role. It still stands that if the SSO would have chosen a different technology absent concealment an antitrust case still holds.⁹⁷ Some are even stronger supporters of the use of antitrust law to condemn misconduct within SSOs and regard this as “*crucial to protecting consumer welfare and fostering innovation.*”⁹⁸ In conclusion, there seems to be some justified room for antitrust laws to condemn “abuse” within SSOs.

3.2.4 Implications of the case-law

The *Rambus* decision can in some ways be said to undermine the ability of SSO members to dispute deception on Sherman Act grounds. The District Court of Columbia’s judgment implies that to show monopolization the plaintiff has to prove that the SSO would have chosen a different technology absent the defendant’s non-disclosure. Thus, the plaintiff is required to reconstruct a hypothetical scenario, which seems at odds with the Microsoft case, where the court “*declined to require the plaintiff to reconstruct the hypothetical marketplace absent a defendant’s anticompetitive conduct.*”⁹⁹ Further, RAND policies are adopted to mitigate the effects of hold-up and thus members of SSO may choose to rely on these terms rather than choose an alternative technology. However, since the court found that the mere loss of RAND commitments could not constitute monopolization, this leaves the

⁹⁵ Merges, Robert P and Kuhn, Jeffrey M. *An estoppels doctrine for patented industries.* 97 Cal. L. Rev. 1. February, 2009. P. 16.

⁹⁶ Poulton Victoria. *All’s fair in love and...Standard-setting?! The Third Circuit says “no” to deception and “yes” to antitrust actions in Broadcom Corp. V. Qualcomm, Inc.* 717. 2008. P. 722.

⁹⁷ Ibid. FN 186-187.

⁹⁸ Cary S George, Hayes S Paul, Work-Dembowski. *Antitrust implications of abuse of standard-setting.* 15 Geo. Mason L. Rev. 1241. P. 1252.

⁹⁹ UNITED STATES V MICROSOFT CORP., 253 F.3d 34., 51 (D.C. Cir) cert. denied, 534 U.S. 952 (2001).* 78.

legal status of RAND commitments unclear and, consequently, SSOs may face greater risks of patent hold-ups.¹⁰⁰

3.2.5 Concerns raised regarding SSOs' disclosure policies

Although the *Dell* decision is a consent decree and therefore has no precedent value, the dissenting commissioner still provides some useful insight and guidance for these cases. She questions the majority's basis for finding a violation under Section 5 of the FTC Act.

The dissenting commissioner underlines that the Commission did not allege that *Dell*'s representative in the SSO knew the full scope of the relevant patent. The commissioner finds that when the Court finds a violation of Section 5 without any allegation of a knowing or intentional misrepresentation this results in that the Commission makes disclosure obligatory, which is more than the SSO required (disclosure is made to someone's best knowledge.) The dissenting Commissioner disagrees with the majority that *Dell* "chilled" willingness to participate in SSOs. Instead, she believes that firms may avoid voting in standards if they risk losing their right to intellectual property.

Subsequent to the decree public comments were made, some concerned about potential harmful effects. ANSI (with support from other SSOs) voiced its support for liability "*for failure to disclose relevant patents only insofar as a firm intentionally and deliberately fails to disclose... in an attempt to gain unfair advantage.*" ANSI disagreed with making disclosure obligatory, as it believed this would "chill participation in standard-setting." Further, ANSI questioned the remedy, which it characterised as a loss of patent rights or compulsory licensing, which it feared would undermine the United States' stance in international negotiations. ANSI was also concerned that the decree implied liability subsequent to unintentional failure to disclose and an obligatory search of patent portfolios. They expressed the difficulty of searching patent portfolios because of the complexity and number of patents that firms handle. They perceived a risk where firms would either not participate or risk losing their right to enforce patents.

In *Rambus*, the District Court of Columbia also expressed its concern regarding the width that the FTC ascribed to JEDEC's disclosure policies and their relations with what *Rambus* did or did not disclose. According to the Court, the case *appeared*¹⁰¹ to be based on the fact that participating firms in JEDEC were obliged to disclose patents, patent applications **and** current work on changes or patent applications that could result in new patent claims. The Commission based its reading on several testimonies and the Court questioned the validity of making such a broad interpretation of the disclosure texts.

¹⁰⁰ Mudge D Wilson and Karlin B. Marni. *The District of Columbia circuit court's decision in Rambus overturns the FTC finding of monopolization*. 20 NO. 8 Intell. Prop & Tech. L.J. 11. August 2008. Pp. 13-14.

¹⁰¹ The Court emphasized *appears*, as the Commission's opinion left them uncertain of their real view.

If the Commission had instead used the testimonies to give evidence to the fact that there was a disclosure obligation that stretched beyond written policies this might cause other problems. These expectations would imply that competitors share information that they otherwise protect as trade secrets, which might raise different antitrust concerns. Thus, the Court views this type of vagueness as an obstacle. Therefore, the vaguer an expectation is the more difficult it should be for the Commission to find a breach liable under antitrust law.

The potential effects that antitrust law can have on SSOs disclosure policies are obviously a concern, which needs to be taken seriously.

3.3 EU case-law

3.3.1 Rambus

The European Commission sent a statement of objections (SO)¹⁰² to *Rambus* on 30 July 2007.¹⁰³ *Rambus* has, allegedly, abused its dominant position (Article 82) by claiming unreasonable royalties for patents used in DRAMS following a *patent ambush* by *Rambus*. This is the first time the Commission deals with *patent ambush* under EC antitrust law, but it considers its approach consistent with well-established case-law under Article 82.

Although *Rambus* is a US company, it was active on the worldwide market and had obtained patent protection for the relevant technologies in Europe. Further, *Rambus* enforced its patents against companies, which were applying the relevant standards in Europe. These companies were therefore subject to litigation concerning the relevant European patents, but would not have been able to seek relief based on a US decision. The Commission therefore deemed its action to be appropriate.

In the SO, the Commission outlines its preliminary view regarding *Rambus*' abusive conduct. It states that *Rambus* engaged in intentionally deceptive conduct by not disclosing patents that it later claimed to be relevant to the adopted standard (= *patent ambush*). Then, *Rambus* claimed unreasonable royalties and thereby abused its dominant position. The Commission suggests that an appropriate remedy to such abuse would be for *Rambus* to charge a reasonable and non-discriminatory royalty rate. This rate would be determined according to all relevant circumstances.¹⁰⁴

¹⁰² Statement of Objections is a formal step in the Commission's antitrust investigations in which the Commission informs the parties concerned in writing of the objections raised against them. This does not prejudice the final outcome of the procedure.

¹⁰³ European Commission Press Release MEMO/07/330, Brussels, 23rd August 2007.

¹⁰⁴ European Commission Press Release MEMO/07/330, Brussels, 23rd August 2007.

3.3.2 Qualcomm

The European Commission has initiated formal proceedings against *Qualcomm*.¹⁰⁵ The proceedings concern *Qualcomm*'s alleged abuse of its dominant position (Article 82). *Qualcomm* has IP rights in the CDMA and WCDMA¹⁰⁶ standards for mobile telephones. Mobile phone and chipsets manufacturers have complained that *Qualcomm* does not license on *Fair, Reasonable and Non-discriminatory* terms and is therefore in breach of Article 82.

The allegation concerns the terms on which *Qualcomm* licensed its patents that were essential to the WCDMA standard. The investigation will focus on whether or not *Qualcomm* is dominant and whether or not the licensing terms are *Fair, Reasonable and Non-discriminatory*. Further, the Commission stipulates that licensing on terms that are contrary to FRAND can constitute an abuse of Article 82.

The complainants base their allegation on the economic principle that shapes FRAND: essential patent holders shall not be able to exploit the additional power they can obtain by having their technology included in a standard. Further, the Commission claims that charging non-FRAND royalties can lead to increased prices for handsets, slower development of the 3G standard and the subsequent negative consequences for economic efficiency related to inhibited growth of the standard. The complainants further allege that such behaviour could generally affect the standard-setting process and the adoption of a 4G standard in a negative way.

3.4 Conclusions

Common for the US decisions is the focus on deception and its effect on competition. In the EU, the Commission recognizes the patent ambush in *Rambus* but appears to rely on unreasonable royalties as the alleged abuse of dominance in breach of Article 82. Further, in *Qualcomm* the Commission will explicitly investigate if a breach of FRAND can constitute an abuse of dominance. Therefore, there appears to be a fundamental difference in approach between the US and the EU. This can be explained by the systems' different legal basis and their different takes on monopolists' rights and obligations.

The US decisions resulted in different conclusions. In *Dell* the Commission found a breach of Section 5 of the FTC Act, which resulted in a consent decree where Dell was prevented from enforcing its patents. *Qualcomm*'s breach of its previous FRAND commitment infringed Section 2 of the Sherman Act, whilst *Rambus* deception was not in breach of Section 2 Sherman Act. The main difference between the two cases appears to be the causal link between conduct and anticompetitive effect; whilst the Court in *Qualcomm* was confident that the SSO would have chosen an

¹⁰⁵ European Commission Press Release MEMO/07/389, Brussels, 1st October 2007.

¹⁰⁶ Part of the 3G standard and also referred to as UMTS.

alternative technology if *Qualcomm*' had not made a FRAND commitment, the court was not equally confident in *Rambus*.

Dell has no precedent value because of its status as a consent decree. However, the dissenting opinion in *Dell* is valuable to demonstrate the concerns related to the effects of antitrust scrutiny to SSOs' disclosure policies, since the same types of concerns were brought up in *Rambus* by the District Court of Columbia. *Qualcomm* and *Rambus* have been debated and to some extent criticised by a number of commentators. Discussions revolve around the legal basis for the decision in *Rambus*, how appropriate Section 2 Sherman Act is to address hold-ups and the implications of the decisions' for the existence and exercise of SSOs.

In *Rambus* and *Qualcomm* the European Commission makes a case on the basis of Article 82 EC. A prerequisite for finding an abuse under Article 82 EC is dominance. It is therefore useful to look at which tools the European Commission has to find a patent holder dominant. The next section will therefore provide the legal framework for market definition and dominance, specifically in the context of IPRs.

4. Article 82 and Dominance

The Commission's memos in *Rambus* and *Qualcomm* give scarce guidance to how the Commission will reason concerning dominance. Nevertheless, the purpose of this chapter is to provide the reader with the legal framework for assessing dominance under Article 82. Furthermore, it will underline some of the issues that IPRs give rise to in relation to the relevant market and the question of dominance. Overall, a firm is said to hold a dominant position when it "*holds a position of economic strength... which enables it to prevent effective competition being maintained on the relevant market by giving it the power to behave to an appreciable extent act independently of its competitors, customers and ultimately consumers.*"¹⁰⁷ This is an essential prerequisite in order to challenge a firm's conduct as abusive under Article 82 EC. Thus, one must first define the relevant market. The prime objective of this is to identify the "*immediate competitive constraint faced by an undertaking*".¹⁰⁸ Guidance can be found in the *Commission Notice on the definition of the relevant market for the purposes of Community Competition law*.¹⁰⁹

The relevant market definition includes both the relevant product and the geographic market, which will be assessed separately. The relevant firm's market shares can be calculated once its competitors and the competitive constraints they inflict have been identified.¹¹⁰ Three types of competitive constraints that may influence the definition of the relevant market in light of Article 82 EC exist: demand substitutability, supply substitutability and potential competition.

4.1 The relevant market

4.1.1 The product market

The relevant product market is defined as follows "*[a] relevant product market comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reason of the products' characteristics, their prices and their intended use.*"¹¹¹ Some argue that the switching costs, i.e. the costs of switching to an alternative product, can captivate consumers and a single product may therefore constitute the whole product market. An example of this type of market would be standards where products are designed based on technology

¹⁰⁷ Case-27/76; *United Brands v. Commission* [1978] ECR 207. § 2.

¹⁰⁸ DG Competition discussion paper on the application of Article 82 of the Treaty to exclusionary abuses. Brussels, December 2005. § 12.

¹⁰⁹ *Ibid.*

¹¹⁰ Commission's Notice on the definition of relevant market for the purposes of Community competition law. § 2.

¹¹¹ *Ibid.* § 7.

specifications.¹¹² However, one must not forget that alternative standards may still inflict competitive constraints.¹¹³ Thus, if one assumes that the relevant market is the standardised product one must assess the patent holder's market power on this market. This raises the question of the relationship between IPRs and products.

First of all EC case law distinguishes between the product protected by the IPR and the IPR itself. This distinction is justified because if the IPR would define the scope of the product market IPR holders may be dominant on a market where they hold no real market power. This was first established in *Sirena*.¹¹⁴ In *Sirena*, the court reasoned that if the market for pharmaceutical products were defined based on the patent this would ignore competition from competing medicines. Further, in *Magill*, the court again made a difference between the TV listing information and copyright license itself. However, some have questioned the difference in practise. They believe that the court defined the product market so narrowly in *Magill* that the copyright subject matter conferred market dominance upon the IP holder.¹¹⁵ If applied to SSOs, this can cause concern in respect to standardized products, which largely read on technology that is protected by IPR.

4.1.2 The geographic market

The relevant geographic market is defined as follows: "The relevant geographic market comprises the area in which the undertakings concerned are involved in the supply and demand of products or services, in which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighboring areas because the conditions of competition are appreciably different in those areas."¹¹⁶ The Commission will define the geographic market on the basis of the market shares of the parties and their competitors. Further, it will scrutinize differences in pricing and prices at a national, Community, EEA or global level. This will be analyzed in the light of demand characteristics including the importance of national or local preferences, current patterns of purchases of customers, product differentiation/brands and other things.¹¹⁷ The Commission will identify possible obstacles that may isolate companies in a given area.¹¹⁸ For technologies the geographic market is usually much wider because

¹¹² Anderman Steven D and Kallaughter John. *Technology transfer and the new competition rules: intellectual property licensing after modernization*. 6.45.

¹¹³ Ibid.

¹¹⁴ Case-40/70; *Sirena S.r.l v Eda S. r.l. and others*. [1971] ECR I-069.

§ 83: "It should first be observed that the proprietor of a trade-mark does not enjoy a "dominant position" within the meaning of Article 86 merely because he is in a position to prevent third parties from putting into circulation, on the territory of a Member State, products bearing the same trade-mark".

¹¹⁵ Czpracka Katarzyna A. *Where antitrust ends and IP begins – on the roots of the transatlantic clashes*. 9 J. L & Tech 44. 2007. Pg. 47.

¹¹⁶ Commission's Notice on the definition of relevant market for the purposes of Community competition law § 8

¹¹⁷ Ibid. § 29.

¹¹⁸ Ibid. § 30.

traditional barriers that can limit the scope of a market in other contexts, i.e. transportation costs, are not applicable to technology markets.¹¹⁹ In the context of SSOs, this is important when one looks at a patent holder's market power on the specific technology market on which competing technologies, susceptible for implementation in a standard, compete.

4.1.2 Specific competitive constraints for the relevant market in light of Article 82 EC.

4.1.2.1 Demand substitutability

Demand substitutability arises from the type of products that consumers regard as interchangeable. If consumers can easily switch to a different product, the actual firm cannot have any substantial impact on the existing trading conditions, i.e. price. The SSNIP-test provides good guidance in these cases.¹²⁰ Essentially, this test identifies which additional products or areas are to be included or excluded from the market definition depending on whether they can inflict competitive constraints on the relevant firm in order to effectively affect or restrain the pricing of the firm's products in the short run.

However, the *Discussion paper* provides some further guidance with respect to the SSNIP-test and Article 82 EC abuses. The SSNIP-test may not suffice in these cases and it may therefore be necessary to find other methods to appropriately define the scope of the market.¹²¹ The SSNIP-test presupposes that the charged prices can function as suitable thresholds for the analysis. However, this is not necessarily true for Article 82 EC. To assess dominance one must scrutinize if the particular firm is subject to effective competitive constraints. This is based on the price charged by the relevant firm. However, this price may in fact already have been substantially increased by the dominant firm. Therefore, one needs to base the assessment on the competitive price rather than the existing market price. This is because an assessment made on the existing market price may define the relevant market too widely by including product or geographic areas that only inflict competitive constraints because prices already have been increased above competitive levels. This is known as the "*cellophane fallacy*."¹²²

Nevertheless, the SSNIP-test may still be helpful in that it can indicate which substitutes that exist at these price levels. Products and areas that would fall outside the scope of the relevant market at existing prices

¹¹⁹ Anderman Steven D and Kallaugher Johan. *Technology transfer and the new EU competition rules. intellectual property licensing after modernization*. 6.66.

¹²⁰ In this test it is asked whether the customers of the undertaking(s) concerned would switch to readily available substitutes or to other suppliers located elsewhere to such an extent that it would be unprofitable to implement a small but significant (normally in the range 5%-10%), non-transitory increase in relative prices for the products and the areas being considered. If answered in the affirmative, additional substitutes and areas are added to the relevant market until such a price increase would be unprofitable.

¹²¹ DG Competition discussion paper on the application of Article 82 of the Treaty to exclusionary abuses. Brussels, December 2005. § 13

¹²² *Ibid.* § 15

would also be excluded at lower competitive prices. Nonetheless, further tools are needed in order to assess if the market definition is too wide. The *Discussion paper* identifies some alternative methods that may be applied in addition to the SSNIP-test as well as the risks associated with these.

The alternative tests include reconstructing the competitive price. However there are a number of risks associated with this that might undermine its accuracy. An alternative approach is to assess the characteristics of the products and its intended use. This may exclude alternative products at competitive prices. Thus, an adequately large group of consumers must consider the products to be interchangeable in order to include them in the same market.

4.1.2.2 Supply substitutability

Supply substitutability can be considered when its effects are similar to those of demand substitutability with regard to effectiveness and immediacy. It means that suppliers can switch production to relevant products and market them in the short run without suffering substantial extra costs or risks due to small but permanent change in relative prices. If these conditions are fulfilled the additional production will inflict competitive constraints on the firms involved.

4.1.2.3 Potential competition

This will be considered at a later stage. It depends on the analysis of particular characteristics of the market associated with conditions of entry. Thus, this will usually only be considered once market shares of the different firms' have been established and once such a position gives rise to competitive concerns. The next step is to assess a patent holder's market power on the relevant market, the standardised product.

4.2 Dominance

An IPR does not confer automatic market dominance, which was emphasized in *Magill*, where the court stated that the “...mere ownership of an intellectual property right cannot confer [a dominant position].”¹²³ In standard-setting, the technologies that the standardized product reads on constitute the technology market. However, “[i]f the downstream product market is competitive, competition at this level may efficiently constrain the licensor. An increase in royalties upstream affects the costs of the licensee, making him less competitive, causing him to lose sales”¹²⁴. Thus, if a dominant firm increases the prices for its IPRs by higher royalties, consumers can switch away from the standardized product if the end-products are substitutable.¹²⁵ An increase in royalty can

¹²³ Joined cases Case-241 & 241/91 P; RTE and ITP v Commission [1995] ECR I-743 § 46.

¹²⁴ Commission Notice. *Guidelines on the application of article 81 of the EC Treaty to Technology Transfer Agreements*. 2001/C 3/02. § 23.

¹²⁵ This assumes that higher royalties are passed onto consumers in the form of higher prices, which is a debated issue. See for example Geradin Daminen and Rato Miguel. *Can Standard-Setting Lead to Exploitive Abuse? A Dissonant View on Patent Hold-up, Royalty Stacking and the Meaning of FRAND*. April 2006.

therefore become unprofitable.¹²⁶

A player's market share in the relevant technology market can serve as an indication of the player's relative strength. There exist different methods for the calculation. One method is to use the market on which licensed technologies compete; a player's market share represents its share of total royalties. This might have practical difficulties because of lack of information concerning royalties. Another method, used in Article 3(3) of the TTBER¹²⁷ is to use the downstream product market; a player's market share represents its share of total sales¹²⁸ on the downstream product market. The market is comprised of all downstream products irrespective of whether they use the licensed technology or not. The second method is a good indicator for a number of reasons. Firstly, it considers any potential competition from firms who may start to license their technology because of a small but permanent increase in royalties. Secondly, even in cases where it is unlikely that firms will start to license their technology, high royalty incomes do not necessarily imply market power, because even if there are few alternative technologies there may be intensive competition in the market for the product that makes use of the technology. Thus, a competitive downstream market can constrain the licensor. Increased royalties upstream increase the licensee's costs, making him/her less competitive and leading to a loss in sales downstream. In some cases, it might be useful to apply both types of tests to have an accurate picture of market shares.¹²⁹

To use market shares to determine market power in technology markets is somewhat problematic. This is because a market share does not necessarily convey anything by itself, but instead it demonstrates barriers to entry or expansion, especially those that include capacity and distribution limitations. However, for the transfer of technology, capacity and distribution are usually not an issue. It is possible for one licensor to meet the needs of one whole industry. The best way to assess a technology market is therefore to look at possible alternative technologies.¹³⁰

Most importantly, one should bear in mind a case-to-case basis. Particular characteristics of a market can change the evaluation of the market. If current licensees to a technology can switch to follow-on technologies at a lower cost, this dependence might allow the licensor to demand higher royalties. Another important characteristic is network effects. If the value of a technology

¹²⁶ Commission Notice. *Guidelines on the application of article 81 of the EC Treaty to Technology Transfer Agreements*. 2001/C 3/02. § 23.

¹²⁷ *For the purposes of paragraphs 1 and 2, the market share of a party on the relevant technology market(s) is defined in the presence of the licensed technology on the relevant product market(s). A licensor's market share on the relevant technology market shall be the combined market share on the relevant product market of the contract products produced by the licensor and its licensees.*

¹²⁸ Sales of products that use the licensed technology.

¹²⁹ Commission Notice. *Guidelines on the application of article 81 of the EC Treaty to Technology Transfer Agreements*. 2001/C 3/02. § 23.

¹³⁰ Anderman Steven D and Kallaugher Johan. *Technology transfer and the new EU competition rules. intellectual property licensing after modernization*. 6.76.

increases according to the number of users, the market can be said to “*tip in favour of the leading firm, which will obtain control over the market regardless of the technical advantages offered or the price charged for competing technologies.*”¹³¹

4.3 Conclusions

In order to challenge a firm’s conduct as abusive under Article 82 EC one must first establish a dominant position. A firm holds such a position when it can prevent effective competition being maintained on the relevant market. This is assessed by defining the relevant product and geographic market. It is defined according to which interchangeable substitutes that exist to the actual product. In the case of standardized products, switching costs may limit the relevant product market to a single product. Nevertheless, alternative standards may still inflict competitive restraints. Concerning IPRs and products the IPR can never define the relevant product market as such. Competitive constraints may effectively constrain a firm’s market power and can be categorized as demand substitutability, supply substitutability and potential competition.

For the definition of geographic markets, conditions of trade and competition are essential to map out the limits of the relevant market. For this assessment, the Commission will assess differences in price with regard to specific demand characteristics. Technology markets are not concerned with traditional limits such as transportation costs and the geographic market may therefore enjoy a much wider definition.

Demand substitutability is identified by the SSNIP-test, but when one uses this test in relation to Article 82 EC one must be sensitive to the fact that high prices may give an unjustified wide definition to the scope of the relevant market and one must therefore consider alternative methods to distinguish the true competitive price.

Concerning market power an IPR does not confer automatic market dominance. In standard-setting it is possible to identify a technology market comprised of the different technologies that the standardized product reads on. However, an IP holder may still not have market power on this market if there is effective competition on the downstream product market. A firm’s market share can serve as a good indication of its relative strength. Different calculation methods exist with respect to this.

Once a firm holds a dominant position in the EU it has a special responsibility. The EC has developed a line of case-law concerning excessive pricing and “unreasonable” royalties as abuse in breach of Article 82 EC. In order to assess whether or not “unreasonable” royalties within SSOs amounts to this type of abuse the next chapter will illustrate how the US and the EU respectively treat pricing abuses.

¹³¹ Anderman Steven D and Kallaugher Johan. *Technology transfer and the new EU competition rules. intellectual property licensing after modernization.* 6.77.

5. Pricing abuses in the US and the EU

This chapter will first set the scene by offering a law and economics perspective to pricing in high-tech markets. Secondly, it will show how the US and the EU in practice have dealt with unfair prices and “excessive” royalties. Thirdly, there is a discussion of reward for IPR and unfair pricing. The chapter concludes with an analysis of the difficulties related to reasonable royalty rates in general and to SSOs in particular.

5.1 Unfair pricing in a law and economics perspective

There are two methods to determine fairness of a price. Either one looks at price in relation to cost of a product or the price in relation to the intrinsic value of the product. The latter approach is less developed in EC case-law. The intrinsic value is determined by which value customers attach to the product. This is why products protected by intellectual property rights can have a very high intrinsic value.¹³²

When discussing “fair” and unfair prices and its implications one should differentiate between static and dynamic markets. In **static**, competitive markets there are low levels of investment with marginal economies of scale. The *competitive price* is equal to the incremental cost of production according to a specific market demand (= *marginal cost*). Prices that are above the competitive price will have negative effects for consumers. This is because rents are transferred from consumers to firms and it erodes rents because some consumers are excluded from the market when they cannot pay the demanded price.¹³³

Instead, most markets, high-tech ones especially, are characterised by dynamics. In these markets, firms suffer large sunk costs and low incremental costs. The *competitive price* cannot be defined by the *marginal cost* in these markets. Instead, prices should be set according to customers’ willingness to pay to avoid unduly restricting output.¹³⁴ Therefore, it is not possible to identify the competitive price only based on information on costs.¹³⁵

Furthermore, the calculation of costs and the measurement of profits are especially difficult in dynamic markets. When firms rely on IPRs that are the result of R & D for unconnected technology, it is very difficult to identify and delimit the costs to what is relevant for the IPR in question.

¹³²Evans S David & Padilla A Jorge. *Excessive prices: using economics to define administrable legal rules*. Pp. 5-6.

¹³³ Ibid.

¹³⁴ Ahlbom Christian. *Competition policy in the new economy: is European competition law up to the challenge?* E.C.L.R. 2001, 22(5), 156-167. 2001. Pp. 164.

¹³⁵ Evans S David & Padilla A Jorge. *Excessive prices: using economics to define administrable legal rules*. Pp. 5-6.

In addition, the calculation of costs does not consider the need to reward R & D. Industries with high rates of investments and innovations are thus particularly sensitive to these problems. Firms compete for the market and there are few winners. The winners, on the other hand, are able to earn very large profits. These might be considered excessive ex post, but considered ex ante they might be appropriate considering the risk associated with innovation. The profits earned by the few compensate the losses incurred by the many.¹³⁶ In conclusion, there are surely firms that receive excessive profits, but to identify when and by how much is a difficult task that requires careful handling and bears significant risks of wrongdoing.¹³⁷

5.2 The US

5.2.1 Excessive prices in case-law

To understand the US view, one must first look at how the US approaches excessive prices in general and, subsequently, how it treats reasonable prices. The following two cases provide very good reflections of the US attitude.

5.2.1.1 Eastman Kodak Co

Action was initiated against Eastman Kodak Company for allegedly making Berkey Photo, Inc lose sales in camera and photofinishing markets by charging excessive prices for film, color print paper, and photofinishing equipment. The question at issue was if this practice could amount to a violation of Section 2 of the Sherman Act.

However, the court found that “[s]etting a high price may be use of monopoly power, but it is not in itself anticompetitive... Judicial oversight of pricing policies would place the courts in a role akin to that of public regulatory commission...”.¹³⁸ Therefore, Eastman Kodak Co had not acted in breach of Section 2 of the Sherman Act.

5.2.1.2 Verizon

The case concerned whether or not Verizon denied access to interconnection services in order to limit entry by its rivals. The question at issue was if this conduct could constitute a violation of Section 2 of the Sherman Act.

¹³⁶ Evans S David & Padilla A Jorge. *Excessive prices: using economics to define administrable legal rules*. P. 8. Refers to Lerner J, *The returns to investments in innovative activities: An overview and an analysis of the software industry* in D S Evans *Microsoft, Antitrust and the New Economy: Selected Essays* (Kluwer Academic Publishers Boston Mass 2002; Grabowski H J DiMasi and Vernon J, *Returns on R & D for 1990's New Drug Introductions* (2002) 20 *PharmaEconomics*; Grawbowski H and Vernon J, *Returns on R & D on New Drug Introductions in the 1980's* (1994)13 *J Health Economics* 383.

¹³⁷ Evans S David & Padilla A Jorge. *Excessive prices: using economics to define administrable legal rules*. September 2004. P. 8

¹³⁸ BERKEY PHOTO, INC V. EASTMAN KODAK CO 603 F 2d 263, 294 (2nd Cir 1979), cert denied 444 US 1093 (1980).*294.

However, the court found that” [t]he mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system. The opportunity to charge monopoly prices- at least for a short period- is what attracts “business acumen” in the first place; it induces risk taking that produces innovation and economic growth.”¹³⁹ Therefore the Court did not find a breach of Section 2 Sherman Act in this case either.

5.2.1.3 The 15 Georgia Pacific Factors and “Reasonable price”¹⁴⁰

The notion of excessive prices is unknown in the US. However, the term *reasonable price* has evolved for price setting in patent infringement cases. In economics, the term *reasonable* is unknown and therefore a somewhat ambiguous expression. Unlike optimal price, reasonable price suggests not only one, but several acceptable figures.¹⁴¹ The principle consists in imagining a hypothetical royalty bargaining between the parties, as if licensing had been pursued absent infringement. The range of acceptable values is set by the maximum the licensee would have been willing to pay and the minimum the licensor would have accepted to offer.¹⁴²

In *Standard Manufacturing*¹⁴³ the U.S. Court used a two-step method to find a litigated reasonable royalty. First, the Court estimated an initial or “baseline” rate. The Court used the 25% rule to find this baseline.¹⁴⁴ It referred to both the expert Robert Goldscheider and to the fact that a number of federal courts had acknowledged the rule as a “rule of thumb” common for licensing to determine the baseline royalty rate.¹⁴⁵ Second, the Court used the 15 factors established by the court in *Georgia-Pacific Corp. v. United States Plywood Corporation*¹⁴⁶ to amend the royalty according to the bargaining parties’ respective strengths.

Qualcomm argued that reasonable royalties were expressed too vaguely to give rise to antitrust liability. Nevertheless, its reasoning did not persuade the court. However, the court has dismissed cases based on

¹³⁹ VERIZON COMMUNICATIONS, INC V. LAW OFFICES OF CURTIS V TRINKO, LLP 157 L Ed 2d 823, 836 (2004).*407.

¹⁴⁰ For this section I was inspired by Helena Höök’s thesis: *Compulsory licensing – at what cost? An international study of what constitutes RAND terms*. Section 5.1.1.2.

¹⁴¹ Lévêque, Francois, *Innovation, leveraging and essential facilities: interoperability licensing in the Microsoft case*. World Competition. V. 28, n. 1. 71-91. March 2005. P. 88.

¹⁴² To determine these values in reality, practitioners use what is known as the fifteen Georgia Pacific factors established by *Georgia-Pacific Corp. v. US Playwood Corp.*, 318 F Supp. 1116, 1120 (SDNY 1970) modified on other grounds, 446 F 2d 295 (2d Cir. 1971).

¹⁴³ STANDARD MANUFACTURING CO., INC AND DBP, LTD v., No. 641-85C and 95-431C. (January 25, 1999.)

¹⁴⁴ The 25% rule is based on an estimate of the licensee’s expected profits, for the product that embodies the intellectual property at issue. Those profits are divided by the expected net sales over the same period to arrive at a profit rate, which is then multiplied by 25% to arrive at a running royalty. For more information on this, see Höök, Helena, *Compulsory licensing – at what cost? An international study of what constitutes RAND terms*.

¹⁴⁵ Smith Gordon V and Russel L Parr. *Intellectual Property Valuation, Exploitation and Infringement Damages*. P. 417.

¹⁴⁶ GEORGIA –PACIFIC CORP. V. UNITED STATES PLAYWOOD CORPORATIONS, 318 F. supp. 1116 (S.D.N.Y. 1970), modified and aff’d, 446 F. 2d 295 (2d Cir. 1971).

similarly vague terms.¹⁴⁷ What makes standard-setting special is that it “present[s] the type of consensus-orientated environment in which deception is most likely to contribute to competitive harm.”¹⁴⁸ Moreover, the court has already used this test in a FRAND context.¹⁴⁹

After *Rambus*, the situation is more unclear. The District Court of Columbia Circuit makes clear that “[e]ven if deception raises the price secured by a seller, but does so without harming competition, it is beyond the antitrust laws’ reach”.¹⁵⁰ Additionally, the court clarifies that a loss of a RAND commitment does not automatically harm competition from alternative technologies.¹⁵¹ The court differentiates this judgment from *Qualcomm* by saying that in *Qualcomm* the court “rested on the argument that deceit lured the SSO away from non-proprietary technology.”¹⁵² In *Rambus*, on the other hand, JEDEC might have adopted *Rambus* technology either way and *Rambus*’ technology was therefore not necessarily exclusionary. Even if the court seems confident that FRAND royalties could be determined using the 15-factor test in *Qualcomm*, the *Rambus*’ decision leaves the question open for debate.

5.3 The EU

5.3.1 Excessive prices in case-law

I will not reproduce the Court’s reasoning of dominance for very case but limit myself to the issue of abuse. However, generally the Court has concluded that the mere exercise of a holder’s exclusive IPR, i.e. excluding third parties, does not amount to a dominant position. Further, the owner of the IPR needs to be dominant on a substantial part of the common market and thus be able to restrict effective competition on a substantial part of the common market. Regard must be taken to the existence and position of producers and distributors who may market similar or substitutable goods.

First I will provide a general overview of the principles established by the court’s case-law concerning unfair prices. Second, I will specifically refer to case-law dealing with “excessive” royalties. Third, I will give a short analysis of the case law on the matter and its possible implications.

¹⁴⁷ See *LUM V BANK OF AMERICA*, 361 F. 3d 217 (3d Cir. 2004) at 226.

¹⁴⁸ *BROADCOM CORPORATION, v. QUALCOMM INCORPORATE*, 501 F. 3d 297 (3d Cir. 2007).*314.

¹⁴⁹ See, e.g., *ESS TECH., INC. v. PC-TEL, INC.*, No. Case-99-20292 RMW, 2001 WL 1891713, at * 3-6 (N.D.Cal.Nov.28, 2001).

¹⁵⁰ *RAMBUS INCORPORATED, v. FEDERAL TRADE COMMISSION*, 522 F. 3d 456 (D.C. Cir. 2008) Cert. Denied sub nom. *Federal Trade Commission v Rambus Incorporated* _U.S._, 129 S. Ct. 1318, (2009).* 463

¹⁵¹ *Ibid.*

¹⁵² *Ibid.*

5.3.2 General conclusions concerning unfair prices

In *General Motors*, the court gave its first definition of abusive pricing: “*excessive in relation to the economic value of the service provided.*”¹⁵³ This is still the main definition for unfair pricing today.¹⁵⁴ In another decision, *British Leyland v. Commission*, the Court illustrated two important aspects of Article 82(a): excessive pricing can be shown by a firm’s previous pricing behaviour and excessive pricing can be abusive because of its exclusionary effects in cases where it is related to a policy of putting off competitors by denying approval.¹⁵⁵ In a subsequent decision, *United Brands v. Commission* (often cited as a pivotal case concerning unfair prices), the court repeated the definition of unfair pricing in *General Motors* with a slight modification: “*charging a price which is excessive because it had no reasonable relation to the economic value of the product supplied.*”¹⁵⁶ The court employed a two-step test: is the difference between the prices charged and the cost of production excessive? If yes, is the price unfair in itself or in comparison with competing goods?¹⁵⁷ The court rejected the Commission’s finding of excessive prices, but it did not reject the comparative approach as such. Further, the court identified the difficulties of calculating firms’ production costs.

5.3.3 Excessive prices in relation to IPRs

5.3.3.1 Parke Davis

This case concerned the rights granted to a holder in a member state, which the holder may request the courts to enforce. In its reference for a preliminary ruling the court asks if it is contrary to EC rules for a holder of a patented product to charge higher prices than that of a similar unpatented product from another member state.¹⁵⁸

The court concludes that the sale price of a product may be a factor to take into account for the assessment of potential abuse but that “*a higher price for the patented product compared as compared with the unpatented product does not necessarily constitute an abuse.*”¹⁵⁹

¹⁵³ Case-26/75; *General Motors Continental NV v Commission of the European Communities* [1975] ECR I-1367. § 22.

¹⁵⁴ Gal Michal. *Monopoly pricing as an antitrust offense in the U.S and the EC: Two systems of belief about monopoly*. 2004. P. 31. Refers to European Commission, Notice on the Application of the Competition Rules to Access Agreements in the Telecommunications Sector Framework, Relevant Markets and Principles, OJ 1998 C 265/2.

¹⁵⁵ Anderman Steven D. *EC Competition law and intellectual property rights – the regulation of innovation*. P. 225.

¹⁵⁶ Case-27/76; *United Brands v Commission* [1978] ECR 207. § 250.

¹⁵⁷ *Ibid.* § 252.

¹⁵⁸ Case-24/67; *Parke, Davis and Co. v Probel, Reese, Beintina-Interpharm and Centrafarm*. [1968] ECR I-055. § 71.

¹⁵⁹ *Ibid.* § 72.

5.3.3.2 Renault

The Consorzio, a trade association for Italian car firms that manufactured and marketed bodywork spare parts for motor vehicles, initiated proceedings against Maxicar, one of its members. During the proceedings the national court sent a question to the ECJ asking if “*Article 86 EC prohibits the abuse of the dominant position held by each car manufacturer in the market for spare parts for cars of its manufacture which consists in seeking to eliminate competition from independent manufacturers of spare parts by registering protective rights?*”¹⁶⁰

The court found, among other things, that the exercise of the exclusive right by a dominant party may amount to abuse if it involves fixing the prices for spare parts at an unfair level.¹⁶¹ However, the mere difference in price between proprietary parts and non-proprietary parts is not enough to prove abuse since “*the proprietor of protective rights... may lawfully call for return on the amounts which he has invested in order to perfect the protected design.*”¹⁶² This suggests that the proprietor may include costs for R&D in the royalty, but the question of whether or not he/she may include future costs remains unclear.¹⁶³

5.3.3.3 Windsurfing

This case is an appeal of a decision from the Commission. The Commission had found that the licensing agreements that the firm, Windsurfing International Inc., had concluded with a number of German undertakings were void because a number of clauses infringed EC Competition rules. Windsurfing International was a key figure for the development of sailboards comprised of a board and a rig. This was the beginning of windsurfing. The firm made money from the manufacture and sale of sailboards and licenses granted to other undertakings. The scope of Windsurfing’s patent was disputed. Nevertheless, the court concluded that it could not accept that any other part but the rig was automatically covered by the German patent. Previous German decision showed the board itself had never shown any inventive step to previous state of the art.¹⁶⁴

Royalties were calculated on the basis of the price of the complete sailboard. The court notes that such a method of calculation has only been accepted where “*the number of items manufactured or consumed or their value are difficult to establish separately in a complex production process, or... there is for the patented item on its own no separate demand which the licensee would be prevented from satisfying through such a method of calculation.*”¹⁶⁵ In this case, there was a separate demand for the rig and the board and the value of the board was anyhow much higher than

¹⁶⁰ Case-53/87; Maxicar (CICRA) v Renault [1988] ECR 6039. § 7.

¹⁶¹ Ibid. § 16.

¹⁶² Ibid. § 17.

¹⁶³ Luoma Caj. *Compulsory licensing of patents and European community law*. NIR Nordisk Immateriellt rättskydd. 1. 48-68. 1997. P. 66.

¹⁶⁴ Case-193/83; Windsurfing International Inc. v Commission of the European Communities. [1986] ECR I-611. § 35.

¹⁶⁵ Ibid. § 65.

that of the rig. Therefore, the calculation applied by Windsurfing constituted a restriction of competition.¹⁶⁶

5.3.3.4 Sirena

An American undertaking, proprietor of a trade-mark on a cosmetic and medicinal product, which it produced, “sold, assigned and transferred...all rights, titles and interests in the said trade-mark” to an Italian company in the Italian Territory. Subsequently, the Italian company began to manufacture and sell a cream bearing the same trade-mark, which was duly registered under Italian law. A German company had also entered into an agreement concerning German territory, but exported the product to the Italian territory. The Italian company therefore alleged infringement of its trade-mark and sought an injunction to prevent distribution from the German company. One of the questions was in what circumstances the exercise of trade-mark rights is incompatible with the common market, and prohibited under Article [82]?¹⁶⁷

The court concluded that an owner of a trade-mark is not automatically dominant under Article 82 because he can prevent the circulation of products bearing the same trade-mark from third parties. Regarding abuse of a dominant position price levels are not enough to establish abuse. However, price levels may amount to an abuse if “*unjustified by an objective criteria, and if particularly high, be a determining factor*”.¹⁶⁸

The Court does not specify what could be an objective criteria or what price levels would be considered particularly high. One needs to bear in mind that this is a preliminary ruling and thus it is up to the national court to rule on the matter. The Court could therefore effectively avoid defining precise thresholds for what would constitute an “unfair price”.

5.3.3.5 Tournier¹⁶⁹ and SACEM II¹⁷⁰

SACEM was the object of two different proceedings in French national courts and in both instances the court referred the cases for preliminary rulings. Since the facts of the cases are similar they will be dealt with collectively. Both cases concern the royalties charged by SACEM to various discotheques in France and in essence the cases ascertain which criteria should be applied to the assessment of royalties in light of article 82 and if they are fulfilled in the particular cases. SACEM enjoys a dominant position on a substantial part of the common market and has a de facto monopoly in France in copyright management.

The court concludes that when dominant firm charges fees for its services that are *appreciably higher* than those charged in other member states and the comparison is made on a *consistent basis*, this should be considered *indicative of an abuse of a dominant position*. It is then for the

¹⁶⁶ Ibid. § 67.

¹⁶⁷ Case-40/70; Sirena S.r.l v Eda S. r.l. and others. [1971] ECR I-069. § 14.

¹⁶⁸ Ibid. § 17.

¹⁶⁹ Case 395/87; Ministère Public v Jean-Louis Tournier, [1989] ECR I-2521.

¹⁷⁰ Joined cases 110/88, 241/88 and 242/88; Francois Lucazeau and others v Société des Auteurs, Compositeurs et Editeurs de Musique (SACEM and others). [1989] ECR I-2811.

defendant to show objective dissimilarities between the different Member States that justify the differences.¹⁷¹ The Commission recognized the difficulties of making a comparison on a completely consistent basis, but the court maintained that if royalties charged are many times higher than those charged in other member states it is clearly inequitable.¹⁷²

The court also made an interesting observation concerning copyright societies operating expenses, i.e. the costs of its services. It found that operating expenses accounted for the most significant difference between different copyright societies. SACEM had very high operating expenses and in this respect the court found that it could not be ruled out that it was the lack of competition in the market in question that resulted in large operating expenses, i.e. the inefficiency of SACEM.¹⁷³

5.3.3.6 STIM

Kanal 5 and TV 4 are commercial broadcasting companies in Sweden. STIM, Föreningen Svenska Tonsättares Internationella Musikbyrå has a de facto monopoly in Sweden “*over the market for making available copyright-protected music for television broadcast.*”¹⁷⁴ Members of STIM are composers and music publishers. STIM collects remuneration from Kanal 5 and TV 4 based on a percentage of their revenue from television broadcasts aimed at the general public and/or subscription sales.¹⁷⁵ The national court asked the ECJ to determine whether or not this remuneration model infringed Article 82.¹⁷⁶

The ECJ repeats that an abuse “*might lie in the imposition of a price, which is excessive in relation to the economic value of the service provided.*”¹⁷⁷ The ECJ notes that the relevant service is that STIM makes the repertoire of protected copyright music available to broadcasting companies through licensing agreements. Royalties paid to STIM, are to some extent, intended to compensate composers of copyright musical works and one therefore needs to consider the particular characteristic of copyrights. One needs to find a balance between composers’ right to remuneration and broadcasters’ right to show these works under reasonable conditions.

Royalties calculated on the basis of a discotheque’s aggregate turnover was a normal exploitation of copyright and consequently not an abuse in light of Article 82 EC according to previous case-law.¹⁷⁸ Flat-rate royalties can only be criticized if there are other methods to calculate royalties that protect the interests of authors, composers and publishers of

¹⁷¹ Case-40/70; Sirina S.r.l v Eda S. r.l. and others. [1971] ECR I-069. § 38. And Joined cases 110/88, 241/88 and 242/88; Francois Lucazeau and others v Société des Auteurs, Compositeurs et Editeurs de Musique (SACEM and others). [1989] ECR I-2811 § 25.

¹⁷² Ibid. § 24.

¹⁷³ Ibid. § 29.

¹⁷⁴ Case-52/07; Kanal 5 Limited and TV 4 Akteibolag v Föreningen Svenska Tonsättares Internationella Musikbyrå (STIM). [2007] ECR I-017. § 7.

¹⁷⁵ Ibid. § 10.

¹⁷⁶ Ibid. § 14.

¹⁷⁷ Ibid § 28. Refers to Case-27/75; General Motors Continental NV v Commission of the European Communities [1975] ECR I-1367 § 12 and Case-27/76; United Brands v Commission [1978] ECR 207. § 250.

¹⁷⁸ Ibid § 32. Refers to Case-402/87; Basset [1987] ECR 1747. § 15,16,18,21.

music without making managing contracts and the check of the use of protected works more expensive.¹⁷⁹

The remuneration model applied by STIM must therefore be regarded as a normal exploitation of copyright and, consequently, not an abuse of Article 82 EC. One cannot deny that the remuneration model has a legitimate aim namely to protect the interests of the composers' vis-à-vis the users of their works.¹⁸⁰ Moreover, the royalties need to be assessed according to the value that one attaches to the use of the protected musical works.¹⁸¹ Royalties based on broadcasting revenue is therefore, in principle, reasonable.¹⁸² Owners and their representatives have a legitimate aim to claim royalties based on actual or probable number of performances.¹⁸³ The remuneration model takes account of this since it changes, not only depending on revenue but also depending on the number of works actually broadcasted.¹⁸⁴

Nevertheless, the court recognizes that there may be other methods that allow for a more accurate picture of the works and audience to be identified and quantified. This may still pursue the same legitimate aim of protecting consumers without increasing costs. If so, the remuneration model applied by STIM could amount to an abuse.¹⁸⁵ In conclusion, STIM's remuneration model based on the musical works actually broadcasted did not constitute an abuse under Article 82 EC. (This presupposes that there does not exist a more accurate method.)

5.3.4 Analysis of case-law

The cases concerning excessive pricing and IPRs were all preliminary rulings, except for *Windsurfing*. This is an important factor since it allowed the ECJ to identify general principles and frameworks without having to distinguish at which exact level a price became excessive. Instead, it was up to the national courts to make this assessment. In *Tournier* and *Sacem II*, the Court did conclude that prices were excessive but in those cases, the prices charged were many times higher than in comparable states. Further, the Commission has recognized the difficulties associated with determining the excessiveness of prices in general. This is because if the Commission were to condemn excessive prices as such this would make the Commission act as a price regulator and thus undermine the market forces. The Commission has therefore shown reluctance to determine price levels per se. EC case law suggests that dominant firms will only be found liable if their profit margin

¹⁷⁹ Ibid § 33. Refers to Case-395/87; *Ministère Public v Jean-Louis Tournier*, [1989] ECR I-2521. § 45.

¹⁸⁰ Ibid § 35.

¹⁸¹ Ibid. § 36.

¹⁸² Ibid. § 37.

¹⁸³ Ibid. § 38. Refers to Case-62/79; *SA Compagnie générale pour la diffusion de la télévision, Coditel, and others v Ciné Vog Films and others* [1980] ECR 1980 and Case-395/87; *Ministère Public v Jean-Louis Tournier*, [1989] ECR I-2521 § 12.

¹⁸⁴ Ibid. § 39.

¹⁸⁵ Ibid. § 40.

is “grossly exorbitant”.¹⁸⁶ Article 82 EC has only been applied when prices have exceeded the value of the product/service by more than 100%.¹⁸⁷

The definition of an unfair price is still “*a price which is excessive in relation to the economic value of the service provided.*” That definition was originally established by *General Motors* and *United Brands* and was recently confirmed by the recent case *STIM*. Thus, that definition is the Commission’s point of departure irrespective of whether the “excessive price” is associated with IPRs or not. Further, the cases can be subcategorized into two categories. In *STIM* and *Windsurfing* the Court questioned the remuneration model, i.e. if the model gave a fair view of the value of the patent. In the remaining cases, the Court compared the excessive price with the firm’s competitors including firms that sold non-proprietary goods.

However, the above-mentioned cases, concerning excessive pricing associated with IPRs, have refined the original definition to some extent. Examples include *Tournier* and *Sacem II*. Here, the Court considered whether the costs had been exacerbated by the firms’ inefficiency.¹⁸⁸ Thus, this justifies an analysis that challenges the dominant firm’s fundamental cost structure in order to check whether the firm has unjustified high costs. This can potentially increase the incentives for dominant firms to mitigate their inefficiencies. How wide the scope of the court’s analysis should be is unclear.¹⁸⁹

Nevertheless, one can question the ability of the Commission or Courts to assess evidence that the firm was acting inefficiently and pricing inequitably.¹⁹⁰ It is useful to contrast this with US policy under the Sherman Act. In the US, it is acknowledged that price regulation is so challenging a practice that it would necessitate a specific regulatory commission if it were to be done.¹⁹¹ When the court applies concrete price regulation in the EU, it might have undervalued the consequences of not having assigned specific regulatory institutions to conduct difficult price analyses and identify which costs that are required to prove claims of excessive prices.¹⁹² However, there is a problem if the benchmark for

¹⁸⁶ Geradin Damien. *Pricing abuses by essential patent holders in a standard-setting context: A view from Europe*. June 2008. P. 16. Refers to Eric Pijnhacker Hordijk, “Excessive Pricing under EC Competition law; An update in the light of “Dutch Developments”, in Barry E Hawk (ed.) *Fordham Corporate law institute*, (2002), 463 at p. 474; John Temple Lang and Robert O’Donoghue, *The concept of an exclusionary abuse under Article 82 EC*, GCLC Research papers on Article 82, July 2005.

¹⁸⁷ Geradin Damien. *Pricing abuses by essential patent holders in a standard-setting context: A view from Europe*. June 2008. P. 16.

¹⁸⁸ Case 395/87; *Ministère Public v Jean-Louis Tournier*, [1989] ECR I-2521 § 42 and Joined cases 110/88, 241/88 and 242/88; *Francois Lucazeau and others v Société des Auteurs, Compositeurs et Editeurs de Musique (SACEM and others)*. [1989] ECR I-2811 § 29.

¹⁸⁹ Gal Michal. *Monopoly pricing as an antitrust offense in the U.S and the EC: Two systems of belief about monopoly*. 2004. Pp. 35-36

¹⁹⁰ Anderman Steven D. *EC Competition law and intellectual property rights – the regulation of innovation*. P. 227.

¹⁹¹ Fox E. *Monopolization and Dominance in the United States and the European Community: Efficiency, Opportunity, and Fairness*. 61 *Notre Dame L Rev.* 1986. P. 983.

¹⁹² *Ibid.*

excessive prices is set to the difference between production cost and price. There is a risk that efficient firms will be punished. One of the problems is that Article 82 does not take into account how the dominant position was acquired.¹⁹³ Unlike Section 2 of the Sherman Act, which allows super competitive prices as long as the market power is obtained by “*a consequence of a superior product, business acumen, or historic accident.*”¹⁹⁴

Further, these cases demonstrate that the Court may modify its approach used to assess prices where the particular characteristics of a product make the product unsuitable for an assessment based on a cost-price approach. This was recognized by the court in *Tournier* and *Sacem II*. The court therefore compared price levels across different, comparable markets. As long as the comparison is made on a consistent basis this can provide useful guidance. Nevertheless, the test is not useful when there are no equivalent markets. This may be of particular concern in technology markets, where the relevant market is likely to be very big i.e. the EU or the world. In that case, it can be very difficult to find an equivalent market. Furthermore, a comparative approach can also be difficult because one must identify all variables that can influence the costs in the markets.¹⁹⁵

Along the same lines, the Court recognized, in *Parke Davis*, that higher prices for patented products compared with unpatented products were justified. To accept higher profits for patented products is in sort an acceptance of innovation costs and a need to reward firms for their R&D.¹⁹⁶ Anderman suggests that there is flexibility inherent in the analysis of return on investments regarding different IPRs.¹⁹⁷ In *Sirena*, the Court established that to exercise one’s trade mark in order to exclude third parties was not an abuse. However, this exercise could be abusive if it was not based on objective criteria or if prices were particularly high. Despite this, the court did not specify nor exemplify what could constitute an objective criteria and it did not suggest what prices would be considered particularly high. Further, in *STIM*, the Court clarified that that one needs to consider the particular characteristic of copyright but also the value of the use of that copyright in trade. If one tries to apply this to the standard-setting context one can assume that the court will take particular interest in the specific features of patents and their *raison d’être*.

Lastly, the Court appears to have modified its view concerning the burden of proof. In *United Brands* the Commission had the full burden of proof whereas in *Tournier and Sacem II* consistent price differentials

¹⁹³ Fox E. *Monopolization and Dominance in the United States and the European Community: Efficiency, Opportunity, and Fairness*. 61 Notre Dame L Rev. 981. 1986. P. 983.

¹⁹⁴ UNITED STATES v. GRINNELL CORP., 384 U.S. 563, 570-71, 86 S.Ct. 1698, 16 L.Ed.2d 778 (1966).

¹⁹⁵ Gal Michal. *Monopoly pricing as an antitrust offense in the U.S and the EC: Two systems of belief about monopoly*. 2004. P. 34.

¹⁹⁶ Anderman S Steven. *EC Competition law and intellectual property: the regulation of innovation*. P. 228.

¹⁹⁷ Ibid.

were regarded as an indication of abuse, which reverses the burden of proof from the Commission to the defendant.¹⁹⁸

In conclusion, the Court's assessment of excessive pricing appears to be based on the idea of reasonable reward for the product's or service's economic value. Further, the case law suggests that a pure cost-profit approach may not always be suitable and that consequently the Court is prepared to modify its methods to better suit the nature of the product or service in question. The Court does also consider the particular characteristics of IPRs, which may justify a different view on prices and profits. Nevertheless, neither the Commission nor the Court may have the appropriate tools to make accurate assessments of excessive prices, especially not in the context of IPRs and royalties.

5.4 Unfair price and reward for IPR – an impossible combination?

There is an inherent conflict between the concept of unfair pricing in Article 82(a), which is based on a fair return of costs, and the idea of pricing as a just reward for IPRs. The reward function is justified by not only being a reward for the inventor but as a means to give other inventors incentive to innovate. This has been described as the *monopoly-profit-incentive theory* of patent protection underlining its incentive for innovation.¹⁹⁹ From an IPR perspective, a just reward is what consumers and customers accept to pay compared to a non-proprietary product. Economists have suggested that measuring just rewards for IPRs are so difficult that a limited duration of the exclusive right itself is the only regulatory path possible.²⁰⁰

Article 82(a) does not accept the concept that a just reward is what consumers accept to pay, since it differentiates between dominant and non-dominant firms. Dominant firms are entitled to a fair return, not excessive and higher prices for products protected by IP are not an abuse per se although it may become so in view of the firm's size and if the high price is not objectively justified.²⁰¹ One can argue that to charge prices that are as high as the market can afford is inherent in the *existence* of the IPR under national law and consequently not an abuse per se. However, this undermines the use of Article 82 to protect against exploitive pricing.²⁰²

This analysis suggests that Article 82 EC can be used to limit pricing for IPRs. However, the question as to when Article 82 EC can interfere and condemn royalties remains, which leads to the following question: what is an "unfair" royalty and does it exist?

¹⁹⁸ Ibid.

¹⁹⁹ Govaere Dr. Inge. *The use and abuse of intellectual property Rights in EC law*. 2.09-2.13.

²⁰⁰ Anderman Steven D. *EC Competition law and intellectual property rights- the regulation of innovation*. P. 229. Refers to Machlup F. *An economic Review of the Patent System, Study of the Committee on patents, Trademarks and Copyright*. Senate Judiciary Committee, US 85th Congress, Study no. 15, Washington, DC 1958. P. 12.

²⁰¹ Case-40/70; Sirina S.r.l v Eda S. r.l. and others. [1971] ECR I-069. § 17.

²⁰² Steven A Anderman, *EC Competition law and intellectual property rights – the regulation of innovation*. P. 30.

5.5 “Unfair” royalty rates?

5.5.1 General difficulties related to royalties

In the US, the concept of “unfair” royalty rates is rather unknown in both patent and antitrust law. It is not unreasonable for a patent holder to seek rewards that accumulate after he/she has won monopoly or market power *lawfully*.²⁰³ Under the patent law, a patent holder can usually claim as high a royalty as he/she can obtain.²⁰⁴ However, for infringement cases a reasonable royalty might need to be calculated.²⁰⁵ Some suggest that when this is applied to standards one should differentiate between the demand for the patented technology and the demand for the standard itself.

Consequently, patent holders should only be awarded value in relation to its patented invention and not the standard itself.²⁰⁶ US antitrust law does not condemn supra competitive royalties negotiated with the use of lawfully obtained monopoly power that does not injure the competitive process. Thus, a claim of “excessive” royalties with nothing else will never be successful to find an antitrust offense.²⁰⁷

In the EU, on the other hand, “excessive” royalties are more likely to constitute an antitrust offense under Article 82 EC. Critics have questioned the EC’s principles concerning “unfair” pricing, but when applied to royalties it becomes even more problematic. To find that a price is unfair or excessive one needs something to compare the price with, which creates a number of problems for patents and royalties.

The first is related to the technology aspect of patents. Technology markets are often very large, for example the EU or the world, and it is thus problematic to find an effective method of comparison since it might not exist. The second problem is related to the intrinsic value of patents. The foremost problem is the identification of costs. Often one cannot divide the costs of development between the profits the licensor obtains from his/ her licensing income and income from other types of uses of the licensor. Therefore, it is basically impossible to distinguish an independent intrinsic value for the license. Even for products that pay all their R & D costs from licensing income, for example pharmaceutical product development by non-integrated research groups, one cannot find the true intrinsic value. This is because a licensor must be able to recover costs from failed R & D projects in order to keep the incentives for innovation. Finally, when a technology is dominant on a market one must consider the intangible benefits in order to assess if a license is excessive. Anderman and

²⁰³ Swanson Daniel G and Baumol William J. *Reasonable and nondiscriminatory (RAND) royalties, standards selection, and control of market power*. 73 Antitrust L.J.1. 2005. P. 5.

²⁰⁴ BRULOTTE V. THYS CO., 379 U.S, 29, 33 (1964) and W.L GORE & ASSOCS V. CARLISTE CORP., 529 F. 2d 614, 623 (3d Cir. 1976).

²⁰⁵ See Section 5.2.1.3: The 15 Georgia Pacific Factors and Reasonable price above.

²⁰⁶ Patterson Mark R. *Inventions, Industry Standards and Intellectual Property*. 17 Berkeley Tech. L.J. 1043. Summer 2002. Pp. 1053-54.

²⁰⁷ Hewitt Pate R, Ass’t Att’y Gen., Antitrust Div’n, U.S. Dep’t of Justice, Competition and Intellectual Property in the U.S.: Licensing freedom and the Limits of Antitrust, Speech at 2005 EU Competition Workshop (June 3, 2005).

Kallaugher suggest that the “*value of an indispensable technology in the downstream market should justify a high royalty*”.²⁰⁸ This suggests that only firms whose technology is indispensable in the downstream market are allowed to charge high royalties. Thus, if the Commission would begin to challenge the royalties charged by firms whose technology is not indispensable in the downstream market there is a risk that the Commission would take an inappropriate stand on market prices and values.

5.5.2 “Unfair” royalty rates and SSOs

The previous chapters showed why it is so difficult to assess royalty rates in light of unfair prices. However, suggestions have been made as to how this assessment may be modified in order to suit the scrutiny of “excessive royalty rates” caused by hold-ups in standard-setting.

These suggestions define excessive royalty in a number of different ways. One suggestion is that it be defined according to the aggregate royalty rate of complementary patents in a standard. If the aggregate royalty rate would make the technology unprofitable or delay its implementation unjustifiably long the relevant royalty rate should be considered excessive. Alternatively, cases may arise where the royalty rate is based on a group of patents; some of which the licensee may not want or need and which would also make the royalty rate excessive. A third suggestion considers a royalty rate to be excessive if it exceeds the value ascribed to it ex ante standardization. This suggests that the patent holder is not entitled to rewards that are effects of the standard: the possibility to exclude competitors from neighbouring markets and/or interoperability. A fourth alternative, considers a royalty rate to be excessive if it is unjustified in relation to the firm’s associated R&D costs. A fifth solution is to compare the royalty rate with other licensor’s royalty rates in close by markets and if the relevant royalty is above these it should be regarded as excessive. Lastly, a royalty rate could be considered excessive if the licensor demands a royalty rate that does not allow efficient licensees to obtain a reasonable profit.²⁰⁹

5.6 Conclusions

To scrutinize pricing in dynamic, high-tech markets is a sensitive issue, in particular because of the difficulties related to determining and measuring relevant costs. US courts have been very sensitive to penalizing monopoly pricing and consider it to be an essential part of the free-market system. The US takes the view that monopoly prices foster rather than undermine innovation. Concerning royalty rates, US courts have developed the 15 Georgia Pacific Factors in patent infringement cases. It has previously been

²⁰⁸ Anderman D Steven and Kallaugher John. *Technology transfer and the new EC competition rules. intellectual property licensing after modernisation*.10.17.

²⁰⁹ Glader Marcus and Chabert-Larsen Sune. *Article 82: Excessive pricing- an outline of the legal principles relating to excessive pricing and their future application in the field of IP rights and industry standards*. Competition Law Insight. 4 July 2006. P. 5.

used in a FRAND context, but after *Rambus* and *Qualcomm* its legal status in US antitrust law is unclear.

The European Commission and the European courts are a lot more confident than the US to condemn excessive prices as demonstrated by a line of case-law. Concerning “excessive” royalties, there are a number of preliminary rulings issued by the ECJ. It needs to be underlined that these are preliminary rulings and although the ECJ has issued principles and benchmarks it has left it to the national courts to address particular facts and figures. It continues to underline that the mere existence of an IPR does not confer a dominant position nor constitute an abuse of dominance. The ECJ’s opinions of “excessive” royalties follow two types of reasoning. One is based on a comparative approach and the other is based on the method used to calculate the royalty. In conclusion, large differences in royalties can be an indication of abuse and the calculation of royalties may not use a method that confers rewards beyond the scope of the IPR.

To use the ECJ’s reasoning in pure patent cases one can identify an inherent conflict between what IP law considers to be a just reward and what antitrust law considers to be a fair price. Nevertheless, the analysis suggests that Article 82 can be used to limit reward for IPRs, which ultimately leads to the question of what is an “unfair” royalty rate? There are general difficulties associated with this, specifically recognized by the US. These relate to the technology aspect of patents, the intrinsic value of patents and the identification of costs. To address the specific difficulties associated with SSOs, some suggestions on how to modify the traditional analysis of excessive pricing was described. These revolve around finding an appropriate cost benchmark and how to ensure that the use of the patents is economically viable.

Lastly, maybe the concepts of reward for IPRs and unfair pricing, respectively, in Article 82 are impossible to reconcile. Consequently, to identify an “unfair” royalty rate might be impossible. One must therefore tread very carefully in order not to undermine incentives of innovation in the application of competition law.

6 Analysis and Conclusion

The European Commission has had antitrust concerns related to SSOs for a long time. They have revolved around the potential risk of foreclosure and the creation of cartels caused by the cooperation between competitors, in breach of Article 81 EC. Nevertheless, the EC has recognized the benefits of SSOs and considered them to fall outside the scope of antitrust liability providing that they are transparent and accessible. FRAND plays an important role in the ambition to ensure accessibility and can thus be regarded as essential to immunize SSOs from antitrust liability.

Rambus and *Qualcomm* have challenged the viability of FRAND by deceptive behaviour that creates a hold-up situation in standard-setting. They have done this unilaterally and, consequently, their behaviour falls outside the scope of Article 81 EC. One can therefore understand that the European Commission needs to find another way to remedy that which jeopardizes the enforceability of FRAND.

The Commission has alleged that *Rambus*' patent ambush allowed it to claim "unreasonable" royalties and that *Qualcomm*'s royalties were in breach of FRAND. This raises the following two questions: when do royalties become "unreasonable" in breach of Article 82 EC and how can this affect SSOs, FRAND and innovation? Unlike the EU, the US did not focus on the "unreasonable" royalties as such but rather on the potential anticompetitive effect of *Rambus*' patent ambush and the insincere FRAND commitment made by *Qualcomm*. I question if the European Commission's approach will be able to address the true problem: hold-ups. This is because of the difficulties related to the assessment of dominance and "unreasonable" royalties.

6.1 What prevents the EU from taking the same road as the US?

The EU cannot take the same road as the US because of the fundamental differences in terms of competition law between the systems. First of all the EU is relatively unfamiliar with the concept of unfair trading conditions, which was the basis for the *Dell* consent decree.²¹⁰ *Dell* does not have any precedent value, but it is often cited in law reviews and as the US first decision regarding hold-ups, it sets the scene for the US approach.

²¹⁰ In the EU, unfair practices have been limited to business-to-consumer practices, i.e. *Directive 2005/29/EC on Unfair Commercial Practices*. Regarding business-to-business practices, in relation to intellectual property rights, Article 10bis TRIPS provides a legal basis by obliging contracting states to ensure citizens "effective protection against unfair competition". Further, under Article 10bis (3) states shall prohibit three particular cases, namely those creating "risk of confusion, discrediting competitors through false allegations and making indications of allegations about one's own goods". That list is not exhaustive. For further information see: Henning-Bodewig, *Unfair Competition Law; European Union and Member States*. Chapter 2.

Second of all there are important differences between Section 2 of the Sherman Act and Article 82 EC. Article 82 EC does not have an equivalent to the Sherman Act's *monopolization*. This means that the EC cannot attack conduct before a party is dominant. What effect this has on hold-up situations is unclear.²¹¹ However, because the European Commission chooses to attack *Rambus* and *Qualcomm*'s subsequent "unreasonable royalties" it is a fair assumption that the Commission does not find itself fit to scrutinize the hold-up situation directly. A reason for this may be the difficulties associated with proving that a firm is dominant before its technology is incorporated into the standard.

Thirdly, the EU confers a *special responsibility* upon dominant undertakings indifferent of how they obtained their monopoly power unlike the US, which does not attack a firm's monopoly power if this was "a consequence of superior product, business acumen, or historic accident."²¹² Consequently, the EU puts restraints on dominant firms and identifies a list of per se abuses in Article 82 EC. One of these is unfair pricing and thus the question is if "unreasonable" royalties are equivalent to unfair pricing. Interestingly, unfair pricing is not a concept in the US, which is emphasized in *Trinko*: "[s]etting a high price may be use of monopoly power, but it is not in itself anticompetitive..." and *Eastman Kodak*: "[t]he mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system. The opportunity to charge monopoly prices – at least for a short period- is what attracts "business acumen" in the first place; it induces risk taking that produces innovation and economic growth." The US takes a much more effect approach where only conduct that has an anticompetitive effect can constitute an antitrust claim under Section 2 of the Sherman Act.

6.2 Can royalties be "unreasonable" under Article 82 EC?

In order to answer this question one must follow a two-step approach. The first question to answer is if the firm is dominant and the second question is whether its conduct is abusive.

6.2.1 Dominance

Generally a firm is considered dominant when it "*holds a position of economic strength... which enables it to prevent effective competition being maintained on the relevant market by giving it the power to behave to an*

²¹¹ According to Dolmans, Maurits in *Standards for standards*. P. 19: "Even if Article 82 does not apply at the time of concealment, it may apply to IPR enforcement following concealment" but according to Brenning, Magdalena in speech on *Competition & Intellectual Property Policy Implications of Late or No IPR Disclosure in Collective Standard-Setting*. P. 4. "If a firm is not dominant when it chooses to conceal an essential patent for a standard but subsequently becomes dominant due to the success of the standard, it appears difficult to attack it under Article 82 EC."

²¹² *UNITED STATES v. GRINNELL CORP.*, 384 U.S. 563, 570-71, 86 S.Ct. 1698, 16 L.Ed.2d 778 (1966).

appreciable extent independently act independently of its competitors, customers and ultimately consumers.”²¹³ The first issue to take a position on is therefore what is the *relevant market* in these particular circumstances? Participating firms in the SSO contribute with technology to the standard. The relevant product market is therefore the standardized product and its substitutes. In order to determine each individual firm’s market power one first needs to identify the competitive constraints that exist.

Some believe that the mere fact that a firm’s technology is included in a standard gives that party substantial market power.²¹⁴ This is because SSOs are often associated with high switching costs, i.e. members have already made large capital investments to adhere to a particular standard and technology and are therefore not inclined to switch. Obviously, this can differ from case-to-case and one therefore needs to make a careful analysis of the individual circumstances in each case. Despite this, there may exist other competitive constraints on the market, which can effectively restrain a firm’s market power.

Competing standards may ensure demand substitutability, i.e. products that read on different standards may ensure a competitive downstream product market and therefore put competitive constraints on the licensor. They can also ensure supply substitutability at an upstream licensing level. In a standardized market with low switching costs, alternative non-proprietary technologies can constitute competitive constraints because firms may choose these technologies instead if royalties are set to high.²¹⁵

Inherent in standard-setting are other competitive constraints that may be identified as horizontal and institutional constraints. Horizontal constraints include complementary IPRs. Most standards read on several, essential IPRs and licensees therefore need to obtain licenses from all of these. These complementary IPRs can therefore put effective competitive constraints on one another. The standard itself can impose institutional competitive constraint because it evolves over time and new releases and improvements of existing technologies will take place. If a patent holder has charged an “unreasonable” royalty in the past he/she may therefore be excluded from future standards.²¹⁶

Nevertheless, one must remember the lock-in effects that technologies can give rise to. A firm whose technology is included in a standard that enjoys high market power can exercise significant control over innovation in that market. This can consequently undermine innovation, since monopolists have less incentive to innovate because of the risk of losing monopoly profits. This can lock an industry into using outdated technology.

²¹³ Case-27/76; *United Brands v Commission* [1978] ECR 207. § 2.

²¹⁴ Glader Marcus and Chabert-Larsen Sune *Article 82: Excessive Pricing- an outline of the legal principles relating to excessive pricing and their future application in the field of IP rights and industry standards*. Competition Law Insight. 4 July 2006. P. 5.

²¹⁵ Geradin Damien. *Abusive pricing in an IP licensing context: An EC competition law analysis*. June 2007. Pp. 5-8.

²¹⁶ *Ibid.*

In the context of standards and individual patent holders it is therefore important to make a careful case-to-case analysis of the situation on the market and within the standard. A standard does not automatically confer substantial market power on the patent holder since other competitive constraints may exist. In the US, focus was on whether or not alternative technologies existed prior standardization. The US courts reasoned that if no alternative technologies existed the SSO would have chosen the debated technology anyhow and the deceptive conduct did therefore not have anticompetitive effect. This has been criticized as it has created a situation where one has to argue for what would have happened had the situation been different, i.e. had *Rambus* disclosed its patents and had *Qualcomm* not made a FRAND commitment what would the SSO have done. This will probably not be an issue in the EU because the Commission will not be concerned with the effects of the deception but with what the firm did once it had obtained its alleged dominance. Thus, if the Commission finds that *Rambus* and *Qualcomm* are dominant on the relevant market it will move on to an assessment of abuse.

6.2.2 “Unreasonable” royalties as an abuse

There are a number of difficulties associated with the assessment of “unfair” royalty rates. These can be categorized in the following way: the concept of royalties as such and the practical difficulties associated with assessing royalties in light of Article 82 EC.

6.2.2.1 The concept of royalties

The conflict between IP and competition law is twofold in the EU. First of all it is an issue of competence because of Article 295 EC. The EC may therefore not challenge the **existence** of an IPR, only its **exercise**. However, in practise it may be very difficult to draw the line between the exercise of an IPR versus its existence. It is not fair to say that as long as the IP holder can decide to whom he wants to license the value of his IP-rights have not been undermined. This is because if the IP owner’s licensing terms are restricted the value of his IPR is depreciated and consequently the very existence of his IPR.

Second of all there is a conflict between what IP-law considers to be a just reward for IPRs and what competition law defines as reasonable. In essence, an IP holder should be able to charge the price the market can bear during the time he enjoys a legal monopoly based on the *monopoly-profit incentive* theory. An IP holder should not only be awarded for his investments but his profit should also give him further incentive to innovate. Competition law, and Article 82, does not accept this as it puts a special responsibility on dominant firms. Article 82 can therefore be used to challenge the just reward conferred by IP law. Although the ECJ’s case-law has recognized the specific characteristics of IPRs and said that higher prices for proprietary products compared with non-proprietary products is justified, I do not believe the European Commission is sufficiently sensitive to the specific nature of IPRs. I fear that the Commission will start to act as

the price regulator that it wanted to avoid. In reality, it is almost impossible to assess royalties and decide if these are reasonable or not.

6.2.2.2 The practical difficulties of assessing royalties in light of Article 82 EC.

The ECJ's point of departure for pricing abuses appears to be that abuse "*might lie in the imposition of a price, which is excessive in relation to the economic value of the service provided.*" This is also true in the field of IPRs, which was confirmed by the court's recent STIM case. Thus to calculate some kind of economic value appears pivotal. In the context of standard-setting the first obvious question is *when* this value should be assessed, before or after standardization? Indifferent of whether a patent holder is conferred market power by the standard the value of the patent is increased once the technology is used in the standard because of network effects. Advocates of the ex post value consider that patent holders should only be awarded benefits associated with the patent itself and not the general benefits of the standard. However, a legitimate question is why patent holders should not be able to reap some of the benefits from the standard. Successful standards depend on patent holders to contribute with their technology and consequently they should be compensated. I also perceive a great practical problem in trying to divide the value between the standard and the patent. Since standards are a complicated process that often begin long before the specific technologies have been fully developed the situation ex post standardization would give the fairest picture of the true value of the technology. I believe *Windsurfing* justifies this since the court recognized that a remuneration model which takes into account the complete sailboard was justified when "*the number of items manufactured of consumed or their value are difficult to establish separately in a complex production process...*".²¹⁷ I think these types of problems can arise in standards where it is very difficult to identify which value is connected to which input. In order not to scare away patent holders from incorporating their technologies into standards, which are recognized as greatly beneficial for consumers, they need to be appropriately compensated.

The next difficulty is related to *how* the value should be calculated. When the court has assessed prices in the past, it has made some kind of identification of costs. *Renault* suggests that a proprietor may include R&D costs, but it leaves the question of whether future costs may be included unanswered. However, it does not answer *which* R&D costs an IP-holder may take into account either. Patent holders should not only be compensated for specific R&D for the particular patent but for failed projects. The nature of R&D markets is that the winner takes it all. It is what maintains the incentive to innovate. Thus the value should be calculated according to the value one attaches to the IPR, which is recognised in STIM in regard to copyright.²¹⁸ I do not see that neither the Commission nor the

²¹⁷ Case-193/83; *Windsurfing International Inc. v. Commission of the European Communities*. [1986] ECR I-611. § 65.

²¹⁸ Case-52/07; *Kanal 5 Limited and TV 4 Akteibolag v. Föreningen Svenska Tonsättares Internationella Musikbyrå (STIM)*. [2007] ECR I-017. § 36.

Court is fit to do this type of cost analysis in relation of IPRs and it should therefore desist from doing so. Otherwise I perceive worrying consequences with regard to SSOs, FRAND, and innovation.

6.3 Consequences of antitrust intervention

6.3.1 For SSOs

For this part the US experience is useful. There are three main concerns, which relate to: the balance between which obligations the SSOs put on their members in relation to which responsibilities this confers, the consequence for future participation in SSOs and the consequences for the SSOs policies in the future.

Already in *Dell*, the dissenting Commissioner raised concerns about which consequences the FTC's intervention would have on SSOs disclosure policies. This concern was confirmed by the District Court of Columbia, in *Rambus*, which criticised how widely the Appealing Court had interpreted JEDEC's disclosure policy. SSOs do not make patent disclosure obligatory nor inflict a responsibility upon participating members to search their patent portfolios on purpose. However, if non-disclosure can lead to liability under antitrust law this would indirectly impose an obligation on patent holders to disclose their patent interests, which the standard may come to read on, which I do not consider proportional. This may also have a chilling effect on firms participation in standards, which would be detrimental to the overall economy because of the clear benefits of standards. Lastly, one may create other antitrust concerns, as was recognized by the District Court of Columbia, namely that too wide disclosure policies may lead to firms disclosing what would be considered trade secrets and this would create a potential Article 81 EC situation.

Nevertheless, the EC focus will be on "unreasonable" royalties and not so much on which effect the deception had on the standard. Thus its reasoning will probably not be around the specific IPR policy of the particular SSO as it was in the US, but rather what the firm did afterwards. Nevertheless, I believe that if the European Commission finds that *Qualcomm* and *Rambus* charged "unreasonable" royalties in breach of Article 82 EC one might nevertheless chill participation in SSOs. Article 82 EC will be used as a price regulating mechanism post standardization. If firms feel that their participating in standards make them liable for antitrust intervention this risks chilling their willingness to participate overall. An even bigger concern is if firms start to use this as a mechanism to renegotiate royalties they are unhappy with.

6.3.2 For FRAND

I fear that using Article 82 EC to define anything which is not FRAND as an abuse of Article 82 EC will challenge the flexibility of it today and the balance it seeks to protect between compensating innovators and giving manufacturers access to technology. It is a long way away from what has been considered to be pricing abuses in the past, where the difference

between cost and price was grossly exorbitant. Article 82 EC may therefore redefine the purpose and scope of FRAND in a way which undermines its present benefits.

6.3.3 For innovation

I do not believe one can efficiently balance the reward for IP with a reasonable price under Article 82 EC and I fear that one will do more harm than good. It would be one step in the direction of price regulation for the Commission and with that a risk that firms will lose their incentive to innovate. If firms fear that licensing in SSOs is associated with a risk of liability under competition law this will of course affect their willingness to participate in SSOs and their exploitation of firms' IP. In turn, this may undermine their overall incentive to innovate. The mere risk of losing this incentive is enough reason why the Commission should refrain from defining a reasonable royalty.

6.4 What can the EC do instead?

I recognize that there is a problem if individual firms begin to cheat the SSOs and not respect FRAND, which is one of the cornerstones for antitrust immunity under Article 81 EC. However, one must not forget what these firms are guilty of, namely patent ambush and insincere FRAND commitments. As has been shown there are too many risks and difficulties associated with the concept of "unreasonable" royalties and the Commission should therefore refrain from challenging *Rambus* and *Qualcomm* on those grounds. Instead, the Commission should focus on how to develop its concept of unfair trading conditions before a firm has received a dominant position, which in light of the US experience appears to be a better suited and more successful approach.

6.5 Conclusion

Hold-ups in standard-setting concern how patent holders exercise their intellectual property rights. Hold-ups allegedly enhance their bargaining power and increase the level of royalties they are able to extract from the SSO. This is said to jeopardize the effectiveness of FRAND, which is an essential feature of SSOs. This is partially because FRAND is what immunizes SSOs from antitrust liability under Article 81 EC. Obviously, one needs to counteract abuse of SSOs but, the method chosen by the European Commission, namely Article 82 EC, is probably inappropriate.

The European Commission risks making itself subject to difficult assessments of market definition and market power. As always when IPRs are concerned, the European Commission will have to be careful not to challenge the existence of IPRs but their exercise. Then there, is the issue of abuse. In its memos it seems as if the European Commission has not targeted the hold-ups directly. This is probably due to the fact that Article 82 EC cannot target a firm's conduct before it enjoys a dominant position,

only afterwards. The European Commission is therefore “forced” to assess the royalties charged by *Rambus* and *Qualcomm*. With this come a number of difficulties. These are due to the question of when the patent should be evaluated, ex ante or ex post standardization. There are convincing arguments for both methods and I believe this discrepancy is enough to raise valid concerns for how fit the European Commission is to make this assessment. Another concern is related to the identification of costs. The nature of IPRs makes it practically impossible to make an accurate assessment of costs. To make the wrong assessments carries the risk of undermining the incentive to innovate, which would put a heavy burden on the overall economy.

Lastly, the European Commission should learn from the US experience where antitrust law, despite having the “right” conceptual tools (monopolization), could not make *Rambus* liable. Therefore, the European Commission should not let its eagerness to counteract abuses of SSOs, which jeopardize FRAND, condemn firms for charging “unreasonable” royalties. The European Commission should refrain from this temptation and rather focus on how to target hold-ups directly.

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