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IPRs and Competition in Standard Setting

Objectives and Tensions

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Abstract

Competition and intellectual property rights (IPRs) are both necessary for a market to work efficiently and to promote consumer welfare. The tension between them is only apparent. Properly applied, intellectual property rules define a legal framework which allows undertakings to profit from their inventions. This in turn encourages competition among firms and enhances dynamic efficiency, to the benefit of consumer welfare. From this perspective, IPRs and competition generate a fruitful symbiosis.

Standard setting represents one of the fields where the interaction between competition law and IPRs clearly comes to light. The collaborative goal of standard setting organizations (SSOs) is to adopt and promote standards that either do not conflict with anyone's right or, if they do, are developed under condition that patents are licensed under defined terms. On the one hand, patents are important to promote innovation, as they confer exclusive rights to the inventors. On the other, standards are paramount for enhancing the interoperability of products, expanding network externalities, and facilitating the dissemination of knowledge. Conflicts between IP and competition laws may arise in case IPRs owners in standardization contexts overexploit the rights they have been granted. This may lead to the hold-up problem, which represents both a private and public concern. How to strike, then, the optimal balance between IPRs and industry standards? By answering the question, this work aims at filling a gap in the academic literature, which does not appear so far to have attempted an in-depth assessment of the right equilibrium between investment incentives and competition goals in standard setting. Any abuse of market power may harm significantly consumer well-being. At the same time, any form of control of market power should preserve the incentives of firms to invest in the market. The crucial aim, hence, is to define the optimal balance in order to avoid risks of significant losses in consumer and societal welfare.

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I, Valerio Torti,

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Signed:

Date: 10 December 2012

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Introduction

A. The Problem

This thesis seeks to resolve the tension which may potentially arise in the field of standard setting between intellectual property rights (IPRs) and competition law.

On the one hand, IPRs are exclusive rights which confer innovators the power to exclude other firms from the protected business or invention. IPRs represent the incentives undertakings need in order to invest in costly and time consuming innovation. On the other hand, competition rules aim at ensuring a level playing field in the marketplace, prohibiting conducts which may lead to abuses of market power. Their ultimate goal is to enhance consumer welfare and societal growth.

The products developed by innovators may be eventually included in standards, which are documents “established by consensus that provide, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context”. Standards, it is well-known, facilitate the dissemination of knowledge and allow interoperability between different products. However, a tension between IPRs and competition in the standard setting field may arise when innovators over-exploit the rights they have been granted, in order to get illegitimate economic advantages. Such a tension highlights the clash between the private character of IPRs and the public nature of standards. As innovators continue to contribute to standard setting development, concerns may arise as to the exact boundaries between appropriate and illegitimate conduct. It is clear that any misleading or deceptive behaviour by the IPRs owners may seriously harm standardization. In this regard, a typical example of harmful conduct consists in patent hold-up, an anticompetitive practice which leads to manipulate the whole process.

B. Research Questions

Given this premise, one question may legitimately be posed: how to strike the optimal balance between innovators' interests and standard setting objectives, between IPRs and industry standards? This seems to be the core problem behind hold-up, and which affects the effectiveness of standardization activities. In order to answer this question, however, it is essential to address further related issues. Firstly, the intersection between competition and IP laws must be scrutinised, both in terms of objectives and in terms of principles emerging from the case law. Several disputes addressing the interaction between these two fields of law have established principles which may potentially find application in standard setting. Secondly, the concept of standard needs to be examined; standards have been classified in various ways, thus the standards at issue must be distinguished. Along the same line, it seems essential to analyse the policies developed by standard setting organizations (SSOs). Indeed, the effectiveness of standardization activities is closely related to the implementation of robust regulations. Moreover, how the current judicial systems in the U.S. and the EU have addressed the anticompetitive risks affecting standards is also an aspect which must be investigated. To sum up, the main research questions are as follows:

- What are the ultimate goals of competition and IP laws? How can they be reconciled?
- How can standards be defined and classified? What are their anticompetitive risks?
- How did the U.S. and EU judicial systems tackle abusive conduct in standard setting?
- What is the optimal policy model which may ensure effective standardization?
- How could this optimal model be eventually enforced?

C. The Structure of the Inquiry

This work is structured in three Parts. In Part I, Chapter I will consider the objectives of competition law. The literature and the jurisprudence have identified several potential goals. However, it is not always possible to reconcile all of them at once. Therefore, it seems crucial to choose one optimal objective, which may theoretically differ from the enforcement test adopted. The selected goal will be justified also in light of the need to ensure the proper functioning of standard setting. Chapter II will look at the goals of IP law, trying to understand how these aims may be reconciled with those pursued by competition rules. Furthermore, in examining the interaction between these two fields of law, the chapter will delve into the meaning and scope of those legal principles which may apply also to standard setting conduct. Finally, Chapter III will explore the concept of standard and the possible classifications. The chapter will also study the main rules implemented so far by standard setting organizations. Successful standardization, indeed, requires the adoption of robust regulations which clearly identify the participants' duties.

In Part II, Chapter IV will scrutinize those practices which may harm standard setting and its goals. The chapter will examine those misleading conducts by SSOs' members which may lead to breach the EU and U.S. antitrust provisions on abuse of dominance. It will be explained that the very existence of unclear policies may ultimately encourage the participants to implement deceptive behaviours. The solutions proposed by the literature have not proved to be effective means in limiting the risks existing in SSOs. Chapter V and Chapter VI will consider how the EU and U.S. judicial systems have addressed deceptive practices by SSOs' members. The analysis developed therein represents the empirical evidence of the failure of the current policy system.

These chapters will delve into the recent history and developments of EU and U.S. standard setting, comparing the laws of these jurisdictions and highlighting the differences in the enforcement approaches. Collectively, *Dell*, *Unocal*, *Rambus* and *Qualcomm* raise important questions which are relevant in the comparison of the EU and U.S. approaches to hold-up. Differences exist as to the role of exclusionary and exploitative conduct, the role of deception by non-dominant firms, and the role of intent in assessing the conduct.

Finally, in Part III, Chapter VII will develop a policy model which may strike, from an *ex ante* standpoint, the optimal balance between innovators' interests and SSOs' goals. The right balance needs to be shaped with respect to search, disclosure and licensing duties. From an *ex post* perspective, the chapter will explain how this optimal model may be enforced. In this respect, the role of competition and of private law remedies will be examined.

D. Limitations

The analysis of these issues will be led by comparing the EU and U.S. jurisdictions. This is because these legal systems have developed considerable experience in the field of standard setting; in the U.S., for instance, the first examples of SSOs have to be found. Further limitations regard the concepts of standard and of IPRs. As to the former, the research will mainly concern standards in high technology industries, due to their key role to innovation and societal growth. Moreover, they have been the subject of most of the disputes examined. High technology standards usually read on patents; the latter will be generally referred to also as 'IPRs'. When a different right is concerned, this will be clarified in the text.

Chapter I “The Objectives of Competition Law”

1. Interpreting the Goals of Competition

Competition, in a commercial context, can be regarded as a process encompassing firms that strive to win the customers' business in the market place¹. This process may lead to a firm succeeding in seeing off its competitors, by being the most efficient and innovative towards its customers' needs. As Whish argues, an undistorted competitive system should bring better outcomes than those achieved in a monopolistic market: lower prices and better products, wider choice for consumers and greater efficiency².

As pointed out by the UK Government, “competition helps consumers get a good deal. It encourages firms to innovate by reducing slack, putting downward pressure on costs and providing incentives for the efficient organization of production”³. Thus, vigorous competition between firms may be considered as a fundamental tool in order to develop strong and efficient markets.

¹ See UK Competition Commission, “Merger References: Competition Commission Guidelines” (June 2003, CC 2), §1.20; and “Market Investigation References: Competition Commission Guidelines” (June 2003, CC 3), § 1.16, available at www.competition-commission.org.uk.

² R. Whish, *Competition Law* (6th ed., Butterworths, London 2009).

³ UK Department of Trade and Industry White Paper, “Productivity and Enterprise: A World Class Competition Regime” (Cm 5233, 2002), §1.1.

1.1 Different Policies and Different Objectives

Enhancing efficiency⁴, however, is not the only objective of competition law, but other goals may be identified. These include the promotion of consumer welfare⁵ and consumer choice⁶, the achievement of market integration⁷, as well as the encouragement of economic freedom, fairness and equality in the market⁸. Uncertainty, then, has recently arisen as to the opportunity to consider the promotion of an effective competitive process as a means to achieve these goals or as an objective of competition *per se*⁹.

⁴ On the concept of efficiency, see C. Bellamy and G. Child, *European Community Law of Competition* (Oxford University Press, 2008) § 1.072; J. Faull and A. Nikpay, *The EC Law of Competition* (Oxford University Press, 2006) § 1; V. Korah, *An Introductory Guide to EC Competition Law and Practice* (Hart Publishing, 2004) 10-11; R. Posner, *Antitrust Law* (University of Chicago Press, 2002); R. Whish (n° 2) Chapter I; K. Heyer, "Welfare Standards and Merger Analysis: Why not the Best?", (2006) 2 *Competition Policy International* 29-54.

⁵ See P. Areeda, "Introduction to Antitrust Economics", (1983) 52 *Antitrust Law Journal* 536; R.H. Lande, "Wealth Transfers as the Original and Primary Concern of Antitrust: the Efficiency Interpretation Challenged", (1982) 34 *Hastings Law Journal* 65; C. Salop, "Question: What is the Real and Proper Antitrust Welfare Standard? Answer: The True Consumer Welfare Standard", (Paper presented to the Antitrust Modernization Commission - 4 November 2005).

⁶ Consumer choice is usually included in the concept of consumer welfare. However, an alternative would be to consider it as an autonomous competition goal, on the ground that maximizing consumer welfare does not always lead to maximization of consumer choice.

⁷ D.J. Gerber, *Law and Competition in Twentieth Century Europe - Protecting Prometheus* (Clarendon, 1998) 334; R. Whish (n° 2) Chapter I; V. Korah, "EEC Competition Policy - Legal Form or Economic Efficiency" (1986) *Current Legal Problem* 85.

⁸ M. Furse, "The Role of Competition Policy: a Survey", (1996) 17(4) *European Competition Law Review* 250; V. Korah (n° 4) 12-13.

⁹ On this topic, see below section 2.1.

More in general, there is vigorous debate among competition authorities and governmental bodies as to the objectives of competition law¹⁰. It is difficult to find a common view also in the literature and in the jurisprudence on what the aims of competition policy have been until now. Although it seems clear that greater weight is now given to economic rather than political objectives, there is no definitive answer or consensus on the issue¹¹.

For instance, while in the United States relevant authorities have more than once identified the maximization of consumer welfare as the proper legitimate aim of competition policy¹², in other jurisdictions the emphasis on such a goal is less obvious. In this sense, the European Commission, while recognizing the protection of consumer welfare as one of the predominant objectives of modern competition law, has nevertheless referred also to other goals to be achieved through the enforcement of competition policy¹³. This can be easily explained by considering that European Union competition policy has so far been highly

¹⁰ Unilateral Conduct Working Group, "Report on the Objectives of Unilateral Conduct Laws, Assessment of Dominance/Substantial Market Power, and State-Created Monopolies", (6° Annual Conference of the International Competition Network (ICN) - Moscow, May 2007).

¹¹ J.B. Kirkwood and R.H. Lande, "The Fundamental Goal of Antitrust: Protecting Consumers, Not Increasing Efficiency", (2008) 84 *Notre Dame Law Review* 191.

¹² U.S. Department of Justice and Federal Trade Commission, "Horizontal Merger Guidelines" [Revised 1997], reprinted in 4 *Trade Reg Rep* (CCH) §§13, 104 (8 April 1997). See also *Reiter v Sonotone*, 442 U.S. 330 (1979), at 343; *Business Electronics v Sharp Electronics*, 485 U.S. 717 (1988), at 723; *Leegin Creative Leather Products v PSKS*, 551 U.S. (2007); *Brooke Group v Brown and Williamson Tobacco*, 509 U.S. 209 (1993), at 224.

¹³ V. Korah (n° 7) 85. Here, the author focuses on one of these other goals, *i.e.* market integration.

influenced by the legislative framework of the EC Treaty of Rome¹⁴, which set out a number of additional goals¹⁵.

Contrasts have also arisen in the literature, where several authors have mentioned different and potentially conflicting goals for EU competition policy. Bishop and Walker, for instance, identify two main objectives, market integration and the economic goal¹⁶. Motta, then, considers efficiency and European market integration as the main aims of competition, although he recognizes the role of social and political reasons¹⁷. Ahlborn and Padilla, instead, identify three groups of objectives: fairness, welfare and efficiency, and market integration¹⁸. Along the same lines, Monti indicates three core aims of EU competition law: efficiency, market integration and the protection of economic

¹⁴ After the Lisbon Conference, Treaty on the Functioning of the European Union (TFEU).

¹⁵ J. Galloway, "The Pursuit of national champions: the intersection of competition law and industrial policy", (2007) 28(3) *European Competition Law Review* 173; G. Monti, "Article 81 EC and Public Policy", (2002) 39(5) *Common Market Law Review* 1057; C. Townley, *Article 81 EC and Public Policy* (Hart Publishing, 2009).

¹⁶ S. Bishop and M. Walker, *The Economics of EC Competition Law: Concepts, Application and Measurement* (Sweet & Maxwell, London 1999) 5.

¹⁷ M. Motta, *Competition Policy, Theory and Practice* (Cambridge University Press, 2004) 15.

¹⁸ C. Ahlborn and AJ. Padilla, "From Fairness to Welfare: Implications for the Assessment of Unilateral Conduct under EU Competition Law", in C.D. Ehlermann and M. Marquis, *European Competition Law Annual 2007: A Reformed Approach to Article 82 EC* (Hart, Oxford 2008) 55.

freedom¹⁹. All these views seem to confirm that “EU competition law is a bit like a multiple personality, fascinating but complicated”²⁰.

The discussion on the objectives of competition policy, further developed in the next sections, is relevant as far as it helps to understand which test should be applied in the enforcement of competition rules. The enforcement test, indeed, may diverge from the ultimate competition policy aim. The optimal solution finally suggested reveals its clear effectiveness also when applied in the context of standard setting, which is the very core of the research project.

In particular, the importance of the test selected will be further explained in light of the aim to guarantee the optimal functioning of standardization processes, although a more effective policy framework seems also to be necessary to this purpose. In that particular environment, the interests of IPRs owners, consumers and licensees-manufacturers could be often at odds. The adoption of one legal test over another, when enforcing competition law, may thus lead to very different outcomes, which may eventually boost or compromise the whole standardization process. Hence, it is clear the need to identify *a priori* the ultimate objective of competition and the optimal test in the enforcement of the rules.

¹⁹ G. Monti, “Article 81 and Public Policy”, (2000) 39 *Common Market Law Review* 1057.

²⁰ L. Parret, “Shouldn’t We Know What We Are Protecting? Yes We Should! A Plea for a Solid and Comprehensive Debate about the Objectives of EU Competition Law and Policy”, (2010) 6(2) *European Competition Journal* 376.

1.2 The Lisbon Treaty and the Role of Competition

Prior to the analysis of the abovementioned objectives, it is worth underlining that both EU competition rules, the regulations implementing them and the EU Merger Regulation²¹ must now be read in light of the articles of the Treaty of Lisbon²². This new document modifies both the EC Treaty of Rome²³ and the Treaty of Maastricht which introduced the European Union²⁴.

Amendments to the EC and EU Treaties

With reference to the former, that has become the 'Treaty on the Functioning of the European Union' (TFEU), the Lisbon document details the areas of intervention of the EU, giving it the exclusive competence in fixing the competition rules necessary for the functioning of the internal market²⁵. A shared competence with the Member States is established for the development of general policies in the areas of consumer protection and internal market²⁶.

²¹ Council Regulation 139/2004, O.J. 2004, L24/1, [2004] 4 C.M.L.R..

²² Treaty of Lisbon, amending the Treaty on European Union and the Treaty establishing the European Community, signed at Lisbon 13 December 2007 and entered into force on 1 December 2009.

²³ Treaty of Rome, establishing the European Community, (1958), as amended in accordance with the consolidated version of the Treaty of Nice, O.J. 2002 C325/1.

²⁴ Treaty of Maastricht, establishing the European Union, O.J. 1992 C191/1.

²⁵ Article 3(1)(b), Treaty on the Functioning of the European Union (TFEU), O.J. 2010 C 83/47. It is worth noting that Articles 81 and 82 EC have been respectively renumbered as 101 and 102 TFEU.

²⁶ Article 4(2)(a)/(f), Treaty on the Functioning of the European Union (TFEU), O.J. 2010 C 83/47.

With regard to the Treaty of Maastricht (now 'Treaty on the European Union', TEU), instead, the Treaty of Lisbon modified Article 2, concerning the objectives of the Union, and established that the latter shall work for the sustainable development of the internal market and of a concept of Europe characterised by balance economic growth, price stability and a highly competitive social market economy. The Union, furthermore, will have to promote scientific and technological advance, thus paving the way for the achievement of dynamic efficiency in the marketplace²⁷. To this end, for instance, it seems important to define an optimal legal framework for regulating standard setting bodies, which promote innovation in technological industries²⁸.

It is, thus, clear why the European Court of Justice has held that the competition rules should be construed and interpreted in light of these general provisions²⁹. The objectives of competition law, as discussed and defined by commentators and jurisprudence, are the expression of the basic principles developed in the articles of the Treaties introducing the European Union and the European Community, as recently modified by the Treaty of Lisbon.

²⁷ Article 3(3), Treaty on the European Union (TEU), O.J. 2010 C 83/13.

²⁸ See Chapter III.

²⁹ V. Korah (n° 4) 7.

The Role of Competition Policy after Lisbon

After the coming into force of the Treaty of Lisbon, some relevant changes have occurred. Under pressure from the French President Sarkozy, competition policy has been removed from the text of the Lisbon Treaty and instead placed in the text of a Protocol on the Internal Market and Competition³⁰. This change seemed to reflect the French government's success during the Lisbon negotiations in persuading the other Member States that competition is not an end in itself, but a means to serve the end, *i.e.* EU internal market. Article 3 of the amended EC Treaty no longer includes "a system ensuring that competition in the internal market is not distorted"³¹. The amended Article 3 now refers to "establishing competition rules necessary for the functioning of the internal market"³². At the same time, the mentioned Protocol establishes that "the internal market as set out in Article 3 of the Treaty on the European Union includes a system ensuring that competition is not distorted"³³.

Hence, it has been held, by referring to the internal market in Article 3 of the Treaty on the European Union, competition policy is still present³⁴. Some commentators argued that, under the Treaty of Rome (EC Treaty), competition was also not one of the Community goals, but one of the means to

³⁰ Protocol on Internal Market and Competition, Annexed to the Treaty on the European Union (TEU) and the Treaty on the Functioning of the European Union (TFEU), O.J. 2007 C 306/156.

³¹ See Article 3(1)(g), Treaty of Rome, establishing the European Community (1958).

³² Article 3(1)(b), Treaty on the Functioning of the European Union (TFEU), O.J. 2010 C 83/47.

³³ Protocol on Internal Market and Competition (n° 30).

³⁴ L. Parret (n° 20) 345.

achieve the ultimate objectives³⁵. Thus, the change should have no real impact on the application of competition policy. However, Ehlermann has noted that this change raises questions as to whether the European courts will consider the structural link between the Protocol and the competition law provisions in the same way as they used to make the connection between those rules and the general EC Treaty provisions on objectives and policies³⁶. The European courts, it must be pointed out, have already referred in different cases to the importance of competition for the Community legal order in assessing the anticompetitive effects of agreements³⁷, the risks connected to abuse of dominance³⁸, and the applicability of the State aid rules³⁹.

Whether the mentioned change in the Treaty of Lisbon will produce any substantial effect is an issue that EU courts and their future approach will certainly clarify. Perhaps, it seems more plausible to believe that such a change will not modify the hierarchy of the objectives of the European Union. Competition policy was and remains an important means to achieve the objectives of the EU, market integration and societal welfare. In this sense, the

³⁵ K. Fountoukakos, "The Lisbon Treaty: Brief Overview of the Key Changes", (*EU Competition and Regulation e-Bullettin*, 4 November 2009), available at www.herbertsmith.com.

³⁶ C.D. Ehlermann, "The Lisbon Treaty: the Next Steps Forward for Europe", (*EU Competition e-Bullettin*, 3 December 2009), available at www.wilmerhale.com.

³⁷ See Case 6/72 *Continental Can* [1973] E.C.R. 215, at 24; and Case C-453/99 *Courage Limited v Crehan* [2001] E.C.R. I-6297, at 27.

³⁸ See Case C-95/04 P *British Airways v European Commission* [2007] E.C.R. I-2331, at 68; Case 85/76 *Hoffmann-La Roche v European Commission* [1979] E.C.R. 461, at 90.

³⁹ See Case T-358/94 *Air France v Commission* [1996] E.C.R. II-2109, at 56.

European Court of Justice in the early days had already interpreted competition as a tool necessary to attain the aims of the EC Treaty⁴⁰.

Ultimate Objective and Enforcement Test

A debate may arise on whether market integration is an intermediary goal, which in turn should achieve the ultimate welfare objective, or whether it is itself an ultimate goal. A second question, what is more, could also be posed in relation to the optimal standard that should be adopted in the enforcement of competition rules: should the legal test directly reflect the need for market integration or should it be better based on a *welfarist* approach? And in this second case, should the enforcement test pursue consumer or total surplus? It is undoubted that it would be difficult to reconcile, in the legal enforcement standard, all the various objectives that may potentially be assigned to competition policy.

The next sections are hence devoted to define the scope of the debate and to identify possible answers to the cited questions. The outcome of the analysis will be crucial to understanding how the selected test may contribute to ensure an optimal functioning of standardization processes, provided that -besides framing the optimal enforcement test- it is equally important to strike a more effective policy framework for standard setting institutes.

⁴⁰ Case 26/76 *Metro v Commission* [1977] E.C.R. 1875.

2. Competition Law as a Means to Achieving Different Aims

Once defined the importance and the role of the provisions of the Lisbon Treaty, attention must be paid to each of the potential aims of competition law. A report, prepared by the ICN (International Competition Network) Unilateral Conduct Working Group, has taken into consideration some interesting issues concerning competition⁴¹. The document, based on the responses of different ICN members and non-governmental advisors to a questionnaire developed by the group, has analysed the objectives of unilateral conduct rules as described by the respondents. This report may be used as a starting point for a catalogue of the possible goals of competition law more generally⁴².

Among these goals, it usually appears more reasonable to identify a primary objective⁴³. The better view, indeed, seems to be that the pursuit of different goals as primary objectives may not always be achieved and reconciled at the same time. Other socially desirable objectives may thus be achieved through competition law, but only in so far as they are consistent with the primary aim. These considerations hold true even when applied in the analysis of conduct in standardization processes.

⁴¹ Unilateral Conduct Working Group (n° 10).

⁴² See also OECD Secretariate, "The Objectives of Competition Law and Policy and the Optimal Design of a Competition Agency", (2003) 5 *OECD Journal of Competition Law and Policy* 7.

⁴³ R. Nazzini, "Welfare Objective and Enforcement Standard in Competition Law", in A. Ezrachi and U. Bernitz, *Private Labels Brands and Competition Policy* (Oxford University Press, 2009) 387, 390-391.

The most part of respondents identified several goals of unilateral conduct laws, regulations and policies, namely: ensure an effective competitive process; promote consumer welfare; enhance efficiency; ensure economic freedom; ensure a level playing field for small and medium-sized enterprises; promote fairness and equality; promote consumer choice; achieve market integration; promote competitiveness in international market⁴⁴. To the list, a further objective not mentioned by the respondents should be added: promoting total welfare.

As a premise, the goals of Articles 101 and 102 TFEU (former Articles 81 and 82 of the EC Treaty) should be read in a harmonious way, being the origin of these rules identical. The same concept holds for the antitrust provisions of the U.S. Sherman Act, Section 1 and Section 2. Differences, however, may arise between the various systems of competition policy, such as the U.S., the EU and the UK ones⁴⁵. This means that competition is the expression of the values and concerns of a particular society. Therefore, its objectives may vary with the change of political thinking and societal needs⁴⁶. The latter, it must be remembered, are also at the basis of standard setting developments.

⁴⁴ Unilateral Conduct Working Group (n° 10) 2.

⁴⁵ On this point, see P. Jebsen and R. Stevens, "Assumptions, Goals and Dominant Undertakings; the Regulation of Competition under Article 82 of the European Union", (1996) 64 *Antitrust Law Journal* 443.

⁴⁶ See also E.M. Fox, "The Kaleidoscope of Antitrust and its Significance in the World Economy; Respecting Differences", (2001) *Fordham Corporate Law Institute* 597.

2.1 Ensuring an Effective Competitive Process

Firstly, a critical question needs to be addressed: what is an effective competitive process? Concerns, indeed, may arise on its exact meaning. While the legislator of some countries concluded that the meaning of 'free competition' should be left to the judiciary interpretation, others suggested that effective competition can be deemed to exist where all firms have an opportunity to succeed or fail, according to their potentiality to compete⁴⁷. It could be further defined as a process of rivalry among firms on a given market; a definition however that, according to some authors, would not provide a proper standard for distinguishing between anticompetitive and non-anticompetitive conduct⁴⁸. Such a process, then, seems to be a dynamic and (potentially) self-initiating market phenomenon, where products are supplied by firms able to produce them in the most efficient way⁴⁹. Accordingly, antitrust enforcement agencies should intervene only in those cases in which the "spontaneously-occurring competitive process falters as result of anti-competitive conduct"⁵⁰.

Competition law, in other words, should ensure that a free undistorted competitive process be maintained in the marketplace, while it should not be enforced in case an undertaking legitimately strengthens its economic position.

⁴⁷ See Unilateral Conduct Working Group (n° 10) 30.

⁴⁸ R. Nazzini (n° 43) 387.

⁴⁹ However, certain sectors which are in origin state monopolies would need a government's intervention, in terms of privatization and liberalization, to be subject to competitive forces.

⁵⁰ See Unilateral Conduct Working Group (n° 10) 30.

In this sense, for instance, the Protocol introduced by the Lisbon Conference refers to the need to maintain a system ensuring that competition is not distorted⁵¹. This requirement, as confirmed in *Metro*, implies *inter alia* the existence of workable competition, which is the degree of competition needed in order to ensure the achievement of the objectives of the European Union⁵².

However, whether ensuring an effective competitive process should be recognised as a means to achieve other goals (e.g. the protection of consumers' interests) or as a primary objective of competition law *per se* has been a controversial issue. As stated by Advocate General Kokott in *British Airways*,

"Article 82 EC, like the other competition rules of the Treaty, is not designed only or primarily to protect the immediate interests of individual competitors or consumers, but to protect the structure of the market and thus competition as such (as an institution), which has already been weakened by the presence of the dominant undertaking on the market. In this way, consumers are also indirectly protected. Because where competition as such is damaged, disadvantages for consumers are also to be feared"⁵³.

⁵¹ Protocol on Internal Market and Competition (n° 30).

⁵² Case 26/76 *Metro v Commission* [1977] E.C.R. 1875.

⁵³ Opinion of Advocate General Kokott of 23 February 2006, in Case C-95/04 P *British Airways Plc v European Commission*, at 44, citing: Case 85/76 *Hoffmann-La Roche v European Commission* [1979] E.C.R. 461, at 91; Case 322/81 *Michelin v European Commission (Michelin I)* [1983] E.C.R. 3461, at 70; Case 31/80 *L'Oréal v De Nieuwe AMCK* [1980] E.C.R. 3775, at 27; Case C-62/86 *AKZO v*

This position has been confirmed by the Court of Justice in *GlaxoSmithKline*, where it was held that “competition law aims to protect not only the interests of competitors or of consumers, but also the structure of the market and, in doing so, competition as such”⁵⁴. This notwithstanding, the cited view must be compared with the position of the EU Commission, which has often observed that the protection of competition cannot be considered as a goal *per se*⁵⁵.

More generally, some antitrust agencies believe that the protection of competition may play an important role as a crucial antitrust objective, while others affirm that it may be only considered as a means to achieve other goals⁵⁶. According to certain authorities, furthermore, the protection of a competitive process could be interpreted both as an objective and as a vehicle, mainly for protecting consumers and maximizing efficiency⁵⁷.

Apart from the considerations expressed by the competition agencies and by the courts in the case law, it is necessary to recall the concept that competition

European Commission [1991] E.C.R. I-3359, at 69. In the *British Airways* judgment, the ECJ, however, did not explicitly support Kokott’s arguments on this point.

⁵⁴ Case C-501/06 P *GlaxoSmithKline v European Commission* [2010] 4 C.M.L.R. 2.

⁵⁵ See for instance N. Kroes, “European Competition Policy: Delivering Better Markets and Better Choices”, (Speech at *European Consumer and Competition Day*, London - 5 September 2005); see also M. Monti, “European Competition for the 21st Century”, (2001) *Fordham Corporate Law Institute* 257; and P. Lowe, “The Design of Competition Policy Institutions for the 21st Century - The Experience of the European Commission and DG Competition”, (2008) 3 *Competition Policy Newsletter* 1.

⁵⁶ Unilateral Conduct Working Group (n° 10) 7-8.

⁵⁷ In this sense, see the Netherlands Competition Authority’s position.

should be developed in order to achieve a primary goal. The latter, of course, may vary in accordance to the policy objectives of a system. However, it seems reasonable to support the view that any public policy should be addressed and implemented so as to maximize the well-being of the society as a whole⁵⁸. That is why competition systems and their enforcement processes should not aim at the protection of rivalry *per se*. The protection of the competitive process as an institution may result under certain circumstances in the protection of competitors, leading then to a loss of welfare⁵⁹. Rather, the protection of the competitive process or free competition should be strictly interpreted in the light of a further primary goal⁶⁰.

In the context of standard setting, the enforcement of a legal test merely focused on the protection of rivalry may determine undesirable effects for the category of consumers. Once the standard setting body has selected a specific technology, indeed, the patent owner may try to license its rights under supra-competitive royalties and breach any terms previously subscribed. In case there is no evidence of harm to the competitive process (as, for instance, the standard

⁵⁸ C. Ahlborn, "Competition Policy in the New Economy: Is European Competition Law Up to the Challenge?", (2001) 22(5) *European Competition Law Review* 156-167; see also C. Ahlborn and A.J. Padilla (n° 18).

⁵⁹ R. Nazzini (n° 43) 388.

⁶⁰ On the issue, see H. Vedder, "Competition Law and Consumer Protection: How Competition Law can be Used to Protect Consumers Even Better – or Not?", (2006) 17 *European Business Law Review*. See also J. Stuyck, "EC Competition Policy after Modernization: More than Ever in the Interest of Consumers", (2005) 28 *Journal of Consumer Policy* 1.

setting body could not choose an alternative technology), the IPR owner may escape antitrust liability. This means that the application of a test mainly based on harm to competition would probably lead to exclude pure exploitative abuses from the range of prohibited conduct. Turning back to the example on standard setting, a IPRs owner could finally charge exorbitant fees without incurring the risk of being fined by competition enforcers. The ultimate effect could be detrimental to the welfare of consumers.

2.2 Promote Consumer Welfare and Consumer Choice

Rivalry, that is the process of competing between firms seeking to win consumers and drive competitors out of the business, should be protected in so far as it brings an improvement in the well-being of the society. A long-standing debate then has been developed on the concept of the welfare standard to apply. A question, indeed, needs to be addressed: what is the proper standard? Should competition maximize consumer welfare or total welfare? On the one hand, some authors refer to the aggregate economic welfare standard (also called total surplus or efficiency standard)⁶¹. On the other, a different doctrine usually favours the consumer welfare standard (or consumer surplus standard)⁶².

⁶¹ See D.W. Carlton, "Does Antitrust Need to Be Modernised?", (2007) 21 *The Journal of Economic Perspectives* 155-176; K. Heyer (n° 4)29-54.

⁶² See S.C. Salop (n° 5); R.H. Lande (n° 5) 65; R.H. Lande, "Proving the Obvious: The Antitrust Laws Were Passed to Protect Consumers (not Just to Increase Efficiency)", (1999) 50 *Hastings Law*

The following sections will summarize the objections arisen against both standards. The most relevant issue, as I will argue, is to understand whether a consumer surplus test, as enforcement standard, could be more desirable for maximizing societal welfare as a competition policy objective.

2.2.1 Consumer Welfare *v* Total Welfare

The total welfare standard takes into consideration the aggregate welfare of both consumers and producers since the well-being of all of them is of relevance. In contrast, consumer welfare only focuses on consumers and does not consider conduct harming rival undertakings. Consumer welfare, in particular, is the difference between what consumers are willing to pay for certain goods and what it is finally paid. Total welfare, instead, considers also producer surplus, the economic profit a company may realise in selling goods and services.

Regardless of which should be the optimal test, a welfare standard should be usually appraised on a long-term basis, rather than on a short-term framework. As evidenced by Porter, indeed, by referring to a long-term basis it is

Review 959; R. Pittman, "Consumer Surplus as the Appropriate Standard for Antitrust Enforcement", (2007) *Competition Policy International* 205.

possible to take into account any potential benefits deriving from dynamic efficiencies, which may finally lead to productivity growth⁶³.

Welfare Standards in the EU and the U.S.

A consumer welfare standard seems to be supported by many national antitrust authorities, among which the European Commission⁶⁴. Former commissioners and officials of the institution defined consumer welfare as the standard the Commission applies when appraising mergers and infringements of the Treaty rules on cartels and monopolies, and recognised the important role of the market and of competition in guaranteeing consumer surplus and enhancing efficiency⁶⁵. Consumer welfare, it has been held, could be interpreted as strictly related to the general economic welfare purpose that was at the basis of articles 2 and 3 of the EC Treaty, and that is now reflected in the new Treaty

⁶³ M.E. Porter, "Competition and Antitrust: Toward a Productivity-based Approach to Evaluating Mergers and Joint Ventures", (2001) 46 *Antitrust Bulletin* 934-935.

⁶⁴ See the European Commission's "Guidelines on the application of Article 81(3) of the Treaty" [2004] O.J. C101/97, at 13; European Commission, "DG Competition Discussion Paper on the Application of Article 82 of the Treaty to Exclusionary Abuses" (Public Consultation, December 2005) at 4; "Guidelines on the Assessment of Horizontal Mergers Under the Council Regulation on the Control of Concentrations Between Undertakings", [2004] O.J. C31/5, at 8 and 12; "Guidelines on the Assessment of Non-horizontal Mergers Under the Council Regulation on the Control of Concentrations Between Undertakings", [2008] O.J. C 265, at 10 and 21. See also B. Allan, "Article 82: A Commentary on DG Competition's Discussion Paper", (2006) (Spring) *Competition Policy International* 43, 49.

⁶⁵ See N. Kroes (n° 55); M. Monti (n° 55) 257; and P. Lowe (n° 55) 1.

on the European Union⁶⁶. What is more, other provisions of the Treaty on the Functioning of the European Union (former EC Treaty) directly refer to consumer welfare by requiring EU institutions to take into consideration the protection of consumers when developing their policies⁶⁷.

The jurisprudence of the EU, however, is undoubtedly less clear in defining the welfare standard and, more in general, the main objective of competition policy. In *GlaxoSmithKline*, the Court of First Instance (after Lisbon, 'General Court') clearly opted for consumer welfare as the main driver of EU competition policy⁶⁸. This case represented one of the few examples of a court expressly mentioning consumer welfare as the optimal standard to be applied. However, in the appeal of that case, the Court of Justice raised some doubts above this supremacy. The Court observed that

"there is nothing in Article 81(1) to indicate that only those agreements which deprive consumers of certain advantages may have an anti-competitive object ... Article 81 EC aims to protect not only the interests of competitors or of

⁶⁶ R. Nazzini, "Article 81 between Time Present and Time Past: a Normative Critique of 'Restriction of Competition' in EU Law", (2006) *Common Market Law Review* 497.

⁶⁷ See for instance Article 12 (former 153(2) EC Treaty), Treaty on the Functioning of the European Union, O.J. 2010 C 83/47.

⁶⁸ Case T-168/01 *GlaxoSmithKline Services Unlimited v European Commission* [2006] E.C.R. II-2969. In *GlaxoSmithKline*, in particular, the CFI observed that "the objective assigned to Article 81(1) EC...is to prevent undertakings...from reducing the welfare of the final consumer of the product in question".

consumers, but also the structure of the market and, in doing so, competition as such"⁶⁹.

Hence, the Court of Justice made an important, albeit disputable, point where it clarified that competition as an institution is not simply a means and cannot be excluded from the goals of antitrust. The view expressed by the Court recalls what had been previously held by Advocate General Kokott in *British Airways*, where it was stated that competition law is not designed to protect only or primarily individual competitors or consumers, but also the structure of the market⁷⁰.

In the United States, instead, there is strong consensus for a consumer welfare standard as the optimal goal of antitrust policy⁷¹. The Department of Justice, the Federal Trade Commission and the U.S. Supreme Court have clearly held that competition should be for the protection of consumers, not competitors⁷². This notwithstanding, some authors in the U.S. support the view that antitrust laws should prohibit conduct reducing total welfare⁷³.

⁶⁹ Case C-501/06 P *GlaxoSmithKline v European Commission* [2010] 4 C.M.L.R. 2.

⁷⁰ Case C-95/04 P *British Airways v European Commission* [2007] E.C.R. I-2331, at 68.

⁷¹ S.C. Salop (n° 5); R.H. Lande (n° 5) 65; R.H. Lande (n° 62) 959; R. Pittman (n° 62) 205.

⁷² *Reiter v Sonotone*, 442 U.S. 330 (1979), at 343; *Business Electronics v Sharp Electronics*, 485 U.S. 717 (1988), at 723; *Leegin Creative Leather Products v PSKS*, 551 U.S. (2007); *Brooke Group v Brown and Williamson Tobacco*, 509 U.S. 209 (1993), at 224.

⁷³ D.W. Carlton (n° 61) 155-176; K. Heyer (n° 4) 29-54.

Arguments for and against the Total and Consumer Welfare Standards

Whether one test or the other should be applied has been at the core of an intense debate, and objections could be raised for both of them. The following subsections will explain why consumer welfare should be adopted as the optimal enforcement test to the benefit of societal well-being.

A) Raise of Gross Domestic Product

Those authors supporting the aggregate welfare standard believe that this test is more appropriate for different reasons, some of them based on cost-benefit analysis⁷⁴. First, Carlton argues that it is not reasonable to ignore producer surplus, as efficient economic activities that raise gross domestic product (GDP) usually can make everyone better off. However, this conclusion seems no more than an assumption which lacks clear evidence, and may reasonably be rebutted. It may be rather argued that preserving the long term welfare of consumers may benefit also producers since the former are more encouraged in investing their resources in consumer goods and services, thus making also producers better off. In other words, as noted by the well-known economist Keynes, a raised level of income (comparable to increased consumer welfare) leads consumers to increase consumption⁷⁵. Higher level of consumption determines a raise in productivity,

⁷⁴ D.W. Carlton (n° 61) 158; K. Heyer (n° 4).

⁷⁵ J.M. Keynes, *The General Theory of Employment, Interest and Money* (Macmillan, London 1936). The author, in particular, elaborated the function of consumption in the following terms: $C = C^0 + cY$, where C^0 is the basic level of consumption, c is the marginal tendency to

thus ensuring also producers a higher welfare. These considerations recall the position of those authors that differentiate between an optimal enforcement standard and the ultimate objective of competition policy⁷⁶.

B) Logical Mistakes of Consumer Welfare Test

Secondly, supporters of a total surplus test criticize the consumer welfare standard with regard to two different aspects. Carlton notices that under this test no attention should be paid to buying cartels, which are those agreements that may affect and harm the economic position of some sellers, benefiting other producers⁷⁷. Buying cartels, however, are usually considered highly anticompetitive also by the proponents of the consumer surplus test, and this may be interpreted as a logical mistake⁷⁸. In this context, it is undoubted that courts and authorities have usually sanctioned as serious infringements of competition law those agreements among buyers imposing lower prices on upstream producers⁷⁹. The criticism, in fact, cannot be accepted. Even in case of

consumption and Y is the level of income. Keynes noted that an increase in the level of income leads to a raised consumption. However, such raise in consumption proportionally diminishes as the income continues growing.

⁷⁶ R. Nazzini (n° 43).

⁷⁷ D.W. Carlton (n° 61) 158.

⁷⁸ *Ibid*, 159.

⁷⁹ On purchase price fixing, see *Raw Tobacco Italy* [2005] O.J. L353/45; Case C-264/01 *AOK Bundersverband v Ichthyol-Gesellschaft* [2004] E.C.R. I-2493; *European Broadcasting Union* [1993] O.J. L179/23; *Aluminium Imports from Eastern Europe* [1985] O.J. L92/1; *Zinc Producer Group* [1984] O.J. L220/27; *German Scrap Iron Market* [1970] O.J. L29/30. In contrast with the abovementioned cases,

agreements fixing purchase prices to the detriment of suppliers, consumer welfare may be harmed. The reduced income of the suppliers may discourage them from investing in research and development. In addition, lower revenue may also negatively affect the efficient use of production facilities. The ultimate consequence would be detrimental to the quality of the products, and hence to the welfare of consumers. Consumer welfare, indeed, should not only be appraised in terms of lower prices, but also in terms of better quality of goods. What is more, suppliers may transfer the burden of the agreement to those downstream firms that were not part of it, by charging them higher prices which, with all probability, will finally bear upon the ultimate consumer.

On a further ground, supporters of total welfare have also argued that the attention paid by antitrust only to consumers, in the assessment of welfare, may not have much sense in a society where firms are owned by shareholders, as the latter are always also consumers⁸⁰. Hence, the need to treat all agents in the market place in the same way, without preference to any kind of group⁸¹. As a counter argument, however, it could be noted that this position seems to underestimate the fact that those consumers owning shares of firms and

see Case C-250/92 *Gottrup-Klim v Dansk Landbrugs Gwareselskod* [1994] E.C.R. I-5641, at 45; and *National Sulphuric Acid Association* [1980] O.J. L260. In the U.S., *Vogel v American Society of Appraisers*, 774 F.2d 598 (C. App. 7th Circuit, 1984); *National Macaroni Manufacturers Association Petitioners v FTC*, 345 F.2d 421 (C. App. 7th Circuit, 1965).

⁸⁰ See K. Heyer (n° 4) 54.

⁸¹ R. Bork, *The Antitrust Paradox* (Basic Books, 1978) 110. Bork, in particular, is among those authors believing that no distinction should be made as “producers are consumers too”.

participating to the distribution of dividends represent a very small richer minority of the society. The cited reasoning, hence, does not seem compelling.

C) Assessment under Political Favour

Other observations, then, have been made in relation to the aggregate welfare standard. Supporters of consumer welfare standard have pointed out that the total surplus test may be perceived as politically unpopular, since it does not focus entirely on consumers⁸². This interpretation has been rejected by those adopting the aggregate welfare approach. In particular, Carlton affirms that "short run total welfare standard is more likely to maximize long run consumer surplus than is a short run consumer surplus standard"⁸³. This is especially so, as it is argued, in those dynamic and technological markets where consumers may benefit in the long term of investments (requiring profits) by the firm in new innovative products⁸⁴. The 'political favour' of a standard, however, does not seem a relevant benchmark under which a competition authority should choose the welfare test⁸⁵.

⁸² See S.C. Salop (n° 5) 23.

⁸³ See D.W. Carlton (n° 61) 161.

⁸⁴ *Ibid*, 161.

⁸⁵ On the relation between politics and antitrust see, G. Amato, *Antitrust and the Bounds of Power: The Dilemma of Liberal Democracy in the History Market* (Hart Publishing, 1997).

D) Monitoring of Competition Policy

As to the opportunity to adopt the consumer welfare standard, rather than the aggregate surplus test, some other considerations deserve specific attention. One of the issues concerns the monitoring of competition policy. It has been held that it would be easier to monitor an agency's intervention under the consumer welfare standard than under total surplus test, as in the latter case more difficulties could arise in the calculation of the offset between consumer harms and claimed producer efficiencies⁸⁶. By applying the consumer surplus test, instead, it would be easier to verify whether the decision may harm consumers in the short term, as the monitoring activity may be limited only to eventual rise of prices or output reductions. Hence, even authors supporting total welfare have finally agreed that a consumer welfare standard can be implemented in a more transparent way, is more observable and reduces the margin of errors. This would also explain why it is politically favoured over any other test⁸⁷.

Again, it seems that these characteristics, whenever verifiable, do not represent concrete benchmarks for favouring a consumer surplus standard over a total welfare test. It would be absurd to choose an enforcement test over the

⁸⁶ See S.C. Salop (n° 5) 22-23. See also C.F. Rule and D.L. Meyer, "An Antitrust Enforcement Policy to Maximize the Economic Wealth of All Consumers", (1988) 33 *Antitrust Bulletin* 677-686.

⁸⁷ See D.W. Carlton (n° 61) 162.

other on the ground that it is more administrable and observable, and then elevate it to the objective of competition law only on this basis⁸⁸.

E) Imperfections in Corporate Governance

A further argument developed in support of a consumer surplus test refers to potential imperfections in corporate governance, which may arise when applying a total welfare standard. There could be a risk that part of the profit of the undertakings is dissipated by management in their own interest⁸⁹. It has been said however that, even in case of managerial dissipation of profits, part of them would be at all events distributed to shareholders or reinvested. More in general, it has been argued that managerial dissipation of profits would be better addressed by corporate governance rules rather than competition law. Competition authorities and courts, as held by Professor Nazzini, would have to undertake a case by case analysis of the firms' management under investigation and their conduct⁹⁰.

This notwithstanding, managerial dissipation of profits is a risky phenomenon which helps explaining why preserving the welfare of producers would not necessarily lead to enhance gross domestic product and make

⁸⁸ R. Nazzini (n° 43) 395-396.

⁸⁹ J. Farrell and M.L. Katz, "The Economics of Welfare Standard in Antitrust", (2006) Institute of Business and Economic Research - Competition Policy Centre (University of California, Berkley), 12.

⁹⁰ R. Nazzini (n° 43) 395.

everyone better off, as Carlton instead observed⁹¹. Rather, promoting consumer surplus may better encourage the enhancement of societal welfare by stimulating the demand of goods and services⁹².

F) Redistribution of Wealth

The main argument proposed by those commentators supporting a consumer welfare approach concerns redistribution of wealth. In particular, they claim that redistribution cannot be blithely ignored and considered as simply neutral on the ground that producers are always also consumers and that distributional effects should fall outside the scope of competition law. Pittman argues that producers represent a small, generally richer, category of consumers, with the consequence that a transfer of wealth from the multitude of consumers to the class of producers cannot be regarded with indifference⁹³. The fact that a competition system focused on the protection of consumer welfare achieves a more equal distribution of wealth in the society does not certainly make this system the primary means to ensure a more equal distribution of wealth. This notwithstanding, the argument goes, equitable redistribution is one of the indirect benefits of a policy supporting effective

⁹¹ D.W. Carlton (n° 61).

⁹² J.M. Keynes (n° 75).

⁹³ R. Pittman (n° 62) 205.

competition in the marketplace⁹⁴. Salop and Lande seem to agree with this position, as they stress the importance of antitrust as a strategic tool also for wealth redistribution⁹⁵.

Despite the argument on redistribution of wealth deserves particular attention, as it rightly evidences the different nature of consumers and producers, it cannot be accepted. As pointed out by Farrell and Katz, preference for consumer welfare cannot be justified on this ground, as distribution concerns should not be a matter of antitrust policy but rather of various tax and subsidy schemes⁹⁶. Antitrust policy, in other words, should be considered as efficiency oriented policy rather than focused on the improvement of the distribution of income⁹⁷. Bork, which shared this position, has developed interesting considerations for excluding redistribution from the aims of competition⁹⁸. In this context, well-known is the example on cartelistic behaviours implemented by hand-crafted ceramic manufacturers to the detriment of few richer consumers. Could an antitrust agency legitimize price-fixing by low income categories of workers on the basis of the redistributive criterion?

⁹⁴ R. Ahdar, "Consumers Redistribution of Income and the Purpose of Competition Law", (2002) 23(7) *European Competition Law Review* 341-353.

⁹⁵ Salop (n° 5) and Lande (n° 5).

⁹⁶ J. Farrell and M.L. Katz (n° 89).

⁹⁷ See F.M. Scherer, "Antitrust, Efficiency and Progress", (1987) 62 *New York University Law Review* 998; O.E. Williamson, "Economies as an Antitrust Defence: the Welfare Trade-Offs", (1968) 58 *American Economics Review* 18.

⁹⁸ R. Bork (n° 81).

Consumer Surplus as Enforcement Standard

In light of the considerations made above, it is clear that the arguments proposed both in favour of consumer and of total welfare standards are not completely convincing for justifying one or the other as the only legitimate test. In my opinion, redistribution of wealth cannot be a concern of competition policy, but rather it should be addressed by other tools of public policy. Furthermore, the fact that a consumer surplus test is more observable administrable and politically favoured does not seem a relevant benchmark in the assessment of the optimal standard for competition policy.

On the other hand, the justifications developed by the literature in support of a total welfare standard, concerning the effects of such a test on gross domestic products and the alleged irrelevance of distinguishing producers from consumers, have attracted criticism. Firstly, it seems more reasonable to sustain that increased consumer welfare may subsequently benefit producers, than to assert (as Carlton does)⁹⁹ that increased producer welfare may then make everyone better off. Keynes's economic theories, indeed, lead to conclude that consumers benefiting from an increased welfare (comparable to a higher income) may then be stimulated in purchasing further goods and services, to the benefit also of producer surplus¹⁰⁰. It is also difficult to understand why an increase in the welfare of producers should be automatically passed to consumers, for

⁹⁹ D.W. Carlton (n° 61).

¹⁰⁰ J.M. Keynes (n° 75).

instance in the form of reinvestments enhancing dynamic efficiency and consumer choice, rather than being dissipated and used (at least partially) for producers' self-interests¹⁰¹. These observations, of course, cannot necessarily lead to sustain that consumers surplus should be valued more than producers welfare. However, the question still stands. What is the optimal standard? Is there a test under which both producers and consumers, *i.e.* the society as a whole, may benefit from antitrust policy?

What has been noted in the previous sections, on consumers' and producers' behaviours, may suggest recalling the view of those authors that distinguish between the enforcement test and the ultimate policy aim of antitrust, on the ground that the latter could not necessarily coincide with the enforcement standard to be applied by competition authorities and courts¹⁰². The policy objective, as the ultimate goal pursued by competition law, could be distinguished from the enforcement standard as the analytical framework or criteria applied to determine which behaviour is prohibited. By supporting this position, the appropriate goal of competition law should be identified in the maximization of long term societal welfare, which must be distinguished from the concept of total surplus. According to Carlton, total welfare is enhanced as long as the aggregate between consumer and producer surplus is positive. Increased societal welfare instead means that both producer and consumer

¹⁰¹ J. Farrell and M.L. Katz (n° 89) 12.

¹⁰² R. Nazzini (n° 43) 405. See also J. Farrell and M.L. Kats (n° 89) 32-33.

welfare have been raised. In order to reach the goal, courts and competition authorities could adopt long-term consumer surplus as the enforcement standard, as this may provide a workable test that guarantees a maximized long-term societal welfare. In my view, the main argument for supporting consumer surplus as enforcement standard lies on Keynes' model on the theory of consumption: the promotion of consumer welfare is likely to determine an increase in consumers' consumption, and hence lead to maximize the societal well-being. The relevance of societal welfare, as ultimate objective of competition, seems to have been recognised (perhaps indirectly) by the recent judgement of the Court of Justice in *TeliaSonera*¹⁰³.

Final Remarks

In brief, I would tend to support the view that maximization of societal welfare should be the ultimate objective of competition policy, as there appears to be no strong reason to value consumer surplus more than producer welfare, and vice versa. In order to achieve the objective, a total welfare enforcement test does not seem the optimal standard, in light of the considerations made in the previous sections. Enforcing directly a societal surplus test may then be complex, as a conduct for instance may apparently harm producers in the short-term but

¹⁰³ Case C-52/09 *Konkurrensverket v TeliaSonera AB* [2011] O.J. C 103, at 22. The Court, in particular, held that the function of competition rules "is precisely to prevent competition from being distorted to the detriment of the public interest, individual undertakings and consumers, thereby ensuring the well-being of the European Union".

have unpredictable benefits in the long-run. Competition policy should aim at maximizing societal welfare by enforcing a consumer surplus test, which bans conduct harming consumers and reducing competitive pressure on firms.

Competitive pressure, it is well known, functions as an incentive for firms to reduce prices, increase output and invest in new innovative products. Therefore, in order to appraise whether effective competitive pressure has been eliminated, it is appropriate to pay attention to the effects of the conduct under investigation on price, output and innovation. In case these elements are unaffected, then it can be presumed that firms are still subject to a healthy competitive pressure that forces them to pass to their customers any benefits resulting from harm to rivals. In case, instead, such factors are negatively affected (*i.e.* increase of price, reduction of output) as a result of the diminished competitive pressure, consumer surplus is harmed. This in turn may discourage consumers' consumption of goods and services, and consequently industrial productivity, to the detriment of the welfare of the society as a whole¹⁰⁴.

The context of standard setting, as it will be later seen in the next chapters, represents a good example to explain the importance of a *welfarist* approach in competition policy. The enforcement of a test focused on consumer surplus ensures that also standards institutes may perform optimally their functions and achieve their ultimate objectives, the enhancement of consumer welfare and

¹⁰⁴ J.M. Keynes (n° 75).

societal productivity. Under a consumer welfare enforcement test, indeed, undertakings which agree to be involved in standardization processes and subscribe the organizations' policies rules may well be prevented from behaving in a misleading way and undermining the scope of the selection procedure. Instead, the enforcement of a test merely focused on total welfare may lead to non-optimal outcomes. By applying such a test, patentees who manipulate the standard setting process in order to charge supra-competitive fees for their licenses may escape antitrust liability. Indeed, as long as patentees' gains equal or exceed consumers' losses, total welfare would not be lowered. Thus, the misleading conduct would finally pass antitrust scrutiny, to the detriment of the standardization aims in terms of enhanced societal growth and productivity.

2.3 Enhancing Efficiency

Enhancing efficiency can be considered as another desirable goal of competition law. Many antitrust agencies in the world have recognized that, in order to promote competition for the long-term welfare of consumers, it is important that resources are best allocated in a competitive market. The process of rivalry between undertakings must ensure that efficiency in the use of resources be maximized¹⁰⁵.

¹⁰⁵ See Unilateral Conduct Working Group (nº 10) 13.

Efficiency, therefore, seems to be closely related to the concept of welfare. As Heyer says, “an economy is operating at maximum efficiency when society is squeezing the greatest value -the highest level of welfare- out of its scarce resources”¹⁰⁶. In that situation, usually typical of a perfectly competitive market, undertakings strive to win new customers by producing those products that consumers value most. They try to do so by putting down costs at the lowest possible level and by reducing prices towards the marginal cost of production. In the famous words of Adam Smith, such a competitive process could be interpreted as driven by an ‘invisible hand’, without the need of any governmental intervention in the market place¹⁰⁷. In a perfectly competitive market, where neither producers nor consumers may substantially influence its structure, three types of efficiency are deemed to be maximized: allocative efficiency, productive efficiency, and dynamic efficiency.

Allocative, Productive and Dynamic Efficiency

Firstly, allocative efficiency refers to the model in which resources are allocated between different products in a way that it is not possible to make

¹⁰⁶ See K. Heyer (n° 4).

¹⁰⁷ A. Smith, *The Wealth of Nations* (Glasgow Edition, 1776). The metaphor of the “invisible hand” was used by Adam Smith in order to demonstrate that an individual maximizing his own self-interest, thus driven by greed, also maximizes the total revenue and good of the society as a whole. This observation may be reconciled with the view that promoting consumer welfare as enforcement standard can lead to maximize the societal welfare as a whole.

anyone better off without harming someone else¹⁰⁸. Economists then believe that, in a perfectly competitive structure, also productive efficiency is at its largest. Productive efficiency, in particular, refers to the model in which goods and services are produced in the least costly way¹⁰⁹. Thirdly, with reference to the last concept of efficiency, perfect competition is also deemed to maximize dynamic efficiency¹¹⁰. The latter refers to the model in which producers constantly innovate and develop new products. They are stimulated in doing so by the vigorous struggle for winning new customers¹¹¹. The famous economist Schumpeter described it as “competition from the new commodity, the new technology, the new source of supply, the new organization”¹¹².

In this context, it can be argued that there is little dynamic efficiency in a perfectly competitive market since economic profits will never be so large as to incentivise production of new technologies. Rather, only an undertaking with some market power would be stimulated in investing in expensive research and development¹¹³. In particular, the pursuit of market power -and in ultimate analysis monopoly- is what attracts firms and influences their business strategy

¹⁰⁸ See F.M. Scherer and D. Ross, *Industrial Market Structure and Economic Performance* (Houghton Mifflin, 1990).

¹⁰⁹ R. Whish (n° 2) Chapter I.

¹¹⁰ S. Bishop and M. Walker (n° 16).

¹¹¹ On the concept of dynamic efficiency, see in particular M.E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (The Free Press, 1980).

¹¹² See J. Schumpeter, *Capitalism, Socialism and Democracy* (Allan and Unwin, 1943).

¹¹³ See J. Galbraith, *American Capitalism: The Concept of Countervailing Power* (Houghton Mifflin, 1952).

in terms of investment in research and development¹¹⁴. In brief, the higher the market power (and thus the profits) of a company, the higher the incentive to enhance innovation and dynamic efficiency as a whole¹¹⁵. These considerations will be recalled in the analysis of standard setting bodies. In that context, it will be explained that, in order to encourage IPRs owners' participation, it is crucial to preserve their interests in being rewarded for investments in innovation.

Monopoly and the Pursuit of Efficiencies

The position of a firm enjoying some market power, but still subject to competitive pressure, must be distinguished from the case of a monopolist. An undertaking already enjoying monopolistic revenues, it has been held, could simply sit on monopoly profits due to the lack of rivalry and of incentives to change the *status quo*. According to Leibenstein, as the monopolist is usually immune from the forces of competition, this would finally lead to inefficiency¹¹⁶. In particular, a monopolist would be able to raise prices and reduce the production, increasing in the end the profits. The result would be allocative

¹¹⁴ On the relationship between market power and dynamic efficiency, see the *Microsoft* saga (Case T-201/04 *Microsoft v Commission* [2007] E.C.R. II-03601). Here, however, the CFI (after Lisbon, 'General Court') finally established that the alleged efficiencies achieved by Microsoft's business strategy did not outweigh the negative effects on consumer welfare.

¹¹⁵ S.M. Willinsky, "The Concepts of Competition", (1997) 18(1) *European Competition Law Review* 54-57.

¹¹⁶ H. Leibenstein, "X-Efficiency Theory", in *The New Palgrave* (Macmillan, London 1987); see also H. Leibenstein, "Allocative Efficiency vs. 'X-Efficiency'", (1966) 56 *American Economic Review* 392-415.

inefficiency as the output would be lower than it would have been in a perfectly competitive market. The company, moreover, would become 'x-inefficient', since also productive efficiency will generally be reduced, as it is unlikely that costs would be held to the lowest possible level¹¹⁷. The outcome would finally lead to the use of resources for the right product, but in a less productive way. These considerations explain why monopoly has for long been considered harmful for consumers, while a perfectly competitive system has been deemed to maximize the societal welfare¹¹⁸.

It is noteworthy, however, that nowadays the U.S. and (to a minor extent) the EU jurisprudence have developed a more nuanced approach towards monopoly, recognizing that monopolies may present dynamic advantages to the benefit of the society. The *Verizon* case clearly explains why monopoly may be desirable¹¹⁹. As Schumpeter realised, "within big units (conscious) policy towards demand and taking a long-term view towards investment becomes possible"¹²⁰. One may argue that the *raison d'être* of competition is the struggle for market leadership, and thus a (super) dominant position that may lead to potential benefits should be carefully appraised rather than automatically prohibited. Such intervention could be better justified, for instance, by the

¹¹⁷ R. Frantz, "X-Efficiency: Past, Present and Future" in K. Weiermair and M. Perlman, *Studies in Economic Rationality* (University of Michigan, Ann Arbor 1990); see also G. Stigler, "The Xistence of X-Efficiency", (1976) 66 *American Economic Review* 213-216.

¹¹⁸ On the negative effects of monopoly, see also R. Lande (n° 5) 65.

¹¹⁹ *Verizon Communications v Trinko*, 540 U.S. 398 (2004).

¹²⁰ J. Schumpeter (n° 112).

presence in the market of different high entry barriers that would facilitate anticompetitive conduct.

For the sake of clarity, no one contests that monopoly *per se* is not unlawful and that competition law should rather sanction abuses of monopolistic power. However, it appears more complex to support the view that monopoly may substantially increase efficiency, to the final benefit of the societal well-being.

Rather, it seems more reasonable to state that monopoly, due to the total absence of competitive pressure, would seldom enhance efficiency. At the same time, it seems equally legitimate to doubt that such an aim could be achieved in a perfectly competitive market. In the situation of perfect competition, it is well known, no firms enjoy considerable market shares. More importantly, as Porter observes, perfectly competitive markets can be regarded as utopian, due to the many distortions that generally characterize all markets in the current economy and that prevent high levels of efficiency being reached¹²¹. Investments require some profits. Hence, some market power is needed in order to incentivise a company (still subject to competitive pressure) in investing in research and development to the benefit of efficiencies¹²².

¹²¹ M.E. Porter (n° 111).

¹²² S.M. Willimsky (n° 115) 54-57; J. Galbraith (n° 113).

Efficiency and the Objective of Competition Law

Apart from discussing the effects of monopoly on efficiency, the main question to be addressed concerns the role of efficiency as a goal or as a means¹²³. The analysis developed in the previous sections has evidenced the need to identify a primary objective of competition policy, as the goals of welfare, efficiency or competitive process may not always be pursued or reconciled at the same time. The arguments presented above have already shown that the optimal primary aim of competition should be societal welfare, best achieved by authorities and courts through the enforcement of a consumer surplus test. An efficiency primary objective, instead, would lead competition enforcers to focus their analysis only on whether firms are producing goods that are most valued by consumers, whether they are doing this at the lowest possible cost of production, and whether firms are reinvesting their profits in innovation¹²⁴. This complex analysis would consequently focus less on the impact of firms' conduct in the marketplace. In particular, such an approach, exclusively focused on allocative productive and dynamic efficiency, would pay insufficient attention to the level of price finally charged to the final consumer. For this reason, it is preferable to enforce a test that would pay more attention to the effects of conduct on consumer surplus, focused on potential increases and reductions of price and output. By enforcing a consumer surplus test aiming at

¹²³ O. Odudu, *The Boundaries of EU Competition Law: the Scope of Article 81* (Oxford University Press, 2006).

¹²⁴ See for instance O.E. Williamson (n° 97).

the maximization of societal welfare, also efficiency could be achieved as an indirect objective¹²⁵. Increased consumer welfare, indeed, may have a positive effect on the demand and consumption of goods and services, enhancing also efficient mechanisms of production.

Such a virtuous mechanism may also be reflected in the functioning of standards institutes. For instance, a standard setting process which ultimately leads to the adoption of a technology licensed at competitive levels will probably lead to final products purchased at not excessive prices, to the benefit of consumers. The latter may then be more motivated in reinvesting their savings in the purchase of further goods and services, determining an increase of productivity and the enhancement of an efficient organization of production.

In conclusion, I believe that efficiency, rather than being reflected in the immediate legal test adopted by competition enforcers, should be interpreted as an indirect, despite socially desirable, goal to be better achieved through the pursuit of the distinct objective of societal welfare.

2.4 Pursuing Market Integration

The promotion of market integration is what makes the European competition law system unique¹²⁶. Its role is particularly important as the effects

¹²⁵ R. Nazzini (n° 43) 391-392.

¹²⁶ L. Parret (n° 20) 346.

of the abolition of trade barriers in the EU can be compromised by firms implementing anticompetitive conduct¹²⁷. Ehlermann rightly noted that the EC Treaty was designed to eliminate all national barriers and to create a Community market characterized by conditions similar to those present at national level¹²⁸.

In order to achieve such a goal, the EC Treaty included provisions on the free movement of goods and services, ensuring the latter could freely flow from a Member State to another, from a low price area to a high-price area, thus making it impossible for higher prices to be maintained. However, this effect might be limited, for instance, by undertakings entering into agreements that forbid retailers to sell outside a defined territory. Therefore, the competition provisions –in particular Article 101 TFEU- may be considered as supporting those rules in preventing barriers being re-erected by private agreements¹²⁹. The recently amended Article 3(1)(b) TFEU confirmed that competition rules are paramount in the achievement of the Treaty's market integration goal. This objective, *inter alia*, has for long been viewed as the most relevant goal of EU competition policy¹³⁰.

¹²⁷ V. Korah (n° 7) 85.

¹²⁸ C.D. Ehlermann, "The Contribution of EC Competition Policy to the Single Market", (1992) 29 *Common Market Law Review* 257.

¹²⁹ See C. Bellamy and G. Child (n° 4) 42.

¹³⁰ See S. Wilks and L. McGowan, "Competition Policy in the European Union: Creating a Federal Agency?", in B. Doern and S. Wilks, *Comparative Competition Policy: National Institutions in a Global Market* (Clarendon Press, Oxford 1996).

The Positions of the EU Commission and Courts

In the debate on the role of market integration, it is worth mentioning the position expressed by the European Commission. In the early days of competition policy, the authority used to pay relevant attention to integration issues. In the last decade, instead, the Commission has emphasized the need to give more importance to consumer welfare, and to consider at the same time the protection of competition and market integration as means to enhance consumer surplus and allocative efficiency¹³¹. However, the jurisprudence of the European Union courts still demonstrates that market integration is not simply a means, as it has not lost its crucial value in the scale of the objectives of the EU. The importance of protecting the market has been highlighted by the Court of Justice in the recent judgements *Syfait II* and *GlaxoSmithKline*¹³².

The Relation between Welfare and Market Integration

It cannot be denied that a close connection exists between integration and the welfare objective, since the protection of the market -by condemning for instance international cartels aimed at territorial allocations- usually have

¹³¹ European Commission, "Guidelines on the Application of Article 81(3) of the Treaty" [2004] O.J. C101/97, at 13; European Commission, "DG Competition Discussion Paper on the Application of Article 82 of the Treaty to Exclusionary Abuses" (2005), at 4.

¹³² Case C-501/06 P *GlaxoSmithKline v European Commission* [2010] 4 C.M.L.R. 2; Cases C-468/06 to C-478/06 *Sot. Lelos Kai Sia EE and Others v GlaxoSmithKline AEUE Farmakeftikon Proionton (Syfait II)* [2008] E.C.R. I-07139, at 4 and 6. See also Case C-295/04 *Vincenzo Manfredi v Lloyd Adriatico Assicurazioni SpA* [2006] E.C.R. I-6619, at 41.

relevant beneficial effects on consumer surplus¹³³. A debate could arise on whether market integration should be interpreted as an intermediary goal, necessary to achieve the *welfarist* aim, or as an ultimate objective itself. The recently ratified Treaty on the European Union reaffirmed the importance of sustainable development of the internal market among the aims of the EU, but has not specified the nature of the connection between welfare and integration¹³⁴.

A different question is on whether these two objectives may always be reconciled and whether they may both be reflected in the enforcement legal test. The need to reconcile market integration with the currently more prominent aim of protecting consumers is indeed one of the challenges of EU competition law¹³⁵. First, as already noted, the prohibition of international cartels is undoubtedly beneficial from a *welfarist* perspective. Consumers are indeed penalised by those agreements between suppliers aimed at restricting or eliminating competition. Similarly, beneficial effects for consumers may also derive from the prohibition of vertical restraints, especially those restricting parallel trade across the EU¹³⁶. As Motta argues, however, concerns may arise in the context of other practices, as in the case of *ad hoc* price discrimination across

¹³³ Case T-202/98 *Tate & Lyle v Commission* [2001] E.C.R. II-2035; Case T-213/00 *CMA CGM v Commission* [2003] E.C.R. II-913.

¹³⁴ Article 3(3), Treaty on the European Union (TEU), O.J. 2010 C 83/13.

¹³⁵ See, for instance, Case C-501/06 P *GlaxoSmithKline v European Commission* [2010] 4 C.M.L.R. 2.

¹³⁶ See Joined Cases 56/64 and 58/64 *Consten & Grundig v European Commission* [1966] E.C.R. 418.

national borders¹³⁷. The author refers to this practice to evidence the potential tension between the political objective of integration and the economic goal of welfare. Prohibiting price discrimination, the argument goes, would not be rational under a *welfarist* perspective. Along the same lines, Bishop and Walker seem to confirm the existence of a possible conflict between integration and economic welfare¹³⁸. These views suggest that it may be difficult to reconcile these goals under all circumstances, and that the evaluation of trade-offs may sometimes be necessary.

On the same grounds, it is reasonable to believe that an enforcement legal standard focused on both welfare and market integration may be difficult to apply. Even enforcing a test exclusively focused on market integration does not seem desirable. On the one hand, this test may successfully lead to challenge anticompetitive practices in EU-wide standard setting contexts, which usually play an important role in market integration dynamics. On the other, however, the application of such a test would make competition policy a useless tool in several other circumstances which negatively affect only consumer welfare. This may happen, for instance, in case of national standard setting institutes developing technical specifications only valid and applicable in local contexts. The choice of a test exclusively based on market integration may leave certain practices (harmful for consumers) out of the scope of competition enforcement.

¹³⁷ M. Motta (n° 17) 23.

¹³⁸ S. Bishop and M. Walker (n° 16).

Market Integration and the Role of Competition

Finally, it is worth remembering that the various amendments of the treaties have also opened a debate on the exact role of competition policy, which seems to have been reconsidered after the Lisbon conference. The function of competition has been subjected to the achievement of the market integration goal. The question, thus, relates to how the EU courts will consider such a policy change (supposing that it should be appraised as a policy change) and whether they will continue referring to competition as a fundamental tool of the Union¹³⁹.

In my opinion, despite the new language of the Treaty, these amendments do not justify a substantial shift in the role of competition policy and in the hierarchy of the objectives. Competition policy, as already held, was and still is a means to achieve the aims of the European Union, *i.e.* societal welfare and market integration. With reference to the former, the amended Treaty on the EU has confirmed the importance of pursuing balance economic growth, price stability, scientific and technological developments, and a highly competitive social market economy. This suggests that societal welfare continues to be highly considered as a priority of the Union¹⁴⁰. At the same time, however, reference to stability and balance economic growth also suggests that these elements cannot be appraised as unrelated to the market integration issue.

¹³⁹ See Case C-52/09 *Konkurrensverket v TeliaSonera AB* [2011] O.J. C 103, at 21. Here, the Court clearly highlighted the role that competition rules play for the functioning of the internal market.

¹⁴⁰ Article 3(3) of the Treaty on the European Union (TEU), O.J. 2010 C 83/13.

The debate is open, of course, on the exact nature of the relation between market integration and the welfare objective. In any case, it is undoubted that enforcing (as I suggest) a consumer surplus test, aimed at enhancing societal welfare, may have beneficial effects also for trade development and markets stabilization.

2.5 Other Goals of Competition Law

The multiple objectives approach to competition law and policy is common to many competition regimes around the world. Besides welfare, efficiency and integration, other goals have been identified¹⁴¹. Among these, ensure economic freedom fairness and equality, ensure a level playing field for small and medium sized enterprises (SMEs), and promote competitiveness.

Freedom Fairness and Equality

First, a mentioned aim relates to the concept of freedom fairness and equality in the marketplace. In this sense, it has been stated that equality of opportunities should be preserved for all commercial entities active in the market, ensuring their fair participation in national businesses¹⁴². The economic freedom principle, then, means that monopolies created on the basis of

¹⁴¹ M. Motta (n° 17); J. Faull and A. Nikpay (n° 4); V. Korah (n° 4) 12-13; R. Whish (n° 2) Chapter I; C. Bellamy and G. Child (n° 4) §§ 1.074-1-077.

¹⁴² M. Furse (n° 8) 250-258.

competition on the merits should not be prohibited¹⁴³. At the same time, it means protection for all the other firms, therefore restriction of the economic freedom of one company when this contrasts with the economic freedom of a second firm. The European courts, in this context, have indirectly recognised the importance of safeguarding economic freedom when appraising, for instance, the application of Article 102 TFEU to refusal to deal issues¹⁴⁴.

The concept of fairness, it has been held, is not a thing of the past¹⁴⁵. It should still be a concern for policymakers¹⁴⁶. Fairness has been cited in the Preamble of the EC Treaty, where it was stated that "the removal of existing obstacles calls for concerted action in order to guarantee steady expansion, balanced trade and fair competition"¹⁴⁷. A fair business conduct, furthermore, seems to be directly linked to the concept of special responsibility to which dominant undertakings are subjected in the European Union¹⁴⁸. "[A] dominant undertaking", as held in *Atlantic Container Line*, "may be prohibited from conduct which is legitimate where it is carried out by non-dominant

¹⁴³ About the concept of competition on the merits, see OECD Policy Brief, "What is Competition on the Merits", and OECD, "Competition on the Merits", Best Practices Roundtable (2005), available at www.oecd.org.

¹⁴⁴ Case T-41/96 *Bayer v Commission* [2000] E.C.R. II-3383 (with reference to Case 27/76 *United Brands v European Commission* [1978] E.C.R. 207).

¹⁴⁵ L. Parret (n° 20) 354.

¹⁴⁶ J. Galloway (n° 15) 180-181.

¹⁴⁷ Preamble of the Treaty of Rome, establishing the European Community, (1958).

¹⁴⁸ Case 322/81 *Michelin v European Commission (Michelin I)* [1983] E.C.R. 3461, at 57; *AKZO Chemie BV* [1991] E.C.R. I-3359, at 70; Case T-30/89 *Hilti v European Commission* [1992] E.C.R. 1439, at 99-101; Case C-333/94P *Tetra Pak v European Commission* [1996] E.C.R. I-5951, at 24.

undertakings”¹⁴⁹. Dominant firms, in other words, are expected to refrain from business conduct which could jeopardise the structure of the marketplace¹⁵⁰. *Hoffmann La Roche* has confirmed that existing competition in the market may not be hindered too much by the firm in a dominant position¹⁵¹.

However, the European concept of fairness as guarantee of equal business opportunities, which may require dissimilar application of rules, seems to have a different meaning in the U.S. case law. Here, the U.S. antitrust authorities do not pay much attention to the concept of fair competition between undertakings as intended in the EU¹⁵². Rather, they mainly focus on aggressive competition without distinguishing between firms¹⁵³. In particular, they do not fear rivalry being altered in the marketplace, and the concept of fair competition as intended by the European jurisprudence –*i.e.* equal business opportunities- is not even deemed relevant. *Copperweld* clarified that “subjecting a single firm's every action to judicial scrutiny for reasonableness would threaten to discourage the competitive enthusiasm that the antitrust laws seek to promote”¹⁵⁴. From these

¹⁴⁹ Case T-191/98 *Atlantic Container Line AB v European Commission* [2003] E.C.R. II-3275, at 1460.

¹⁵⁰ D. De Smet, “The Diametrically Opposed Principles of US and EU Antitrust Policy”, (2008) 29(6) *European Competition Law Review* 356-362.

¹⁵¹ Case 85/76 *Hoffmann La Roche & Co AG v European Commission* [1979] E.C.R. 461, at 91.

¹⁵² On the principle of fairness in the EU, see the European Commission’s “Ninth Report on Competition Policy” (1980), 9-11.

¹⁵³ *Ball Memorial Hospital v Mutual Hospital*, 784 F.2d 1325 (C. App. 7th Circuit, 1986), at 1338.

¹⁵⁴ *Copperweld* 467 U.S. 752 (1984), at 775.

observations, it follows that fairness in the U.S. is interpreted more correctly as equal application of the rules, regardless of any distinction between firms.

The concept of fairness will be further examined in the analysis of standard setting bodies, whose policy rules usually encourage members to implement fair business conduct¹⁵⁵. Fairness will also be scrutinised with respect to the U.S. jurisprudence on standard setting, as different cases have been decided under section 5 of the FTC Act, which explicitly prohibits unfair acts or practices¹⁵⁶. Also the concept of equality may find direct application in the standard setting environment, in view of the European Commission's recommendation that firms should have equal opportunities to access standardization processes¹⁵⁷.

Protecting Small and Medium Sized Enterprises

The goal of fairness and equity, at least as intended by the European competition authorities, seems to be closely linked to the aim of supporting small and medium sized enterprises (SMEs), ensuring the latter may have an equitable opportunity to compete in the market¹⁵⁸. This means that, through the

¹⁵⁵ Members, for instance, are encouraged to license relevant IPRs under a fair reasonable and non-discriminatory (FRAND) regime.

¹⁵⁶ 15 U.S.C. § 45.

¹⁵⁷ European Commission, "Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements", [2011] O.J. C 11/1.

¹⁵⁸ See the European Commission's "Recommendation Concerning the Definition of Micro Small and Medium Sized Enterprises", adopted on 6 May 2003.

promotion of competition, SMEs should be protected from larger competitors implementing anticompetitive conduct¹⁵⁹. The special attention towards small and medium sized enterprises had been explicitly formulated by the European Union jurisprudence in *Akzo*¹⁶⁰.

The U.S. antitrust authorities in the past shared this position¹⁶¹. However, protection of small and medium sized enterprises is no longer a relevant objective in the United States. In *Brooke Group*, the U.S. Supreme Court, in appraising the fact that a smaller competitor was suffering from aggressive behaviour by a larger firm, pointed out that “painful losses on the smaller competitor's target is of no moment to the antitrust laws if competition is not injured”¹⁶². In *Brown Shoe*, then, the U.S. Supreme Court upheld the view that antitrust laws were enacted for the protection of competition, not competitors¹⁶³. Larger corporations are hence allowed to eliminate smaller rivals.

This difference in antitrust policy can be explained by the fact that U.S. competition authorities and courts have no legal obligation to protect smaller enterprises. Their EU counterparts, instead, have been encouraged in some occasions to guarantee fairness in the marketplace through the protection

¹⁵⁹ Unilateral Conduct Working Group (n° 10) 17.

¹⁶⁰ *AKZO Chemie BV* [1991], E.C.R. I-3359, at 72.

¹⁶¹ *United States v Aluminum Co. of America* 148 F.2d 416 (C. App. 2nd Circuit, 1945), at 427.

¹⁶² *Brooke Group v Brown & Williamson Tobacco* 509 U.S. 209 (1993), at 224.

¹⁶³ *Brown Shoe v United States* 370 U.S. 294 (1962), at 320.

of small and medium sized enterprises¹⁶⁴. However, it is doubtful whether protection of SMEs is a goal of the Union¹⁶⁵. Apart from the *Akzo* case, neither the amended Lisbon Treaty nor the relevant jurisprudence of the Court of Justice and General Court has ever mentioned the need to protect small and medium sized enterprises as a core aim. Rather, it has been generally recognised that antitrust should be for the protection of competition and not competitors¹⁶⁶.

Small and medium sized firms, it can be concluded, must not be protected from the normal market forces, which means from healthy competition on the merits. Rather, they should not be eliminated as efficient market operators by the abusive behaviour of the dominant firm. This is an indirect consequence, perhaps, of the protection of a competitive process. The position has been confirmed also by a recent decision of a UK court, which in *Burgess* shed further light on the issue¹⁶⁷.

¹⁶⁴ European Commission's "Ninth Report on Competition Policy" (1980), 9-11; see also the European Commission's "XXXIII Annual Report on Competition Policy" (2003), 96.

¹⁶⁵ On the debate, see L. Parret (n° 20) 353. The author considers protection of SMEs as an objective, and mentions, in support of her view, the European Commission's "Notice on Agreements of Minor Importance which do not Appreciably Restrict Competition under Article 81(1) of the Treaty Establishing the European Community", [2001] O.J. C 149, 18.

¹⁶⁶ See European Commission, "DG Competition Discussion Paper on the Application of Article 82 to Exclusionary Abuses" (December 2005), at 54; EAGCP Report on "An Economic Approach to Article 82" (July 2005), at 2, 7 *et seq*; European Commission's "Guidelines on the Application of Article 81(3) of the Treaty" [2004] O.J. C101/97, at 33.

¹⁶⁷ *Burgess v OFT*, [2005] C.A.T. 25.

Promotion of Competitiveness

Finally, the promotion of competitiveness in international markets should be included among the possible objectives of competition law. The promotion of vigorous competition in a national market might be viewed as a means to increase opportunities for firms to participate in world markets, thus exporting success and competitiveness. On the contrary, if domestic competition is weak, a country may pay a double price: not only will firms become less productive due to the lack of competitive pressure, but the business environment for all local firms will become less productive. In other words, unless a firm is forced to strive in the marketplace due to domestic competition, it is improbable that it may gain competitiveness abroad. “Local competition”, Porter held, “matters for productivity and productivity growth, even in industries whose geographic scope is global”¹⁶⁸. In the EU, the Commission has highlighted the link between competitiveness and the productivity of an economy in a globalized world. Competitiveness, in particular, has been interpreted as an effective means to raise the standard of living and creating jobs¹⁶⁹.

These principles may well find application also in standard setting, where the enforcement of the optimal antitrust test (one based on consumer surplus) may ensure *ex post* that standardization boosts the industry competitiveness.

¹⁶⁸ M.E. Porter (n° 63) 931-932.

¹⁶⁹ European Commission, “A Proactive Competition Policy for a Competitive Europe”, (Communication) COM 293 final, 20 April 2004.

3. Conclusion

EU competition and U.S. antitrust laws have always had and still have various goals. A compromise approach may mean that all the different cited objectives should be reconciled as much as possible. However, this may prove to be a very difficult task for competition authorities. In enforcing the law, it would be often necessary to trade-off between different conflicting objectives, and this could require complex and time-consuming analysis. In the United States, there is strong consensus for a consumer welfare standard as the optimal test in antitrust policy. In the European Union, also the Commission has referred - especially in the last decade- to consumer welfare as the primary objective of competition law. However, recent judgements of the Court of Justice (e.g., *TeliaSonera*)¹⁷⁰ and the new amendments of the Treaty of Lisbon have not confirmed this view. Which goals should competition policy pursue?

The considerations made in the previous sections lead me to conclude that the main driver of competition and antitrust policies should be the maximization of societal welfare, through the enforcement of a consumer surplus test; a standard focused on price, output and innovation. By applying such a test, the welfare of the whole society could be maximized. Societal welfare should hence be distinguished from the concept of total welfare adopted by the literature. The achievement of societal surplus indeed implies that both consumers and producers may benefit in the long run.

¹⁷⁰ Case C-52/09 *Konkurrensverket v TeliaSonera AB* [2011] O.J. C 103, at 22.

As it will be better explained in the next chapters, the pursue of consumer and –more generally- societal welfare is central in the functioning of standards institutes, whose main aim is to develop standards by means of a collaborative process involving IPR owners. Standards are crucial in today's knowledge based economy, as they facilitate the dissemination of knowledge, ensure the interoperability of products, and hence make consumers' life easier. Antitrust policies focused on enforcing a consumer welfare test may work as effective *ex post* remedies to abusive behaviours in SSOs, and may guarantee the optimal functioning of standard setting and the achievement of societal surplus.

The enforcement of a consumer welfare standard may further lead to achieve efficiency, which should be better considered as an indirect, despite desirable, objective of competition rules. Antitrust laws, on a further ground, should not pursue the protection of the competitive process *per se*, as an institution, despite the content of some recent judgements. The protection of competition as a goal may lead in some circumstances to the protection of competitors, and finally to a loss of welfare. Rather, competition policy should be better considered as a means to achieve the primary objective.

Other goals of competition have then been cited. Among these, market integration has been recognised as a crucial objective by the amended

Lisbon Treaty, in the “multi-valued tradition of European competition law”¹⁷¹. In this context, competition policy has been clearly subjected to the achievement of the integration goal. However, the new provisions cannot justify the enforcement of a legal test focused on both consumers and market integration. By enforcing such a standard, conflicts could arise and trade-offs would often be necessary, as it is not always possible to reconcile both objectives. Despite the emphasis on integration as one of the Union core aims, therefore, a legal test solely focused on consumer welfare seems preferable. The application of this standard would not necessarily lead to disregard the integration issue. The test, indeed, could also be effective in contrasting those practices that hinder market integration and harm consumers at the same time (e.g., international cartels between producers or vertical restraints between suppliers and distributors).

Finally, among the aims of competition, the literature has also mentioned the concepts of competitiveness, and the promotion of fairness and equality in the marketplace. Again, these goals should be better considered as indirect desirable effects of a *welfarist* competition policy, rather than aims to be directly reflected in the enforcement legal test.

¹⁷¹ R. Van den Berghe and P. Camesasca, *European Competition Law and Economics: a Comparative Perspective* (2nd edn., Sweet & Maxwell, London 2006) 39.

Chapter II “Goals of IP Law and Interplay with Competition”

1. Introduction

It has been often held that competition and intellectual property rights (IPRs) are tools in conflict between themselves. From an *ex ante* point of view, before an investment is made, IPRs promote competition and rivalry as firms are incentivised to strive in order to get the benefits of IP protection. From an *ex post* perspective, instead, intellectual property laws are deemed to limit competition, as firms owning IPRs may legitimately exclude rivals from the marketplace. The overlap between these branches of law, therefore, is not completely unexpected. A balance between property rights and competition has been partially achieved by granting an IPR only for a limited amount of time.

However, although a superficial tension exists between the exclusivity awarded by intellectual property and the price-reducing competition pursued by antitrust rules, competition and IPR policies are harmonious in purpose. This means that they promote consistent goals and are complementary rather than discordant. Both bodies of law, indeed, strive to promote consumer welfare and efficiencies, and work together to bring innovation in the marketplace.

The interaction between IP and competition rules has been at the core of several investigations led by the European Commission and the EU Courts.

The latter have explored the dynamics of such relation in various disputes, which have highlighted that the mere existence of an exclusive right cannot constitute an abuse, but the way in which such right is exercised may lead to liability. Also in the United States, courts and authorities have dealt with the issue, and have similarly contributed in several circumstances to the heated debate. On a parallel ground, in the last decades, there has been a substantial amount of EU and international initiatives to promote harmonization of IP law systems. This notwithstanding, it is difficult to find in the law or in the jurisprudence of the EU and, similarly, of the U.S. specific and generally accepted principles that clarify the nature of such interaction.

The main aim of the chapter, therefore, is twofold: on the one hand, to identify the objectives of IPRs and compare them to the ones pursued by antitrust; on the other, to explore the grounds on which the complementary nature of competition and IP laws may be justified. The discussion on the legal principles emerging from the case law will be used as a platform in order to achieve both goals.

The conclusions of the chapter are particularly relevant, as they will inspire research on standard setting functioning in the core part of the work. Here, the intersection between IPRs (in particular, patents) and competition will be scrutinised with a focus on the EU and U.S. standardization contexts.

2. Intellectual Property Rights (IPRs)

An intellectual property right (IPR) is a negative right granted for the protection of intangible things, such as ideas, signs and information¹. It can be interpreted as a right to stop others doing certain things, “rights in other words to stop pirates, counterfeiters, imitators and even in some cases third parties who have independently reached the same ideas, from exploiting them without the license of the right-owner”². The shift from industrial to knowledge societies, increasingly based on the exchange of information, has strengthened the relevance of IPRs due to their key role in promoting innovation and creativity.

Three main categories of IPRs may be identified, with different rules and different aims: patents, copyrights and trademarks. Patents are granted up to 20 years for inventions and technological improvements which satisfy certain criteria, based on novelty, inventive step and industrial applicability³. Copyright covers original literary and artistic works, for the author's life plus (depending on the jurisdiction) a period of time between 50 and 70 years⁴.

¹ H.K.S. Schmidt, “Article 82'2 'exceptional circumstances' that restrict intellectual property rights”, (2002) 23(5) *European Competition Law Review* 210.

² W.R. Cornish, *Intellectual Property* (3rd ed., Sweet & Maxwell, London 1996) 5-6.

³ See L. Bently and B. Sherman, *Intellectual Property Law* (3rd ed., Oxford University Press, Oxford 2009); D. Bainbridge, *Intellectual Property* (8th ed., Longman, Harlow 2010); A.L. Durham, *Patent Law Essentials – A Concise Guide* (3rd ed., Praeger Publishers, Westport 2009); and J.H. Park, *Patents and Industry Standards* (Edward Elgar, Cheltenham 2010).

⁴ See W.R. Cornish and D. Llewelyn, *Intellectual Property: Patents, Copyrights, Trademarks and Allied Rights* (6th ed., Sweet & Maxwell, London 2007); and H. Laddie, P. Prescott, M. Vitoria, *The Modern Law of Copyright and Designs* (2nd ed., Butterworths, London 1995).

Trademarks protect symbols or signs as long as these are used by businesses, in order to allow consumers to distinguish different brands from each other⁵.

It is beyond the scope of this study to explore thoroughly the doctrinal and normative issues related to each of these three categories of IPRs. Rather, it seems more pertinent to the research project briefly to discuss their scope and justifications, and understanding whether their objectives may be reconciled with the goals of antitrust. In the next chapters, a more prominent role will be given to patents and the dynamics relating to their exploitation; this is due to the crucial function patents play in influencing and directing standardization activities.

2.1 Justification and Scope of IPRs

One of the central questions relates to the underlying *raison d'être* and purpose of IP rights. Two main justification theories deserve careful attention. The first one highlights the role of IPRs in encouraging firms to invest in innovation. It is based on the fact that, without a reasonable protection of the inventor against the possible exploitation of rivals, "there will accordingly be little incentive to invest in the ideas or information and the consumer may be

⁵ See P. Torremans and J. Holyoak, *Holyoak and Torremans Intellectual Property Law* (4th ed., Butterworths, London 2005); and J. Phillips, *Trademark Law – A Practical Anatomy* (Oxford University Press, Oxford 2003).

correspondingly the poorer”⁶. This would explain the IPRs’ monopolistic nature. The second is based on the need to reward innovators for the efforts put into the invention. From a historical perspective, this view emanates from the philosopher John Locke’s famous arguments about the origins of property and how “intellectual property is seen as a suitable reward for intellectual labour”⁷. It should not be necessary a deeper examination of these concepts in order to understand that the aforementioned theories are inextricably intertwined, and ultimately lead to identify the desirable function of IPRs for the society.

On the other side of the spectrum, various objections have been raised against IPRs justifications. Firstly, it has been questioned whether other not-exclusionary systems, with fewer social and economic costs, exist as incentives to innovate⁸. From this perspective, the monopolistic character of IPRs has been seen as a serious threat for the societal welfare. Secondly, it has been said that several works of art may still be created even in the absence of IPRs, as these are not always necessary for some products to appear in the marketplace⁹. The criticisms, however, do not seem persuasive. It is true that some works may still be produced in the absence of IPRs, and that other means to encourage innovation may exist (e.g., tax incentives). However, these views cannot be

⁶ See W.R. Cornish and D. Llewellyn (n° 4) 41.

⁷ C. May, *A Global Political Economy of Intellectual Property Rights: The New Enclosures?* (Routledge, New York 2000) 7.

⁸ On the argument, see B. Gurel, “An External Method for Establishing the Balance in Intellectual Property Rights’ Scope: Article 102 of the TFEU”, (2010) 3 *Global Antitrust Review* 53.

⁹ L. Bently and B. Sherman (n° 3) 38.

generalised. IPRs legal protection has a strong impact on the willingness to engage in time consuming and costly research activities, which would not otherwise be undertaken¹⁰.

The debate on IPRs justifications, then, inevitably recalls the discussion on the scope of intellectual property and on the need to set its boundaries. In this context, there is a very fragile relation between the interests of the creator and those of the society¹¹. On the one hand, the innovator must be incentivised to invest in the production of IP works by providing effective legal protection. On the other, it must be ensured that these products find their way into the public domain. Put differently, it is essential to guarantee that the public is ultimately able to access the fruit of human creativity. If this does not happen, the society would not be able to benefit from the innovative nature of the works of art. In order to reach a reasonable balance between public and private interests, restrictions on IPRs duration have been set. This internal mechanism has contributed to define the boundaries of their scope¹². However, as it will be seen, also other factors may play an influence¹³.

¹⁰ H. MacQueen, C. Waelde and G. Laurie, *Contemporary Intellectual Property: Law and Policy* (Oxford University Press, 2007).

¹¹ B. Gurel (n° 8) 54.

¹² C. May (n° 7) 7-8.

¹³ See V. Korah, "The Interface between Intellectual Property and Antitrust: the European Experience", (2002) 69 *Antitrust Law Journal* 801; and D.A. Balto and A.M. Wolman, "Intellectual Property and Antitrust: General Principles", (2003) 43 *IDEA: the Journal of Law and Technology* 395.

2.2 Objectives of IPRs

Once discussed the scope and justifications of IPRs, it is crucial to make a step further and explore their aims from a broader standpoint. From this perspective, it is legitimate to question how IPRs may affect consumer and societal welfare, as well as dynamic efficiency and competitive processes. Further questions may arise also with respect to the relation between property rights and market integration goals. All these objectives have been ascribed by the literature to competition policy, albeit to different extents¹⁴.

2.2.1 Promotion of Competition

Firstly, an initial assessment of the goals of IPRs leads to evaluate the effects they have on the promotion of competition. In this regard, the literature has developed a traditional approach, interpreted as something more than a mere philosophical exercise¹⁵. From an *ex ante* perspective (before an investment is made), IPRs encourage competition as firms are incentivized to strive in the market and get the benefits of IP legal protection. From an *ex post* standpoint (after the grant of the right), instead, IPRs reveal their exclusionary nature as they allow IPRs holders to exclude legitimately competitors from certain business. The kind of influence on competition dynamics therefore is ambiguous, and cannot be generalised under one or the other perspective.

¹⁴ See above, Chapter I.

¹⁵ On the issue, see for instance M. Lemley, "Ex Ante versus Ex Post Justifications for Intellectual Property", (2004) Boalt Working Papers in Public Law - Boalt Hall UC Berkeley.

However, the promotion of competition *per se* should not be considered as a desirable goal. Rather, as held in Chapter I, rivalry should be interpreted as a means to achieve more relevant social aims¹⁶. The *ex ante - ex post* perspectives, thus, do not seem to shed substantial light on the true objectives of IP rights.

2.2.2 Dynamic Efficiency

Among the goals which may be potentially ascribed to IPRs, dynamic efficiency certainly plays a more significant role. IP law systems indeed may be interpreted as the strongest “tools available to stimulate and channel innovation”¹⁷. Driven by the aim of getting the benefits of IP protection, undertakings give rise to the innovation cycle, characterized by three steps: the creation of the innovative work; the subsequent adoption and diffusion of the invention in the society; and the ultimate phase in which the work becomes part of the public domain, after the expiry of legal protection¹⁸. This dynamic cycle, which flows from exclusivity to accessibility, finally brings a “great ocean of knowledge in the accessible domain”¹⁹. The aforementioned balance between private and public interests is thus reflected in the described three steps²⁰.

¹⁶ See Chapter I section 2.1.

¹⁷ M.A. Gollin, *Driving Innovation: Intellectual Property Strategies for a Dynamic World* (Cambridge University Press, Cambridge 2008) 12.

¹⁸ B. Gurel (n° 8) 55.

¹⁹ M.A. Gollin (n° 17) 19.

²⁰ See also J.H. Barton, “The Balance between Intellectual Property Rights and Competition: Paradigms in the Information Sector”, (1997) 18 *European Competition Law Review* 443.

These considerations seem to suggest that the pursuit of dynamic efficiency (*i.e.* the development of new innovative products) through the grant of IPRs should not be appraised as an objective in itself. Rather, it should be interpreted as closely related to a more relevant goal, centred on the concept of welfare.

2.2.3 Consumer and Societal Welfare

Consumer and societal welfare are concepts intrinsically intertwined. The enhancement of the former inevitably has a positive impact on the latter. This conclusion has been thoroughly justified in Chapter I, in the examination of the goals of competition²¹. Keynes's economic model has been used as a platform to validate this assertion²². In brief, the bedrock of the theory lies on the likely reaction consumers would have in case of increases of their welfare. It has been explained that consumers would be incentivized to spend a higher surplus in the purchase of further products. This mechanism would benefit also producers, finally leading to the enhancement of the societal welfare.

Given this premise, the key question is whether and to which extent these goals may be ascribed to IPRs. The relation between competition and IP laws, indeed, ultimately depends on their core objectives and on the possibility to reconcile them. One traditional opinion has been that such relation raises an irreversible conflict, due to the opposite approaches competition and IP laws

²¹ Chapter I section 2.2.1.

²² J.M. Keynes, *The General Theory of Employment, Interest and Money* (Macmillan, London 1936).

have towards exclusivity. This position, however, cannot be endorsed. It should not be forgotten that “all the systems of intellectual property rights are based on the premise that a restraint of competition is necessary to increase ultimately competition in the public interest”²³. The public interest must be identified in the welfare of consumers. In other words, the exclusivity initially granted by IPRs must be interpreted as a tool to encourage further competition, to the benefit of successful innovation and consumer surplus. Therefore, even if there appears to be a *prima facie* tension, no irremediable conflict exists²⁴. Rather, these two legal systems are harmonious in purpose, and should be “reconciled by emphasising their common goal of promoting overall consumer welfare”²⁵. As it will be seen below, *Microsoft* clearly highlighted the apparent tension between competition and IPRs; at the same time, it also emphasised their common ultimate aim.

The fact that the achievement of this aim has a likely positive impact on the whole society well-being finally leads to conclude that both consumer and societal welfare should be taken as the true objectives of IPRs. Among these, instead, there should be little room for market integration. This is because the exclusionary nature of IPRs may facilitate (as in the case of patents) dynamics of territorial protection, ultimately running counter any integration purpose.

²³ I. Govaere, *The Use and Abuse of Intellectual Property Rights in E.C. Law* (Sweet & Maxwell, London 1996) 29.

²⁴ B. Gurel (n° 8) 57.

²⁵ A.S. Guterman, *Innovation and Competition Policy* (Kluwer Law International, London 1997) 11. See also E. Ramirez and L. Kimmel, “A Competition Policy Perspective on Patent Law: the Federal Trade Commission’s Report on the Evolving IP Marketplace”, (2011) *The Antitrust Source*.

3. IPRs and Article 102 TFEU

Albeit harmonious in purpose, competition and IP laws tend to pursue their objectives by different means. This may give rise to the well-known tension examined above. It has been explained that IP law systems usually have their inner balancing mechanisms, which regulate what can be protected and for how long. However, in order to reach a proper balance between private and public interests, also other external ‘forces’ have been taken into account. One of these ‘forces’ is represented by competition law.

Article 102 TFEU may indeed be determinative and limit attempts of IPRs over-exploitation²⁶. This provision, in particular, prohibits any abuse²⁷ by one or more undertakings of a dominant position²⁸ within the internal market or a substantial part of it, in so far as it may affect trade between Member States. It is out of the scope of this work to examine exhaustively the doctrinal and

²⁶ Article 102, Treaty on the Functioning of the European Union (TFEU), O.J. [2010] C 83/89.

²⁷ On the concept of abuse, see Case 85/76 *Hoffmann-La Roche v European Commission* [1979] E.C.R. 461, at 91; Case 322/81 *Michelin v European Commission* [1983] E.C.R. 3461, at 70; Case C-62/86 *AKZO v European Commission* [1991] E.C.R. I-3359, at 69; and Case *L'Oréal v De Nieuwe AMCK* [1980] E.C.R. 3775, at 27.

²⁸ On the concept of dominant position, see Case 27/76 *United Brands v European Commission* [1978] E.C.R. 207, at 65; *Hoffmann-La Roche* (n° 27), at 38; *Michelin* (n° 27), at 29; Case 30/87 *Bodson v Pompes Funebres* [1988] E.C.R. 2479, at 26; Joined Cases C 395/96 P & 396/96 P, *Compagnie Maritime Belge Transports v European Commission* [2000] E.C.R. I-1365, at 34; Case T-282/02 *Cementbouw Handel & Industrie BV v European Commission* [2006] E.C.R. II-319, at 195; Case C-280/08 *Deutsche Telekom AG v European Commission* [2010] O.J. C 346, at 170; Case T-321/05 *AstraZeneca AB v European Commission* [2010] O.J. C 221, at 239; and Case C-52/09 *Konkurrensverket v TeliaSonera AB* [2011] O.J. C 103, at 23.

normative issues related to dominance and abuse²⁹. Rather, the analysis of these concepts and of the jurisprudence on Article 102 TFEU is relevant to the research project as long as it concerns the interaction between IP and competition laws.

Getting back to the core problem of this chapter, not everyone agrees that competition is a proper remedy to constrain innovators' IP strategy. For instance, it has been suggested that IPRs should be immunised against competition law enforcement, since exclusivity derives from the very nature of these rights³⁰. On a further ground, it has been added, limitations on the exercise of IPRs by competition would be questionable from a policy perspective, as there might be a lower interest in investing in innovation³¹. Lastly, it has been questioned whether competition authorities may be well-suited to oversee the objectives of IP laws³².

Although the criticisms may have an element of truth, it seems more reasonable to argue that IP rules should be subject to competition intervention in the same way as they must comply with other fields of law; examples come from "environmental laws, health and safety laws and drug safety laws, that restrict

²⁹ On these concepts, see *inter alia* R. Nazzini, *The Foundations of European Union Competition Law – The Objective and Principles of Article 102* (Oxford University Press, New York 2011); M.M. Dabbah, "Conduct, Dominance and Abuse in 'Market Relationship': Analysis of Some Conceptual Issues under Article 82 EC", (2000) 21(1) *European Competition Law Review* 47; and D. Sinclair, "Abuse of Dominance at a Crossroads – Potential Effect, Object and Appreciability under Article 82 EC", (2004) 25(8) *European Competition Law Review* 492.

³⁰ See C. Ritter, "Refusal to Deal and Essential Facilities: Does Intellectual Property Require Special Deference Compared to Tangible Property?", (2005) 28(3) *World Competition* 291.

³¹ V. Korah, *Intellectual Property Rights and the EC Competition Rules* (Hart Publishing, 2006) 139.

³² See B. Gurel (n° 8) 58.

the free exercise of these rights in the public interest”³³. In particular, the risks of IPRs misuse by innovators do justify the enforcement of competition in the interest of consumer and societal welfare. Such enforcement, however, should be triggered only in those exceptional circumstances in which IP law’s own mechanisms do not lead to solve the tension³⁴.

Given that the aims of competition law have been discussed in Chapter I, the next sections will be devoted to examine the legal principles emerging from the case law. The Commission and the EU courts have extensively contributed to the debate on the intersection between IP and competition laws. It must be seen, however, how they have interpreted the delicate relation between these two fields of law, and above all the conduct of refusal to license or deal by dominant innovators. The conclusions will be further recalled in Chapter VII, on standard setting enforcement. Below, a synthetic overview of the main disputes on this practice will try to shed light on the EU approach. As to the second relevant conduct, the charging of excessive fees for licensing IPRs, the EU approach will be thoroughly examined in the chapters on standardization³⁵.

³³ S. Anderman, “Does the Microsoft Case Offer a New Paradigm for the Exceptional Circumstances Test and Compulsory Copyright Licenses Under EC Competition Law?”, (2004) 1(2) *Competition Law Review* 22.

³⁴ See R. Dreyfuss, D.L. Zimmerman and H. First, *Expanding the Boundaries of Intellectual Property: Innovation Policy for the Knowledge Society* (Oxford University Press, New York 2007) 312.

³⁵ See Chapter IV section 4.3, and Chapter VI section 4. Among the most relevant cases on excessive pricing in general, see for instance *United Brands* (n° 28) and *Bodson* (n° 28).

3.1 *Volvo*

*Volvo*³⁶ is known as the first case in which refusal to license IPRs was scrutinised under EU competition law. The question was whether a refusal to license by the proprietor of a protected design could amount to an abuse of dominance, contrary to Article 102 TFEU. The Court first said that the use in a normal manner of an IPR does not usually lead to an abusive practice. It explained that the proprietor of a protected design was not obliged to license to third parties, even in return for a reasonable royalty. It then concluded that, as the conduct constituted the “very subject matter of the exclusive right”, it could never be in itself an abuse of dominance³⁷. The finding of an infringement, as it remarked, should require further elements in the conduct under investigation. Among these, the Court of Justice mentioned the charging of unfair prices, or the arbitrary decision to stop supplies or production of certain demanded products³⁸. This meant, in the Court’s view, that refusal to supply or license IPRs could be unlawful only under specific circumstances, to be assessed on a case by case basis³⁹. However, as part of the literature observed, the decision seemed to be generally unclear as to when the exercise of IPRs may be deemed abusive⁴⁰.

³⁶ Case C-238/87 AB *Volvo v Erik Veng* (UK) [1989] 4 C.M.L.R. 122.

³⁷ *Ibid*, at 8.

³⁸ *Ibid*, at 9. See also J.H. Park (n° 3) 62.

³⁹ On the concept of abuse in relation to IPRs, see also Case 24/67 *Parke, Davis & Company v Probel and Others* [1968] C.M.L.R. 47, at 4.

⁴⁰ A. Jones and B. Sufrin, *EC Competition Law: Text, Cases, Materials* (4th ed., Oxford University Press, New York 2011).

3.2 *Magill*

The dispute in *Magill*, when compared to *Volvo*, certainly reveals a more restrictive approach from the part of the Commission and the EU courts in defining the scope of IPRs protection⁴¹. The decision of the authority, upheld by the Court of First Instance and Court of Justice, required the broadcasters for television programme listings to grant a license to third parties willing to publish a comprehensive weekly guide. Firstly, the firms under investigations were found to enjoy a *de facto* monopoly over the information used to compile listings. Secondly, their refusal to license was interpreted as an abuse of their dominant position, preventing the appearance of a new product for which there was a potential consumer demand. This approach was also supported by the fact that there was no actual or potential substitute to the product, and that there was no justification for a refusal. Rather, the IPRs owners were reserving for themselves the secondary market of weekly guides, "by excluding all competition from the market through denial of access to the basic information which is the raw material indispensable for the compilation of such a guide"⁴². All these factors represented 'exceptional circumstances', which ultimately led the Commission to apply Article 102 TFEU and impose on the broadcasters a compulsory license⁴³.

⁴¹ Joined Cases C 241-242/91 P, *Radio Telefis Eireann & Independent Television Publications v European Commission* [1995] 4 C.M.L.R. 718.

⁴² *Ibid*, at 48-58.

⁴³ On the concept of compulsory license, see G. Julian Arnold, "International Compulsory Licensing: the Rationales and the Reality", (1993) 33 *IDEA: The Journal of Law and Technology* 349.

However, the case also raised several doubts and criticisms. Firstly, at least at the time of the judgement, it was not clear whether these conditions had to be interpreted as cumulative or whether each of them could separately constitute an abuse⁴⁴. Secondly, it was observed that the final decision had given no guidance on the defences IPRs holders may oppose, in terms for instance of objective justifications⁴⁵. Finally, from a more general perspective, doubts arose as to the likely negative effects that the case would have had on the innovators' incentives to invest in costly and time consuming research⁴⁶.

Despite the criticisms, *Magill* also clarified a few crucial concepts. On the one hand, it acknowledged that the mere ownership of an IPR cannot automatically confer a dominant position. When dominance is found, instead, only the exercise of an IPR may lead to an infringement of competition law⁴⁷. On the other, the case deserves consideration for having made a step further in exploring those 'exceptional circumstances' which may justify competition enforcement. The test developed therein strongly influenced further judgements of the EU courts, which in turn contributed to expand the scope of *Magill*.

⁴⁴ See A. Jones and B. Sufrin (n° 40); T.C. Vinje, "The Final Word on *Magill*", (1995) 6 *European Intellectual Property Review* 297; and J.H. Park (n° 3) 64.

⁴⁵ S. Anderman, "EC Competition Law and Intellectual Property Rights in the New Economy", (2002) *Antitrust Bulletin* 293-294.

⁴⁶ D. Aitman and A. Jones, "Competition Law and Copyright: Has the Copyright Owner Lost the Ability to Control His Copyright?", (2004) 26(3) *European Intellectual Property Review* 137.

⁴⁷ *Radio Telefis Eireann* (n° 41), at 46-50.

3.3 *Tierce Ladbroke*

The relevance of *Tierce Ladbroke* lies in the attempt to solve one of those issues which *Magill* had left open⁴⁸. In the dispute, concerning a refusal to license copyright for televised pictures and sound commentaries on horse races, the Court of First Instance interpreted the ‘exceptional circumstances’ identified in *Magill* as alternative, rather than cumulative. In particular, it ruled that an abuse of dominance by a IPRs owner may occur either in case the refusal to license impedes the appearance of a new demanded product, or in case the refusal concerns a product which is essential for activities in a related market⁴⁹. As none of these conditions were deemed to exist, the Court did not enforce Article 102. The interpretation articulated in *Tierce Ladbroke*, however, was not upheld by other rulings also focused on the intersection between IPRs and competition.

3.4 *Oscar Bronner*

One of these cases was *Oscar Bronner*, though it did not directly concern IPRs but a refusal to supply a tangible good, considered by the claimant as an essential facility⁵⁰. Contrary to the ruling in *Tierce Ladbroke*, *Oscar Bronner*

⁴⁸ Case T-504/93 *Tierce Ladbroke SA v European Commission* [1997] E.C.R. II-923.

⁴⁹ *Ibid*, at 131. See also J.H. Park (n° 3) 64-65.

⁵⁰ Case C-7/97 *Oscar Bronner GmbH and Co KG v Mediaprint* [1998] E.C.R. I-7791. On the concept of essential facility, see C. Stothers, “Refusal to Supply as Abuse of a Dominant Position: Essential Facilities in the European Union”, (2001) 22(7) *European Competition Law Review* 256; I. Nagy, “Refusal to Deal and the Doctrine of Essential Facilities in US and EC Competition Law: a Comparative Perspective and Proposal for a Workable Analytical Framework”, (2007) 32(5) *European Law Review* 664; M. Furse, “The Essential Facilities Doctrine in Community Law”, (1995)

interpreted *Magill* as requiring that all the exceptional circumstances should be present before Article 102 can be applied to confine the ambit of IPRs. By interpreting the conditions as cumulative rather than alternative, it would be more difficult to find liability on the part of IPRs owners. On a further ground, the ruling is relevant as it held that *Magill* was applicable not only to IPRs but also to other types of property rights, thereby expanding its scope. Thus, it is clear why *Oscar Bronner* with its strict test has been considered as a step towards "legal predictability and concern for the stronger firm's incentives to invest"⁵¹.

Even more interesting was the reasonable analysis made in the case by the Advocate General Jacobs, which concerned the rationales of IPRs. In addressing the issue, he highlighted the importance of developing a proper balance between IP and competition laws; a balance reflecting the need to protect the efforts made by firms in investing in innovative research. On the basis of this premise, the Advocate General confirmed that refusal to license IPRs or supply an essential facility (e.g., an infrastructure) should be treated as an abuse only when exceptional conditions justify limitations to the right "to choose one's trading partners and freely dispose of one's property"⁵².

¹⁶⁽⁸⁾ *European Competition Law Review* 469; and J. Turney, "Defining the Limits of the EU Essential Facilities Doctrine on Intellectual Property Rights: the Primacy of Securing Optimal Innovation", (2005) 3 *Northwestern Journal of Technology and Intellectual Property* 179.

⁵¹ M.A. Bergman, "The Bronner Case – A Turning Point for the Essential Facilities Doctrine?", (2000) 21(2) *European Competition Law Review* 63.

⁵² Opinion of Advocate General Jacobs delivered on 28 May 1998, in *Oscar Bronner* (nº 50), at 56.

3.5 *IMS Health*

The arguments of the Advocate General in *Oscar Bronner* were further explored in *IMS Health*⁵³. The case concerned a '1860 brick structure' developed by IMS and aimed at providing data on regional sales of pharmaceutical products in Germany. The intervention of the Court of Justice was triggered by a preliminary reference of a national court about the interpretation of Article 102 TFEU in refusal to license IPRs disputes. In this case, indeed, IMS had refused to license copyright covering its invention, widely adopted by the market⁵⁴.

Leaving aside the complex procedural background, the relevance of the case lies in the fact that the Court of Justice substantially followed *Magill*. In particular, it explained that the factors mentioned in *Magill* are cumulative and that all of them must be satisfied for the finding of a competition violation. The element of the emergence of a new product, for instance, was discussed in depth by the Court, which rejected the choice of a compulsory license in case competitors only propose 'clones' of the main item. Only the advancement of innovative processes, through development of new products, may justify a limitation of IPRs through the grant of a license⁵⁵. In the Court's words, a refusal

⁵³ Case C-481/01 *IMS Health GmbH v NDC Health GmbH* [2004] 4 C.M.L.R. 28.

⁵⁴ J.H. Park (n° 3) 67. See also C. Ahlborn, D.S. Evans and J. Padilla, "The Logic and Limits of the 'Exceptional Circumstances Test' in *Magill* and *IMS Health*", (2005) 28 *Fordham International Law Journal* 1109; and B. Ong, "Anticompetitive Refusal to Grant Copyright Licenses: Reflections on the IMS Saga", (2004) 26(11) *European Intellectual Property Review* 505.

⁵⁵ See S. Anderman (n° 33) 13.

"may be abusive only where the undertaking which requested the license does not intend to limit itself essentially to duplicating the goods or services already offered on the secondary market by the owner of the copyright, but intends to produce new goods or services"⁵⁶.

In this sense, the Court seems to have struck properly the balance between IPRs holders' interests and competition objectives. Indeed, preventing the appearance of a new demanded product would run counter the aim of promoting innovation, yet encouraged by both IP and competition laws⁵⁷. Ultimately, this would have a negative impact on both consumer and societal welfare. At the same time, the imposition of a compulsory license in case of 'clones' may considerably undermine the innovators' incentives to invest, and may consequently limit competition among them.

3.6 Microsoft

Among the cases on refusal to license IPRs, *Microsoft* is certainly the most interesting and perhaps controversial⁵⁸. The scope of the legal matters addressed, the amount of the sanction ultimately imposed, and the criticisms attracted are all elements which contribute to explain the strong impact it had on the legal

⁵⁶ *IMS Health* (n° 53), at 49.

⁵⁷ E. Derclaye, "The IMS Health Decision and the Reconciliation of Copyright and Competition Law", (2004) 29(5) *European Law Review* 695.

⁵⁸ Case C-3/37.792 *Microsoft* [2007] O.J. L32; and Case T-201/04 *Microsoft v European Commission* [2007] E.C.R. II-03601.

environment. Besides the refusal to license issue, the dispute also concerned a further abuse, which was the tying of two different products. However, due to the objective this work aims to achieve, this subsection will focus only on the first issue, *i.e.* Microsoft's refusal to license interoperability information to its competitors. This type of conduct, indeed, will be further examined in the core part of the thesis, dealing with standard setting and anticompetitive practices. Microsoft, in particular, had a dominant position in the markets of PC operating systems and work group server operating systems. These markets typically emerge as a result of time-consuming and costly investments, and are characterized by the necessity of interoperability information between hardware and software components of computer systems. Microsoft's unique position was interpreted as super-dominant or quasi-monopolistic, and could be explained in light of the network effects usually arising in these high technology markets⁵⁹. Its products were seen as standards *de facto*, which means widely adopted goods emerging through the mediation of the market⁶⁰. Thus, as a dominant firm 'more dominant' than the others⁶¹, Microsoft was expected to bear an even higher grade of responsibility towards its rivals for not abusing this position.

The first relevant issue on Microsoft's refusal to license concerned the 'new product' requirement, which had been set in *Magill* and restated in *IMS*.

⁵⁹ J.H. Park (n° 3) 70.

⁶⁰ On the concept of *de facto* standard, see Chapter III section 2.1.

⁶¹ J. Appeldoorn, "He Who Spareth His Rod, Hateth His Son? Microsoft, Super-dominance and Article 82 EC", (2005) 26(12) *European Competition Law Review* 653.

These cases, however, had not given a precise definition of the concept of 'new product'⁶². The decisions of the Commission and Court of First Instance in *Microsoft* gave an interpretation which increased uncertainty and attracted criticism. Indeed, there was no thorough explanation of such a concept. Rather, as Professor Geradin noted, Microsoft's behaviour was considered as preventing the emergence of "unspecified future new products"⁶³. It seems that the Court of First Instance had simply broadened that requirement by interpreting it as a "limitation to technical development to the prejudice of consumers under Article 102(b)"⁶⁴. Accordingly, as long as those rivals developing some new technical features on the same product were able to show potential consumer harm in case of limited access, their requests of IPRs licenses should have been accepted⁶⁵. As the working group servers of Microsoft's competitors were considered to have better technical features, the Court -following the Commission's approach- had found it reasonable to impose on Microsoft a compulsory license⁶⁶. As mentioned above, however, this approach has been seen as one which may easily lead to weaken the balance between IP and competition⁶⁷. Indeed, under

⁶² E. Derclaye (n° 57) 695.

⁶³ D. Geradin, "Limiting the Scope of Article 82 of the EC Treaty: What can the EU Learn from the US Supreme Court's Judgment in *Trinko* in the wake of *Microsoft*, *IMS*, and *Deutsche Telekom*", (2004) 41 *Common Market Law Review* 1538.

⁶⁴ Case T-201/04 *Microsoft v European Commission* [2007] E.C.R. II-03601, at 647.

⁶⁵ S. Anderman, "Microsoft v Commission and the Interoperability Issue", (2008) 30(10) *European Intellectual Property Review* 399.

⁶⁶ *Microsoft* (n° 64), at 650.

⁶⁷ See B. Gurel (n° 8) 66; and J.H. Park (n° 3) 75.

these criteria, rivals will have substantially higher possibilities to get access to the dominant firm's IP portfolio. This is because, in high technology industries driven by fast innovative processes, they would almost always be in the position to claim that better technical features can be developed.

Besides the 'new product' requirement, a further subject in *Microsoft* drew the attention of the critics. This concerned the objective justification which may be opposed by a defendant to reject a competition law infringement. During the investigations, Microsoft had simply stated that the very existence of IPRs should be interpreted as an objective justification to refusal to license⁶⁸. As the outcome of substantial investments, it was contended, IPRs constitute the very incentive that leads firms to develop innovative goods and services. However, these arguments were rejected by both the Commission and the Court of First Instance. The former applied an effect-based approach in the attempt to understand whether "possible negative impact of an order to supply on Microsoft's incentives to innovate is outweighed by its positive impact on the level of innovation of the whole industry"⁶⁹. The Court of First Instance, then, approved the Commission's analysis and confirmed that Microsoft had developed "vague, general and theoretical arguments"⁷⁰. Such effect-based

⁶⁸ In the U.S. case, the D.C. Circuit had ironically held that the notion that copyright is a complete defense to an antitrust offence is "no more correct than the proposition that use of one's personal property, such as a baseball bat, cannot give rise to tort liability" (*U.S. v Microsoft*, 253 F.3d 63).

⁶⁹ Case C-3/37.792 *Microsoft* [2007] O.J. L32, at 783.

⁷⁰ *Microsoft* (n° 64), at 698.

approach appeared to be in line with the modernization process of EU competition law, which seems to promote an appraisal of conduct not merely based on the form but more focused on the ultimate effects⁷¹. Of course, an effect-based analysis may in theory provide for less legal certainty for the dominant firms, as these would have weak guidance to know whether they are abusing their position or not⁷². However, this approach seemed to respond better to the need of ensuring that only those conduct harming consumer (and consequently societal) welfare may be captured by Article 102 TFEU. From this perspective, the merit of the Commission's line of reasoning could not be denied.

In conclusion, despite the reasonableness of the effect-based test, the *Microsoft* judgement was criticised: a) for having failed to make clear once and for all what constitutes a 'new product'; and b) for having developed an approach too much biased towards follow-on inventors. Nevertheless, it cannot be forgotten the importance of the case for the analysis developed on the interaction between competition and IPRs. In this context, it is made clear that, despite a superficial tension may arise together with the need to set a balance, the ultimate goal (consumer surplus) of competition and IPRs is concordant⁷³.

⁷¹ A. Jones and B. Sufrin (n° 40).

⁷² D. Geradin (n° 63) 1553.

⁷³ For further analysis of Microsoft's conduct, see M. Muller, "The European Commission's decision against Microsoft: a violation of the antitrust agreements between the United States and the European Union?", (2005) 26(6) *European Competition Law Review* 309; W.H. Page. "Mandatory Contracting Remedies in the American and European Microsoft Cases", (2009) 75(3) *Antitrust Law*

4. IPRs and Section 2 of the U.S. Sherman Act

On the other side of the Atlantic, U.S. courts have also been frequently involved in the assessment of potentially abusive practices by IPRs owners. In this context, section 2 of the Sherman Act is the relevant provision addressing conduct of monopolization and attempted monopolization⁷⁴. Monopoly power has been defined as “the power to control prices or exclude competition”⁷⁵.

The concept of monopolization, however, differs from the attempt to monopolize. The former is based on the possession of monopoly power and on the wilful acquisition or maintenance of it through improper means⁷⁶. The attempt to monopolize, instead, is based on the anticompetitive conduct, a specific intent to monopolize, and the dangerous probability of achieving monopoly power⁷⁷. Therefore, unlike monopolization, it is not necessary to succeed and gain monopoly⁷⁸. Although it seems to have a more limited scope, Section 2 can be considered as the corresponding provision to Article 102 TFEU.

Journal 787; and S. Vezzoso, “The incentives balance test in the EU Microsoft case: a pro-innovation economics-based approach?”, (2006) 27(7) *European Competition Law Review* 382.

⁷⁴ 15 U.S.C. § 2. Section 2 condemns “[e]very person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations”.

⁷⁵ *Aspen Skiing v Aspen Highlands Skiing*, 472 U.S. 585 (1985).

⁷⁶ S.W. O'Donnell, “Unified Theory of Antitrust Counterclaims in Patent Litigation”, (2004) 9 *Virginia Journal of Law and Technology* 22.

⁷⁷ See J.H. Park (nº 3) 25; and M.A. Lemley, “Antitrust and the Internet Standardization Problem”, (1996) 28 *Connecticut Law Review* 1066-1067.

⁷⁸ On the analysis of Section 2 requirements, see also Chapter V section 2.

U.S. courts have often applied Section 2 to cases involving the tension between IPRs and antitrust. *Kodak*⁷⁹ and *Xerox*⁸⁰ are among the most interesting disputes on the intersection between these two fields of law⁸¹. In comparison with the EU case law, both similarities and divergences can be found. On the one hand, differences arise when interpreting the mere charging of excessive fees for licensing IPRs. As it will be explained, such exploitative conduct would seldom fall under U.S. antitrust scrutiny, as the Sherman Act does only contemplate exclusionary practices⁸². On the other hand, instead, further elements highlight parallel approaches between the two legal systems. In particular, a few basic principles have been accepted in both jurisdictions. For instance, similarly to what had been held in *Volvo*⁸³, in *Westinghouse Electric* the U.S. Court of Appeals had clarified that the exercise of IPRs (including a refusal to license) does not lead to an abuse *per se*⁸⁴. This notwithstanding, also in the U.S. uncertainties exist on the boundaries between antitrust and IPRs. The next sections will delve into the courts' approach with a specific focus on refusal to deal and license IPRs.

⁷⁹ *Eastman Kodak v Image Technical Services*, 504 U.S. 451 (1992); and *Image Technical Services. v Eastman Kodak*, 125 F.3d 1195 (C. App. 9th Circuit, 1997).

⁸⁰ *Independent Service Organizations v Xerox*, 203 F.3d 1322 (C. App. Federal Circuit, 2000); and *SCM v Xerox*, 645 F.2d 1195 (C. App. 2nd Circuit, 1981).

⁸¹ See also *United States v Microsoft*, 97 F.Supp. 2d 59 (D. District of Columbia, 2000); and *United States v Microsoft*, 253 F.3d 34 (C. App. D.C. Circuit, 2001). In the *Microsoft* litigation, U.S. courts had concerns mainly for bundling/tying practices. In the final settlement (2006), Microsoft also agreed to disclose to rivals interoperability information on its operating systems.

⁸² See Chapter IV section 4.3, and Chapter V section 3.2.

⁸³ *Volvo* (n° 36), at 8.

⁸⁴ *U.S. v Westinghouse Electric*, 648 F.2d. 642 (C. App. 9th Circuit, 1981).

4.1 Xerox

The *Xerox* litigation concerned issues of both refusals to deal and to license IPRs. In the first dispute, the U.S. Court of Appeals for the Second Circuit had to decide whether Xerox's refusal to license IPRs covering its plain-paper copying technology had infringed Section 2⁸⁵. In this context, the Court said that

"[i]f the threat of treble damage liability for refusing to license were imbedded in the minds of potential patent holders as a likely prospect incident to every successful commercial exploitation of a patented invention, the efficacy of the economic incentives afforded by our patent system might be severely diminished ... [W]here a patent has been lawfully acquired, subsequent conduct permissible under the patent laws cannot trigger any liability under the antitrust laws"⁸⁶.

In brief, the Court of Appeals held that, when IPRs are lawfully obtained (e.g., without fraud on the patent office), innovators are entitled to refuse to license them unilaterally. This line of reasoning influenced further judgements, which confirmed that "the holder of a patent retains the power to exclude others from manufacturing, using, and selling his inventions without running afoul of antitrust laws"⁸⁷.

⁸⁵ *SCM* (n° 80).

⁸⁶ *Ibid*, at 1206.

⁸⁷ See *Miller Insituform v Insituform of North America*, F.2d 606 (C. App. 6th Circuit, 1987).

The second relevant case, instead, concerned Xerox's refusal to sell⁸⁸. Xerox had refused the selling of the equipment parts for its patented products to independent service organizations (ISOs). The latter were consequently impeded in competing in the related market for repairing and servicing. The Court first argued that "the patent holder may enforce the statutory right to exclude others from making, using or selling the claimed invention free from liability under the antitrust laws"⁸⁹. From this point of view, therefore, it opted for an approach in favour of innovators⁹⁰.

As the Court added, it was not necessary to inquire into Xerox's subjective motivation for exerting the IPRs, "even though his refusal to sell or license his patented invention may have an anticompetitive effect, so long as that anticompetitive effect is not illegally extended beyond the statutory patent granted"⁹¹. Hence, the Court first rejected the need of a justification requirement. Then, however, it remarked the importance of not using (lawfully obtained) IPRs to extend power in other markets. From this perspective, therefore, it seems that Xerox followed the EU practice in limiting IPRs over-exploitation in secondary markets. At the same time, it departed from the EU approach by denying the need of objective justifications as a defence against liability.

⁸⁸ Xerox (n° 80).

⁸⁹ *Ibid*, at 1327-1328.

⁹⁰ H.K.S. Schmidt (n° 1) 216.

⁹¹ Xerox (n° 80), at 1327-1328.

4.2 Kodak

Similarly to *Xerox*, also *Kodak* concerned a refusal to sell products to ISOs, limiting their ability to compete in the market for repair and servicing of Kodak's products⁹². Unlike *Xerox*, however, the company was ultimately found guilty under section 2 of the Sherman Act, and was condemned to sell to ISOs. Kodak's argument that its IPRs had not been properly considered was rejected⁹³. The Supreme Court observed that "power gained through some natural advantages such as a patent, copyright or business acumen can give rise to liability if a seller exploits this dominant position in one market to expand his empire into the next"⁹⁴. The Supreme Court, therefore, identified a serious threat for competition in Kodak's expansion into the secondary market.

In a following case concerning the same parties (*Kodak II*)⁹⁵, the Court of Appeals for the Ninth Circuit importantly noted that two principles on the intersection between antitrust and IPRs should be taken into account. On the one hand, IPRs owners are not immune from antitrust liability. On the other, IPRs holders can refuse to sell or license protected works⁹⁶. In appraising Kodak's refusal to deal, the Court of Appeals further held that

⁹² *Eastman Kodak v Image Technical Services*, 504 U.S. 451 (1992).

⁹³ See H.K.S. Schmidt (n° 1) 215.

⁹⁴ *Eastman Kodak* (n° 92), at 29.

⁹⁵ *Image Technical Services. v Eastman Kodak*, 125 F.3d 1195 (C. App. 9th Circuit, 1997).

⁹⁶ *Ibid*, at 1215.

“while exclusionary conduct can include a monopolist’s unilateral refusal to license a [patent or] copyright, or to sell its patented or copyrighted work, a monopolist’s desire to exclude others from its [protected] work is a presumptively valid business justification for any immediate harm to consumers”⁹⁷.

In the Court of Appeals’ view however this presumption could be rebutted in three specific circumstances: i) where a monopolist changed its practice after freely licensing its IPRs in a competitive market; ii) where a monopolist obtained its IPRs unlawfully; or iii) where protection of IPRs was merely a pretext, and the real reason for the refusal to license or deal was anticompetitive.

As Kodak’s justifications based on the legitimacy of the refusal were considered pretextual, the Court of Appeals finally found the company liable. It is worth noting that the first of those conditions had been established in *Aspen Skiing*, a landmark case concerning a refusal to deal by a monopolist⁹⁸. There, the Supreme Court had first held that, where there is no purpose to create or maintain a monopoly, Section 2 does not “restrict the long recognised right of a trader or manufacturer engaged in an entirely private business freely to exercise his own independent discretion as to parties with whom he will deal”⁹⁹. However, it was observed, a refusal to deal by a monopolist could lead to breach

⁹⁷ *Ibid*, at 1218.

⁹⁸ *Aspen Skiing* (n° 75).

⁹⁹ *Ibid*, at 601-602. See also *United States v Colgate*, 250 U.S. 300 (1919), at 307.

Section 2 when such refusal gave rise to an important change not justified by normal business reasons. Among the factors to examine, the Supreme Court included the impact of the conduct on both consumers and competitors¹⁰⁰.

In conclusion, albeit not directly focused on IPRs, the *Kodak* litigation confirmed that a refusal to deal or license does not necessarily lead to a breach of Section 2. It is the right of the IPRs holder, indeed, to choose the business parties. This presumption, however, can be rebutted under the cited three circumstances. The relevance of the rebuttable presumption theory was confirmed also in other judgements¹⁰¹. Despite the merits for having further explored on the intersection between IPRs and antitrust, *Kodak II* was also criticised by part of the literature. It was argued, in particular, that the Ninth Circuit's ruling was incompatible with the U.S. Patent Act¹⁰². The latter provides that no patent owner should be denied relief for the infringement of a patent, or be deemed guilty of misuse or illegal extension of the patent right by reason of a refusal to license or use the IPR¹⁰³. This notwithstanding, it seems that this criticism failed to acknowledge the normative role of the judiciary in limiting the tension which sometimes inevitably arises between different fields of law.

¹⁰⁰ J.H. Park (n° 3) 29; J.E. Lopatka and W.H. Page, "Bargaining and monopolization: in search of the boundary of section 2 liability between *Aspen* and *Trinko*", (2005) 73 *Antitrust Law Journal* 115.

¹⁰¹ *Data General v Grumman Systems Support* 761 F.Supp. 185 (D. Massachusetts, 1991).

¹⁰² See S. Baches Opi, "The Application of the Essential Facilities Doctrine to Intellectual Property Licensing in the European Union and the United States: Are Intellectual Property Rights Still Sacrosanct?", (2001) 11 *Fordham Intellectual Property, Media and Entertainment Law Journal* 485.

¹⁰³ 35 U.S.C., § 271(d).

4.3 Other Relevant Cases and Principles

The cases discussed above concerned the refusal to license IPRs or sell products covered by IPRs. These disputes have heavily contributed, albeit sometimes controversially, to setting the boundaries between IP and antitrust laws in the United States. In this context, however, attention should also be paid to further cases, where two relevant doctrines were developed: a) the essential facility doctrine; and b) the monopoly leveraging doctrine. Although these legal principles did not concern the enforcement of patents or copyright, they could be interpreted as theoretically applicable also in IPRs related cases¹⁰⁴.

Essential Facility Doctrine

Firstly, the essential facility doctrine imposes on the monopolist a general obligation to deal. It applies to those circumstances where a company which has control over a facility essential to its competitors denies the latter access to that facility¹⁰⁵. This doctrine has its origin in *Terminal Railroad*, a case concerning a Section 1 violation¹⁰⁶; it was applied to a Section 2 infringement only in *Otter Tail Power*, a dispute on a refusal to deal by a monopolist¹⁰⁷. The specific elements of the essential facility doctrine, instead, were established even later. In *MCI*, the Court of Appeals identified four conditions: (i) the control of the essential facility

¹⁰⁴ On the issue, J.H. Park (n° 3) 33-34; and P. Areeda, "Essential Facilities: an Epithet in Need of Limiting Principles", (1989) 58 *Antitrust Law Journal* 841.

¹⁰⁵ H. Hovenkamp *et al.*, *IP & Antitrust* (Suppl. 2008).

¹⁰⁶ *United States v Terminal Railroad Association* 224 U.S. 383 (1912).

¹⁰⁷ *Otter Tail Power v United States* 410 U.S. 366 (1973).

by a monopolist; (ii) a competitor's inability practically or reasonably to duplicate the essential facility; (iii) the denial of the use of the facility to a competitor; and (iv) the feasibility of providing the facility¹⁰⁸.

It is true, however, that this doctrine has been rejected in many other cases, where U.S. courts had underlined *-inter alia-* the risks of reduced incentives to invest on the part of innovators¹⁰⁹. More interestingly, the Supreme Court has never endorsed the essential facility doctrine in relation to IPRs and refusal to license cases¹¹⁰. Perhaps, this could be explained in light of the difficulties which may arise in interpreting IPRs as essential facilities which cannot be duplicated.

Monopoly Leveraging Doctrine

The monopoly leveraging doctrine, instead, applies to those situations "where a company uses or leverages its monopoly power in one market to obtain a competitive advantage in a second market, or to monopolise or attempt to monopolise the leveraged market"¹¹¹. It was established in *Berkey Photo*, where the Second Circuit had identified the core elements of the doctrine in: i) the existence of monopoly power in one market; and ii) the exercise of such power to

¹⁰⁸ *MCI Communications v AT&T* 708 F.2d 1081 (C. App. 7th Circuit, 1983). See also *Alaska Airlines v United Airlines*, 948 F.2d 536 (C. App. 9th Circuit, 1991).

¹⁰⁹ *Data General* (n° 101); *Intergraph v Intel* 195 F.3d 1346 (C. App. Federal Circuit, 1999).

¹¹⁰ J.H. Park (n° 3) 34. See also R. Pitofsky, D. Patterson and J. Hooks, "The Essential Facilities Doctrine under U.S. Antitrust Law", (2002) 70 *Antitrust Law Journal* 443.

¹¹¹ J.H. Park (n° 3) 39.

the detriment of competition in a second market¹¹². Therefore, according to the Second Circuit, there might be a violation of section 2 of the Sherman Act even in the absence of an attempt to monopolise the second market¹¹³. This doctrine, however, was rejected in other judgements. In *Alaska Airlines*, for instance, the Ninth Circuit held that merely obtaining a competitive advantage in the second market was not enough. Rather, as it was argued, the plaintiff had to show evidence of all the elements required for a claim of monopolization or attempted monopolization¹¹⁴. Also the Supreme Court in *Trinko* overruled the monopoly leveraging doctrine, by holding that “to the extent the Court of Appeals dispensed with a requirement that there be a ‘dangerous probability of success’ in monopolising a second market, it erred”¹¹⁵. This means that the monopoly leveraging doctrine could only play a role in the context of monopolisation or attempted monopolisation claims already proving the factors set in Section 2¹¹⁶.

This holds true even when considering the doctrine in the context of IPRs; that is, where the IPRs holder uses his monopoly power in a primary market to leverage such power in a secondary related market. Therefore, similarly to what has been held in relation to the essential facility doctrine, also this theory seems to have limited application in constraining innovators’ behaviours.

¹¹² *Berkey Photo v Eastman Kodak*, 603 F.2d 263 (C. App. 2nd Circuit, 1979).

¹¹³ *Ibid*, at 276.

¹¹⁴ *Alaska Airlines* (n° 108).

¹¹⁵ *Verizon Communications v Trinko*, 540 U.S. 398 (2004), at 415.

¹¹⁶ J.H. Park (n° 3) 40.

5. Conclusion

It has been said that competition and IP laws tend to pursue concordant aims, which are the enhancement of consumer and (consequently) societal welfare. In terms of objectives, the tension between these two fields of law is only apparent. Nevertheless, a conflict may arise as competition and IP laws work through different means. On the one hand, indeed, IPRs confer on the holders a position of exclusivity, as a reward for the firms' investments in innovation. On the other, competition is aimed at constraining exclusionary mechanisms and limiting the harmful effects of monopolies. It may happen then that IPRs owners try to over-exploit the rights they have been granted, to the detriment of market competition. Under these circumstances, the internal balancing system (as the limited duration) of IPRs may not be sufficient to solve the tension. Should a solution be left to IP reforming mechanisms, or should it be given by competition rules? In my view, when IP law's own mechanisms no longer fulfil their function, intervention by competition enforcers seems to be justified. This is necessary to balance between competition goals and innovation incentives, and ultimately achieve a better outcome for the whole society. Such interference, however, should be allowed only under exceptional conditions.

A typical situation in which a tension between IP and competition laws may arise is when IPRs holders refuse to license relevant rights to competitors. From the EU case law examined above, it emerged that refusal to license or deal cannot in itself constitute an abusive conduct. Rather, the disputes attested the

need for exceptional circumstances in order to impose a compulsory license. In *Oscar Bronner, IMS Health and Microsoft*, the EU courts confirmed that all the identified exceptional conditions must be present for Article 102 TFEU to apply. For instance, in order to trigger the competition enforcers' intervention, both the risk of expanding a dominant position in a secondary market and the prevention of the appearance of a new product must be found. In addition, no objective justification must exist for the refusal. It has been contended that this strict application of the exceptional circumstances is necessary to strike the optimal balance between IPRs and competition. Nonetheless, there are still uncertainties on the meaning of these concepts. On the one hand, the case law has not made definitively clear the meaning of the 'new product' requirement, but seems to have interpreted the test in a broadened way. *Microsoft*, in this sense, has probably done little to clarify the scope of the concept. On the other, it is still unclear what can be accepted as a reasonable justification for refusing to license IPRs. As also this test has been mentioned by the Court of Justice, it could be in theory invoked by innovators to escape liability. However, the case law has not yet shed light on the conditions which may make a justification acceptable. Furthermore, it could be questioned how EU courts may appraise an objective justification in case all the other exceptional circumstances are fulfilled. Access to the market, it must be remembered, may be equally important as granting IP protection, due to the benefits which may derive from follow-on innovation. A case by case approach could be perhaps a reasonable way to handle this delicate relation between innovators' incentives and competition objectives.

With respect to the U.S. jurisprudence, then, it seems that *Xerox* made it difficult for a defendant in a patent infringement suit to argue that the refusal to deal or license IPRs was an antitrust violation¹¹⁷. The *Xerox* litigation, indeed, suggested that IPRs owners have broad rights to refuse to license lawfully obtained IPRs or sell patented products, even when the refusal has an anticompetitive effect. An abuse, instead, may be found where the effect consists in the expansion of market power in a secondary market. This condition was endorsed in the *Kodak* litigation, which also identified other circumstances leading to a Section 2 infringement. Nevertheless, it is clear that also in the United States the cases justifying an order to license or deal are limited and difficult to prove. Similarly, the essential facility and monopoly leveraging theories do not seem solid tools for those rivals requiring these remedies.

The exceptional circumstances and the other legal principles emerging from the case law may theoretically find application also in the context of standardization processes. Here, indeed, the selected innovator may refuse to grant a license after having subscribed the SSO's policy. How should this conduct be assessed? Should it be seen as the legitimate refusal of the IPRs owner, or as an abuse not justifiable under any legal principles?¹¹⁸ Before delving into the problem, it is first necessary to define properly the concept of standard and understand how standardization processes work.

¹¹⁷ On the point, see N. Oettinger, "In re Independent Service Organizations Antitrust Litigation", (2001) 16 *Berkeley Technology Law Journal* 332-333.

¹¹⁸ See Chapter VII section 6.2.

Chapter III "IPRs and Standard Setting: Functions and Rules"

1. Introduction

The advent of today's knowledge-based economy has increased the importance of intellectual property rights and made greater the prominence in the players' business strategy of the role of standards. Several firms have started to consider their patent portfolios as valuable profit centres and have begun to market the latter, exclusively focusing on innovation and technology licensing as their core business¹. IPRs holders are more and more interested in generating profits from licensing their rights rather than from selling products². In a context of increasing attention towards IPRs licensing, standardization processes are of strategic importance³. Standard setting organizations (SSOs) represent the most common vehicle to develop industry standards. They have been considered in the United States as key instruments which wield "great power in the Nation's economy"⁴. The crucial function of standard setting has been recognised in

¹ G. Ohana, M. Hansen, O. Shah, "Disclosure and Negotiation of Licensing Terms Prior to Adoption of Industry Standards: Preventing Another Patent Ambush?", (2003) 24(12) *European Competition Law Review* 644.

² *Ibid.* See also S. Sattler, "Standardization under EU competition rules – the Commission's new horizontal guidelines", (2011) 32(7) *European Competition Law Review* 344.

³ M.C. Naughton and R. Wolfram, "The Antitrust Risks of Unilateral Conduct in Standard Setting, in the Light of the FTC's case against Rambus Inc.", (2004) 49 *Antitrust Bulletin* 699.

⁴ *American Society of Mechanical Engineers v Hydrolevel Corporation*, 456 U.S. 556 (1982), at 570.

several circumstances also in Europe, where the Commission has clarified that “a stronger role for standardization in support of innovation is important for the European effort to address economic, environmental and social challenges”⁵. As held by a former EU Commissioner for competition policy, in addition, “[s]tandards are clearly more important than ever”, as “[t]hey often facilitate economies of scale”⁶. Indeed, everyone nowadays seems to be familiar with standards, from the most basic to the most sophisticated. Consider, for instance, the standards developed in the fields of electrical equipment (e.g. the two-prong plug), video communication (e.g. the VHS standard) and telecommunication (e.g. the GSM standard).

Questions, however, may legitimately arise: how can we define a standard? And what are the rules and processes characterizing their adoption? In addition, should innovators be rewarded for their standardised technologies?

The chapter is aimed at answering these important questions, which constitute subject of heated debates among several authors. There is still uncertainty, indeed, on the definitions and on the optimal legal framework to be implemented in standard setting environments. What is more, not everyone agrees on the effects of rewarding IPRs owners’ efforts in innovative products.

⁵ European Commission, “Towards an Increased Contribution from Standardization to Innovation in Europe”, (Communication) COM 133 final, 11 March 2008.

⁶ N. Kroes, “Being Open About Standards”, (Speech at *OpenForum Europe*, Bruxelles - 10 June 2008).

2. Standards

Standards play a central role in our global and knowledge-based economy. They facilitate trade, allow cost savings for firms, increase economic efficiency and contribute significantly to economic growth⁷. Further effects on the market concern the creation of network externalities⁸, and the reduction of what economists term informational transaction costs⁹. Especially in high-tech markets, they can help achieve interoperability between different products and allow firms to concentrate on producing innovative goods¹⁰. Hence, by coordinating technology development and by structuring the way markets develop, standards "provide a powerful engine for change and progress"¹¹.

More in general, their importance comes to light in several daily events (e.g., standards regulating traffic light signals). Standards allow us to deal with the environment in an almost unconscious way¹². When successful, they usually go unnoticed. They are like "keys always hung at the same nail – they free up our

⁷ T.M. Egyedi and K. Blind, *The Dynamics of Standards* (Edward Elgar, 2008) 4.

⁸ J. Farrell and G. Saloner, "Standardization, Compatibility, and Innovation", (1985) 16 *Rand Journal of Economics* 70-83.

⁹ C.P. Kindleberger, "Standards as Public, Collective and Private Goods", (1983) 36(3) *Kyklos* 377-396.

¹⁰ P. Hellstrom, T. Kramler and F.W. Bulst, "Holding Standardization to Competition Law Standards", (2010) 1 *Concurrences* 36.

¹¹ S.K. Schmidt and R. Werle, *Co-ordinating Technology: Studies in the International Standardization of Telecommunication* (MIT Press, Cambridge 1998).

¹² M.S. Royall, "Standard Setting and Exclusionary Conduct: The Role of Antitrust in Policing Unilateral Abuses of Standard-Setting Processes", (2003-2004) 18 *Antitrust* 44.

mind for more useful thoughts”¹³. We do notice them only when they do not perform as expected and are not complied with (e.g., in the case of driving on the wrong side of the road), as well as when they change. To be of value standards need to be stable at least for a certain period of time. However, standards are not static but dynamic, as they may be revised, extended, withdrawn, reinstated and replaced by new ones¹⁴.

Several areas and specifications are affected by standard setting, from health to safety and ICT (information and communication technology) sectors. Possible criteria of classification take into account the subject matter standards address, the way standard setting processes are developed (e.g. open or restricted participation), and how standards are used¹⁵. With reference to the definition of standard, different authors have dealt with the issue and various opinions have been expressed, all of which with their values and constraints¹⁶. Grindley, for instance, has defined about three different types of standards¹⁷:

- 1) minimum attributes that cover basic product requirements and minimum

¹³ J. Hurd and J. Isaak, “IT Standardization: the Billion Dollar Strategy”, (2005) 3 *International Journal of IT Standards & Standardization* 68.

¹⁴ T.M. Egyedi and K. Blind (n° 7) 1. See also T.M. Egyedi, “On the Implications of Competing Standards”, in *The Pro & Cons of Standard Setting* (Swedish Competition Authority, 2010) 12.

¹⁵ H. de Vries, “IT Standards Typology”, in K. Jacobs (Ed.), *Advanced Topics in Information Technology Standards and Standardization Research* (IDEA Group Publishing, 2006).

¹⁶ H. de Vries, *Standardization: a Business Approach to the Role of National Standardization Organizations* (Kluwer Academic Publisher, 1999).

¹⁷ P. Grindley, *Standards, Business Strategy and Policy: Cases and Stories* (London Business School, 1992).

quality¹⁸; 2) interface requirements that enable interoperability when products are connected¹⁹; 3) standards in the sense of standard product characteristics, which are features defining a group of similar products²⁰. For the purpose of this work, I will mainly refer to technological standards, those that enable interoperability between technological products.

Besides the abovementioned classifications and definitions, in the literature it is possible to distinguish between more general categories of standards. As a premise, it is worth noting that the various theories and interpretations developed are evidence of a lack of uniform terminology. The following sections are hence devoted to the analysis of these main classifications, in the attempt to shed some light on the issue and avoid possible misconstructions.

2.1 *De Facto v De Jure Standards*

Firstly, standards can fall under two categories: *de jure* and *de facto* standards. *De jure* standards are based on cooperation between interested parties, thus they have been defined in the literature also as cooperative or committee standards²¹. A cooperative standard is a very specific type of agreement, and can

¹⁸ Safety standards are a well-known example.

¹⁹ For instance, consider the HTTP standard, which enables web browsers to communicate with web servers.

²⁰ E.g., the WinTel PC.

²¹ T.M. Egyedi and K. Blind (n° 7) 2-3.

be interpreted as a specification developed by committees for repeated use²². The GSM (Global System for Mobile Communication) protocol in telecommunications is an example of cooperative standard, as it “was drawn up as a result of collective activity within the framework of a standards institute, in which the leading actors in the telecommunications sector took part”²³. One commentator has defined cooperative standard as “a written document establishing technical specifications for good, services, or processes, resulting from a consensus, and whose application is voluntary”²⁴. From this definition, the author infers the four main characteristics of cooperative standard: a) they are the result of cooperation among interested parties; b) they are based on scientific and technical data; c) they are driven by consensus; and d) their application is voluntary²⁵. A further definition is given by the International Standardization Organization (ISO), according to which a legal standard is a

“document established by consensus and approved by a recognised body that provides, for common and repeated use, rules, guidelines or characteristics

²² *Ibid.*

²³ B. Lelong and A. Mallard, *Reseaux: Dossier sur la Fabrication des Normes* (Hermes Science Publications, Paris 2000) 21.

²⁴ O. Borraz, “Governing Standards: the Rise of Standardization Processes in France and in the EU”, (2007) 20(1) *Governance: An International Journal of Policy, Administration and Institutions* 57. The author interprets standards as supplements to legislation and models of co-regulation.

²⁵ *Ibid.*, 60. On the attributes of effective standards, see also the *Standards Development Organization Advancement Act of 2004*, 15 U.S.C. § 4301 (Supp. 2004).

for activities or their results, aimed at the achievement of the optimum degree of order in a given context”²⁶.

However, the element of ‘approval by a recognised body’ in this definition only covers standards adopted by formal standardization bodies, such as the International Standardization Organization (ISO). Standards, instead, may be developed also by *consortia* (e.g., the World Wide Web Consortium [W3C]) and by professional organizations (as the Institute of Electrical and Electronics Engineers [IEEE]). Therefore, the definition given by ISO seems to be reductive²⁷.

The importance of cooperative standards lies in the fact that, where a good service or procedure is concerned, a written document usually is needed to define the form it should take²⁸. In this context, cooperative standards play a crucial role, as they enable products to circulate and be compatible with other goods, services or procedures. Thus, they are also beneficial to the enhancement of free trade. The importance of their role is even clearer if we consider that standards nowadays affect and influence several economic activities, and that their extension is closely related to economic globalization and transformation of regulatory processes at the international, regional and national levels²⁹.

²⁶ International Standardization Organization (ISO) / International Electro-technical Commission (IEC), *Guide 2: 2004, Standardization and Related Activities – General Vocabulary*, 8.

²⁷ T.M. Egyedi and K. Blind (n° 7) 3.

²⁸ O. Borraz (n° 24) 57.

²⁹ *Ibid.* See also T.M. Egyedi (n° 14); here, the author also highlights the risks and negative effects deriving from two or more overlapping cooperative standards.

From cooperative or *de jure* standards it is possible to distinguish *de facto* standards. The latter have been defined as “widely adopted (specifications or company standards that underlie) products, services or practices”³⁰. From a further point of view, *de facto* standards have been interpreted as standards resulting from a unilateral act and emerging through the mediation of the marketplace³¹. In brief, as clearly explained by Lelong and Mallard, “the dynamic in which purchasers on a market take up particular products finally leads to one or more lasting standards being selected from among diverse possible alternative technologies”³². Examples of *de facto* standards are represented by the software and hardware architecture of personal computers. *De facto* standards usually have a significant market share, albeit they are often subject to changes (e.g., software updates). Of course, they may be processed by standards bodies and become cooperative standards³³.

The distinction between cooperative and *de facto* standards does not exhaust the possible classifications based on the way standardization can be achieved. Several authors, indeed, have opted for a more specific subdivision. Within *de jure* or cooperative standards, for instance, some commentators have identified and distinguished those standards adopted by formal bodies (recognised

³⁰ T.M. Egyedi and K. Blind (n° 7) 3.

³¹ O. Borraz (n° 24) 58.

³² B. Lelong and A. Mallard (n° 23) 20.

³³ This happened to the portable document format specification of Adobe. The PDF standard, indeed, has been formalised in 2008 by ISO (ISO 32000).

standard setting institutes) from those developed by industrial *fora* and *consortia*³⁴. The importance of the role of the latter, which generally lack a formal approval from recognised bodies, has led the EU Commission to adopt a white paper in which it proposes to enable “the referencing of specific *fora* and consortia standards in relevant EU legislation and policies”³⁵. Also Farrell and Soloner propose a further classification, and distinguish between (*de facto*) standards adopted by the market, (cooperative) standards developed by standardization bodies, and standards achieved by a combination of the two, in which unilateral actions and negotiations are allowed³⁶. Regardless of these differences, both standards developed by formal bodies and by private networks have led to investigations by EU and U.S. antitrust enforcers.

2.2 Proprietary and Open Standards

Further relevant classifications cited by the literature distinguish between proprietary and non-proprietary standards, and between closed and open standards. These classifications have raised heated debates, which have concerned in particular the meaning of an open standard. Defining the openness

³⁴ J. Gstalter, “Open Standards & Antitrust”, (2010) 1 *Concurrences* 13-14; J.Y. Art and U. Decker, “Openness and Standards – How do (Open) Standards Affect Competition?”, (2010) 1 *Concurrences* 30.

³⁵ European Commission, “Modernising ICT Standardization in the EU – The Way Forward”, (Communication) COM 324 final, 3 July 2009, § 2.5.

³⁶ J. Farrell and G. Saloner, “Coordination through Committees and Markets”, (1988) 19(2) *Rand Journal of Economics* 235-252.

of a standard, indeed, often implies more questions than it gives answers³⁷. It is the most difficult and controversial step, and different interpretations showing similarities as well as opposing approaches have been adopted by *consortia*, formal standard setting bodies and commentators³⁸. Some authors interpret the concepts of proprietary and openness as not necessarily mutually exclusive. Hence, there might be both open and closed proprietary standards, depending also on the definitions adopted³⁹. At the same time, alternative theories hold that proprietary standards are typically closed, as they require access to firms' IPRs, and link the concept of openness only to non-proprietary standards, which do not read on any rights⁴⁰. The next sections are devoted to understand better the meaning of these terms, and to shed light on a debate which has created so far much confusion.

Proprietary v Non-Proprietary Standards

The notion of 'proprietary' does not refer to the context in which the standard has been developed. It refers, instead, to its content. A standard may be

³⁷ M. Valimaki, "Two Types of Openness in Information Technology Standards and Competition Policy", (2010) 1 *Concurrences* 18.

³⁸ See, for instance, M. Bolhuis, "Open Standards and the Internet - The Way Forward", (2010) 1 *Concurrences* 33-34; K.J. Koelman, "An Exceptio Standardis: Do We Need an IP Exemption for Standards?", (2006) 37(7) *International Review of Intellectual Property and Competition Law* 840-841; M. Dolmans "A Tale of Two Tragedies - A Plea for Open Standards, and Some Comments on the RAND Report", (2010) 1 *Concurrences* 19; J. Gstalter (n° 34) 14; J.Y. Art and U. Decker (n° 34) 31.

³⁹ P. Hellstrom, T. Kramler and F.W. Bulst (n° 10) 36.

⁴⁰ On the argument, see N. Kroes (n° 6) 2.

defined as proprietary when its implementation requires access to and the right to use intellectual property rights⁴¹. According to Grant, then, a standard is proprietary when a firm owns patents or other proprietary technology that give it ownership and control of the standard⁴². De Vries, furthermore, defines proprietary standards as those often protected by intellectual property rights, as patents or copyright⁴³. On the other hand, when a standard is non-proprietary, there is no need to negotiate licensing agreements or ask for permission to use or develop the technology. Consequently, no payment of licensing fees is required. As clarified by Kroes, former EU competition policy Commissioner, non-proprietary standards “avoid subjecting the future development of the standard and the technology to the commercial interests of the technology’s originator”⁴⁴. This would also explain why they are usually preferred by many *consortia* and formal SSOs. It should not be forgotten that non-proprietary standards have driven excellent technical development, as in the case of the internet (e.g., the HTTP and HTML standards)⁴⁵. However, a legitimate question arises: would the adoption of non-proprietary standards lead to less firms investing in innovation? IPRs owners, it is worth remembering, usually aim at being rewarded for their investments in research and development.

⁴¹ P. Hellstrom, T. Kramler and F.W. Bulst (n° 10) 36.

⁴² R.M. Grant, *Contemporary Strategy Analysis* (Blackwell Publishing Ltd., Massachusetts 2002).

⁴³ H. de Vries and I. Oshri, *Standards Battles in Open Source Software* (Palgrave Macmillan, London 2008) 26.

⁴⁴ N. Kroes (n° 6) 2.

⁴⁵ *Ibid.*

Open v Closed Standards

As mentioned above, the most difficult step in the analysis of standards concerns the definition of openness. Indeed, there is no general consensus of what constitutes an open standard. It seems clear, however, that this concept should be appraised at two different levels: the access to the standardization process and the access to the standard once adopted⁴⁶.

Firstly, the process of standard setting refers to the development and approval of the standard by the firms involved⁴⁷. Access to a standardization process can be interpreted as open when: a) interested firms are not excluded from the process, and are admitted on the basis of objective criteria; b) the process is based on consensus and collaboration; c) procedures are transparent⁴⁸. The importance of these elements has been confirmed also by resolutions of different international standard setting organizations, as the Global Standards Collaboration (GSC)⁴⁹ and the International Telecommunication Union (ITU)⁵⁰. The transparency of procedures and the implementation of consensus-driven activities should be usually granted by the SSOs' policy rules. However, as

⁴⁶ J. Gstalter (n° 34) 14.

⁴⁷ *Ibid.*

⁴⁸ See European Commission, "Modernising ICT Standardization in the EU – The Way Forward", (Communication) COM 324 final, 3 July 2009, § 2.1. See also M. Dolmans, "Standards for Standards", (2002) 26(1) *Fordham International Law Journal* 163-208; M. Dolmans (n° 38) 21-23; P. Hellstrom, T. Kramler and F.W. Bulst (n° 10) § 5; and J.Y. Art and U. Decker (n° 34) 31.

⁴⁹ Available at <http://www.itu.int/ITU-T/gsc/gsc14/documents.html>.

⁵⁰ Available at <http://www.itu.int/ITU-T/othergroups/ipr-adhoc/openstandards.html>.

I will argue in the next chapters, misleading and unfair conduct by the participants may undermine these objectives and, more in general, the scope of the standard setting process. The effect would be detrimental to the enhancement of innovation, and may harm consumer and societal welfare. In view of these considerations, it seems crucial to ensure that access to standardization be open for all interested firms⁵¹.

Secondly, the concept of openness should be appraised with respect to the access to the standard. In this context, it is possible to distinguish between access to the documentation of a standard, and access to the implementation of a standard. The former can be limited by the existence of copyright or trade secrets, while the latter instead is usually influenced by the role of patents⁵². The access to the documentation of a standard may sometimes be limited by trade secrets, which are usually used as effective tools to keep the documentation closed and confidential. Similarly, a further tool to keep a standard confidential has sometimes been represented by copyright, although several authors and institutions nowadays bring into question the ‘copyrightability’ of standards⁵³. In case documentation is covered by trade secrets or

⁵¹ See below, Chapter IV.

⁵² J. Gstalter (n° 34) 14; M. Valimaki (n° 37) 17-18. On the role of IPRs in business models, see A. Layne Farrar, “Business Models and the Standard Setting Process”, in *The Pro & Cons of Standard Setting* (Swedish Competition Authority, 2010) 39.

⁵³ See for instance the Directive of the European Parliament and of the Council 2009/24/EC on the Legal Protection of Computer Programs (Codified Version), [2009] O.J. L111/16.

copyright, the standard cannot be called open. A similar conclusion should also be reached when there is no documentation available⁵⁴.

The most controversial aspect in defining the concept of openness regards the open implementation of the standard. The latter is nowadays often compromised by firms requiring high fees for licensing their patents⁵⁵. This situation is typical, for instance, in the telecommunications and IT sectors, where several patent disputes in standard setting have arisen in the last decade. There are two different interpretations on the concept of open implementation. On the one hand, some authors argue that a standard is openly implemented only when it is non-proprietary or when the firm owning IPRs authorizes the use of the standard through free or open source license⁵⁶. This theory interprets open access as an access which is not associated with licensing restrictions. The user of the standard, therefore, has no duty to pay royalties⁵⁷. This interpretation has been supported by the free and open source community, which advocates a definition of open standard as non-proprietary or, at least, royalty free⁵⁸. On the other hand, other authors and institutions consider the implementation of

⁵⁴ M. Valimaki (n° 37) 17. The author mentions, by way of example, various Microsoft's *de facto* standards, initially not thought to be licensable.

⁵⁵ *Ibid*, 18.

⁵⁶ On the argument, see J. Gstalter (n° 34) 14; M. Valimaki (n° 37) 18; M. Bolhuis (n° 38) 34.

⁵⁷ In the IT sector, a well-known example of technology not restricted by patent royalties is represented by *Linux*, which is licensed under GNU General Public License.

⁵⁸ See, for instance, the Ministerial Declaration on eGovernment, 18 November 2009, available at <http://www.egov2009.se/2009/11/19/an-open-europe-with-accessible-public-administration/>.

a standard open both when there are no licensing restrictions (as in the case of non-proprietary standards or proprietary standards licensed for free) and when the access to intellectual property rights essential to the implementation of the standard is subject to fair reasonable and non-discriminatory terms (FRAND)⁵⁹. FRAND (or, alternatively, RAND) licensing terms represent material restrictions to the access of the standard, and are usually set by SSOs' IPRs policies⁶⁰.

In brief, there is no straightforward answer in defining an open standard. On the one hand, the concept of open access to standardization processes does not seem to raise many questions. On the other, the issue concerning open access to the standard and its open implementation has been at the core of an intense debate. While some standard setting bodies provide open access to the process and allow patent licensing under FRAND or RAND conditions, other institutes and *consortia* do exclude IPRs exploitation from standard development. The main doubt, therefore, is on whether standards can be interpreted as open even when they read on patents which are not licensed for free but under established (FRAND or RAND) licensing terms. The answer may be relevant for those formal standards institutes and *fora* which have a policy interest to keep a standard proprietary (hence, covered by exploitable IPRs) while maintaining the positive image of openness. However, the importance of the debate is not merely linked to the meaning of openness *per se*. Rather, the

⁵⁹ See J.Y. Art and U. Decker (n° 34) 31; P. Hellstrom, T. Kramler and F.W. Bulst (n° 10) 36.

⁶⁰ On the general scope and meaning of FRAND/RAND licensing rules, see below section 3.3.3.

different arguments made by the literature lead to focus on a much more relevant issue, which calls into question the very essence of the relationship between competition and IP laws: the need to align the economic contribution of a standard to innovation with the effective reward for the innovator.

Benefits of Rewarding Standards

The key policy question, in particular, is whether allowing patent licensing in standard setting may benefit the industry and final consumers. As some authors rightly noted, “a truly patent-free standard is not always as open to competition as a standard with reasonable licensed patents”⁶¹. If SSOs were to exclude patent licensing from standard setting, indeed, there could be fewer firms entering the markets. It should not be forgotten that IPRs owners are usually incentivised in investing resources in innovation as long as they get rewarded for their economic efforts. Rewards may consist either in the payment of royalties or in cross-licenses in case of vertically integrated innovators (*i.e.*, firms holding IPRs and manufacturing downstream).

Exclusion of IPRs licensing from standardization may hence lead to less innovation and less competition within the standards⁶². In other words, the immediate consequence could be a reduced number of standards and of a lower

⁶¹ M. Valimaki (n° 37) 18.

⁶² Cf J. Bessen, “Open Source Software: Free Provision of Complex Public Goods”, in J. Bitzer and P.J.H. Schroder, *The Economics of Open Source Development* (Elsevier Science Publishers, 2006).

quality⁶³. The ultimate effect could be detrimental to the welfare of consumers, and may impact negatively their consumption levels. Decreased consumer demand may then lower production levels, thus harming societal welfare as a whole. A slightly different position has been adopted by Kroes, which has argued that IPRs should not be included in a standard when there are no demonstrable benefits over free non-proprietary alternatives. Nevertheless, the former EU competition policy Commissioner at the same time recognised that “patent system is a tremendously effective mechanism to create incentives to innovate, and reward successful innovation”⁶⁴.

3. Standardization Processes

As seen in the previous section, standards can be developed by interested parties on a cooperative basis or can derive from dominant firms emerging in the market. Reference to the dynamics that lead to establish *de facto* standards has been made in Chapter II of the work, during the analysis of the *Microsoft* case, which represents a well-known example of specifications chosen by the market⁶⁵. Cooperative or *de jure* standards, instead, are either adopted in formal standard bodies or in private *fora* and *consortia*. Unlike the latter, which usually gather

⁶³ J.C. De Vellis, “Patenting Industry Standards: Balancing the Rights of Patent Holders with the Need for Industry-Wide Standards”, (2003) 31 *AIPLA Quarterly Journal*.

⁶⁴ N. Kroes (n° 6) 2-4.

⁶⁵ See Case C-3/37.792 *Microsoft* [2007] O.J. L32; Case T-201/04 *Microsoft v Commission* [2007] E.C.R. II-03601. In the U.S., see *United States v Microsoft*, 253 F.3d 34 (C. App. D.C. Circuit, 2001), at 59.

firms from the private sector and lack governmental approval, formal standard organizations may either be public or private bodies accredited or appointed by governments or other governmental institutes. On a similar ground, Krechmer defines a formal standard setting body as one that is recognized directly or indirectly by a government entity⁶⁶. Depending on the legal system considered, these two models of standardization have expanded in very different ways. While the U.S. has usually favoured competing solutions within private industry-created networks⁶⁷, the European Union has instead adopted a more uniform and formalised standard setting approach⁶⁸.

3.1. *Fora and Consortia*

Industry-created *fora* and *consortia* can be defined as communities or networks devoted to the development of standards on a cooperative basis. As mentioned above, *fora* and *consortia* usually lack official approval by governments or other recognised organizations. This notwithstanding, several standards have been adopted in this context. Important standard setting

⁶⁶ K. Krechmer, "The Meaning of Open Standards", (2006) 4(1) *The International Journal of IT Standards and Standardization Research*. On the difference between formal and informal standard setting organizations, see also S. Sattler (n° 2) 345.

⁶⁷ M. Maher, "An Analysis of Internet Standardisation", (1998) 3 *Virginia Journal of Law and Technology* 1522. For an overview of U.S. standardization principles and definitions, see also the *Standards Development Organization Advancement Act of 2004*, 15 U.S.C. § 4301 (Supp. 2004).

⁶⁸ A. Neumann, "The European Regulatory Framework for Standardisation in the Telecommunications Sector", in C. Koenig, A. Bartosch and J.D. Braun, *EC Competition and Telecommunications Law* (Kluwer Law International, 2002) 624.

developments, for instance, have been achieved in different sectors by IETF⁶⁹, DVB⁷⁰, IEEE⁷¹, OASIS⁷² and W3C⁷³.

In the U.S., standardization processes are typically conducted by *fora* and *consortia* instead of governmental institutes⁷⁴. Of course, official standards institutes do exist also in the United States (e.g., the American National Standards Institute). However, industry-created private networks are growing rapidly and consistently, especially in those industries characterized by a rapid technological development. These private networks usually gather together competing firms with different degrees of influence in the marketplace, and promote the development of standards⁷⁵.

⁶⁹ The Internet Engineering Task Force (IETF) is a large open international community of network designers, operators, vendors, and researchers concerned with the evolution and operation of the Internet (<http://www.ietf.org>).

⁷⁰ The Digital Video Broadcasting (DVB) is a European *consortium* designing open technical standards for the global delivery of digital television and data service (<http://www.dvb.org>).

⁷¹ The Institute of Electrical and Electronics Engineers (IEEE) is an international professional organization for the advancement of technology related to electricity (<http://www.ieee.org>).

⁷² The Organization for the Advancement of Structured Information Standards (OASIS) is a *consortium* that drives the development, convergence and adoption of open standards for the global information society (<http://www.oasis-open.org>).

⁷³ The World Wide Web Consortium (W3C) is an international community which develops standards to ensure the long-term growth of the web (<http://www.w3.org>).

⁷⁴ P. Staniszewski, "The interplay between IP rights and competition law in the context of standardisation", (2007) 2 *Journal of Intellectual Property Law and Practice* 668.

⁷⁵ C. Shapiro, "Setting Compatibility Standards, Co-operation or Collusion?", in R. Dreyfuss, D.L. Zimmerman and H. First, *Expanding the Boundaries of Intellectual Property -- Innovation Policy for the Knowledge Society* (Oxford University Press, 2001) 81.

In the context of *fora* and *consortia*, standardization is faster, more effective and less formal than the processes of officially entrusted SSOs. This is because private industry-created bodies have usually fewer procedural safeguards, and fewer members which often play a relevant influence in the market concerned and may even control the improvements of the standard setting process⁷⁶. This may often happen when dominant firms try to exclude from standardization activities those rivals that would probably make the whole process slower and difficult.

These characteristics of private competing networks, at the same time, may easily determine risks under competition and antitrust laws. Concerns for competition enforcement agencies may arise in case few firms with high market power control and direct standardization activities, from the procedure to the structure and composition of SSOs⁷⁷. These risks, as explained below, seem of more limited scope in the context of formal SSOs. This does not mean that no potential risk of subversion of a standard setting process exists in formal bodies.

⁷⁶ R. Werle, "Institutional Aspects of standardisation: Jurisdictional Conflicts and the choice of standardisation organisations", (MPIFG Discussion Paper 00/1) available at http://www.mpi-fg-koeln.mpg.de/pu/mpifg_dp/dp00-1.pdf.

⁷⁷ C. Koenig and K. Spiekermann, "EC competition law issues of standard setting by officially-entrusted versus private organizations", (2010) 31(11) *European Competition Law Review* 451.

3.2. Formal Standard Setting Organizations

Formal standard setting bodies represent the most common vehicle for standard setting processes, and can be found at national (e.g. ANSI⁷⁸, DIN⁷⁹, AFNOR⁸⁰ or BSI⁸¹), European (e.g. CEN⁸², CENELEC⁸³, ETSI⁸⁴) or international level (e.g. ISO⁸⁵, IEC⁸⁶, ITU⁸⁷). Especially in Europe, officially entrusted

⁷⁸ The American National Standards Institute (ANSI) is a U.S. private body promoting the development of voluntary consensus standards for products, services, processes and systems (<http://www.ansi.org>).

⁷⁹ The '*Deutsches Institut fur Normung*' (DIN) is the German organization for standardization, and represents Germany before the International Standardization Organization (<http://www.din.de>).

⁸⁰ The '*Association Francaise de Normalisation*' (AFNOR) is the French national organization for standard setting, and is a member of the ISO (<http://www.afnor.org>).

⁸¹ The British Standard Institution (BSI) is a business services provider focused on the production of standards and the supply of standard-related services (<http://www.bsigroup.com>).

⁸² The European Committee for Standardization or '*Comité Européen de Normalisation*' (CEN) is a non-profit organisation aimed at fostering the European economy in global trading and the welfare of European consumers by promoting the development, maintenance and distribution of coherent sets of standards and specifications (<http://www.cen.eu>).

⁸³ CENELEC ('*Comité Européen de Normalisation Électrotechnique*') is the European Committee for Electrotechnical Standardization, and is responsible for European Standardization in the area of electrical engineering. Together with ETSI (telecommunication) and CEN (other technical areas), it forms the European system for technical standardization (<http://www.cenelec.eu>).

⁸⁴ The European Telecommunications Standards Institute (ETSI) is an independent, non-profit, standardization organization in the telecommunications industry (equipment makers and network operators) in Europe, with worldwide projection (<http://www.etsi.org>).

⁸⁵ The International Organization for Standardization (ISO) is an international standard setting body composed of representatives from various national standards organizations. ISO promulgates worldwide proprietary industrial and commercial standards (<http://www.iso.org>).

⁸⁶ The International Electro-technical Commission (IEC) is the world's leading organization that prepares and publishes international standards for all electrical, electronic and related technologies (<http://www.iec.ch>).

organizations develop the main part of standards in different industries. Like *fora* and *consortia*, these formal bodies provide incentives for firms, which may otherwise compete among themselves, to collaborate in the selection of the standards. The collaborative goal of SSOs, in particular, is to adopt and promote standards that either do not read on anyone's right (non-proprietary) or, if they do, are developed under condition that IPRs are licensed under defined terms, usually fair reasonable and non-discriminatory terms (FRAND, or alternatively RAND)⁸⁸. In the latter case, owners and users of patents are incentivised to cooperate and establish standards which should facilitate the production of interoperable end products reading on patented technologies⁸⁹.

From a procedural perspective, formal standard setting processes usually involve close cooperation between different working groups and standards committees. Standardization activities may begin with discussions among participants on a particular subject worthy to be considered for a standard. Different proposals may then be elaborated by members and submitted for a ballot vote. Once the parties identify a potentially practicable project, a working

⁸⁷ The International Telecommunication Union (ITU) is an agency which regulates information and communication technology issues. ITU works to improve telecommunication infrastructure in the developing world and establishes worldwide standards (<http://www.itu.int>).

⁸⁸ A. Layne Farrar, A.J. Padilla and R. Schmalensee, "Pricing Patents for Licensing in Standard-Setting Organizations: Making Sense of Frand Commitments", (2007) 74 *Antitrust Law Journal* 671-672.

⁸⁹ J.G. Sidak, "Patent Hold-up and Oligopsonistic Collusion in Standard-Setting Organizations", (2009) 5(1) *Journal of Competition Law & Economics* 124.

group, supervised by a committee, evaluates the possible approaches to the new standard and reaches an initial agreement. This is then published as a draft standard and made available for public comments. The results may then be examined by the standards committee, before the final adoption and publication of the standard⁹⁰. Of course, in order to complete successfully the selection process, the interested parties must comply with specific rules, which should work as safeguards for all members of a standards institute.

3.3 Policy Rules

Both private *fora* and officially entrusted SSOs have developed –sometimes to a different extent- policy rules regulating the various procedures which follow in the adoption of a standard. These provisions should also function as an incentive to participate in the standard setting process, as the participants need to be able to rely on the declarations of their fellow SSOs members that they are fully disclosing the existence of any rights related to the chosen standard and are respecting any established licensing terms. Without this assurance, firms would seldom be part of the standardization process, and this outcome would consequently lead to an inefficient result in the development of standardized technologies⁹¹.

⁹⁰ C. Koenig and K. Spiekermann (n° 77) 450 (citing the procedure before DIN, the German Institute for Standardization).

⁹¹ M.C. Naughton and R. Wolfram (n° 3) 702.

The abovementioned rules are of three different types: search, disclosure, and licensing rules⁹². The specific content of these typical provisions may vary from one standard setting body to the next, making it difficult to generalize on the precise extent of their meaning. SSOs' participants, what is more, may find sometimes difficult to identify clearly the policy provisions they are required to comply with. As held by Lemley, indeed, "most technology companies face a hodgepodge of rules and obligations of which they are only dimly aware"⁹³.

This notwithstanding, these rules are particularly important as they aim at neutralizing any potential risk of misleading and unfair conduct, consisting for instance in patent ambush (also known as patent troll) or in the mere application of supra-competitive licensing fees by the IPRs owners. These behaviours may both be referred to as patent hold-up. As it will be better explained in Part II, patent ambush occurs when a member of a standard setting body wilfully and knowingly withholds information about the existence of IPRs it owns (or intends to file) related to the standard, and subsequently asserts that those rights have been infringed by use of the adopted standard⁹⁴. As a consequence, the IPRs

⁹² *Ibid*, 759. See also J. Farrell, J. Hayes, C. Shapiro and T. Sullivan, "Standard Setting, Patents, and Hold-Up", (2007) 74 *Antitrust Law Journal* 624.

⁹³ M. Lemley, "Intellectual Property Rights and Standard-Setting Organizations", (2002) 90 *California Law Review* 1889, 1943.

⁹⁴ D. Geradin and M. Rato, "Can Standard Setting Lead to Exploitative Abuse? A Dissonant View on Patent Hold-Up, Royalty Stacking and the Meaning of Frand", (2007) 3 *European Competition Journal* 160; M.S. Royall, A. Tessar and A.J. Di Vincenzo, "Deterring 'Patent Ambush' in Standard Setting: Lessons from *Rambus* and *Qualcomm*", (2009) 23(3) *Antitrust* 34; C.B. Hockett and R.G.

owner may finally obtain from the firms using the standard exorbitant fees for licensing its intellectual property rights⁹⁵.

Of course, stronger policy rules may mitigate the patent ambush problem, but may also discourage some IPRs owners from participating to standardization processes. Different authors, as Lerner and Tirole, have considered and analysed the existing connection between SSOs' membership and policies⁹⁶. It is clear, then, the importance of striking an optimal balance in SSOs policy rules, so as to preserve the interests of all parties (innovators, users and manufacturers) involved in the process.

More in general, search, disclosure and licensing rules play a crucial role as they function as constraints on SSOs' members. From a policy perspective, they are important as the choice of the relevant rules and the response given to those by the members directly reflect the tension between the risks of anticompetitive conduct and the incentive to protect IPRs⁹⁷.

Lipscomb, "Best FRANDs Forever? Standard-Setting Antitrust Enforcement in the United States and the European Union", (2009) 23(3) *Antitrust* 19.

⁹⁵ G. Ohana, M. Hansen, O. Shah (n° 1) 645; J.G. Sidak (n° 89) 123; J. Gstalter (n° 34) 16.

⁹⁶ J. Lerner and J. Tirole, "A Model of Forum Shopping", (2006) 96 *American Economic Review* 1091, 1107; B. Chiao, J. Lerner and J. Tirole, "The Rules of Standard Setting Organizations: an Empirical Analysis", (2007) 38(4) *Rand Journal of Economics* 905.

⁹⁷ M.C. Naughton and R. Wolfram (n° 3) 703. See also J. Temple Lang, "Reconsidering the European Union Antitrust Rules on Technology Transfer", (Fordham Intellectual Property Conference, April 2002).

3.3.1 Search Rules

Search rules require the members of SSOs to search within their IPRs portfolio for any rights (usually patents) that may potentially cover the standard under examination⁹⁸. However, only few organizations have considered search or inquiry rules⁹⁹. Indeed, the vast majority of SSOs explicitly disavow any search requirement¹⁰⁰.

The main reason lies on the fact that firms, in particular in high-technology sectors, usually send engineers and not patent lawyers to represent them before SSOs. Engineers, indeed, have a deeper understanding of the subject matter that will be at the core of discussion in the standard setting context. At the same time, however, these engineers seldom have extensive knowledge of their firms' patent portfolios. Rather, the extent of actual knowledge of the firms' IPRs is usually limited, especially when a firm has hundreds of patents which may potentially cover a proposed standard¹⁰¹. Therefore, a SSO establishing a clear duty to search

⁹⁸ M.C. Naughton and R. Wolfram (n° 3) 759.

⁹⁹ The VMEbus International Trade Association (VITA) requires a member to make "a good faith and reasonable inquiry into his or her company's patent holdings". However, this does not mean that members have to search their entire patent portfolio (see VITA Standards Organization - Policies and Procedures (30 November 2009), available at www.vita.com/vso-pp-r2d6.pdf).

¹⁰⁰ E.g, the American National Standards Institute (ANSI) and the European Telecommunications Standards Institute (ETSI) do not include in their policies any duty of search conflicting IPRs.

¹⁰¹ M. Lemley (n° 93) 1907; D.J. Teece and E.F. Sherry, "Standard Setting and Antitrust", (2003) 84 *Minnesota Law Review* 1945-1946.

would at the same time impose on members a high burden that could deter them from participating in the standard setting process¹⁰².

A second reason that may dissuade standard setting bodies from including search rules in their policy is related to the difficulty of determining when a company is required to search for potentially conflicting IPRs¹⁰³. Standard setting, indeed, is a process *in itinere*, where the standard evolves from the status of proposal to the final form adopted by the organization. Therefore, standard setting bodies may rather opt to include in their policy only a duty to disclose those potentially conflicting IPRs within the actual knowledge of the members' representatives. Under such a limited duty, a member failing to disclose to the standard setting body relevant IPRs, which are not within the actual knowledge of its representative, would not breach the policy rules of the SSO. It is true, however, that the undefined notion of 'actual knowledge' may raise several interpretative doubts. For instance, it could be questioned whether SSO members should be immunised from liability even when they 'wilfully blind' their representatives from knowledge about their relevant IPRs. Should the 'actual knowledge' protection stop in case innovators wilfully fail to inform their representatives about the firms' interests in the standard¹⁰⁴? A plausible answer to the issue seems perhaps to depend on the effectiveness in SSO contexts of a good faith duty, although its scope and boundaries are still uncertain.

¹⁰² M.C. Naughton and R. Wolfram (n° 3) 761.

¹⁰³ D.J. Teece and E.F. Sherry (n° 101) 1947.

¹⁰⁴ M.C. Naughton and R. Wolfram (n° 3) 771-772.

More reasonably, and as attested also by the arguments developed in the next chapters, a solution may derive from the implementation of robust policy regulations encouraging full disclosure of relevant IPRs in the first place.

Turning back to the risks related to search provisions, Teece and Sherry have also identified a further practical reason which may lead standard setting bodies to omit a duty to search in their policy rules. “[I]mposing a duty to disclose known patents”, the authors argue, “is relatively costless, while imposing a duty to search for potentially relevant patents can be quite costly to firms with significant patent portfolios”¹⁰⁵. Perhaps, Teece and Sherry observe, “imposing disclosure rules without requiring a patent search may do little or nothing to protect other SSO participants, or users of the standard, from future patent infringement claims”¹⁰⁶. However, as Naughton and Wolfram observe, this is the degree of protection that firms usually seek and that may incentivise their participation in standard setting activities¹⁰⁷.

In brief, the imposition of extensive search rules could certainly help standardization environments to achieve a more transparent and competitive process. On the other hand, as Teece and Sherry rightly asserted, search requirements may drastically reduce the number of innovators participating to SSOs processes. Which meaning, then, would standardization have in

¹⁰⁵ D.J. Teece and E.F. Sherry (n° 101) 1951.

¹⁰⁶ *Ibid.*

¹⁰⁷ M.C. Naughton and R. Wolfram (n° 3) 761.

the absence of those very firms investing in new innovative products? Reduced participation from IPRs owners would probably lead to the development of lower quality standards or to a higher risk of patent litigation. Indeed, the higher the number of innovators not involved in SSOs processes, the higher the risk that adopted standards may conflict with those firms' rights.

In light of these observations, the effectiveness of search rules seems more than doubtful. It is not surprising, therefore, that different SSOs have been so far reluctant to impose on members a duty to search. This has been confirmed by a survey led in the field of network industries by Lemley, which has scrutinised several SSOs dealing with interface standards in the IT (information technology), TMT (telecommunication) and semiconductors sectors. Of these SSOs, only a very small percentage required members to search for relevant IPRs¹⁰⁸.

3.3.2 Disclosure Rules

Disclosure rules impose on the participants of standard setting bodies to reveal the existence of any rights related to the standard. These provisions are established by SSOs with the intent to limit patent ambush and, more in general, misleading and unfair conduct of the participants¹⁰⁹. Typically, the disclosure duty concerns only essential IPRs, which are those rights that would be infringed

¹⁰⁸ M. Lemley (n° 93) 1904-1905. In particular, only 4 of the 43 standard setting bodies surveyed included search duties in their IPRs policies.

¹⁰⁹ J. Farrell, J. Hayes, C. Shapiro and T. Sullivan (n° 92) 624.

in case of implementation of the standard¹¹⁰. IEEE (Institute of Electrical and Electronics Engineers) defines essential rights as those that are necessarily infringed by either mandatory or optional portions of the standard¹¹¹.

Timing of Disclosure

SSOs policies usually promote early disclosure, although they seldom clarify the optimal timing to reveal the existence of essential IPRs. One organization, for instance, simply advises patent holders to act “as soon as reasonably feasible”, but “no later than the approval of the standard”¹¹². However, disclosure only when a standard is close to be approved may be too late, as in the meantime costs may have become sunk and partial commitments may have been submitted. At the same time, disclosure when a process has just begun may also be problematic for IPRs owners, as the SSO may consider at early stages too many alternatives¹¹³. It is clear, then, why the EU Commission has pressed standard setting bodies to shed light on the problem and define more clearly the meaning of ‘timely’ disclosure in SSOs rules¹¹⁴. In my view, it seems crucial to set a disclosure timing which properly takes into account both

¹¹⁰ *Ibid*, 627.

¹¹¹ See IEEE-SA, Standards Board Bylaws, Section 6.1 Patents-Definitions (2006), available at <http://standards.ieee.org/guides/bylaws/sect6-7.html>.

¹¹² *Ibid*, § 6.2.

¹¹³ J. Farrell, J. Hayes, C. Shapiro and T. Sullivan (n° 92) 628.

¹¹⁴ European Commission, “Commission Welcomes Changes in ETSI IPR Rules to Prevent ‘Patent Ambush’”, (12 December 2005) Press Release IP/05/1565.

the need to preserve the optimal functioning of SSO processes and the need to enable innovators to know exactly what type of IPRs may conflict with the proposed standard. Striking the right test implies, once more, the well-known need to balance between IPRs owners' interests and SSOs' objectives.

Subject of Disclosure

A further relevant issue, then, concerns the distinction between disclosure of pending and of issued IPRs. Lemley noted that, in case of patents, most SSOs usually require disclosure of issued patents only. Members, instead, are seldom required to disclose pending patent applications¹¹⁵. The author, in particular, found that only few of the SSOs surveyed required disclosure of both issued and pending IPRs (among these, JEDEC¹¹⁶, ETSI¹¹⁷, W3C¹¹⁸ and ITU¹¹⁹).

¹¹⁵ M. Lemley (n° 93) 1904-1905.

¹¹⁶ The Joint Electron Devices Engineering Council (JEDEC) requires disclosure of any patents, granted or pending (see the JEDEC Manual of Organization and Procedure, JM21-P § 8 (2010), available at <http://www.jedec.org/Home/manuals/JM21P.pdf>).

¹¹⁷ The European Telecommunications Standards Institute (ETSI) explicitly refers, in its IPRs policy, to issued patents and patent applications (see ETSI Guide on IPRs, § 1.3 (27 November 2008), available at http://www.etsi.org/WebSite/document/Legal/ETSI_Guide_on_IPRs.pdf).

¹¹⁸ The World Wide Web Consortium (W3C) requires disclosure of published patent applications. It also requires disclosure of unpublished patent applications only in case the application's claims refer to information gathered from a W3C working group or document (see W3C Patent Policy, § 6 (5 February 2004), available at www.w3.org/Consortium/Patent-Policy-20040205/).

¹¹⁹ The International Telecommunication Union (ITU) requires disclosure of known essential patent and patent applications (see the Guidelines for Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC § 3 (1 March 2007), available at www.itu.int/ITU-T/dbase/patent/patent-policy.html).

As Naughton and Wolfram observed, there are both practical and policy reasons why SSOs do not establish a duty to disclose pending patent applications¹²⁰. First, it is difficult enough for firms' representatives to determine whether an issued patent may potentially be related to a proposed standard. It would be all the more difficult in case of pending patent applications which may often undergo revision. In consideration of the fact that also a proposed standard may change before a final version is approved, firms' representatives would find themselves in the position "to hit not one but two moving targets"¹²¹.

Secondly, it has been contended that requiring firms to disclose pending patent applications in the standard setting context would unjustifiably compromise firms' trade secret rights¹²². Disclosure of pending patent applications would indeed sacrifice the protection the applicant enjoys as long as it keeps the information confidential. A rival informed of the applicant's invention, for instance, may try to obtain patents for improvements of that invention. In other words, disclosure of an application would make competitors aware of the applicant's competitive strategy, and this could lead to jeopardize

¹²⁰ M.C. Naughton and R. Wolfram (n° 3) 763.

¹²¹ *Ibid*, 764.

¹²² R.J. Taffet, "Patented Technology and Standard Setting: a Standard Development Organization View", in ABA Antitrust Section, *A Year in the Life of a High Tech Standard Setting Organization* (Spring Meeting, 25 April 2002).

the applicant's ability to obtain coverage from the patent office in a timely manner¹²³.

In light of these arguments, the vast majority of standard setting bodies do not usually require their members to disclose pending patent applications potentially related to a proposed standard. Despite the logic of the reasoning, however, Lemley takes a slightly different view. He argues that a duty to disclose pending patent applications would seldom be a concern for the applicant's trade secret rights. As the argument goes,

"[o]nly the existence and scope of the patent or patent application and not the technical know-how of the invention itself normally must be disclosed to an SSO. While the very existence of a patent application may sometimes be a valuable secret, in the context of a publicly adopted standard the legitimate value of this particular secret does not seem very high"¹²⁴.

In my opinion, it is undoubted and indisputable that disclosure of sensitive information may make rivals aware of the fields in which the applicant is pouring its resources and those in which it is not¹²⁵. However, it cannot be taken for granted that experts (e.g., engineers) in a given field could infer the substance of an invention without access to the related technical know-how. Therefore, the

¹²³ M.C. Naughton and R. Wolfram (n° 3) 764-765.

¹²⁴ M. Lemley (n° 93) 1943.

¹²⁵ M.C. Naughton and R. Wolfram (n° 3) 767.

mere disclosure of the existence and scope of a pending claim may still preserve the applicant's business while granting the SSO sufficient information to adopt the optimal decision. In this sense, Lemley's arguments do seem persuasive.

These observations lead to conclude that disclosure requirements should include, beyond issued IPRs, also a partial description of pending rights. Such description, as further explained in Chapter VII, may enable a standards institute to preserve the fairness and transparency of the whole process, and reduce the risks of misleading behaviours. Indeed, innovators may potentially use to their advantage the undisclosed pending status of their claims, and try to charge (once the right is granted and the standard selected) excessive fees. That is why any policy proposed in this context should include rules which may effectively tackle also the risks deriving from originally pending rights. Such a policy, in addition, should incentivize members to disclose other participants' and third parties' IPRs of which they are aware. However, it could be argued, obstacles may still arise in case of disclosure of invalid IPRs (*i.e.* over-disclosure)¹²⁶.

3.3.3 Licensing Rules

Search and disclosure rules are not the only tools that standard setting bodies may adopt. SSOs policies, indeed, usually include also licensing rules. The latter require that participants whose IPRs are read on by the proposed standard license them under specific terms. Licensing provisions usually try to

¹²⁶ See *Nokia v Interdigital Technology*, [2007] E.W.H.C. 3077.

solve the alleged tension between IPRs and antitrust by requiring SSOs' members either to license their patents for free or, alternatively, to charge licensees under fair reasonable and non-discriminatory terms (FRAND) or reasonable and non-discriminatory conditions (RAND)¹²⁷. Lemley's survey seems to confirm the relevance given to these licensing terms by SSOs policies¹²⁸.

If IPRs owners do not agree to comply with these rules, it has been held, "the SSO will often refuse to adopt the proposed standard or will withdraw the standard if it has already been promulgated"¹²⁹. Furthermore, in case the SSO decides to maintain the standard reading on patents of firms committed to FRAND/RAND terms, a court would not necessarily grant these firms injunctions preventing other users from practicing the standard¹³⁰.

For the sake of clarity, some SSOs refer to FRAND while others mention RAND in their licensing policy rules¹³¹. However, there is apparently no

¹²⁷ M. Valimaki, "A flexible Approach to RAND Licensing", (2008) 29(12) *European Competition Law Review* 690. FRAND terms are also cited in the Commission's "Guidelines on the Application of Article 81 of the EC Treaty to Technology Transfer Agreement", [2004] O.J. C101/2, at 167.

¹²⁸ M. Lemley (n° 93) 1906. The author, for instance, noted that more than half (32) of the SSOs considered (43) required or simply requested their members to license IPRs on RAND terms.

¹²⁹ D.J. Teece and E.F. Sherry (n° 101) 1953.

¹³⁰ M. Lemley (n° 93) 1932-1933; J.S. Miller, "Standard Setting, Patents and Access Lock-In: RAND Licensing and the Theory of the Firm", (2007) 40 *Indiana Law Review* 358; C. Shapiro, "Injunctions, Hold-Up and Patent Royalties", (2006) Working Paper n. CPC06-062 - University of California Berkley, available at <http://repositories.cdlib.org/iber/cpc/CPC06-062/>.

¹³¹ On the one hand, for instance, ETSI, OASIS and IEEE usually refer to FRAND. On the other hand, IETF, IEC, ITU and ISO consider RAND licensing terms.

difference between the terms¹³². The real problem concerns the exact meaning of FRAND/RAND, which still remains vague despite scholars and practitioners have been struggling with it for quite some time. As held by Lemley, it is all well and good “to propose that SSOs require licensing on reasonable and non-discriminatory terms. But without some idea of what those terms are, reasonable and non-discriminatory licensing loses much of its meaning”¹³³.

What appears to be a fair and reasonable royalty in the eyes of IPRs owners, indeed, may appear entirely unreasonable and unfair in the view of other members¹³⁴. Similar concerns have been expressed by the U.S. Department of Justice, which emphasised the high risk that SSOs’ members may disagree on the meaning of reasonable royalty once the standard has been adopted¹³⁵. Standard setting bodies do not usually specify which licensing terms can be considered FRAND/RAND. The only exception is represented by the Internet Engineering Task Force (IETF), which states that when “significant implementation and successful operational experience of the standard in question has been achieved, IETF considers the licensing terms of intellectual

¹³² M. Valimaki (n° 127) 691 (footnote 1). As held by the author, the term ‘fair’ does not change the meaning of RAND.

¹³³ M. Lemley (n° 93) 1964.

¹³⁴ P. Treacy and S. Lawrence, “FRANDly Fire: Are Industry Standards Doing More Harm than Good?”, (2008) 3(1) *Journal of Intellectual Property Law & Practice* 22.

¹³⁵ R. Hewitt Pate (Assistant Attorney General for Antitrust - U.S. Department of Justice), “Competition and Intellectual Property in the U.S.: Licensing Freedom and the Limits of Antitrust” (Speech at *EU Competition Workshop*, Florence - 3 June 2005), available at <http://www.usdoj.gov/atr/public/speeches/209359.pdf>.

property in the standard to be RAND”¹³⁶. However, this seems to be a rather abstract definition, which does not strike the quantitative evaluation.

The reluctance of SSOs to define FRAND/RAND with more details lies on the fact that any proposal may lead to an unfruitful policy battle which may eventually discourage participation in SSOs processes¹³⁷. Therefore, SSOs policies sometimes leave the definition of FRAND/RAND terms to IPRs owners. However, any given definition may be subject to judicial interpretation. As Lemley noted, “an unspecified reasonable royalty term does not leave unbridled discretion with the IP owner to set the terms. Rather, courts will determine what royalty is reasonable based on industry custom”¹³⁸.

3.3.3.1 FRAND - Meaning of Fair and Reasonable Terms

Different options emerge from both the judicial environment and the economic literature. On the one hand, the U.S. case *Georgia Pacific* is well-known for having proposed 15 factors which may potentially contribute to define the fair and reasonable prong of FRAND¹³⁹. At the same time, some interesting

¹³⁶ See Internet Engineering Task Force (IETF), “Intellectual Property Rights in IETF Technology” (Harvard University, March 2005), available at <http://www.ietf.org/rfc/rfc3979.txt>.

¹³⁷ Policy battles on licensing rules, for instance, have characterized the standard setting processes of W3C (2002), IETF (2003) and OASIS (2005).

¹³⁸ M. Lemley (n° 93) 1914. On the judicial interpretation of FRAND, see also L. Zhang, “How IPR policies of telecommunication standard-setting organizations can effectively address the patent ambush problem”, (2010) 41(4) *International Review of Intellectual Property and Competition Law* 397.

¹³⁹ *Georgia-Pacific v United States Plywood*, 318 F. Supp. 1116 (S.D. New York, 1970).

considerations emerged also from the proposal of the complainants in *Qualcomm*, before the EU Commission¹⁴⁰. On the other hand, several economists have tried to develop models in the attempt to identify the meaning of FRAND.

The Georgia Pacific Test

In *Georgia Pacific*, the New York District Court enumerated several elements which could play a role when calculating a reasonable royalty rate for the purposes of determining damages. First, the court referred to the royalties received by the innovator from other firms, for the licensing of the patent in suit. Such a price, in the court's view, could represent a reasonable benchmark. However, this factor does not seem appropriate, mainly because licensees may have accepted to pay supra-competitive fees in order to avoid lengthy litigation.

A second factor considers the treatment of patents of similar scope in related industries¹⁴¹. Also this method does not seem faultless. A patent of similar scope, indeed, may have been undervalued or overpriced in the course of negotiations or previous judicial assessments, and may not represent an optimal benchmark for determining the price of another IPR in a related industry.

A third criterion, then, may take into consideration the price that would have been voluntarily negotiated by SSOs' participants before the formal

¹⁴⁰ Case n° 39247 *Texas Instruments v Qualcomm* [2009].

¹⁴¹ M. Lemley (n° 93) 1914.

adoption of the standardised technology¹⁴². This price would differ from the level of royalties that could be negotiated *ex post*, once the members commit themselves to use the patented technology¹⁴³. As some authors argue, a court's decision on the matter would seldom reflect all the different interests of the players involved as a negotiated solution could instead do¹⁴⁴. This aspect may be taken into account by SSOs' members in order to avoid litigation on the meaning of FRAND/RAND¹⁴⁵. Thus, this criterion seems to raise serious doubts, mainly due to the difficulties that may arise in interpreting what price level would have been set by the members before the adoption of the standardized technology.

A fourth method for defining FRAND/RAND, what is more, could also lead a court to establish an independent expert assessment of the relevant IPR portfolio's objective quality and centrality to the standard at issue. However, it has been held, experience in patent litigation attests that two independent experts may have conflicting views on the value of a specific patent portfolio¹⁴⁶.

¹⁴² See *Rambus Inc*, F.T.C. Dkt n° 9302, Opinion of the Commission on Remedy (5 February 2007).

¹⁴³ J. Farrell, J. Hayes, C. Shapiro and T. Sullivan (n° 92) 637.

¹⁴⁴ On the argument, see D.G. Swanson and W.J. Baumol, "Reasonable and Non-discriminatory (RAND) Royalties, Standards Selection, and Control of Market Power", (2005-2006) 73 *Antitrust Law Journal* 10; and A. Layne Farrar, A.J. Padilla and R. Schmalensee (n° 88) 671.

¹⁴⁵ J. Farrell, J. Hayes, C. Shapiro and T. Sullivan (n° 92) 637.

¹⁴⁶ ECLF Working Group on Horizontal Agreements, "Comments on the Draft Guidelines on the Applicability of Article 101 of the Treaty on the Functioning of the European Union to Horizontal Cooperation Agreements", (2010) 6(2) *European Competition Law Journal* 518.

The *Georgia Pacific* judgement, then, identified other potentially relevant factors, among which: the nature and scope of the license; the licensor's policy to maintain its patent monopoly by not licensing others to use the invention or by granting licenses under special conditions established to preserve the monopoly; the commercial relationship between the licensor and licensee; the effect of selling the patented product in promoting sales of other products of the licensee; the duration of the patent and the term of the license; the commercial success and profitability of the product made under the patent; the advantages of the patent property over any old devices; the nature of the patented invention; the extent to which the infringer has made use of the invention; the portion of the profit that should be credited to the invention; and the portion of the profit that may be customary in the particular business to allow for the use of the invention¹⁴⁷.

However, also these further factors may raise some doubts as to the way they should be interpreted to quantify a fair and reasonable price in standard setting contexts. More in general, the test developed in *Georgia Pacific* seems to give general guidelines without prescribing an exact method for calculating reasonable royalties. In a dispute on licensing terms, therefore, it is likely that each party will propose its own assessment of these criteria, which may be finally accepted or disregarded by the judge¹⁴⁸.

¹⁴⁷ *Georgia-Pacific v United States Plywood*, 318 F. Supp. 1116 (S.D. New York, 1970).

¹⁴⁸ A. Layne Farrar, A.J. Padilla and R. Schmalensee (nº 88) 681-682.

The Numeric Proportionality Rule

Besides *Georgia Pacific*, also the EU case *Qualcomm* deserves attention for a proposal given on the assessment of FRAND¹⁴⁹. In *Qualcomm*, in particular, the complainants had argued that all patents essential to a standard should be considered as equally valuable and treated symmetrically, as they all give IPRs owners the same degree of market power *ex post*. Following this line of reasoning, they argued that licensing terms are FRAND when royalties are proportional to the number of essential patents included in the standard. In a standard setting environment, numeric proportionality rules may be beneficial as long as they reduce transaction costs, due to an easier way to calculate royalties.

However, there might be disadvantages related to the implementation of such egalitarian mechanism¹⁵⁰. For instance, disputes may arise when members owning IPRs start discussing on which patents are essential. It follows that numeric proportionality system may not work well in those contexts where the patents ultimately disclosed are not all truly essential or valid. Under those circumstances, the calculated rates would seldom reflect a fair and reasonable price. Moreover, this mechanism may encourage members to file and disclose as many (relevant or not) IPRs as possible, in the attempt to gain a larger share of the royalties paid by the licensees. As some authors pointed out, this rule may

¹⁴⁹ Case n° 39247 *Texas Instruments v Qualcomm* [2009]. See also Chapter VI section 4.

¹⁵⁰ A. Layne Farrar, A.J. Padilla and R. Schmalensee (n° 88) 683.

“encourage a proliferation of patenting of minor innovations”¹⁵¹. Also further considerations seem to confirm that a numeric proportionality rule would seldom be a sound solution to the FRAND problem. Indeed, this system fails to consider the different technical contribution that each patent may bring to the standard. In other words, a merely numerical assessment of the patents disregarding their relevance may likely lead to disproportionate payments¹⁵².

Economic Models

Finally, as to the economic literature, several mechanisms have been developed in the attempt to define FRAND/RAND terms. For instance, some of them have taken into consideration transaction costs and patent validity¹⁵³. However, also in light of the arguments developed above, it is not always possible to elaborate an accurate estimation of these elements¹⁵⁴. In this regard, it seems that these economic models are often too abstract and simplified solutions which cannot be generalised¹⁵⁵.

¹⁵¹ *Ibid*, 684.

¹⁵² *Ibid*, 685.

¹⁵³ See F. Leveeque and Y. Meniere, “Technology Standards, Patents and Antitrust”, (2008) 9(1) *Competition and Regulation in Network Industries* 29. Their theory is reflected in the equation: $R = c + (V1-V2)p$, where ‘c’ is the incremental cost of licensing, (V1-V2) is the gain for selecting the best technology over the second one, and ‘p’ is the probability that the patent is valid.

¹⁵⁴ M. Valimaki (n° 127) 689.

¹⁵⁵ *Ibid*.

A more interesting and plausible option, instead, has been given by Swanson and Baumol¹⁵⁶. These authors developed a market/efficiency based framework for the evaluation of RAND royalties. According to their system, SSOs should involve innovators in an auction mechanism, where the price of the technology ultimately chosen would reflect the competition existing *ex ante* between the different alternatives. It follows, in the authors' view, that the level of royalties finally asked by the selected IPRs owner would likely reflect a fair and reasonable rate.

These arguments certainly deserve some merit, as long as they recognize the importance of a unilateral *ex ante* determination of the price of patents. However, this model has been criticised as it only considers standards based on one single patent, while most standards are typically based on several complementary IPRs. This means that the question on how to allocate fees between different selected innovators has not been addressed by the authors¹⁵⁷.

¹⁵⁶ D.G. Swanson and W.J. Baumol (nº 144) 1.

¹⁵⁷ A. Layne Farrar, A.J. Padilla and R. Schmalensee (nº 88) 688. On the analysis of economic models appraising methods to distribute royalties between several innovators, see L.S. Shapley, "A Value for N-Person Games", in *Contributions to the Theory of Games* (H.W. Kuhn and A.W. Tucker eds., Princeton University Press, 1953). Under the 'Shapley Value', a fair and reasonable method of allocating fees considers each member's *ex ante* incremental contribution in a cooperative game.

3.3.3.2 FRAND - Meaning of Non Discriminatory Royalties

Further questions have been posed by the literature on the interpretation of the non-discrimination requirement of FRAND/RAND licensing policies¹⁵⁸. Standard setting organizations, indeed, do not usually explain when the royalties charged by IPRs owners can be considered non-discriminatory. Price discrimination occurs when a firm charges, to different clients for the same goods or services, dissimilar rates which are not cost-reflective¹⁵⁹. Several cases have been decided in this context by the EU Commission and courts¹⁶⁰. However, understanding when licensing fees are discriminatory may be much more complex. The Court of Justice of the EU has recently confirmed that the charging of different royalties, calculated as a percentage of revenues, can lead to a discriminatory practice¹⁶¹. Nevertheless, it could be difficult to establish whether “two-part tariffs discriminate against smaller licensees or whether

¹⁵⁸ A. Layne Farrar, A.J. Padilla and R. Schmalensee (n° 88) 671; M. Valimaki (n° 127) 686; D.G. Swanson and W.J. Baumol (n° 144) 25.

¹⁵⁹ V. Korah, *An Introductory Guide to EC Competition Law and Practice* (Hart Publishing, 2004) Chapter 5; R. Whish, *Competition Law* (6th ed., Butterworths, London 2009) Chapter 18; S. Bishop and M. Walker, *The Economics of EC Competition Law* (Sweet and Maxwell, 2010) Chapter 6; R.J. Van den Bergh and P.D. Camesasca, *European Competition Law and Economics: a Comparative Perspective* (Sweet and Maxwell, 2006) Chapter 7.

¹⁶⁰ See Case 40/73 *Suiker Unie v European Commission* [1975] E.C.R. 1663; Case 85/76 *Hoffmann-La Roche v European Commission* [1979] E.C.R. 461; Case 27/76 *United Brands v European Commission* [1978] E.C.R. 207; Case 322/81 *Michelin v European Commission* [1983] E.C.R. 3461; Case C-95/04 P *British Airways v European Commission* [2007] E.C.R. I-2331; Case T-228/97 *Irish Sugar v European Commission* [1999] E.C.R. II-2969.

¹⁶¹ Case C-52/07 *Kanal 5, TV 4 AB v Föreningen Svenska Tonsättares Internationella Musikbyrå (STIM)* [2009] O.J. C 32. On fair or excessive royalty levels, see also Case 395/87 *Ministère Public v Jean-Louis Tournier* [1989] E.C.R. 2521.

royalties assessed as a percentage of the licensee's revenues discriminate against licensees who sell more expensive products"¹⁶². A further obstacle may arise when the parties involved agree to cross-license their IPRs, as in this case it could be difficult to appraise the value of each license.

This notwithstanding, some authors argue that limiting discriminatory licensing by imposing FRAND/RAND terms may finally help with the patent hold-up problem¹⁶³. For instance, a non-discrimination requirement could dissuade SSOs' members from negotiating *ex ante* the level of royalties, and could make them complacent about uniform marginal rates which could be finally passed to the ultimate consumers¹⁶⁴. This could potentially eliminate the risk of lengthy and controversial negotiations between licensee and innovators.

A non-discrimination requirement may also be interpreted as forbidding free cross-licensing between IPRs owners, as firms owning several patents could benefit from the practice much more than those undertakings with a limited patent portfolio¹⁶⁵. Discrimination in cross-licensing, of course, may be deemed to exist only after a careful assessment of the values of licenses has been made.

¹⁶² J. Farrell, J. Hayes, C. Shapiro and T. Sullivan (n° 92) 638.

¹⁶³ *Ibid*, 639.

¹⁶⁴ D.J. Teece and E.F. Sherry (n° 101) 1956-1957; J. Farrell and R.P. Merges, "Incentives to Challenge and Defend Patents: Why Litigation Won't Reliably Fix Patent Office Errors and Why Administrative Patent Review Might Help", (2004) 19 *Berkley Technology Law Journal* 954; J. Farrell and C. Shapiro, "How Strong Are Weak Patents?", (2008) 98(4) *American Economic Review* 1347.

¹⁶⁵ J. Farrell, J. Hayes, C. Shapiro and T. Sullivan (n° 92) 640.

However, it is not certain that royalty free cross-licensing could be harmful in light of the aims of standard setting processes.

Finally, a non-discrimination requirement could be read as prohibiting vertically integrated patent owners from favouring their own downstream firms over downstream competitors¹⁶⁶. This effect, as Swanson and Baumol asserted, may be seen as the main justification for the non-discrimination requirement¹⁶⁷. In order to ensure that IPRs owners charge downstream rivals what they charge themselves for use of the patented technology, the authors elaborated the 'efficient component pricing rule' (ECPR). Under this rule, the royalty charged would be discriminatory if it exceeds the difference between the IPRs owner's price of the downstream good and its incremental cost of inputs other than the patent¹⁶⁸. In other words, discrimination would occur in case the patent holder, by charging itself what it charges downstream rivals, would lose profit on its downstream production¹⁶⁹. The effectiveness of this model, however, has been criticised by different authors, which argued that a vertically integrated firm under certain circumstances may still pass the 'ECPR' test by charging

¹⁶⁶ *Ibid.*

¹⁶⁷ D.G. Swanson and W.J. Baumol (n° 144) 27.

¹⁶⁸ *Ibid.* 29.

¹⁶⁹ This test is at the core of the analysis on margin squeeze, which occurs when a vertically integrated firm provides an important input into a downstream market in which it also competes, and prices this input at such a level that 'as efficient' rivals it supplies cannot make a margin for profit (case C-280/08 *Deutsche Telekom AG v European Commission* [2010] O.J. C 346).

discriminatory royalties¹⁷⁰. Doubts, in particular, exist on the application of this mechanism to those contexts where complementary rights are included in the standard and cross-licensing may be necessary¹⁷¹. In addition, as Geradin noted, identifying the incremental cost of a product might be a very difficult task¹⁷².

In conclusion, it is evident that the meaning of FRAND is all but obvious and clear¹⁷³. These terms have been scrutinised by several commentators, which have tried more than once to define what fair, reasonable and non-discriminatory mean. The debate is directly linked to the arguments made by the literature on excessive rates, which may lead to an infringement under EU competition law. The issue posed several questions which the literature has tried to address¹⁷⁴. This notwithstanding, confusion still reigns. The *Georgia Pacific* test, the numeric proportionality rule, and the cited economic models were not able to identify a precise roadmap which may work under all circumstances. Therefore, a change in SSOs' licensing rules seems more than desirable.

¹⁷⁰ J. Farrell, J. Hayes, C. Shapiro and T. Sullivan (n° 92) 641.

¹⁷¹ A. Layne Farrar, A.J. Padilla and R. Schmalensee (n° 88) 688-689.

¹⁷² D. Geradin, "Pricing Abuses by Essential Patent Holders in a Standard-Setting Context: a View from Europe", (2009-2010) 76 *Antitrust Law Journal* 329.

¹⁷³ On the argument, see *inter alia* J.H. Park, *Patents and Industry Standards* (Edward Elgar, Cheltenham 2010) 45; and P.D. Curran, "Standard Setting Organizations: Patents, Price Fixing, and Per Se Legality", (2003) 70 *University of Chicago Law Review* 983.

¹⁷⁴ See D.S. Evans and A.J. Padilla, "Excessive Prices: Using Economics to Define Administrative Legal Rules", (2005) 1(1) *Journal of Competition Law and Economics* 97; M. Furse, "Excessive Prices, Unfair Prices and Economic Value: the Law of Excessive Pricing Under Article 82 EC and the Chapter II Prohibition", (2008) 4(1) *European Competition Journal* 59; D. Geradin (n° 172) 329.

3.3.3.3 Alternative Model to FRAND/RAND Licensing

In order to avoid the risks of subscribing undefined FRAND/RAND terms and litigating their meaning before a court, SSOs' members could negotiate *ex ante* the specific price terms under which licensing their rights. This model would avoid uncertainty on the level of royalties patent holders may finally charge, and might thus function as an incentive to take part in the standard setting process.

However, it has been held that, under these circumstances, SSOs' members would allegedly expose themselves to potential antitrust liability for price fixing under Article 101 TFEU and Section 1 of the U.S. Sherman Act¹⁷⁵. Similarly, firms could face antitrust liability for implementing an illegal group boycott, in case they conditioned the standardization of a proprietary technology on the IPR owner's acceptance of licensing rates specified in advance¹⁷⁶. Other comments have then emphasised the risk that discussing on licensing terms may ultimately lead to exhausting policy battles between SSOs' participants, which may finally compromise the standardization process¹⁷⁷. Furthermore, it has also been added

¹⁷⁵ D.J. Teece and E.F. Sherry (n° 101) 1955.

¹⁷⁶ On group boycotts, see *Golden Bridge Technology v Nokia*, 547 F.3d 266 (C. App. 5th Circuit, 2008). Here, Nokia and other SSO's (3GPP) members were accused by Golden Bridge to have conspired (contrary to Section 1) and removed the plaintiff's technology from the standard in order to avoid paying the royalties. The Court of Appeals however rejected Golden Bridge's argument on the illegal conspiracy, holding that the informal communications were an important part of the SSO process. The case seems to suggest that the line beyond which legitimate standard setting conduct becomes actionable is beyond the limits of an SSO's formal proceeding.

¹⁷⁷ See "ETSI Guide on IPRs" (27 November 2008). Section 4.1 clarified that "[s]pecific licensing terms and negotiations are commercial issues between the companies and shall not be addressed within ETSI. Technical Bodies are not the appropriate place to discuss IPR issues".

that *ex ante* joint negotiation may be unfavourable for those firms joining the standard setting body later in the process, as they would have to accept conditions already established by others¹⁷⁸. In light of these observations, to be thoroughly reviewed in the next chapter, *ex ante* joint negotiation of licensing terms does not seem a viable alternative to FRAND.

3.3.3.4 Patent Pools

As a kind of price negotiations, SSOs could also form patent pools, in order to market all together complementary patents essential to the standard¹⁷⁹. Patent pools are price fixing agreements, which may benefit standard setting as far as they keep the total royalties low. On the contrary, if patent pools concerned substitute IPRs, their function could be detrimental to societal welfare, as they would likely reduce price competition among competing innovators. However, there are several reasons for SSOs have seldom formed patent pools. Firstly, even if a patent pool is formed, not all innovators would agree to participate. Unlike vertically integrated firms (which may have an interest to shift their profits downstream), upstream innovators do not have any intention to keep licensing prices low. They would rather free ride on the low fees charged by the pool and ask for higher prices. But even if patent pools included both vertically

¹⁷⁸ M. Valimaki (n° 127) 689.

¹⁷⁹ See C. Shapiro, "Navigating the Patent Thicket: Cross Licensees, Patent Pools and Standard Setting", (2001) 1 *Innovation Policy and the Economy* 119; R. Gilbert, "Antitrust for Patent Pools: a Century of Policy Evolution", (2004) *Stanford Technology Law Review* 3; and J. Lerner and J. Tirole, "Efficient Patent Pools", (2004) 94 *American Economic Review* 691.

integrated and upstream innovators, it would be difficult to agree on a price level and sustain the stability of the pool. In addition, in case the pools adopted numeric 'proportionality' rules to distribute the royalties, those firms with fewer patents of higher relevance would seldom participate. Finally, one author has also highlighted the general scepticism of competition authorities towards price fixing mechanisms¹⁸⁰. What IPRs policy may represent the optimal framework in SSOs, thus, remains an open question which clearly deserves careful scrutiny.

4. Conclusion

Intellectual property rights and standards play a central role in today's global economy. IPRs represent a relevant incentive for firms to innovate and enhance dynamic efficiency. The technologies developed by innovators may then be subject to standardization processes; and standards, it is well-known, may contribute significantly to economic growth, as they facilitate trade and help achieving products interoperability. Both standards and IPRs, therefore, aim at enhancing consumer welfare, which is crucial in competition policy's goals.

Besides the importance and meaning of standards, the chapter has shed light also on the different processes that may lead to their adoption. Further, relevant questions have been addressed, above all that concerning the opportunity to reward innovators in the context of standard setting. As argued

¹⁸⁰ K.M. Schmidt, "Standards, Innovation Incentives' and the Formation of Patent Pools", in *The Pro & Cons of Standard Setting* (Swedish Competition Authority, 2010) 76.

above, rewarding IPRs owners' investments in new technologies may finally have beneficial effects on both consumers and competition, to the benefit of the welfare of the society as a whole. Equally important was the analysis of the most common policy rules. The adoption of a legal framework over a different one may well discourage or incentivise participation to SSOs by IPRs holders. Licensing rules, in particular, pose many questions on definitions and firms' liability. Several arguments make it difficult to share the view of those authors supporting FRAND/RAND rules¹⁸¹. Above all, one question still stands unanswered: how to define these terms? The main problem indeed concerns their very meaning, which courts and SSOs have not properly clarified. What is more, the economic literature on the issue is far from reaching a shared position. Thus, the model does not seem the most effective answer when setting IPRs licensing rules. Similarly, also the *ex ante* joint negotiation of fees and the patent pool mechanism cannot be implemented as the optimal model due to the cited negative effects. However, this does not mean that innovators should be left free to charge any desired price, as Geradin instead argued¹⁸².

All these conclusions will be thoroughly justified in the next chapter, which will shed further light on the antitrust risks arising in standard setting and will explain in more details why these licensing models are inefficient.

¹⁸¹ D.J. Teece and E.F. Sherry (n° 101) 1973.

¹⁸² D. Geradin (n° 172) 329. In Geradin's view, any fees for a standardised technology will be probably constrained by the prices charged by other firms for complementary IPRs. In addition, he added, IPRs owners charging high prices risk to be ignored by SSOs for follow-on innovation.

Chapter IV “The Interaction IPRs – Competition in Standard Setting”

1. Introduction

Standardization may determine risks for both the members of SSOs and the organizations themselves. This is because standard setting represents a context where the principles of intellectual property and competition laws may potentially conflict. On the one hand, it seems important to encourage IPRs owners' participation to SSOs, and reward their investments in research and development. On the other, the protection of IPRs holders' interests should be balanced with the need to preserve standard setting objectives, in terms of enhanced consumer welfare. A non-optimal balance between these goals may lead to considerable losses for the society as a whole.

The achievement of a proper balance implies, in the first place, the setting of a legal framework which clearly strikes *ex ante* the boundaries between legitimate and forbidden conduct. Indeed, the risk exists that innovators may mislead the other participants, compromising the whole standardization process. The implementation of a policy model preventing the rise of these risks seems to be a crucial step in the development of effective and transparent standard setting. At the same time, from a further perspective, competition law may also play a role by tackling *ex post* any misleading and unfair practices. In this regard,

as explained in Chapter I, competition enforcers should be encouraged to apply a test which aims at enhancing consumer welfare. This in turn may stimulate consumer demand and raise production levels, to the benefit of societal welfare. In light of these arguments, it is clear why U.S. antitrust and EU competition laws may be held as potential remedies to conduct undermining the optimal functioning of standardization processes and the achievement of their goals.

Having discussed above the meaning of standards and of the policy rules, this chapter is aimed at assessing the risks in terms of antitrust liability deriving from the conduct of SSOs' members. Both the literature and jurisprudence have identified two particular behaviours which may raise specific concerns: patent ambush and the mere breach of defined licensing terms. These practices are often referred to as patent hold-up, due to the holding effect on other members.

After further introductory remarks on the nature of the intersection IP-competition, I will start an in-depth examination of the concept of ambush and of its negative consequences on standard setting, appraising at the same time the different models proposed as solutions. I will then examine the second conduct, the mere breach of defined (usually FRAND) licensing terms. In this context, I will evaluate the alternative scenarios that may lead to different outcome under EU and U.S. antitrust laws. As a conclusive remark, I will suggest that a more effective policy for SSOs is necessary to tackle abusive conduct in standard setting contexts.

2. The Interplay between Standards and Competition

Standards, it has been said, play a crucial role in today's knowledge-based economy, as they expand network externalities, reduce lock-in of customers by allowing them to switch to alternative products, and lead to more innovation¹. From an antitrust perspective, a standard setting situation is benign where IPRs owners participate in the meetings and try to influence, in compliance with the SSO rules and without hiding the existence of their rights, the standard setting body in order to include their technology in the standard. By having their invention included in the standard, IPRs holders may be finally rewarded for their contribution to technological progress and innovation².

However, it has also been clarified that the various phases of the standard setting process may raise concerns under antitrust liability. In particular, standard setting represents a context where conflicts between antitrust and intellectual property principles may arise. This is mainly due to the alleged contradictory nature of the relationship between antitrust regimes, which aim *inter alia* at the protection of competition, and intellectual property regulations,

¹ J. Gstalter, "Open Standards & Antitrust", (2010) 1 *Concurrences* 13-14; J.Y. Art and U. Decker, "Openness and Standards - How do (Open) Standards Affect Competition?", (2010) 1 *Concurrences* 15. On the 'lock-in' effect, see also E. Ramirez and L. Kimmel, "A Competition Policy Perspective on Patent Law: the Federal Trade Commission's Report on the Evolving IP Marketplace", (2011) *The Antitrust Source* 4.

² M.C. Naughton and R. Wolfram, "The Antitrust Risks of Unilateral Conduct in Standard Setting, in the Light of the FTC's case against Rambus Inc.", (2004) 49 *Antitrust Bulletin* 701.

whose goal is to protect original and valuable creations³. Cooperative standard setting, for instance, may require horizontal competitors to agree on specifications of products, raising potential concerns on the boundaries between cooperation and collusion⁴.

In the U.S., the American Bar Association has developed an interesting study of many such issues⁵. Also in Europe, the Commission has started to pay due attention to the potential anticompetitive conduct adopted in the standard setting context. In particular, the EU competition enforcer, although recognizing that standard setting may encourage “the development of new and improved products or markets and improved supply conditions”⁶, also noted that it could further lead to the exclusion of competitors and prevent the development of alternative standards⁷. Collusion among SSOs’ participants could entail the application of Article 101 TFEU and Section 1 of the U.S. Sherman Act. Unilateral

³ H.K.S. Schmidt, “Article 82’s Exceptional Circumstances that Restrict Intellectual Property Rights”, (2002) 23(5) *European Competition Law Review* 210-216; S.D. Anderman, *The Interface Between Intellectual Property Rights and Competition Policy* (Cambridge University Press, 2007).

⁴ J. Farrell, J. Hayes, C. Shapiro and T. Sullivan, “Standard Setting, Patents, and Hold-Up”, (2007) 74 *Antitrust Law Journal* 603; C. Shapiro, “Setting Compatibility Standards, Co-operation or Collusion?”, in R. Dreyfuss, D.L. Zimmerman and H. First, *Expanding the Boundaries of Intellectual Property -- Innovation Policy for the Knowledge Society* (Oxford University Press, 2001) 91-93.

⁵ American Bar Association, *Handbook on the Antitrust Aspects of Standard Setting* (ABA Section of Antitrust Law, 2011).

⁶ European Commission, “Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements”, [2011] O.J. C 11/1, at 263.

⁷ *Ibid*, at 264. See also J. Gstalter (n° 1) 15.

abusive behaviours could instead be reviewed under Article 102 TFEU and section 2 of the Sherman Act⁸.

The implementation of these practices, as I will explain, has been probably facilitated by the policy model adopted so far by standard setting organizations, which do not seem to have struck the right balance in the setting of their internal regulations. Therefore, a change of legal framework -in particular licensing rules- is needed and will be eventually suggested in order to strengthen standardization processes and ensure the latter may enhance consumer welfare and societal productivity.

For the sake of clarity, not only cooperative but also *de facto* standard setting may ultimately lead to harm competition and consumer welfare. The concerns arising in standardization *de facto* have been already discussed in Chapter II of the work, in conjunction with the studying of those cases (e.g., *Microsoft*) which testified the contrast between innovators and the marketplace; a conflict, as I have noted, which may potentially arise outside of the context of SSOs' activities. For the purpose of this work, the next sections will focus on the antitrust issues arising in collaborative standardization, developed by formal standards institutes and private industry networks.

⁸ P. Hellstrom, T. Kramler and F.W. Bulst, "Holding Standardization to Competition Law Standards", (2010) 1 *Concurrences* 37.

3. Patent Ambush

Patent ambush is the most common example of anticompetitive conduct in standardization processes, and is a form of patent hold-up. Williamson famously identified this sort of opportunistic behaviour as 'self-interest seeking with guile'⁹. From a general perspective, hold-up occurs

"when a gap between economic commitments and subsequent commercial negotiations enables one party to capture part of the fruits of another's investment, broadly construed. Hold-up can arise, in particular, when one party makes investments specific to a relationship before all the terms and conditions of the relationship are agreed. Hold-up generally leads to economic inefficiency that contracting parties, and courts interpreting contracts, often try to avoid"¹⁰.

In the standard setting context, patent ambush arises when firms fail to disclose to SSOs the existence of IPRs they own over a technology that could be part of a specific standard. These firms may decide to withhold information pertaining to relevant IPRs and maintain control over their own property rights¹¹. The behaviour may finally lead to manipulate the standard setting

⁹ O. Williamson, *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting* (The Free Press, New York, 1985) 47.

¹⁰ J. Farrell, J. Hayes, C. Shapiro and T. Sullivan (n° 4) 603-604.

¹¹ M.A. Lemley and C. Shapiro, "Patent Hold-up and Royalty Stacking", (2007) 85 *Texas Law Review* 1991; R.A. Skitol, "Concerted Buying Power: Its Potential for Addressing the Patent Hold-up Problem in Standard Setting", (2004-2005) 72 *Antitrust Law Journal* 729; D. Geradin and M. Rato, "Can Standard Setting Lead to Exploitative Abuse? A Dissonant View on Patent Hold-Up, Royalty Stacking and the Meaning of Frand", (2007) 3 *European Competition Journal* 125-126;

process and confer to the undertaking concerned a dominant position in the market of the standardised patented technology¹². Competition is harmed in so far as competitors (the rival IPRs owners) are excluded as a consequence of the conduct. The ultimate risk is that the dominant firm might be able to gain from licensees supra-competitive royalties for the sale of the selected technology¹³. Licensees may then pass to the downstream level the burden of such excessive fees, harming the welfare of consumers and, more in general, the whole society¹⁴. The existing link between consumer and societal surplus has already been scrutinized in Chapter I, on the objectives of competition law¹⁵.

In order to understand better why IPRs owners may be tempted by patent ambush, some considerations deserve attention. A patent which is essential to implement a standard has a much higher value *ex post* than *ex ante*¹⁶. This is because at the start of a SSO process several alternative technologies may potentially be available. Once the adoption of a standard has been formalised

G. Ohana, M. Hansen, O. Shah, "Disclosure and Negotiation of Licensing Terms Prior to Adoption of Industry Standards: Preventing Another Patent Ambush?", (2003) 24(12) *European Competition Law Review* 645; J.G. Sidak, "Patent Hold-up and Oligopsonistic Collusion in Standard-Setting Organizations", (2009) 5(1) *Journal of Competition Law & Economics* 125.

¹² J. Farrell, J. Hayes, C. Shapiro and T. Sullivan (n° 4) 608-609; M.C. Naughton and R. Wolfram (n° 2) 701-702.

¹³ D.G. Swanson and W.J. Baumol, "Reasonable and Non-discriminatory (RAND) Royalties, Standards Selection, and Control of Market Power", (2005-2006) 73 *Antitrust Law Journal* 3-4.

¹⁴ On the connection between consumer and societal welfare, see J.M. Keynes, *The General Theory of Employment, Interest and Money* (Macmillan, London 1936).

¹⁵ See Chapter I section 2.2.1.

¹⁶ G. Ohana, M. Hansen, O. Shah (n° 11) 645.

and sunk investments have been made, instead, competition between IPRs owners -pursuing the inclusion of their technology in the standard- ends. It is clear, then, why a patent owner may well be attracted by the opportunity to withhold conflicting IPRs and obtain the *ex post* rather than the *ex ante* value of its technology. In order to obtain supra-competitive royalties for the license of its technology, the IPRs owner may threaten to block the implementation of the standard by obtaining a court's injunction¹⁷. That is why Lemley and Shapiro suggested that patent law should be changed through legislation and judicial interpretation (public collective action), so as to contrast this form of hold-up and limit the availability of patent injunctions¹⁸.

The development of a standardised technology may also encounter similar difficulties in case of the 'complements problem', which arises in case of multiple IPRs complementary and essential for implementing a specific technology. In this situation, different firms may assert their rights and ask for the payment of royalties for licensing their patents¹⁹. These parallel practices may eventually determine an excessive cumulative royalty burden for potential implementers of the technological device. The phenomenon, known as royalty stacking, can make the whole SSO process more difficult and costly, but may also lead to the

¹⁷ *Ibid*, 644-645; J.G. Sidak (n° 11) 125.

¹⁸ M.A. Lemley and C. Shapiro (n° 11) 1991. In their model, the authors suggest that injunctive relief should be denied in cases where the patented components represent only a small share of the overall value of the infringer's product. At the same time, they argue, injunctions should be granted only when the IPRs owner practices the patent in competition with the alleged infringer.

¹⁹ D. Geradin and M. Rato (n° 11) 126.

proposed technology not being implemented at all, determining a significant deadweight loss²⁰. From these arguments, it can be inferred that any solution addressing hold-up may also be of help in overcoming the risks deriving from the royalty stacking problem.

3.1 U.S. v EU Approach

It is well known that the first examples of activities of standard setting organizations are to be found in the United States²¹. These developments have set the stage for further developments also in Europe²². It is not surprising therefore that even the first cases concerning SSO processes have been decided by U.S. courts and antitrust authorities²³. In recent years, however, also the European Commission has started paying careful attention to the standard setting phenomenon²⁴. Standardization activities, for instance, have been

²⁰ M.A. Lemley and C. Shapiro (n° 11) 1991. Cf with E. Elhauge, "Do Patent Hold-Up and Royalty Stacking lead to Systematically Excessive Royalties?", (2008) 4(3) *Journal of Competition Law & Economics* 535. In Elhauge's view, royalty stacking and hold-up seem to be bogus conjectures.

²¹ For instance, ANSI (American National Standards Institute) was founded in 1918, when five engineering societies and three government agencies created the American Engineering Standards Committee (the present name was adopted in 1969).

²² E.g., CEN (Comité Européen de Normalisation), CENELEC (Comité Européen de Normalisation Électrotechnique), and ETSI (European Telecommunications Standards Institute) were founded respectively in 1961, 1973 and 1988.

²³ See, *inter alia*, *Allied Tube & Conduit v Indian Head*, 486 U.S. 492 (1988); *Dell Computer*, 121 Decision of the Federal Trade Commission 616 (1996); *Wang Labs. v Mitsubishi Elecs. Am.*, 103 F.3d 1571 (C. App. Federal Circuit, 1997).

²⁴ See European Commission, "Towards an Increased Contribution From Standardization to Innovation in Europe", (Communication) COM 133 final, 11 March 2008; and European

thoroughly scrutinised in the ‘Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements’, where the EU enforcer explicitly promotes openness and transparency for standard setting processes²⁵.

As it will be better discussed in the next chapters, cases and investigations both in the U.S. and in the EU have addressed the competition risks arising in the context, with specific reference to patent ambush²⁶. The shared objective was to prevent firms from charging high royalties by means of ‘submarine patents’, which means by hiding the existence of conflicting IPRs²⁷. However, the U.S. and EU antitrust enforcers have often elaborated different perspectives. The divergent outcomes of the investigations should be explained mainly in light of the different legal frameworks and approaches to dominance.

In particular, the approach developed by U.S. courts and authorities to tackle abuse of dominance has been usually defined as less interventionist, when compared to the European Union counterparts, and more in line with liberalist principles. This may also be a reflection of the fact that the U.S. modern antitrust

Commission, “Modernising ICT Standardization in the EU – The Way Forward”, (Communication) COM 324 final, 3 July 2009.

²⁵ European Commission, “Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements”, [2011] O.J. C 11/1.

²⁶ See *Rambus*, Decision of the Federal Trade Commission n° 9302 (2006); *Rambus v F.T.C.*, 522 F.3d 456 (C. App. D.C. Circuit, 2008); *Union Oil Company of California*, Decision of the Federal Trade Commission n° 9305 (2003); *Wang Labs.* (n° 23); *Dell Computer* (n° 23). In the EU, see Case COMP/38.636 *Rambus* [2010] O.J. C 30.

²⁷ G. Ohana, M. Hansen, O. Shah (n° 11) 645.

framework has been highly influenced by the effect-based analysis promoted by the Chicago School. The EU competition system, instead, has for long been modelled on the more formalistic approach initially adopted by the Harvard School²⁸. These divergences are also reflected in the different legal frameworks. The U.S. antitrust provisions, indeed, do not prohibit exploitative abuses but only sanction exclusionary practices. Unlike Article 102 TFEU, in particular, section 2 of the Sherman Act explicitly requires harm to competition for the finding of an infringement²⁹. This means that, in case evidence shows that the SSO would have adopted the chosen technology under all circumstances, no breach of antitrust rules can be deemed to exist. On the other side of the Atlantic, Article 102 TFEU, in prohibiting the abuse of a dominant position, does not refer to harm to competition. Exploitative practices are thus forbidden by the EU antitrust enforcers. This might be the reason why the *Rambus* case led the EU Commission and the U.S. Court of Appeals for the D.C. Circuit to develop different perspectives³⁰.

Another relevant difference between the U.S. and EU jurisdictions lies on the fact that the latter, unlike the former, does not prohibit the attempt to

²⁸ I. Schmidt and J.B. Rittaler, "A Critical Evaluation of the Chicago School of Antitrust Analysis" in *Studies in Industrial Organization* (Dordrecht *et al.* 1989); H. Hovenkamp, "Post-Chicago Antitrust: a Review and Critique", (2001) *Columbia Business Law Review*; A. Weitbrecht, "From Freiburg to Chicago and Beyond: the First 50 Years of European Competition Law", (2008) 29(2) *European Competition Law Review* 81-88.

²⁹ See *Spectrum Sports Inc. v McQuillan* 506 U.S. 447 (1993), at 458.

³⁰ *Rambus* (n° 26).

monopolize. This aspect might lead to argue that patent ambush cannot be appraised as an illegitimate conduct under EU competition law³¹. More in detail, firms withholding rights in standard setting are not in a dominant position yet. Without dominance, indeed, IPRs alone do not confer such a status³². Only after the adoption of the standard by the SSO and the subsequent implementation by the industry, the IPRs owner may be held dominant in the market of the standardised technology³³. Absent a dominant position, the argument goes, failure to disclose alone cannot be interpreted as abusive. This notwithstanding, patent ambush may still be considered illegal under EU competition law, as it may be theoretically read as an exploitative practice. Charging excessive royalties indeed meets all the requirements for being captured by Article 102(a) TFEU³⁴.

These divergent approaches to standard setting and to the conduct implemented therein will be further scrutinised in depth in Chapters V and VI. Below, instead, the work will focus on the various paths proposed to overcome the risks of patent ambush in standardization contexts. The evaluation of these models, together with the analysis of the U.S. and EU jurisprudence, will

³¹ On the argument, see D. Geradin and M. Rato (n° 11).

³² D. Geradin, "Pricing Abuses by Essential Patent Holders in a Standard-Setting Context: a View from Europe", (2009-2010) 76 *Antitrust Law Journal* 329.

³³ *Ibid.* Geradin, however, notes that the existence of vertical, horizontal and institutional constraints may drastically reduce the market power gained *ex post* by the selected innovator.

³⁴ Cf. M. Glader and S. Chabert Larsen, "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", (2005) *Competition Law Insight* 3.

ultimately lead to identify in Part III the optimal solution to the ambush problem. Undoubtedly, any potential model should consider and reflect the mentioned differences between the EU and U.S. antitrust frameworks and approaches to dominance.

3.2 How to Solve the Ambush Issue?

Patent ambush may enable IPRs owners to extract supra-competitive royalties for the licensing of their patents³⁵. As a consequence, it is very likely that licensees may eventually pass the burden to the final consumer, by means of a price increase of the products manufactured. Alternatively, patent ambush may lead to exhausting judicial battles before courts, and to the withdrawal of the standardised technology³⁶. These effects are highly detrimental to consumer welfare and, more in general, societal surplus, due to the missed opportunity to launch in the marketplace innovative and technological goods. Not only consumers would be harmed by the misleading conduct, but also undertakings would realise losses in terms of waste of investments and reduced production. In view of these effects, it is clear why several authors and antitrust experts have tried to establish legal frameworks limiting the negative risks of patent ambush in standardization processes.

³⁵ D.G. Swanson and W.J. Baumol (n° 13) 3-4.

³⁶ D.J. Teece and E.F. Sherry, "Standard Setting and Antitrust", (2003) 84 *Minnesota Law Review* 1953.

The models suggested have headed towards the two mentioned directions: a) the adoption of FRAND/RAND licensing terms; b) the requirement for *ex ante* joint negotiation of the royalty levels. In the next paragraphs, I will focus in depth on these different approaches, looking at the positive and negative aspects of each of them. The considerations developed will be recalled in Part III of the work, where the optimal model will be ultimately identified and justified.

3.2.1 The FRAND/RAND Model

Different standard setting organizations have adopted FRAND/RAND licensing terms in their IPRs policies³⁷. In case patent holders do not agree to comply with these conditions, the SSO may refuse to implement the standard and opt for an alternative technology, or may withdraw the standard if this has already been promulgated³⁸.

Teece and Sherry questioned whether the willingness to license on FRAND/RAND terms to all interested firms may compensate for a failure to

³⁷ Among these, for instance, ETSI, JEDEC, OASIS, IEEE, IETF, IEC, ITU and ISO.

³⁸ M. Lemley, "Intellectual Property Rights and Standard-Setting Organizations", (2002) 90 *California Law Review* 1974. Lemley has mentioned examples of typical RAND clauses, for instance: "RAND to entire world required or standard is withdrawn"; "RAND, or the standard will be cancelled"; "RAND, or the standard will be referred back to the Committee for consideration"; and "RAND, or possible withdrawal of the standard" (the latter, adopted by JEDEC).

disclose conflicting IPRs³⁹. In particular, the authors argued that, in case a firm has subscribed FRAND/RAND conditions but does not reveal the existence of potentially conflicting rights it owns, the standard setting process in principle may still reach its goals. Indeed, the argument goes, if the IPRs holder agreed to license on fair reasonable and non-discriminatory terms, there is no reason to believe that the SSO will withdraw the standard, and no reason to believe that the SSO would have acted any differently had it known of the existence of the patent. Once the standard has been adopted, whatever right a firm may assert, it would be obliged to license it under the accepted FRAND/RAND terms. In case IPRs owners refused to respect these conditions, the SSO may withdraw the standardised technology or resort to a court claiming for abidance by the rules subscribed. From this perspective, apparently, a patent ambush would seldom be successful, as IPRs owners would fail in holding the SSO's members and charging supra-competitive royalties⁴⁰.

Supporters of the FRAND/RAND model, however, seem to underestimate a crucial aspect, concerning the exact meaning of these terms, which still remains vague. Without a clear answer to the issue, the standard setting process may encounter several obstacles and delays before reaching the expected outcome. As held in Chapter III, the literature on FRAND/RAND is far from reaching a

³⁹ D.J. Teece and E.F. Sherry (n° 36) 1973.

⁴⁰ However, Teece and Sherry also hold that antitrust authorities should refrain from imposing stronger fines under antitrust laws, beyond those already fixed by the SSO for non-compliance.

shared view to solve the problem⁴¹. SSOs, in addition, do not usually specify in their policies which royalties can be considered FRAND/RAND, as any proposal may potentially discourage firms from participating to the SSOs processes. Firms may often have divergent perspectives in interpreting when royalties are fair reasonable and non-discriminatory⁴². In case a SSO defined *ex ante* the meaning of FRAND/RAND, IPRs holders in disagreement with it may well be tempted by avoiding the membership, and enforcing their rights once the standard has been formalised⁴³.

In brief, without a precise idea of what FRAND/RAND means, there might be considerable delays in the implementation of the standardised technology. First, after the standard has been chosen, implementers may resist adoption until acceptable licensing conditions are offered. Failure of *ex post* negotiation may lead the SSO to redesign and rewrite the standard around the IPR concerned. Innovation, hence, would be slowed down to the detriment of consumers⁴⁴. Secondly, in case of disagreement on the meaning of FRAND/RAND, the standard setting body may withdraw the standardized technology and block the whole standardization process. The consequence, of course, may reduce

⁴¹ See Chapter III sections 3.3.3.1 and 3.3.3.2, for a thorough analysis of the methods developed to define FRAND/RAND licensing terms.

⁴² P. Treacy and S. Lawrence, "FRANDly Fire: Are Industry Standards Doing More Harm than Good?", (2008) 3(1) *Journal of Intellectual Property Law & Practice* 22.

⁴³ In other words, by refusing to join the SSO, they would be legitimized to protect and enforce their IPRs in case of infringement by users and implementers of the standardized technology.

⁴⁴ G. Ohana, M. Hansen, O. Shah (n° 11) 647.

drastically the incentives of IPRs owners to take part in SSOs' activities. Lastly, the standard setting body may decide to litigate the meaning of FRAND/RAND before a court⁴⁵. In the event, as some authors argued, courts could interpret fair and reasonable fees as the price that would have been voluntarily negotiated by SSOs' members before the standard be formally adopted⁴⁶. However, this may prove to be a very difficult task for a judge, as the interpretation could imply to search for those competitive conditions identifying a phase of the SSO process concluded long time before. This could lead to further delays in the development of the standardised technology by the industry and to significant losses for both consumers and producers. A lengthy and tortuous proceeding may even make the outcome of the standard setting process out-dated, especially in those high-technology markets where competing undertakings innovate rapidly⁴⁷. All the above mentioned problems would be exacerbated in case of complement IPRs owned by different firms, as each of them may charge supra-competitive royalties for the license of the rights⁴⁸.

In summary, FRAND/RAND terms are not a sufficient solution because they leave potential implementers of a technology uncertain as to the economic terms on which essential patents will be licensed to them. Such uncertainty,

⁴⁵ See, *inter alia*, *Broadcom v Qualcomm*, LEXIS 62090 (D. New Jersey, 2006); *Broadcom v Qualcomm*, 501 F.3d 297 (C. App. 3rd Circuit, 2007).

⁴⁶ J. Farrell, J. Hayes, C. Shapiro and T. Sullivan (n° 4) 637.

⁴⁷ The IT (Information Technology) and TMT (Telecommunications) sectors are clear examples.

⁴⁸ G. Ohana, M. Hansen, O. Shah (n° 11) 647.

increased by the divergent economic theories developed by the literature, may lead key market players to avoid SSOs processes, or to hesitate in developing technologies which may still be the subject of litigation among interested parties⁴⁹. The fault related to the mentioned risk of litigation, furthermore, could consistently undermine the ultimate goal of competition and of any other public policy, which is the enhancement of consumer and societal welfare. From these arguments, it can be inferred that *ex post* negotiation, litigation or even binding arbitration with respect to royalty rates are highly inefficient means to solve the patent ambush problem. A FRAND/RAND model probably implies more questions than it gives answers, and cannot represent the optimal solution⁵⁰.

3.2.2 *Ex Ante* Joint Negotiation of Royalties

The FRAND/RAND scheme described above is not the only model suggested in order to constrain patent ambush behaviours in SSO processes. As held in Chapter III, other alternatives have been proposed by the literature⁵¹. One of them, it has been said, would lead to allow SSOs' members to negotiate *ex ante* the licensing terms of relevant IPRs. According to this model, patent holders

⁴⁹ *Ibid*, 648.

⁵⁰ See *Motorola v Rockwell International*, n° 95-575-SLR (D. Delaware, 1995). Here, Motorola sued Rockwell for patent infringement. The case was finally settled, having Rockwell accepted to pay for Motorola's licences. The main problem, however, concerned the indefiniteness of FRAND terms, devoid of any meaning in practice.

⁵¹ See Chapter III section 3.3.3.3.

and potential licensees may jointly discuss -before the formal adoption of the standardised technology- the level of royalties that would be paid to those firms owning rights covered by the standard. In comparison to the FRAND/RAND commitment, the *ex ante* negotiation option seems to have some advantages⁵². At the same time, as it has been noted, doubts exist about its legitimacy, also due to alleged concerns which may arise under antitrust law⁵³.

The next sections are devoted to examine in depth the *pro* and *cons* of the *ex ante* joint negotiation model. The work will first focus on those aspects that might suggest adopting this scheme as the optimal solution to the ambush problem. It will then consider the reasons of those commentators which disagree with this proposal and rather opt for the adoption of further alternative solutions or for the implementation of the FRAND/RAND model⁵⁴.

Advantages of *Ex Ante* Joint Negotiation

Firstly, it seems that *ex ante* joint negotiation is more likely to identify a competitive and appropriate level of royalties than a court's decision issued *ex post* could do⁵⁵. This is because a judge (in charge with the interpretation of FRAND/RAND terms) may potentially be influenced in its determination by the

⁵² J. Farrell, J. Hayes, C. Shapiro and T. Sullivan (n° 4) 629; R.A. Skitol (n° 11) 729.

⁵³ See, for instance, J.G. Sidak (n° 11) 123-124.

⁵⁴ D.J. Teece and E.F. Sherry (n° 36) 1953.

⁵⁵ J. Farrell, J. Hayes, C. Shapiro and T. Sullivan (n° 4) 629.

market power conferred to the IPRs owner by the standardised technology⁵⁶. Thus, the *ex post* evaluation may lead to set the price at a supra-competitive level. As a consequence, it could be assumed, SSO's members may either decide to reject the standard or reduce the output of products based on that standard⁵⁷.

Secondly, it has been held that *ex ante* joint negotiation is more likely to contrast effectively patent ambush behaviours than a FRAND/RAND model could do⁵⁸. In the former case, indeed, firms which fail to disclose their rights and aim at a supra-competitive level of price would not be able to extract royalties beyond the rate fixed *ex ante*. In the *ex post* model, instead, patent ambush could lead to one of the negative effects previously mentioned, among which the withdrawal of the standard or the accumulation of consistent delays ultimately undermining the whole process. These consequences would clearly affect consumer welfare and societal productivity⁵⁹.

The positive effects of the *ex ante* joint negotiation model, as some authors argue, would be all the more evident in case of activities led by formal SSOs⁶⁰. The latter, as already explained, usually involve a broad group of stakeholders (technology developers, implementers and users) in the elaboration of technical

⁵⁶ See S.K. Peterson, "Consideration of Patents during the Setting of Standards", available at www.ftc.gov/opp/Intellect/021106peterson-pdf.

⁵⁷ C. Shapiro, "Competition Policy and Innovation", (2002) OECD STI Working Paper 11/2002.

⁵⁸ G. Ohana, M. Hansen, O. Shah (n° 11) 648.

⁵⁹ See above, Chapter I section 2.2.1.

⁶⁰ G. Ohana, M. Hansen, O. Shah (n° 11) 649-650.

specifications. Under these circumstances, indeed, the standardization process may be so lengthy and complex that members may finally find themselves locked into the standard once it is adopted. Switching to effective alternatives may entail the loss of sunk investments and the commitment to undertake further relevant costs⁶¹.

In the case, instead, of *fora* and *consortia*, characterized by simpler procedures and a reduced number of participants, it could be easier to switch to alternative technologies when firms try to hold-up the other members. What is more, it has been observed, in these private networks hold-up may occur less frequently, due to the shared interest of the participants in creating a market for the products from which revenues can be obtained⁶². Therefore, the argument goes, formal standard setting bodies represent the appropriate context for promoting *ex ante* joint negotiation of licensing terms⁶³. In my opinion, however, this particular comment is questionable and cannot be accepted without reserve. It is true that standard setting is usually faster and more effective in private networks. Nevertheless, the U.S. jurisprudence has attested that risks deriving from hold-up may occur also in private networks.

Finally, further aspects might legitimize the view that *ex ante* joint negotiation would represent the optimal option in the setting of SSOs licensing

⁶¹ *Ibid.*

⁶² See S.K. Peterson (n° 56). The author interestingly associates *ad hoc consortia* with joint ventures.

⁶³ G. Ohana, M. Hansen, O. Shah (n° 11) 649-650.

policies. For instance, it could be held that allowing early negotiation of royalties may better incentivise implementers to be involved in the standard setting process, especially in case there appear to be only one or few candidate technologies. The existence of a limited number of relevant technologies covering the standard, coupled with the lack of clear licensing terms, may potentially discourage other firms from committing to the standard or to the SSO process, due to the possible risk of being 'hostage' of the IPRs owner. Leverage of a patent holder, it has been noted, is usually greater when its technology is the only specification in compliance with the proposed standard⁶⁴. Joint negotiation of royalties would avoid uncertainty on the level of price licensees may be charged for the standard. At the same time, it has been added, the *ex ante* joint negotiation model might also prove to be effective even in case of multiple rival technologies. Under these circumstances, early disclosure and negotiations of licensing terms may well allow potential implementers to compare effectively the economic and technological merits of the competing solutions⁶⁵. However, all these arguments and assumptions, albeit appealing, must be confronted with further elements highlighting the faults of the *ex ante* joint negotiation option. Several authors, indeed, evaluate this model as difficult to implement⁶⁶.

⁶⁴ The risk to be under the IPR owner's leverage might, in particular, materialize in case of FRAND/RAND commitments, due to the explained indefiniteness of the licensing terms.

⁶⁵ G. Ohana, M. Hansen, O. Shah (n° 11) 650.

⁶⁶ J.G. Sidak (n° 11) 123; D.J. Teece and E.F. Sherry (n° 36) 1953; M. Naughton and R. Wolfram (n° 2) 779.

Faults of *Ex Ante* Joint Negotiation

Various reasons suggest that the *ex ante* joint negotiation model may not represent the best option when setting SSOs' IPRs policies. Although it may appear as a good solution in principle, especially when compared to the FRAND/RAND scheme, this model raises several doubts under different perspectives, and seems to be complex and rare⁶⁷.

First, as explained earlier, the risk exists that discussions on licensing terms may lead to exhausting policy battles between the standard setting bodies' members. It might be complex, indeed, to define a level of royalty which is acceptable for all parties of a negotiation⁶⁸. Difficulties may arise both in case there are multiple competing technologies, and when there is only one relevant technology covering the proposed standard. Furthermore, if the standard is based on different complementary technologies, negotiations might be even harder, due to the need to appraise and balance the exact contribution to the standard from each technology⁶⁹. On the one hand, firms possessing relevant

⁶⁷ J. Farrell, J. Hayes, C. Shapiro and T. Sullivan (n° 4) 630-631. Despite recognizing the merits of early negotiation, the authors find the model relatively difficult.

⁶⁸ See the Report of the U.S. Department of Justice and Federal Trade Commission, "Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition", (April 2007) 50, available at www.usdoj.gov/atr/public/hearings/ip/222655.pdf.

⁶⁹ On negotiations in patent pools, see C. Shapiro, "Navigating the Patent Thicket: Cross Licensees, Patent Pools and Standard Setting", (2001) 1 *Innovation Policy and the Economy* 119; R. Gilbert, "Antitrust for Patent Pools: a Century of Policy Evolution", (2004) *Stanford Technology Law Review* 3; J. Lerner and J. Tirole, "Efficient Patent Pools", (2004) 94 *American Economic Review* 691; and J. Farrell, J. Hayes, C. Shapiro and T. Sullivan (n° 4) 641-643. The latter consider weak

IPRs are clearly interested in fixing a level of fees which may reward them for the investments made in research and developments. On the other, those members without relevant patents have more than an incentive to keep the royalty rate low. Therefore, early negotiations between interested parties may run the risk to fail or determine consistent delays to the standard setting process⁷⁰.

Secondly, it has been noted that early negotiation may be unfavourable for those firms (without relevant patents) joining the SSO process in an advanced stage, after discussions on the licensing terms have been concluded⁷¹. These participants would have to accept contractual conditions already established by others⁷². The definition of the royalty level may thus represent the stage after which firms may be reluctant to join the standard setting body. Therefore, the adoption of the *ex ante* joint negotiation model may have the undesirable effect of limiting the number of potential participants to the SSO's activities, to the detriment of the standardization process. Indeed, the more the firms involved in standard setting, the higher the possibility of a successful and efficient outcome for the industry concerned.

the effectiveness of a 'proportionality rule', according to which the aggregate royalties could be distributed among innovators on the basis of the number of patents essential to the standard.

⁷⁰ See the "European Telecommunications Standards Institute (ETSI) Guide on IPRs" (27 November 2008); here, it is stated that "[s]pecific licensing terms and negotiations are commercial issues between the companies and shall not be addressed within ETSI. Technical Bodies are not the appropriate place to discuss IPR issues".

⁷¹ M. Valimaki, "A flexible Approach to RAND Licensing", (2008) 29(12) *European Competition Law Review* 689.

⁷² *Ibid.*

Thirdly, further considerations link the effectiveness of the model to the type of IPRs disclosed. It has been explained above that most standard setting bodies, with few exceptions, usually expect disclosure of only issued patents⁷³. Requiring full disclosure of also pending IPRs may discourage firms from taking part in the standard setting process. This is because other undertakings may take advantage in different ways from the revealed technical know-how pending the application, and may compromise the investments made by the IPRs applicant⁷⁴. This notwithstanding, in case a standard setting body required full disclosure of pending IPRs applications, the adoption of the *ex ante* negotiation scheme would definitively discourage participation of innovators. Negotiating *ex ante* the value of a right which has not been granted yet may prove to be an unfeasible task⁷⁵.

Besides these observations, further relevant criticism has been raised on the functioning of the *ex ante* joint negotiation model. Promotion of early discussions on licensing terms may indeed represent a disincentive to participate to the activities of standard setting bodies even from a different point of view⁷⁶. If the adoption of the FRAND/RAND model might enable a patent owner to hold-up the SSO's participants, the implementation of the *ex ante* negotiation scheme may instead lead patent holders to avoid the SSO's membership.

⁷³ M. Lemley (n° 38) 1904-1905.

⁷⁴ M.C. Naughton and R. Wolfram (n° 2) 764-765.

⁷⁵ Rather, as explained in Chapter VII, the unilateral appraisal of the pending IPRs' value may be interpreted by innovators as a more reasonable requirement.

⁷⁶ J.G. Sidak (n° 11) 141-142.

Indeed, under certain circumstances, IPRs owners may exert weak power in negotiating the price with several implementers and industry participants which usually have all the interest to keep the royalty rate low⁷⁷. The lower the fees to be paid to the licensor, the higher the profit that could be made from the sale of the final product. Therefore, under this perspective, SSOs' policies implementing early negotiation of royalty rates could have a negative effect on the incentives of IPRs holders to take part in the processes. Limited participation to standard setting bodies would deprive standardization of the opportunity to maximize dynamic efficiency, due to the risk to implement technologies of lower value and quality⁷⁸. These observations lead to conclude that, although imposing low prices on patent owners may benefit buyers and consumers in the short term, this would reduce in the long run the incentives to invest and be part of SSO processes⁷⁹. The ultimate consequence would be detrimental to both consumers and producers: the former would only buy lower-quality and less innovative products, and would likely reduce consumption; the latter, as a consequence, would suffer from reduced production levels⁸⁰.

⁷⁷ *Ibid.* For instance, this could happen in case there are few innovators involved in the process. On the interaction licensors-licensees, see A. Layne Farrar, "Business Models and the Standard Setting Process", in *The Pro & Cons of Standard Setting* (Swedish Competition Authority, 2010) 42.

⁷⁸ See T.O. Barnett, "Maximizing Welfare through Technological Innovation", (2008) 15 *George Mason Law Review* 1191, 1199.

⁷⁹ *Contra*, see G. Ohana, M. Hansen, O. Shah (n° 11) 649. The authors hold that the risk of disincentives for licensors participation is low, and that any reduction in the participation of IPRs owners may be counter-balanced by the greater certainty resulting from *ex ante* negotiation.

⁸⁰ See Chapter I sections 2.2 (on consumer welfare) and 2.3 (on dynamic efficiency).

Collusion: Bogus Issue or Real Concern?

Finally, and most importantly, several authors have raised doubts about the legitimacy of this model due to potential concerns which may be raised under Section 1 of the U.S. Sherman Act and Article 101 TFEU⁸¹. As Naughton and Wolfram observed, “SSO participants cannot agree on royalty rates in specific quantitative terms without running the risk of liability for price fixing”⁸². For instance, there might be the risk that patent holders, in the context of negotiation of the royalty rates, could agree on fixing high and supra-competitive fees for the license of relevant IPRs. Such a conduct would probably lead to raise prices of the final product, as licensees would have all the interest to pass the burden to the final purchaser. This would undoubtedly harm the welfare of consumers. Further concerns may also arise in case of illegal group boycotts, which might occur if members conditioned the standardization of proprietary technologies on the IPR owners’ acceptance of low licensing rates specified in advance⁸³.

The risk of collusive conduct, however, cannot be presumed but must be appraised with careful attention, due to the specific context in which the

⁸¹ J.G. Sidak (n° 11) 123; M. Naughton and R. Wolfram (n° 2) 779; D.J. Teece and E.F. Sherry (n° 36) 1953. Sidak, in particular, recalls the letter of the U.S. ‘Standards Development Organizations Advancement Act’, and argues that price negotiations in standard setting should be appraised under a *per se* rule of illegality.

⁸² M.C. Naughton and R. Wolfram (n° 2) 779.

⁸³ D.J. Teece and E.F. Sherry (n° 36) 1955.

interested firms operate⁸⁴. In the SSOs environment members may pursue different strategies. This is because firms involved in standard setting may either play the role of licensors-innovators or of licensees-users. Depending on the circumstances, therefore, higher level of royalties for IPRs may either benefit or bear heavily on the parties concerned⁸⁵. That is why standard setting contexts must be distinguished from the typical market situation in which collusion benefits producers and harms the interests and welfare of consumers⁸⁶. This being stated, in order to appraise the likelihood of collusive mechanisms in standard setting and the resulting harm, further aspects must be scrutinised. In particular, it would be important to identify and understand better the dynamics characterizing price negotiations within standard setting bodies⁸⁷. The analysis could be in theory focused on two different scenarios.

On the one hand, in case the SSO assembles several firms without relevant IPRs and only one or few patent holders, it is very likely that negotiations could lead to fix a low royalty rate. This is because the many licensees –exerting greater

⁸⁴ On the analysis of collusive conduct in the EU, see Case 56/65 *Société Technique Minière v Maschinenbau Ulm* [1966] E.C.R. 235; Case T-528/93 *Metropole Television SA v European Commission* [1996] E.C.R. II-649; Cases T-374, 375, 384, and 388/94 *European Night Services v European Commission* [1998] E.C.R. II-3141.

⁸⁵ G. Ohana, M. Hansen, O. Shah (n° 11) 649.

⁸⁶ On the dynamics of collusive behaviours, see V. Korah, *An Introductory Guide to EC Competition Law and Practice* (Hart Publishing, 2004) Chapter 2.2; R. Whish, *Competition Law* (6th ed., Butterworths London 2009) Chapter 13; S. Bishop and M. Walker, *The Economics of EC Competition Law* (Sweet and Maxwell, 2010) Chapter 5; R.J. Van den Bergh and P.D. Camesasca, *European Competition Law and Economics: a Comparative Perspective* (Sweet and Maxwell, 2006) Chapter 5.

⁸⁷ G. Ohana, M. Hansen, O. Shah (n° 11) 651-655.

pressure on the patent holder- would probably succeed in lowering the licensing price, hence limiting the costs of manufacturing the final product. Licensees may act as a buying group, implementing a sort of joint purchasing agreement⁸⁸. In case the IPRs holder refused to license at the suggested rate and no alternative were available, the SSO may either block the whole process or try to design around the patented technology. Under these alternative perspectives, it is unlikely that antitrust authorities could be concerned about price discussions⁸⁹. The imposition of low rates on IPRs holders would appear to benefit –at least in the short run- consumers, in so far as the savings granted to the licensees would be passed to the downstream level⁹⁰. In addition, as some authors argue, it is unlikely that antitrust enforcers would be concerned about foreclosure effects. Indeed, the negotiated price would likely be available without exceptions for all the implementers participating to the standard setting process⁹¹.

On the other hand, the SSOs may attract participation from several IPRs owners, each of them with potentially relevant technologies. In this scenario, negotiations on royalty rates between members might be more balanced, and

⁸⁸ On the argument, see R.A. Skitol (n° 11) 735.

⁸⁹ M. Lemley (n° 38) 1947. *Contra*, T.F. Cotter, "Patent Holdup, Patent Remedies and Antitrust Responses", (2009) 34 *Journal of Corporation Law*. Cotter seems to support a *per se* rule of illegality.

⁹⁰ However, Sidak [(n° 11) 124] argues that pass-through is not automatic, but requires information on the calculation of royalty payments, the demand and supply elasticity facing the licensees, and the structure of the industry further downstream (between the manufacturer and consumer).

⁹¹ G. Ohana, M. Hansen, O. Shah (n° 11) 653-654.

patent holders may exert greater influence on potential licensees⁹². A slight risk exists that putative licensors may collude so as to raise the level of royalties to be paid for their technologies. Each of them could agree on a price rate under which it would not license its IPRs. In this respect, the Antitrust Division of the U.S. Department of Justice and the Federal Trade Commission have clearly stated that “summary condemnation would be justified if IP holders were to reach naked agreements on the licensing terms they will propose to an SSO that permits multilateral negotiations, thus, in effect, rigging their selling bids”⁹³. The collusive conduct would enable the selected IPRs owner to benefit from higher revenues. Users and implementers, instead, as well as those non-selected vertically integrated innovators manufacturing downstream, would have to pay high level of royalties, the burden of which could still be passed to the ultimate consumer by means of final price increases. This last possibility, in theory, could make firms complacent about supporting the collusive mechanism. In addition, if the standard required adoption of different complementary technologies, those licensees playing at the same time the role of (vertically integrated) licensors might benefit from advantageous bilateral cross-licensing⁹⁴. However, the abovementioned scenario is only hypothetical, perhaps improbable. No element

⁹² *Ibid*, 650.

⁹³ Report of the U.S. Department of Justice and Federal Trade Commission (n° 68) 51-52.

⁹⁴ Cross-licensing, it must be noted, may potentially occur also in case of standards based on single technologies. The non-selected vertically integrated firms (in need of the IPR license) may indeed negotiate with the selected innovator to waive the fees on the basis of cross-licensing involving IPRs and technologies examined in other different standard setting contexts.

can ensure that patentees would agree on the collusive mechanism, and that the standard setting body would not be able to extract lower fees. But even if the described circumstances occurred, the SSO could still decide either to reject the standard, or design around the patented technologies. Of course, in the unlikely event that several IPRs holders were part of the collusive mechanism, it could be complex and lengthy for the SSO to develop open and non-proprietary standards, without infringing any of the essential patented technologies. This notwithstanding, even this possibility cannot be excluded.

Perhaps, a more plausible concern could arise in case licensees found in the joint negotiation phase the optimal context to hide collusive intents, aimed at raising downstream sale prices⁹⁵. Put differently, users and implementers, besides discussing the level of fees to be paid to IPRs owners, could also agree on fixing uniform higher prices for the sale of final products to consumers⁹⁶. In this regard, the U.S. Federal Trade Commission notably stated that in case manufacturing rivals crossed over the line from negotiating royalty levels and started “discussing –and fixing- the price of the products they sell, summary condemnation is almost certainly warranted”⁹⁷.

⁹⁵ On the argument, see J.G. Sidak (n° 11) 164.

⁹⁶ Report of the U.S. Department of Justice and Federal Trade Commission (n° 68) 50; Antitrust Modernization Commission (AMC), “Final Report and Recommendations”, (April 2007) 121.

⁹⁷ D. Platt Majoras (former chairman, Federal Trade Commission), “Recognizing the Pro-competitive Potential of Royalty Discussions in Standard Setting, Remarks at Standardization

However, the risk of fixing downstream prices does not seem peculiar to the early negotiation model only, but could arise in any phase of the standard setting process and under any IPRs policy (even under a FRAND/RAND regime). These considerations, therefore, suggest that the *ex ante* joint negotiation system should not be excluded *a priori* only on the ground that it may facilitate risky or suspicious price discussions under the auspices of SSOs.

In any case, it could be also argued that, even if courts or authorities interpreted early negotiations among SSOs' members as suspect, they could still consider exemptions under Article 101(3) TFEU, or appraise the conduct (in the U.S.) under the rule of reason rather than under a *per se* rule of illegality⁹⁸. In the EU, the Commission has already exempted certain forms of horizontal price fixing between rivals, as price setting in those circumstances was indispensable to achieve the pro-competitive benefits of cooperation⁹⁹. However, in its recent analysis of horizontal co-operation agreements, the authority has clearly banned price fixing in SSOs, as it would seldom achieve any benefit for competition¹⁰⁰. On the contrary, in the U.S., different agencies believe that early

and the Law: Developing the Golden Mean for Global Trade", (Speech, 23 September 2005), available at <http://www.ftc.gov/speeches/majoras/050923stanford.pdf>.

⁹⁸ R.A. Skitol (n° 11) 737-739.

⁹⁹ See Article 4 of Regulation (EEC) n° 1617/93 (establishing a group exemption for price agreements between airlines). See also Article 3 of Regulation (EEC) n° 4056/86 (granting an exemption for price agreements between liner conferences).

¹⁰⁰ European Commission, "Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements", [2011] O.J. C 11/1, at 274. Here, it is stated that "[a]ny agreements to reduce competition by using the disclosure of most restrictive licensing terms prior to the

negotiation could be appraised under the rule of reason, as price discussions may have pro-competitive effects and mitigate the risks of hold-up¹⁰¹. In order to deny the existence of potential concerns under antitrust laws, some commentators have even argued (less convincingly) that licensees should be considered as a single entity, which cannot be deemed to conspire with itself¹⁰².

Failure of the Model

In light of the arguments on the *pro* and *cons* of the model, it can be concluded that *ex ante* joint negotiation does not probably represent the optimal solution in the setting of SSOs' IPRs policies. Leaving aside the highly debated risk of collusion, other relevant considerations justify this conclusion. The most relevant lies on the fact that joint discussions of licensing terms, likely leading to lower prices, may ultimately discourage IPRs owners from taking part in SSOs processes. The main effect deriving from reduced participations to SSOs would be a loss in terms of dynamic efficiency¹⁰³.

adoption of a standard as a cover to jointly fix prices either of downstream products or of substitute IPR or technology will constitute restrictions of competition by object".

¹⁰¹ Report of the U.S. Department of Justice and Federal Trade Commission (n° 68) 53-56; and Antitrust Modernization Commission (AMC) (n° 96) 117. *Contra*, see J.G. Sidak [(n° 11) 126], that holds that price fixing within the SSO context should be appraised under a rule of *per se* illegality.

¹⁰² See M.R. Patterson, "Inventions, Industry Standards, and Intellectual Property", (2002) 17 *Berkley Technology Law Journal* 1043; see also M.A. Carrier, "Why Antitrust Should Defer to the Intellectual Property Rules of Standard Setting Organizations: a Commentary on Teece and Sherry", (2003) 87 *Minnesota Law Review* 2017, 2030.

¹⁰³ J.G. Sidak (n° 11) 141-142.

On the one hand, IPRs owners may limit investments in research and development, and redirect their resources to other more profitable targets.

On the other, SSOs would only be able to standardize non-optimal technologies. The fear of these negative effects explains why SSOs have been reluctant so far about the possibility to adopt IPRs rules requiring *ex ante* joint negotiation¹⁰⁴, and have rather opted for the implementation of FRAND/RAND licensing regimes. However, the considerations made in the previous sections have clarified that also this option cannot be implemented without raising concerns. Hence, the question on how to solve the ambush problem still stands¹⁰⁵.

3.3 Conclusive Remarks on Patent Ambush

The very first examples of patent ambush are to be found in the US. This explains why also the first investigations have been decided by U.S. courts and antitrust authorities¹⁰⁶. Only in the last decade, this form of hold-up has called the attention of the EU Commission, which has started to take into due

¹⁰⁴ E.g., VITA explicitly clarifies that the “negotiation or discussion of license terms among WG Members or with third parties is prohibited at all VSO and WG meetings” (see VITA Standards Organization – Policies and Procedures (30 November 2009), § 10.3.4).

¹⁰⁵ On the effectiveness of negotiation models, see also R. Gilbert, “When Standards Require IP: FRAND v. Negotiation”, in *The Pro & Cons of Standard Setting* (Swedish Competition Authority, 2010) 80. As an alternative to early joint negotiation, Gilbert proposes the *ex ante* bilateral negotiation model with a non-discrimination requirement. Under this regime, licensors would be involved in bilateral negotiations with potential licensees. However, this model poses various questions as to how it may practically apply to third parties.

¹⁰⁶ *Inter alia*, *Allied Tube* (n° 23); *Dell Computer* (n° 23); *Wang Labs.* (n° 23).

consideration this particular conduct arising in the context of standard setting¹⁰⁷.

Patent ambush raises various concerns, as it may lead to manipulate the SSO process and confer to IPRs holders a dominant position in the market of the standardised technology¹⁰⁸. The main risk is that the dominant firm may be able to extract from licensees excessive fees for licensing its rights¹⁰⁹. Licensees may then pass the burden of the high royalties to the final consumer, by means of price increases. The outcome would be harmful to consumer welfare and, ultimately, societal surplus. These effects would be even exacerbated in case of complementary technologies, as each IPRs owner might implement ambush¹¹⁰. Different solutions have been discussed, from a FRAND/RAND regime to *ex ante* joint negotiation of licensing terms. However, various reasons suggest that these options would raise more questions than give answers.

The ambush problem will be further reviewed in Chapters V and VI, focused on the analysis of the U.S. and EU case law, which will help in understanding why the rules proposed so far have raised several doubts. Chapter VII will instead be devoted to define a new legal framework, which may potentially address any form of hold-up in a more effective way.

¹⁰⁷ See European Commission, "Towards an Increased Contribution from Standardization to Innovation in Europe", (Communication) COM 133 final, 11 March 2008; and European Commission, "Modernising ICT Standardization in the EU - The Way Forward", (Communication) COM 324 final, 3 July 2009.

¹⁰⁸ M.C. Naughton and R. Wolfram (n° 2) 701-702.

¹⁰⁹ D.G. Swanson and W.J. Baumol (n° 13) 3-4.

¹¹⁰ See D. Geradin and M. Rato (n° 11) 126; G. Ohana, M. Hansen and O. Shah (n° 11) 645.

4. Breach of FRAND/RAND Terms

The previous sections have clarified that most SSOs have usually adopted FRAND/RAND licensing terms in their IPRs policies. The economic principle underlying these commitments is that essential IPRs owners should not be able to exploit the extra power gained as a result of having technology based on their rights incorporated in the standard. This regime, it has been added, has been criticised as it leaves licensees uncertain about the fees level charged, and may facilitate patent owners in holding-up other members¹¹¹.

A second concern, directly linked to the indefiniteness of FRAND terms, may arise in case the selected IPRs owner, despite subscribing the IPRs policy, finally breaches the licensing terms. Put differently, the patent holder, albeit disclosing its relevant rights and accepting the FRAND/RAND regime, may finally infringe the agreement and charge unfair unreasonable and discriminatory royalties¹¹². Unlike patent ambush, therefore, the behaviour is not based on the innovator's concealment of its patents. The burden of the higher costs would be likely passed from licensees-manufacturers to the ultimate consumer, by increasing the price of final products. Similarly to what has been

¹¹¹ See above, section 3.2.1.

¹¹² D. Geradin (n° 32) 329; M. Valimaki (n° 71) 690; C.B. Hockett and R.G. Lipscomb, "Best FRANDs Forever? Standard-Setting Antitrust Enforcement in the United States and the European Union", (2009) 23(3) *Antitrust* 22-23; L. Zhang, "How IPR policies of telecommunication standard-setting organizations can effectively address the patent ambush problem", (2010) 41(4) *International Review of Intellectual Property and Competition Law* 406.

held in relation to ambush, these negative effects would lead to harm both consumer and societal surplus¹¹³.

The mentioned consequences, what is more, could be exacerbated did the standard include various complementary technologies. Under these circumstances, indeed, each selected IPRs holder may ask for the payment of royalties, the sum of which may ultimately determine highly burdensome costs. The phenomenon, known as royalty stacking, may occur even if the IPRs covering each component would be offered under a FRAND/RAND regime¹¹⁴. In case innovators charged supra-competitive fees, then, the negative effects of royalty stacking could be even worse and might compromise the whole SSO process, which could become extremely costly and lead to inefficient outcome¹¹⁵.

In view of these considerations, and provided that failure to comply with IPRs policies may entail in principle the enforcement of contract law¹¹⁶, the question is whether the mere breach of FRAND terms may call EU and U.S. courts and agencies to enforce also antitrust provisions.

¹¹³ Sidak [(n° 11) 124], however, observes that pass-through cannot be automatically presumed.

¹¹⁴ D. Geradin and M. Rato (n° 11) 127; M.A. Lemley and C. Shapiro (n° 11) 1991.

¹¹⁵ On the issue, J.G. Sidak, "Holdup, Royalty Stacking, and the Presumption of Injunctive Relief for Patent Infringement: A Reply to Lemley and Shapiro", (2008) 92 *Minnesota Law Review*. See, however, E. Elhauge (n° 20) 535; Elhauge's economic analysis leads the author to conclude that royalty stacking is a bogus problem, as innovators would be often under-compensated.

¹¹⁶ On the enforcement of contract law, see Chapter VII. See also R. Hewitt Pate (Assistant Attorney General for Antitrust - U.S. DoJ), "Competition and Intellectual Property in the U.S.: Licensing Freedom and the Limits of Antitrust" (Speech at *EU Competition Workshop*, Florence - 3 June 2005) 10, available at www.usdoj.gov/atr/public/speeches/209359.pdf.

4.1 Analysis of the Conduct: Alternative Scenarios

The conduct under examination does not necessarily lead to harm competition by exclusion of rivals. Two different scenarios, indeed, must be distinguished. On the one hand, a standard setting body may be willing to adopt a particular patented technology under all circumstances, even in case it knew about the IPRs holder's intention to charge non FRAND/RAND royalties. This may happen when there are no alternatives at all or when the technology appears to be by far better than the others proposed¹¹⁷.

On the other hand, instead, the organization may be interested in including the patent owner's invention as long as the latter complies with FRAND/RAND commitments. Under these circumstances, the SSO would reject the IPRs owner's technology did it know about the firm's intention to charge excessive fees. Therefore, the conduct may lead to the exclusion of rivals which could have been otherwise selected. This may occur because, once the standard has been adopted and the innovator has revealed the intention to charge non FRAND/RAND fees, it could be unreasonable to switch to alternative technologies, as meanwhile the SSO may have required members to make burdensome sunk investments¹¹⁸.

¹¹⁷ This was the case, for instance, in the *Rambus* case. The U.S. Court of Appeals had indeed established that there was no proof that JEDEC would have adopted alternatives had it known about Rambus' intention to charge (after holding-up JEDEC members) non-RAND rates.

¹¹⁸ E.g., Qualcomm was charged by the U.S. Court of Appeals as there was reason to believe that ETSI would have adopted alternatives had it known about its intention to breach FRAND terms.

4.2 U.S. v EU Approach

Breach of FRAND/RAND terms alone (in the absence of ambush) may involve different legal consequences, depending on the antitrust framework under which the conduct is appraised¹¹⁹. U.S. antitrust law, it is well known, by requiring harm to competition for the finding of an infringement does not forbid purely exploitative abuses, but only prohibits exclusionary practices¹²⁰. Therefore, without exclusion, no liability under section 2 of the Sherman Act will lie¹²¹. As held by the U.S. Court of Appeals in *Rambus*, “to obtain higher prices normally has no particular tendency to exclude rivals and thus to diminish competition”¹²². This means that, in case the innovator demonstrates that the SSO would have developed its technology under all circumstances, no infringement can be deemed to exist for breach of FRAND/RAND prices.

On the other side of the Atlantic, Article 102 TFEU states that a dominant undertaking imposing “unfair purchase or selling prices or other unfair trading conditions” may be subject to liability¹²³. The provision does not explicitly require harm to competition for the finding of an abuse. Besides exclusionary

¹¹⁹ On the enforceability of FRAND/RAND terms, see M. Valimaki (n° 71) 690.

¹²⁰ See *Spectrum Sports* (n° 29), at 458.

¹²¹ H.J. Hovenkamp, “Patent Continuations, Patent Deception, and Standard Setting: the Rambus and Broadcom Decisions”, (2008) University of Iowa Research Paper n° 08-25, 28.

¹²² *Rambus* (n° 26), at 15.

¹²³ Case 27/76 *United Brands v European Commission* [1978] E.C.R. 207; Case 26/75 *General Motors v European Commission* [1975] E.C.R. 1367; Case 30/87 *Bodson v Pompes Funebres* [1988] E.C.R. 2479; Case 226/84 *British Leyland v European Commission* [1986] E.C.R. 3263.

conduct, therefore, also purely exploitative practices are caught and sanctioned¹²⁴. Article 102 TFEU could hence be used to regulate the level of fees charged by essential patent owners, even in the absence of exclusionary behaviours¹²⁵.

This view has been endorsed by the European Commission in its public statements on the *Qualcomm* investigation, where it held that

“[i]n the context of standardization, a finding of exploitative practices by Qualcomm in the WCDMA licensing market contrary to Article 82 of the EC Treaty may depend on whether the licensing terms imposed by Qualcomm are in breach of its FRAND commitment”¹²⁶.

In brief, the differences of legal framework (reflecting the more liberal U.S. system and the more interventionist EU approach) may contribute to explain why the *Rambus* and *Qualcomm* cases, both dealing with the implementation of FRAND/RAND terms, eventually led the EU and U.S. enforcers to adopt divergent perspectives¹²⁷.

¹²⁴ Besides excessive prices, Article 102 TFEU fines *inter alia* loyalty rebates, discrimination, refusal to deal, as well as tying and bundling.

¹²⁵ C.B. Hockett and R.G. Lipscomb (n° 112) 22.

¹²⁶ European Commission, “Commission Initiates Formal Proceedings against Qualcomm”, (1 October 2007) Press Release MEMO/07/389.

¹²⁷ See the U.S. cases *Rambus* (n° 26); and *Qualcomm* (n° 45) In the European Union, see Case COMP/38.636 *Rambus* [2010] O.J. C 30; and Case n° 39247 *Texas Instruments v Qualcomm* [2009].

4.3 Competition: a Means to Curtail Excessive Prices?

The analysis of the conduct of firms charging high royalties recalls a well-known dispute, concerning the role of competition rules in curtailing excessive prices, which has long been a contentious subject. As stated above, EU competition enforcers have traditionally developed a restrictive approach towards the issue. On the contrary, the antitrust authorities in the United States have not usually considered high pricing conduct as a danger for competitive environments. Rather, as held by the U.S. Supreme Court,

“[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. 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”¹²⁸.

That being stated, commentators argued that, in order to scrutinize better the merits of a system allowing excessive pricing, three main grounds should be

However, as it will be better explained in Part II Chapter VI, the EU Commission finally closed the *Qualcomm* case without reaching a decision, as during the investigations complainants had withdrawn their claims.

¹²⁸ *Verizon Communications v Trinko*, 540 U.S. 398 (2004).

examined¹²⁹. Firstly, it is observed, enforcement which targets excessive prices may discourage undertakings to invest their resources in innovation. In other words, firms usually making investments in innovative research and development may find this unprofitable and redirect their resources to other business targets¹³⁰. The effect may be detrimental to consumers. The latter benefit not only from low prices, but also from new and innovative products¹³¹.

Secondly, it might be complex to establish when a price is excessive, as the application of one economic principle over another may lead to divergent outcomes¹³². Several authors have tried so far to develop criteria and formulas in order to clarify when a price may be deemed excessive or supra-competitive¹³³. In the European Union, the Court of Justice has identified the price-cost margin principle, and has argued that

¹²⁹ D. Gilo and A. Ezrachi, "Excessive Pricing, Entry, Assessment, and Investment: Lessons from the Mittal Litigation", (2010) 76(3) *Antitrust Law Journal*.

¹³⁰ *Ibid.* See also D. Geradin (n° 32) 329; and D. Geradin, "Reverse Hold-ups: the (Often Ignored) Risks Faced by Innovators in Standardization Area", in *The Pro & Cons of Standard Setting* (Swedish Competition Authority, 2010) 101.

¹³¹ On the concept of dynamic efficiency, see M.E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (The Free Press, 1980).

¹³² On the topic, see J. Gstalter (n° 1) 16. The author observes that, "as shown by the *Qualcomm* case, determine whether a price is unreasonably high and in breach of a FRAND commitment is not an easy task for antitrust enforcers".

¹³³ Swanson, Baumol [(n° 13) 10], Farrar, Padilla and Schmalensee [A. Layne Farrar, A.J. Padilla and R. Schmalensee, "Pricing Patents for Licensing in Standard-Setting Organizations: Making Sense of Frand Commitments", (2007) 74 *Antitrust Law Journal* 671] are among those authors considering different models in order to understand when prices, in the standard setting context, may be considered excessive or reasonable (*i.e.* FRAND/RAND). See Chapter III section 3.3.3.

“[t]he questions to be determined are whether the difference between the costs actually incurred and the price actually charged is excessive, and, if the answer to this question is in the affirmative, whether a price has been imposed which is either unfair in itself or when compared to competing products”¹³⁴.

In the court’s view, hence, there must be a reasonable relation between the value of the product and its price. However, the literature suggests that there is still no consensus as to the optimal criteria to define when a rate is excessive or supra-competitive. The determination of costs in case of IPRs licensing, for instance, may result more problematic than expected¹³⁵.

Finally, the argument goes, intervention would seldom be necessary, as high prices may well encourage other firms to enter the market and charge lower rate. Put differently, the charging of excessive prices does not usually lead to the exclusion of competitors. Rather, provided that entry is feasible, it may attract other firms to enter the market, to the benefit of the competitive environment. In light of these considerations, competition law would appear to be ill-suited to establish when a firm is charging excessive rates.

Perhaps, the latter argument may not apply when considering standard setting. SSOs, indeed, may represent themselves an obstacle to entry, as they

¹³⁴ *United Brands* (n° 123), at 250-252. On the analysis of these criteria, see D. Geradin (n° 32) 329.

¹³⁵ D. Gilo and A. Ezrachi (n° 129); D.G. Swanson and W.J. Baumol (n° 13) 10; A. Layne Farrar, A.J. Padilla and R. Schmalensee (n° 133) 671.

finally lead to develop one firm's technology rather than rivals' alternatives. The selected IPRs owner, therefore, encouraged by the sunk investments made by the industry, may try to charge supra-competitive prices without incurring the risk of attracting massive competitors' entry. The only firms (manufacturers and vertically-integrated innovators) which may consider entry in a market 'seized' by the selected IPRs owner could be in theory those that are not under a locked-in effect, and which did not take part in the standard setting process. Instead, the SSO's participants, having presumably incurred the high costs standardization brings, may well find it unprofitable to re-invest capitals in the development of a competing technology.

It is undoubted that all these criticisms deserve analysis. The commentators that scrutinised the issue have notably emphasised the difficulties courts or authorities face when appraising price levels¹³⁶. In addition, antitrust intervention may appear all the more undesirable when considering the effects (*i.e.*, disincentives to invest) enforcement could determine. U.S. legislators may have foreseen these risks when they enacted the Sherman Act¹³⁷. Their EU counterparts, instead, were probably much more concerned about the need to ensure homogenous market conditions in the Union, and may have interpreted

¹³⁶ See *inter alia* D. Geradin (n° 32) 329.

¹³⁷ Sherman Act (1890), 15 United States Code §§ 1-7.

price control as an effective means to reach that goal¹³⁸. By doing so, they may have underestimated the self-correcting properties of free markets.

This being stated, the question is whether cooperative standard setting processes lead to develop products which may then still be subject to free market forces and competitive pressure. The answer is probably in the negative: after a first phase which may see rival technologies competing on the merits, competition ends with the adoption of the standard. Therefore, there might still be a good reason in monitoring price levels, especially in those markets where specific barriers limit or discourage entry. Under these circumstances, in which self-correction would seldom occur, intervention by antitrust enforcers may well preserve the consumers' interest in lower prices being charged¹³⁹.

However, given that competition authorities seem ill-suited for price level analysis, which tool may they enforce to constrain high-pricing conduct? The considerations developed in Chapter VII will help to find an answer to this much debated problem¹⁴⁰.

¹³⁸ On excessive pricing, see *inter alia* *General Motors, Bodson and British Leyland* (n° 123).

¹³⁹ Cf. D. Sinclair, "Abuse of dominance at a crossroads - potential effect, object and appreciability under Article 82 EC", (2004) 25(8) *European Competition Law Review*.

¹⁴⁰ See Chapter VII section 6.1.

5. Conclusion

Standard setting may enhance innovation and boost competition by ensuring that products from multiple manufacturers are compatible and interoperable¹⁴¹. However, it may also raise concerns under both U.S. antitrust and EU competition laws. This is because, as I have argued, standard setting represents a context where the principles of IP and competition laws may potentially conflict. The literature has identified risks of both exploitative and exclusionary conduct, which could be implemented by firms taking part in the SSOs environment. The analysis of these practices may change in accordance to the legal framework considered. This is the reason behind the existing gap between the EU and U.S. approaches to standards. The more interventionist EU approach must be compared to the more liberal U.S. legal environment. Both jurisdictions prohibit exclusionary practices by dominant firms. Only the EU legal framework, in fact, is concerned by purely exploitative behaviours.

This notwithstanding, given the fundamental role of standards in our economy, it is also important to encourage innovators to participate in standardization. In this context, EU and U.S. courts and authorities are called to enforce a legal framework which strikes the right balance between investment

¹⁴¹ See C.B. Hockett and R.G. Lipscomb (n° 112) 19; and C. Koenig and K. Spiekermann, "EC competition law issues of standard setting by officially-entrusted versus private organisations", (2010) 31(11) *European Competition Law Review* 449.

incentives and competition objectives. On the one hand, any abuse of market power in standard setting has the potential of causing significant harm to the society. On the other, any form of control of market power must weigh up between prohibiting abuses and preserving investment incentives, particularly in high technology industries. Arguably, the law is struggling to find the right compromise. A non-optimal balance would generate losses in long-term consumer surplus and productivity.

The IPRs policies proposed by the literature and implemented by SSOs cannot be interpreted as effective means to tackle *ex ante* the risks of abusive conduct in the standards environment. Therefore, after exploring the EU and U.S. jurisprudence on standard setting (representing the empirical support for the indefiniteness and inefficiency of these models), the work will aim at striking a policy framework which could limit these risks and, at the same time, reflect better the interests of IPRs owners and the goals of SSOs. Besides the need to strike *ex ante* the optimal policy, the chapter has also mentioned the importance of an effective enforcement system of antitrust. Its role as an *ex post* potential tool to remedy abusive behaviours will be further scrutinised in Part III. It suffices here to remember that the ultimate outcome should lead to maximize societal welfare and productivity in the long run¹⁴².

¹⁴² See R. Pittman, "Consumer Surplus as the Appropriate Standard for Antitrust Enforcement", (2007) *Competition Policy International* 205.

Chapter V “Abuse of Dominance in Standard Setting - the U.S. Approach”

1. Introduction

The approach developed by U.S. courts and antitrust authorities to tackle abuses of dominance has been usually defined as less interventionist, in comparison to that adopted by the European Union counterparts¹. The absence of antitrust rules forbidding exploitative practices by dominant firms should be interpreted in light of the more liberal U.S. legal framework. Also other elements can be considered as evidence of the existing gap between U.S. and EU laws: from the relatively high thresholds (in comparison to the EU benchmark) for market shares necessary to raise concerns under section 2 of the Sherman Act, to the concept of ‘special responsibility’ to which dominant firms are subjected in the EU only. What is more, EU competition law and jurisprudence do not seem to give as much importance to the role of ‘free market forces’ as their U.S. counterparts instead do. As held by U.S. courts, the issue “is not to protect businesses from the working of the market; it is to protect the public from the failure of the market”². These arguments should be reconciled with the U.S. interpretation of the role played by monopolistic firms, which are seen as

¹ D. De Smet, “The Diametrically Opposed Principles of US and EU Antitrust Policy”, (2008) 29(6) *European Competition Law Review* 359.

² *Spectrum Sports v McQuillan*, 506 U.S. 447 (1993), at 458.

important means –*Verizon*³ *docet*– to increase the national wealth by enhancing innovation and advancing the welfare of the whole society.

The more liberal U.S. approach can be observed also in relation to the case law on standard setting, which has developed sooner and more rapidly than in the EU. The differences in the treatment of standard setting conduct could be explained mainly in light of these preliminary considerations.

After discussing the relevant legal framework, the next sections will explore the U.S. jurisprudence on standard setting, and will explain how the different legal background is reflected in the case law. The analysis will focus on the most representative disputes, from *Rambus* to *Qualcomm*. The scope, significance and impact of the cases on the doctrinal environment justify, in my view, a case-by-case approach in the examination of the core issues. In particular, one question needs to be addressed. What lessons can be learned from the divergent outcomes of these disputes? In the pursuit of a plausible answer, the chapter will examine both the relevant conduct and the elements of intent, causation and effects. As it will be shown, there exist concrete legal problems in the field of U.S. standardization, from the lack of clear policy rules to hold-up. The chapter will clarify why the IPRs policies proposed so far by several SSOs have raised more questions than give answers, and why these rules do not represent effective means to preserve the efficient development of standards.

³ *Verizon Communications v Trinko*, 540 U.S. 398 (2004).

2. Legal Framework

Before taking into consideration the legal arguments developed by the U.S. jurisprudence, it is worth mentioning the relevant provisions that have been applied to standardization cases. The focus is on the rules of the Sherman Act and the Federal Trade Commission Act.

With respect to the former, section 2 of the Sherman Act addresses conduct concerning monopolization and attempted monopolization. In particular, Section 2 condemns “[e]very person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations”⁴. The concepts of monopolization and attempt to monopolize should be interpreted separately. Monopolization, indeed, requires possession of monopoly power and the wilful acquisition or maintenance of it, an element of anticompetitive conduct. It means to acquire or maintain monopoly through improper means. The attempt to monopolize, instead, requires the anticompetitive conduct, a specific intent to monopolize, and the dangerous probability of achieving monopoly power. Unlike monopolization, it is not necessary to succeed and gain monopoly. Section 2, in brief, regulates undertakings with market power, and can be considered as the corresponding provision to Article 102 TFEU⁵. Basically, undertakings are not allowed to

⁴ 15 U.S.C. § 2.

⁵ Formerly, Article 82 of the EC Treaty.

implement unlawful or abusive behaviours to become a monopolist, attempt to gain monopoly power or use such conduct if they are already a monopoly.

The second relevant provision is represented by section 5 of the Federal Trade Commission Act. It outlaws unfair methods of competition and unfair or deceptive acts or practices. In particular, it establishes that “unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce, are hereby declared unlawful”⁶. An act or practice is deceptive if it involves a representation, omission or practice that is likely to mislead consumers acting reasonably under the circumstances, and the representation omission or practice is material⁷. Deception does not require intent to deceive, nor does it require harm to competition⁸. An act or practice, furthermore, is unfair if it causes injury to consumers and is substantial, not outweighed by countervailing benefits to consumers and competition, and consumers themselves could not reasonably have avoided it⁹. Under the Federal Trade Commission Act, the authority has the exclusive power to enforce Section 5, while there is no room for private actions. Section 5 could be interpreted as a provision necessary to fill the gaps left in U.S. antitrust enforcement and address

⁶ 15 U.S.C. § 45.

⁷ See, for instance, *Federal Trade Commission v Pantron I*, 33 F.3d 1088 (C. App. 9th Circuit, 1994), at 1095; *Federal Trade Commission v Minuteman Press*, 53 F.Supp. 2d 248 (E.D. New York, 1998), at 258.

⁸ *Federal Trade Commission v World Travel Vacation Brokers*, 861 F.2d 1020 (C. App. 7th Circuit, 1988), at 1029.

⁹ *Federal Trade Commission v Verity International*, 443 F.3d 48 (C. App. 2nd Circuit, 2006).

conduct escaping the application of section 2 of the Sherman Act. As held by Commissioner Leibowitz, “the framers of the FTC Act gave the Agency a mandate –one unique to the Commission- to use Section 5 to supplement and bolster the antitrust laws by providing, in essence, a jurisdictional ‘penumbra’ around them”¹⁰. This means that violations of the Sherman Act are also violations of section 5 FTCA, but Section 5 covers some practices that are beyond the scope of the Sherman Act.

Section 5, as I shall argue, could be potentially applied in the context of standard setting to tackle not only exclusionary but also purely exploitative practices, not addressed by the Sherman Act. For instance, the non-exclusionary conduct of patent holders, merely breaching the promise to license under defined terms, might well be sanctioned as a deceptive behaviour. Of course, precondition for enforcing Section 5 should be the existence of specific policy rules clearly explaining the duties participants must comply with.

In conclusion, Section 5 and Section 2 are at the basis of the enforcement activity of U.S. courts and authorities. In applying these provisions, the meaning and scope of the principles stated in the ‘Standards Development Organization Advancement Act’ could not be ignored¹¹. Here, indeed, the U.S. Congress highlighted the importance of co-operative and transparent standardization processes, based on openness, balance of interests and consensus.

¹⁰ *Rambus*, F.T.C. Docket n° 9302, Opinion of Commissioner Leibowitz (2 August 2006), at 18.

¹¹ *Standards Development Organization Advancement Act of 2004*, 15 U.S.C. § 4301 (Supp. 2004).

3. Conduct

Two different practices in the U.S. standard setting context have been considered under legal provisions: patent ambush and the mere breach of FRAND/RAND licensing conditions. Both behaviours, already scrutinised in Chapter IV, have been deeply investigated in the last decades by the U.S. jurisprudence, which attested the existence of a real problem. U.S. courts and authorities, however, have often shown conflicting perspectives in examining hold-up. What is more, they have extensively –and perhaps controversially– discussed also the various elements related to conduct, from causation to intent and effects, required for a finding of an infringement under section 2 of the Sherman Act. In the analysis of these aspects, I shall start discussing those disputes that more than others have contributed to the development of relevant legal principles in the U.S. standard setting environment.

3.1 Patent Ambush

A patent ambush, as it has been said, may arise in the situation where implementers of a standardised technology, unaware *ex ante* of the existence of potentially blocking patents or patents applications, invest resources in the implementation of a standard that infringes the hidden patents. In this context, the holder of the ‘submarine’ patents may assert *ex post* its claims against the alleged infringement. As Shapiro clarifies, once the standardised technology has been adopted and the patent ambush has been successful, the patent owner may

either ask for supra-competitive royalties or try to block the development of the technology on the ground of an injunction¹².

Various cases can be mentioned when appraising patent ambush in U.S. standard setting. *Wang*, for instance, was one of the earliest examples, and concerned a case of false representation made by a member as to its real intention of seeking patent rights on a standardized design¹³. The next sections will focus only on the most interesting disputes that fomented the debate on the standards-IPRs dichotomy, from *Dell* to *Rambus* and *Unocal*¹⁴.

3.1.1 Deception and the Breach of Section 5 in *Dell*

Although it was never fully litigated, *Dell*¹⁵ deserves specific attention as one of the most relevant early disputes. Ultimately settled by consent decree, the case might be considered as a fundamental precedent among the federal antitrust enforcement actions brought for alleged unilateral abuse of private standard setting procedures. Unlike other cases, the Commission here focused

¹² C. Shapiro, "Navigating the Patent Thicket: Cross Licenses, Patent Pools and Standard-Setting", (NBER Conference on Innovation Policy and the Economy, May 2000).

¹³ *Wang Labs. v Mitsubishi Elecs. Am.*, 103 F.3d 1571 (C. App. Federal Circuit, 1997).

¹⁴ Besides these disputes, also the Qualcomm/Broadcom legal battle gave rise to a case of patent ambush in the context of the Joint Video Team standards institute (see *Qualcomm v Broadcom*, LEXIS 28211 (S.D. California, 2007); and *Qualcomm v Broadcom*, 548 F.3d 1004 (C.App. Federal Circuit, 2008)). However, for the purpose of this work, the chapter will take into account only that portion of the litigation which concerned the mere breach of FRAND terms.

¹⁵ *Dell Computer*, 121 Decision of the Federal Trade Commission 616 (1996).

on deceptive conduct under Section 5, while it did not formally allege monopolization or attempted monopolization under section 2 of the Sherman Act. This may be the reason why it did not precisely identify a relevant market¹⁶.

In *Dell*, the company was deemed guilty by the Commission of false representation towards the Video Electronics Standards Association (VESA). As a member of the organization, Dell was asked to certificate under VESA policy that it had no IPRs that could cover the proposed VL-bus standard¹⁷. A Dell's representative therefore had certified that, to the best of his knowledge, the company did not have any conflicting patents. This notwithstanding, after the adoption of the standard by VESA, Dell asserted its IPRs against all those manufacturers producing the technology¹⁸.

VESA's Preference for Non-Proprietary Standard

The Commission in its decision established that there was evidence that VESA would have implemented a different non-proprietary design had Dell disclosed its rights, due to its strong preference for standards not based on

¹⁶ M.C. Naughton and R. Wolfram, "The Antitrust Risks of Unilateral Conduct in Standard Setting, in the Light of the FTC's case against Rambus Inc.", (2004) 49 *Antitrust Bulletin* 706.

¹⁷ The VL-bus mechanism had the function of transferring instructions between a computer's CPU and its peripherals. This technology has been used by computers using 486 chips.

¹⁸ It seems that Dell threatened to sue certain VESA members, on the ground of the patent previously granted, after manufacturers had sold about 1.5 million pc reading on the VL-bus standard.

proprietary technology. This means that Dell's acquisition of market power was not inevitable, due to the existence of equally effective non-proprietary standards that were competing in the selection process¹⁹. The conclusion of the authority was based on the analysis of the circumstances and of VESA policy, according to which members were required to identify potentially conflicting patents in order to avoid the adoption of standards infringing those patents. To this extent, the participants had to certificate explicitly the existence of any potentially conflicting IPRs, also in accordance to an alleged good faith duty of disclosure. VESA policy clearly manifested the preference for non-proprietary standards²⁰. Dell's failure to act in good faith, as the Commission concluded, led to justified enforcement action to prevent harm to competition and consumers²¹.

Faults of the Dissenting Opinion

The decision of the majority, however, was contested under several aspects by one of the Commissioners, which expressed her arguments in the dissenting statement. Firstly, the Commissioner noted that the adoption of Dell's standard could be only explained by the high quality and efficiency of the product, rather than by a false representation to the SSO. The firm's behaviour, it was argued, was legitimate as it had not proposed or sponsored the standard, nor had

¹⁹ *Dell* (n° 15), at 624.

²⁰ *Ibid.*

²¹ *Ibid.*

it exerted pressure on the standard setting body for the selection of its technology²². The argument, however, seemed to be fictitious, in so far as a successful patent ambush does not necessarily require an active line of conduct in the SSO's selection process. Rather, a patent ambush could simply derive from the omission of information on the existence of related IPRs.

Secondly, it was held that the representative's actions in submitting the certification did not bind the corporation. There was no proof, in the Commissioner's view, that the representative was aware of the existence of the patent or of the infringement²³. This argument was correctly rejected by the majority. I would side with the authority in considering that corporations act through their agents, and when an agent acts in his capacity, he acts for the corporations²⁴. Were the Commissioner's point of view accepted, it would be useless even to start SSO processes as the will of representatives could not be finally imputed to the members of the organization.

Other considerations concerned the fact that the complaint had not apparently identified other equally valuable existing technologies which VESA could have adopted had it known of Dell's patent²⁵. In relation, instead, to the alleged lock-in effect of Dell's patent ambush, the Commissioner argued

²² *Dell Computer*, 121 F.T.C., Dissenting Statement of Commissioner M.L. Azcuenaga, at 628.

²³ *Ibid.*

²⁴ *Dell* (n° 15), at 624.

²⁵ *Dell* (n° 22), at 640.

that computer manufacturers could have readily shifted to a new standard after the adoption of the VL-bus technology²⁶. These observations seemed contradictory, as the Commissioner referred at the same time to an alleged lack of evidence for alternative technologies in the selection process and to the existence of alternative standards to which manufacturers could have readily switched. Nevertheless, the majority correctly recognised that it would have not been reasonable to switch to alternatives, as the market had overwhelmingly adopted the standard and had incurred considerable costs²⁷.

In brief, the arguments of the dissenting Commissioner did not seem generally convincing. This notwithstanding, the majority could have brought stronger evidence in relation to the existence of alternative standards available to VESA²⁸. On a further ground, the majority did not always develop a clear line of reasoning, especially by referring to those elements (e.g., market power) which are only required under section 2 of the Sherman Act, but not under Section 5.

Prohibitions of the Settlement Agreement

A settlement agreement was finally adopted according to which Dell was prohibited from seeking royalties from and enforcing its VL-bus patent against

²⁶ *Ibid*, at 641.

²⁷ *Dell* (n° 15), at 624.

²⁸ *Dell* (n° 22), at 628-633.

any firm using the standard²⁹. The remedy was consistent with the equitable estoppel doctrine, according to which courts should preclude IPRs owners from enforcing those patents which have not been properly disclosed by them³⁰. In explaining the measure, the FTC noted that Dell's behaviour conferred it market power, unreasonably restrained competition and harmed the IT industry by discouraging undertakings from manufacturing products based on the VL-bus standard. In addition, by raising the costs of standardization, the conduct reduced the willingness to participate to SSO³¹.

Merits of the Commission's Line of Reasoning

It is undoubted that *Dell* represented a notable attempt to develop legal principles in addressing what by then had become a serious concern in the standard setting field. Despite the criticism raised to the Commission's arguments, the case was an opportunity to clarify crucial aspects related to the functioning of standard setting bodies and to the role of antitrust enforcement.

For instance, in considering the public comments to the decision made by different SSOs, the majority rejected the view that private litigation could represent a more specific tool in order to address this type of disputes. The Federal Trade Commission, in particular, established that the existence of

²⁹ *Dell* (n° 15), at 620-621, §§ 2-4.

³⁰ On the equitable estoppel doctrine, see Chapter VII section 5.1.

³¹ *Dell* (n° 15), at 624.

potential harm to consumers also justifies enforcement actions under section 5 of the FTC Act³². The authority recognised that enforcement may have the final detrimental effect of discouraging participation in standard setting. Nevertheless, since members may use the SSOs as vehicles to alter and undermine their objectives and finally harm competition and consumers³³, it seems reasonable to consider public enforcement as proper and justified³⁴.

Even more important was the answer given by the majority to one of the questions raised by SSOs in their public comments: did the Commission intend to establish a general duty to search for patents in case of firms engaged in a standard setting process? The answer must be in the negative, as a duty to search may be only deemed to exist where a standard setting body explicitly sets its provisions in this direction³⁵. Clear policy rules are hence needed in order to set any specific duty. In this case, the duty to search directly derived from VESA's affirmative search requirement, which created a justified expectation by its members that each firm would act in good faith to identify and disclose any conflicting patents. Nonetheless, the Commission noted that other SSOs may adopt different provisions that do not create such expectation.

³² *Ibid*, at 626.

³³ See, e.g., *Allied Tube & Conduit v Indian Head*, 486 U.S. 492 (1988).

³⁴ *Dell* (n° 15), at 626.

³⁵ *Ibid*, at 625.

Of course, a duty to search relevant IPRs may be interpreted by patent owners as too burdensome and may hence discourage them from participating to standard setting. This explains why few SSOs have adopted search provisions. However, it is clear that in case an organization is mainly interested in non-proprietary standards (as in the field of the internet) such a duty might ultimately play a more central role in the IPRs policy.

Finally, *Dell* also opened the important debate on whether the breach of a search or disclose duty should be intentional, and whether inadvertent non-disclosure should not be prohibited. These questions will be better addressed in the section on intent, where I will deal also with the theories examining the concept of negligence. The considerations developed therein will then be recalled in Chapter VI, in the comparison with EU standardization case law. As it will be explained, intent is not expressly a substantive element of an Article 102 TFEU violation.

Before delving into the intentional element, however, it seems still necessary to further explore on the dynamics of hold-up and on the obstacles it may create for standardization. To this end, the next sections will focus on the concerns arising in *Unocal*, *Rambus* and *Qualcomm*. Each of these disputes reveals different peculiarities of the U.S. legal system which justify a case-by-case approach in the examination of the most relevant issues.

3.1.2 *Unocal's Subversion of a Governmental Body*

A violation of section 5 of the Federal Trade Commission Act was also alleged in *Union Oil Company of California (Unocal)*, which represented another challenge for the U.S. *de jure* standards development process³⁶.

Unlike *Dell*, *Rambus* and *Qualcomm*, *Unocal* did not concern a private but a governmental standard setting body, the California Air Resources Board (CARB). The Commission accused the company of having subverted the regulatory standard setting process of CARB. The latter had started proceedings in order to elaborate legal rules and standards regulating the composition of low-emissions reformulated gasoline³⁷. *Unocal* was actively involved in the process. However, as stated by the complaint counsel, it adopted a misleading behaviour towards the governmental body and the other participants by affirming that its emissions research results were not covered by any rights but were in the public domain. In other words, *Unocal* did not disclose that it had pending patent claims on these research results and did not reveal its intention to enforce the proprietary interests. The behaviour led *Unocal* to acquire market power in the related market illegitimately³⁸.

³⁶ *Union Oil Company of California*, F.T.C. Docket n° 9305 (2003).

³⁷ Reformulated gasoline was required by the Environmental Protection Agency (EPA) in many metropolitan areas of the United States to reduce urban smog caused by automobile emissions.

³⁸ *Union Oil Company* (n° 36), Complaint at § 2.

Risk of Substantial Harm to Consumers

According to complaint counsel, the firm's misrepresentation led the public body to adopt a formula that infringed its patents, on which Unocal then sought royalties³⁹. Had Unocal disclosed the existence of its pending patents claims, either CARB would have opted for alternatives or Unocal would have been able to enforce its proprietary interests only under less attractive economic terms⁴⁰. Therefore, in the complaint counsel's view, Unocal's false and misleading statements, on which CARB and the other members reasonably and detrimentally relied, led to harm competition and conferred it monopoly power⁴¹. In addition, Unocal's patent ambush also permitted to harm competition and consumers in the related downstream market⁴². Indeed, Unocal's enforcement of its patent portfolio would have caused substantial consumer injury⁴³. Companies producing CARB gasoline would have been required to pay royalties to the firm, the bulk of which would have been later passed on to consumers in the form of wild gasoline price fluctuations and supply uncertainties⁴⁴. The conduct, then, would have led to decreased incentives to produce and supply law-emissions reformulated gasoline.

³⁹ *Ibid*, at §§ 1-6.

⁴⁰ *Ibid*, at § 90.

⁴¹ *Ibid*, at § 76.

⁴² *Ibid*.

⁴³ *Ibid*, at §§ 97-98.

⁴⁴ *Union Oil Company of California*, F.T.C. Docket n° 9305, Statement of the Commission (2 August 2005). The FTC, in particular, estimated that Unocal's enforcement of these patents could potentially lead to over \$ 500 million of additional consumer costs per year.

On the effects these cost fluctuations would have had on consumers, a governmental agency importantly noted that “[c]onsumer welfare is the goal of antitrust enforcement across all industries”; as further added, “even small price increases can strain the budgets of many consumers [...] and of small business, and, as a result, can have a direct and lasting impact on the entire economy”⁴⁵.

Weak Attempt of Defence

On the defence side, Unocal first denied the substantive allegations of the complaint by counter-arguing that the industry considered its research results to be so valuable that they would have been standardised even in case of early disclosure⁴⁶. The company also claimed that CARB may have viewed Unocal’s patents enforceability as too uncertain, and thus it would have never adopted different regulations and standards on knowledge that the firm had merely lodged an application for a patent⁴⁷. These observations may potentially present interesting points in support of the company’s defensive line. However, if the arguments were valid, it is not clear why Unocal decided to adopt the misleading strategy, intentionally hiding the existence of its IPRs⁴⁸.

⁴⁵ See Congress Research Service, Report for Congress (RL30592): *Midwest Gasoline Prices: A Review of Recent Market Developments* (28 June 2000).

⁴⁶ *Union Oil Company of California*, F.T.C. Docket n° 9305, Respondent’s Post-Trial Brief (14 March 2005), at 257 § IV.B.2.C.

⁴⁷ *Ibid*, at 41 and 102.

⁴⁸ J. Farrell, J. Hayes, C. Shapiro and T. Sullivan, “Standard Setting, Patents, and Hold-Up”, (2007) 74 *Antitrust Law Journal* 655.

On a further ground, although admitting that certain claims of its pending applications had been allowed by the U.S. Patent Office, Unocal added that it had no duty to disclose to CARB whether it had IPRs or whether it would assert these rights⁴⁹. At all times, it argued, it acted in accordance to a business justification⁵⁰. However, these arguments -to be examined under a different perspective in *Rambus*- do not seem completely convincing, especially if considered in the context of a public body which required a cooperative attitude among the members. Unocal did not simply refuse to reveal the existence of its IPRs, but actively misled CARB despite a clear duty to disclose.

Enactment of the Consent Order

An administrative law judge rejected the complaint on different procedural grounds⁵¹. Besides citing jurisdictional factors, it applied the *Noerr-Pennington* doctrine⁵² and claimed that Unocal's conduct had to be granted antitrust immunity as it consisted in indirect petitioning to the government aimed at influencing the passage or enforcement of law. However, the Federal Trade Commission reaffirmed its jurisdiction over the issues of the dispute and rejected

⁴⁹ *Union Oil Company of California*, F.T.C. Docket n° 9305, Respondent's Reply (2 April 2003), at 9.

⁵⁰ *Ibid*, at 64.

⁵¹ *Union Oil Company of California*, Initial Decision of the Federal Trade Commission's Administrative Law Judge (25 November 2003).

⁵² See *Eastern RR. Presidents Conference v Noerr Morot Freight*, 365 U.S. 127 (1961); and *United Mine Workers v Pennington*, 381 U.S. 657 (1965).

the antitrust immunity motion⁵³. The case was finally closed with a consent order in which the firm –as in the *Dell* case- agreed to cease enforcement of its patents⁵⁴.

Core Principles of the Dispute

Unocal undoubtedly deserves attention as it made clear, in line with the reasoning developed in *Dell*, the FTC's intention to scrutinize carefully the activities of SSOs. Even in the context of governmental actions, their participants may implement potentially anticompetitive conduct, based upon an intentional failure to disclose the existence of IPRs on which a proposed standard may read on. These practices, as the authority recognised, may be detrimental to the welfare of consumers, who are the true victims of licensing costs increases. However, one could wonder whether the Federal Trade Commission in *Unocal* would have reached the same conclusions had CARB policy been more ambiguous on its principles and corresponding duties. In other words, it could be questioned whether a legitimate business justification would have been granted in case of unclear policy rules. The answer is in the analysis of the *Rambus* case, which provided interesting, albeit often controversial observations on the boundaries between SSOs' functions and members' duties.

⁵³ *Union Oil Company of California*, F.T.C. Decision and Order (2004).

⁵⁴ *Union Oil Company of California*, F.T.C. Docket n° 9305 (2005).

3.1.3 *Rambus*: a Tale of Standards in the Standard

The case against the semiconductor designer Rambus for allegedly subverting the JEDEC (Joint Electron Device Engineering Council), by means of an alleged anticompetitive patent ambush, highlights several difficult issues that firms may face when they join SSOs processes. As a more sophisticated and complex sequel to the Commission's actions against Dell and Unocal, *Rambus* gained considerable attention for it is undoubtedly the most dramatic example of the tension between IPRs of patent owners who take part in SSOs, on the one hand, and the pro-competitive and innovation enhancing character of private standard setting bodies, on the other⁵⁵. After a short synopsis of the factual allegations, the section will use the case as a platform for discussing on whether the conduct examined should be considered legitimate, exclusionary or merely deceptive, and for identifying an optimal standard of conduct in SSOs context⁵⁶.

3.1.3.1 JEDEC Policy and Goals: at the Origins of the Dispute

Rambus designed, licensed and marketed to downstream manufacturers high-speed connection dynamic random access memory (DRAM) and synchronous DRAM (SDRAM) technologies, which could be considered as the most common form of computer memories in use in several downstream

⁵⁵ M.C. Naughton and R. Wolfram (n° 16) 704.

⁵⁶ *Rambus*, F.T.C. Dkt n° 9302, Decision of the Federal Trade Commission (2006); *Rambus v F.T.C.*, 522 F.3d 456 (C. App. D.C. Circuit, 2008); *F.T.C. v Rambus*, Order of the U.S. Supreme Court (2009).

products. In the course of the 1990s, the company joined JEDEC and withdrew from it few years later.

JEDEC, in its Manual of Organization and Procedure, established its primary purpose and function in promoting the development and standardization of terms, definition, product characterization, test methods, manufacturing support function and mechanical standards for solid state products⁵⁷. JEDEC had basically a policy of open standards, a policy promoting standards freely available to all industry members or not subject to excessive and unreasonable licensing conditions. To this extent, JEDEC firstly intended to impose on its members a duty to disclose the existence of any IPRs which a standard considered by the organization might read on. Secondly, in case the technology chosen to be included in a standard was covered by a member's patent, it also included a duty to declare whether the company would license the technology under royalty-free or RAND conditions. In case of refusal of such license conditions, JEDEC did not allow the incorporation of the technology into the proposed standard. However, as better explained in the next sections, the problem lied on the clarity and awareness of these principles by the members of the body.

In two different phases, the JEDEC committee, in charge with the development of memory devices standards, implemented first and second

⁵⁷ *Rambus*, F.T.C. Docket n° 9302, Initial Administrative Complaint (18 June 2002), at § 14. See also JEDEC Manual of Organization and Procedure, JM21-P § 1 (2010).

generation SDRAM technology, which accounted in the late 1990s for a large majority of all computer memory applications. In this period of time, Rambus had already obtained a number of patents that, according to the company, covered the SDRAM technology included in the JEDEC standard⁵⁸. As a result, Rambus informed all manufacturers using the standardised technology that their products were infringing Rambus's patent rights. Consequently, the company demanded royalties, which were finally obtained for about half of total worldwide production of SDRAM technology.

The litigation began when Rambus sued several undertakings for having refused to pay the royalties demanded⁵⁹. Almost in parallel with private litigation, the Federal Trade Commission opened proceedings on the conduct of the microchip designer, giving rise to one of the most interesting and controversial investigations in the field of U.S. standardization.

⁵⁸ Rambus's IPRs, in particular, covered SDRAM and DDR (Double Data Rate) SDRAM technologies.

⁵⁹ See *inter alia Rambus v Hynix Semiconductor*, Case n° C 05-00334 RMW (N.D. California, 2006); *Hynix Semiconductor v Rambus*, n° CV-00-20905 RMW (N.D. California, 2006); *Rambus v Samsung Electronics*, n° CV-05-02298 RMW (N.D. California, 2005); *Samsung Electronics v Rambus*, 439 F. Supp. 2d 524 (E.D. Virginia, 2006); *Rambus v Micron Technology et al.*, Case n° C 06-00244 RMW (N.D. California, 2006); *Micron Technology v Rambus*, Case n° 3:06-CV-00132-REP (E.D. Virginia, 2006); *Micron Technology v Rambus*, Case n° 00-792-SLR (D. Delaware, 2002); *Rambus v Infineon Technologies*, 164 F. Supp. 2d (E.D. Virginia, 2001); *Rambus v Infineon Technologies*, 318 F.3d 1081 (C. App. Federal Circuit, 2003); *Rambus v Infineon Technologies*, 124 U.S. 227 (2003).

3.1.3.2 *Rambus* and the Initial Debate

In the belief that government intervention was warranted to protect the broader marketplace, the Commission filed an administrative complaint against Rambus for unfair methods of competition and unfair or deceptive acts or practices under section 5 of the FTC Act⁶⁰. The complaint, initially dismissed by an administrative law judge, led the authority to condemn Rambus in its 2006 decision, which finally limited the theory of liability under section 2 of the Sherman Act⁶¹. The FTC's decision, however, was finally overturned two years later by the U.S. Court of Appeals, that sided with Rambus in holding that the behaviour constituted neither monopolization nor attempted monopolization⁶².

Initial Administrative Complaint

The initial administrative complaint was one of the longest, most detailed complaints in the Commission's history. Distilled to its essence, it alleged that the U.S. microchip designer had engaged in monopolization, attempted monopolization and unfair methods of competition by intentionally subverting JEDEC standard setting process in order to ensure that the standardised technology would read on Rambus's IPRs. Rambus's deceptive conduct, as the Commission observed, consisted in hiding the existence of both its issued and

⁶⁰ *Rambus* (n° 57).

⁶¹ *Rambus*, F.T.C. Dkt n° 9302, Decision of the Federal Trade Commission (2006).

⁶² *Rambus v F.T.C.*, 522 F.3d 456 (C. App. D.C. Circuit, 2008). The Court of Appeals' findings were not contested by the Supreme Court, which rejected the request to review the case.

pending essential patent applications, and led the company to manipulate deliberately an otherwise open-standard, pro-competitive and objective process. As a consequence, JEDEC finally functioned as a vehicle that conferred Rambus monopoly power and the opportunity to harm competition and consumers⁶³.

As suggested in the complaint, a company's conscious subversion of the objectives of a standard setting body combined with the requisite harm to competition can trigger antitrust exposure⁶⁴. Moreover, it was also established that literal compliance by Rambus with the SSO's rules on disclosure could not be interpreted as a valid defence. On this specific aspect, complaint counsel held that even in case of no technical violation of JEDEC disclosure rules this fact alone would not permit Rambus to escape antitrust liability. This can only be because Rambus apparently failed to fulfil a general good faith duty.

The main issue, therefore, did not concern the question on whether the U.S. firm's conduct technically violated the SSO's disclosure rules. It rather concerned the broader question of whether the behaviour infringed an obligation of good faith and fair dealing, and whether such violation could ground a claim for monopolization and unfair competition⁶⁵. In the view of complaint counsel,

⁶³ *Rambus*, F.T.C. Dkt n° 9302, Complaint Counsel Opposition to Summary Decision, at 11.

⁶⁴ *Ibid*, at 35.

⁶⁵ See also *Allied Tube* (n° 33). In this case, the court noted that although the defendant "did not violate any rules of the Association", it "nonetheless did subvert the consensus standard-making process of the Association ... at least partially motivated by the desire to lessen competition"; it

Rambus breached this second broader duty. The alleged existence of such a general duty, stepping beyond the strict limits of JEDEC rules, led complaint counsel to conclude that the U.S. firm had to be charged for deception and misrepresentation, in light of both its silence and the affirmative false statements. In relation to this general good faith duty, different members had testified in deposition that there was a strong expectation of good faith among them, in order to reach JEDEC's main goal of developing open standards⁶⁶.

Nevertheless, complaint counsel also argued that the U.S. firm infringed specific JEDEC rules, according to which standardization activities should have not been misused to exclude competitors⁶⁷. Secondly, it was noted that Rambus infringed those JEDEC principles established to promote the incorporation of free non-proprietary standards or the adoption of proprietary standards to be licensed for free or under RAND terms⁶⁸. The objective of Rambus's conduct was identified in the illegitimate achievement of monopoly power. In light of these considerations, complaint counsel requested an order preventing Rambus from enforcing against producers and users of SDRAM technology any rights deriving from the applications filed before the company's withdrawal from JEDEC⁶⁹.

also held that "the antitrust validity of these efforts is not established, without more, by defendant's literal compliance with the rules".

⁶⁶ *Rambus* (n° 63), at 18.

⁶⁷ *Ibid.*, at 24.

⁶⁸ *Ibid.*

⁶⁹ *Rambus* (n° 57).

Rambus's Defence

On the defence side, Rambus did not contest its monopolistic position, but argued instead that it had promptly informed JEDEC that it would not discuss the existence of issued and pending patent applications at the SSO's meetings. It claimed that complaint counsel had failed to show that other JEDEC participants were relying on the firm's misrepresentations and omissions. Rather, it was noted, Rambus had fairly warned them about its position and such warning had been ignored. The U.S. firm further questioned the appropriateness of imposing liability in case the defendant fully complies with the SSO's policy. Accordingly, no charge for deception and misrepresentation against Rambus should have been ever made⁷⁰.

On the existence of a disclosure duty Rambus further contended that, even in case it was required to disclose limited information (e.g., on the mere existence of patent applications), such minimal disclosure would have never given JEDEC enough information to appraise its relevance in relation to the standard. On the other hand, as it was argued, limited disclosure could still have represented an advantage for competitors, giving them the possibility to jeopardize Rambus's IP strategy⁷¹. In the analysis of this issue, Lemley has addressed the question of whether there is a degree of disclosure that may satisfy both the trade secret of a patent applicant and the duty to disclose as a

⁷⁰ *Rambus*, F.T.C. Dkt n° 9302, Memorandum in Support of *Rambus's* Motion for Summary Decision (28 February 2003), at 37.

⁷¹ *Rambus*, F.T.C. Dkt n° 9302, Trial Brief of Respondent *Rambus* (22 April 2003), at 38-39.

SSO's member⁷². The question is on whether, assuming a company discloses only the existence and scope of its application but not the technical know-how, such company would still be able to protect the information as trade secret.

Rambus's observations (which relate to the question) may sound contradictory or at least unclear, in so far as they mean that information disclosed in the SSO context could represent an advantage for the strategy of competitors, but could be never properly assessed by the SSO in relation to the proposed technology. It is not clear, in particular, the reason why a standards institute, unlike competing firms, would not be able to evaluate the importance and scope of information that (despite limited) could bring an advantage to rivals when disclosed. It cannot be excluded that JEDEC may have been able to identify, in the limited IPRs details provided by Rambus, a threat for the SSO process, and may have consequently shifted to the proposal of a different technology to ensure the adoption of a non-proprietary standard.

3.1.3.3 Decision of the Commission

The arguments of Rambus, supported by the administrative law judge, were rejected in the final Commission's decision which found Rambus guilty of monopolization under section 2 of the Sherman Act⁷³. The authority found that

⁷² M. Lemley, "Intellectual Property Rights and Standard-Setting Organizations", (2002) 90 *California Law Review* 1889-1943. See also Chapter III section 3.3.2.

⁷³ *Rambus* (n° 61).

the U.S. microchip designer had unlawfully monopolized various technology markets through the deliberate manipulation of a standard setting process. Rambus, as it said, “engaged in exclusionary conduct that significantly contributed to its acquisition of monopoly power in four related markets”⁷⁴.

In reaching its decision, the Commission contested the arguments proposed by the administrative law judge⁷⁵ and Rambus in the course of the proceedings. The authority rejected the judge’s argument that complaint counsel had failed to demonstrate both the existence of a JEDEC disclosure duty and a valid legal theory based on section 5 of the FTC Act. It observed that “[t]he complaint in this case alleged not just a breach of a duty to disclose under JEDEC rules, but a course of conduct that was materially deceptive under all of the circumstances in which the standard setting occurred”⁷⁶.

Meaning of JEDEC Rules

The Commission, then, contested the judge’s assumption that JEDEC rules were unclear and ambiguous. The judge, in particular, had stated that JEDEC had not properly clarified the content of its policy related duties and had consequently failed to create any expectations in relation to potential contrasts

⁷⁴ *Ibid*, at 118-119.

⁷⁵ *Rambus*, F.T.C. Dkt n° 9302, Initial Decision of the Administrative Law Judges (17 February 2004), slip opinion.

⁷⁶ *Rambus* (n° 61), at 51.

between the standard and the members' IPRs⁷⁷. This position was ultimately rejected by the authority, which counter-argued that "JEDEC's policies ... and practices, considered as a whole, gave JEDEC's members reason to believe the standard-setting process would be cooperative and free from deceptive conduct"⁷⁸. By failing to disclose its patents, it added, Rambus had intentionally subverted JEDEC policy and secured monopolies in four technology markets⁷⁹.

These opposite views clearly highlight a possible friction between the alleged expectations of SSOs' members and the IPRs owners' interests. This leads to question whether the general expectations of the participants should prevail over the need to apply only clear rules properly made known. Perhaps, more reasonably, it could be argued that any optimal balance should not disregard the need to set clear policy frameworks. The general expectations of the members should rely mainly on the clear meaning of written policy principles properly disclosed. An ambiguous policy may mislead as to the duties members are expected to respect, and may finally discourage innovators' interest in standards. Only when a company subscribes to specific policy duties, a regime of liability should then prevail over the need to preserve patentees' rights⁸⁰. From this perspective, therefore, it seems that the Commission's assessment was rather rigid and unpersuasive.

⁷⁷ *Rambus* (n° 75), at 258.

⁷⁸ *Rambus* (n° 61), at 52.

⁷⁹ *I.e.*, latency, burst length, data acceleration and clock synchronization technology markets.

⁸⁰ On a "dynamic liability rule" see J.H. Park, *Patents and Industry Standards* (Edward Elgar, 2010).

Exclusionary and Deceptive Conduct

On a further ground, the Commission shed light on the boundaries between merely deceptive and exclusionary behaviours. On the issue, there is some support for the notion that deceptive conduct can be a proper foundation for liability under section 2 of the Sherman Act⁸¹. In this respect, the FTC held that the U.S. firm's failure to disclose amounted to deception qualifying as exclusionary conduct under Section 2. It also appraised the behaviour as deceptive under section 5 of the FTC Act. In particular, the authority observed that standard setting bodies may opt not to require members' disclosure of patent applications. However, if a disclosure policy is adopted, non-disclosure "followed by adoption of a standard incorporating the intellectual property, and royalty demands against those practicing the standard – may be considered a material omission and may constitute deceptive conduct under Section 5"⁸².

Nevertheless, it also noted that, unlike deception under Section 5, Section 2 requires conduct to have been intentional and to have hindered competition. The authority found that Rambus's deceptive behaviour met both of the criteria. Thus, as the FTC observed, "[w]hatever the potential breadth of Section 5 of the FTC Act in these circumstances, [the] analysis in this opinion rests on the

⁸¹ M.S. Royall, "Standard Setting and Exclusionary Conduct: The Role of Antitrust in Policing Unilateral Abuses of Standard-Setting Processes", (2003-2004) 18 *Antitrust* 46.

⁸² *Rambus* (n° 61), at 34.

traditional criteria for evaluating allegations of monopolization under section 2 of the Sherman Act”⁸³.

The judge’s argument that the conduct could not be considered exclusionary and deceptive due to a legitimate business justification was rejected⁸⁴. As the FTC explained, if protecting trade secrets was critical to Rambus and given the latter had clear knowledge of the disclosure duty, it was legitimate to question why the company did not refrain earlier from participating in JEDEC⁸⁵. Rambus was not able to explain how its non-disclosure policy could be pro-competitive in a context of cooperation among participants. Rather, the aim and the final effect were “to manipulate the standard setting process at JEDEC and gain market power”⁸⁶. In any event, in the FTC’s view, the business justification could have not outweighed the anticompetitive effects⁸⁷.

However, these arguments do not seem completely convincing. First, the question is not whether Rambus had the right to protect its business secret and to amend its patent applications. The question instead is whether Rambus had the right to do so in the described context, as member of a body promoting

⁸³ *Ibid*, at 30.

⁸⁴ *Rambus* (n° 75), at 287-291.

⁸⁵ *Rambus* (n° 61), at 69.

⁸⁶ *Ibid*, at 70-71.

⁸⁷ The F.T.C., hence, rejected also the judge’s opinion (supported by *Aspen Skiing v Aspen Highlands Skiing*, 472 U.S. 585 (1985)) according to which a legitimate business justification trumps any further analysis on potential anticompetitive effects.

open standards on a cooperative basis. It needs to be assessed whether the business justification could be interpreted as a mere pretext for the exclusionary refusal to disclose information, or as the right to protect legitimately trade secrets. The answer, of course, depends on whether Rambus could be entitled to enjoy these rights after having agreed to abide by JEDEC rules. This in turn depends on whether these rules were clear and properly made known to the participants⁸⁸. The prevalence of one view over the other could also depend on the degree of importance given to the aims of protecting a standard setting process or the patentee's interests in standard setting. For the sake of clarity, it is possible or likely that Rambus may have unfairly exploited to its advantage the ambiguity of JEDEC rules. Nonetheless, the existence of clear policy principles seems to be the first crucial step for effectively implementing any regulation. From a further point of view, the existence of exclusionary effects -required for an infringement of Section 2- was not certain. In this sense, the Commission was unable to prove that JEDEC would have chosen an alternative standard had it known about Rambus's patents. For these reasons, the authority's approach raises more than a doubt.

Remedy

The Commission did not immediately establish the appropriate remedy for Rambus's infringement. The parties were allowed to brief their respective

⁸⁸ See *Image Technical v Eastman Kodak* 125 F.3d 1995 (C. App. 9th Circuit, 1997), where it was held that a patent-based refusal to deal is presumptively legal but rebuttable by evidence of pretext.

opinions in relation to remedy. To this end, the FTC emphasised its interest in the parties' views regarding the adoption of reasonable royalty rates. In the final order, it decided for worldwide non-exclusive compulsory licensing, and set the royalty rates Rambus could charge to the firms manufacturing and using its technologies⁸⁹. In particular, the FTC did not impose on Rambus royalty free conditions, as there was insufficient evidence that JEDEC would have opted for alternative technologies had Rambus disclosed its patents. It rather ordered Rambus to license at reasonable royalty rates, in accordance to what the Commission believed would have resulted from negotiations with manufacturers before JEDEC's selection⁹⁰. With this respect, the authority arbitrarily chose this criterion as the optimal method to define RAND.

Concluding Remarks

The decision of the Commission in *Rambus*, not binding on courts, marked the first time that conduct of this nature had ever been held to breach antitrust laws. However, it also demonstrated that the application of antitrust law into standard contexts represents an area of disagreement among courts and scholars. The main outcome of the FTC's analysis is that IPRs owners in SSO processes may easily incur the risk of being held liable under antitrust law. When a duty

⁸⁹ *Rambus*, F.T.C. Dkt n° 9302, Opinion of the Commission on Remedy (5 February 2007).

⁹⁰ *Ibid*, at 16-25. The Commission's order limited Rambus's royalties for three years to 0.25% for JEDEC-compliant SDRAM and 0.5% for JEDEC-compliant DDR (Double Data Rate) SDRAM. After those three years, it forbade any royalty collection.

to disclose is established, regardless of whether such a duty is explicit in the rules or derives from their interpretation, a participant that does not comply with it risks antitrust liability if its IPRs ultimately cover the proposed standard. But even in case SSOs do not require disclosure, the Commission established that members “still are not free to lie or to make affirmatively misleading representations ... [W]hether the SSO requires disclosure should be judged not only by the letter of its rules, but also on how the rules are interpreted by its members ... ”⁹¹.

At the same time, the whole procedure before the FTC highlighted the need to set forth rules that clearly specify the duties of the participants. In the absence of such clear principles in the SSOs’ manuals, room for ambiguity exists. Such ambiguity may lead, in the Commission’s view, to imply an affirmative duty to disclose. The severity of the enforcer’s approach, some authors argued, could be in theory interpreted as an attempt of using antitrust-based legal theories for filling the gaps left by patent remedies⁹².

However, the decision seems to have ignored the risk of negative effects on the willingness of patentees to participate in standard setting. Firms, indeed, may decide not to participate in the process in order to avoid antitrust liability,

⁹¹ *Rambus* (n° 61), at 35.

⁹² M.S. Royall, A. Tessar and A.J. Di Vincenzo, “Deterring Patent Ambush in Standard Setting: Lessons from *Rambus* and *Qualcomm*”, (2009) 23(3) *Antitrust* 35. On the enforcement of private law remedies against hold-up behaviours, see also Chapter VII section 5.

and may rather opt to seek enforcement of their patents once the standard has been adopted. This is the main risk of an approach that values the protection of standardization processes more than the need to ensure that clear and precise policy rules are properly made known to all members. The Commission rejected Rambus's arguments on the ground of the general interpretation given to those rules and on the basis of the expectations the other members had in the standard setting process. It consequently opted for a rigid approach, and disregarded the cited consequence of discouraging innovators' participation in standard setting. The approach developed by the FTC, however, does not seem to define the optimal balance between patentees' interests and SSOs' objectives.

The antitrust enforcers, *inter alia*, failed to consider properly also other important issues (e.g., the role of harm to competition) that deserve careful analysis when establishing liability in the context of U.S. standard setting. In addition, although the attempt to define reasonable royalties deserves some merit, it does not yet represent the optimal path to solve licensing disputes. The Commission's analysis could have been probably more persuasive if limited to section 5 of the FTC Act, which does not require exclusionary effects. But even in this case, the problem of the clarity of SSOs' regulations should have been addressed. The faults of the Commission's position were highlighted in the judgement of the Court of Appeals, which reflected the need to define a more equilibrated balance in the assessment of these conflicting interests.

3.1.3.4 *Rambus* and the U.S. Court of Appeals' Reversal

The decision of the Federal Trade Commission in *Rambus* was appealed before the U.S. Court of Appeals for the District of Columbia. The Court vacated the FTC's decision and held that, even if the U.S. microchip designer had deceived JEDEC's members in order to get higher royalties, *Rambus* would have not necessarily infringed section 2 of the Sherman Act⁹³.

Monopoly versus Monopolization

The Court first remembered that the mere existence of monopoly does not lead to a violation of the Sherman Act. Besides possession of monopoly power, Section 2 requires the wilful acquisition or maintenance of that power, as distinguished from growth or development as consequence of a superior product, business acumen, or historical accident⁹⁴.

Rambus, as it was stated, had not contested to possess monopoly power over the four technologies covering JEDEC standard. It had instead denied to have engaged in exclusionary conduct and to have acquired monopoly power unlawfully. The relevant issue, therefore, concerned the analysis of *Rambus*'s behaviour and of its effects in the standard setting context⁹⁵.

⁹³ *Rambus* (n° 62).

⁹⁴ *Ibid*, at 11.

⁹⁵ *Ibid*, at 12.

In order to scrutinize the conduct properly, the Court identified two relevant principles established in the U.S. jurisprudence which had to be followed⁹⁶. Firstly, to engage in exclusionary conduct, a monopolist's act must have anticompetitive effects; it must harm the competitive process and consumers, while harm to one or more competitors is not sufficient⁹⁷. Secondly, the antitrust plaintiff bears the burden of proving these anticompetitive effects⁹⁸.

Alternative Scenarios

The Commission had previously concluded that, but for Rambus's deceptive behaviour, JEDEC would have either excluded Rambus's technology from the standard, or imposed Rambus to license under reasonable and non-discriminatory terms⁹⁹. However, according to the Court, the FTC had not proved that one scenario was more likely than the other. It had also failed to demonstrate that the two possible alternative scenarios were anticompetitive¹⁰⁰.

With respect to the first scenario, the Court held that, if JEDEC would have chosen an alternative technology had Rambus disclosed its patents, then

⁹⁶ *Ibid*, at 12.

⁹⁷ See *United States v Microsoft*, 253 F.3d 34 (C. App. D.C. Circuit, 2001), at 58-59. See also *Verizon* (n° 3), at 407; *Brooke Group v Brown & Williamson Tobacco*, 509 U.S. 209 (1993), at 224; *Covad Communications v Bell Atlantic*, 398 F.3d 666 (C. App. D.C. Circuit, 2005), at 672.

⁹⁸ *Microsoft* (n° 97), at 59.

⁹⁹ *Rambus* (n° 62), at 9.

¹⁰⁰ *Ibid*, at 12.

Rambus's deceptive conduct would have harmed competition¹⁰¹. In these circumstances, the U.S. company would have obtained monopoly power through exclusionary conduct and not because of a "superior product, business acumen, or historical accident"¹⁰². Hence, a declaration of antitrust liability under section 2 of the Sherman Act would have been legitimate. However, as the Court said, the Commission had failed to demonstrate that JEDEC would have opted for alternative standards had it known about Rambus's patents applications. There was not sufficient evidence to exclude that the SSO would have standardised the firm's technology absent deception. What is more, the Commission itself had recognised in its decision that there was insufficient proof to retain this first scenario more likely than the other¹⁰³.

In relation to the second scenario, in which JEDEC would have adopted Rambus's technology even if informed about its patents, the Court established that the only consequence of the company's conduct was that it finally obtained higher (non-RAND) licensing fees¹⁰⁴. As the Court interestingly held, "an otherwise lawful monopolist's use of deception simply to obtain higher prices normally has no particular tendency to exclude rivals and thus to

¹⁰¹ *Ibid*, at 13.

¹⁰² *Ibid*; see also *Verizon* (n° 3), at 407.

¹⁰³ *Rambus* (n° 62), at 13.

¹⁰⁴ On the argument, see H. Hovenkamp *et al.*, *IP & Antitrust* (Suppl. 2008), § 35.5 at 35-45.

diminish competition”¹⁰⁵. The deceptive behaviour under these circumstances would have led to higher prices but would have not harmed the competitive process or structure, and hence no violation of the Sherman Act could have ever been found¹⁰⁶. “Rambus’s alleged deception”, it was explained, “cannot be said to have an effect on competition in violation of the antitrust laws; JEDEC’s loss of an opportunity to seek favourable licensing terms is not as such an antitrust harm”¹⁰⁷. In brief, as the Court held, the Commission had failed to demonstrate that anticompetitive effects could derive from the mere charging of higher fees for the standardised technology. Deceptive behaviours that raise prices but do not harm competition cannot form the basis for a monopolization claim and are beyond the antitrust laws reach¹⁰⁸. Therefore, the Court concluded that the Commission’s failure to demonstrate that Rambus’s conduct was exclusionary ultimately justified the dismissal of the unlawful monopolization claim¹⁰⁹.

In appraising the merits of the Court of Appeals’ position, it should be remembered that U.S. antitrust laws do not consider abusive exploitative conduct. Rather, they are only focused on exclusionary behaviours under

¹⁰⁵ *Rambus* (n° 62), at 15; see also *NYNEX v Discon*, 525 U.S. 128 (1998), at 136-137, where it was held that a lawful monopolist’s deception of a regulatory agency to obtain higher prices to consumers was itself not an antitrust violation because the deception did not harm the competitive process.

¹⁰⁶ *Rambus* (n° 62), at 16-17.

¹⁰⁷ *Ibid*, at 18. See also H. Hovenkamp (n° 104), § 35.5 at 35-45.

¹⁰⁸ *Rambus* (n° 62), at 14.

¹⁰⁹ *Ibid*, at 19.

section 2 of the Sherman Act. On the contrary, Article 102 TFEU refers also to exploitative practices, which may take the form of excessive prices¹¹⁰. In the EU, however, there is debate over the issue, as difficulties may arise in establishing when a price is low enough to ensure compliance with Article 102. Hence, the question on whether competition authorities are well-suited for price levels analysis seems more than legitimate¹¹¹.

Importance of Clear Disclosure Policy

Finally, the Court also expressed its “serious concerns about the strength of the evidence relied on to support some of the Commission’s crucial findings”, regarding JEDEC disclosure policy¹¹². It was held, in this context, that JEDEC disclosure rules “suffered from a staggering lack of defining details”¹¹³. The ambiguity, in particular, regarded the duty to disclose both issued or pending patent applications and un-filed work in progress on potential amendments to those patent applications. Based on these observations, the Court held that the Commission had taken an aggressive interpretation of rather weak

¹¹⁰ Article 102(a), Treaty on the Functioning of the European Union (TFEU), O.J. [2010] C 83/89.

¹¹¹ On the argument, see also Chapter IV section 4.3 and Chapter VII section 6.1

¹¹² *Rambus* (n° 62), at 19.

¹¹³ *Ibid*, at 22. See also *Rambus v Infineon Technologies*, 318 F.3d 1081 (C. App. Federal Circuit, 2003).

evidence¹¹⁴. The Court thus notably recognized the need to rely on clearer regulations, in order to avoid the risk of ambiguous duties for SSOs' members. The uncertainty on policy rules could discourage participation of patentees to SSOs' activities, and finally lead to an inefficient outcome of the whole standardization process. From the Court's comments, it follows that it could be more difficult to prove deception without reference to clear provisions.

3.1.3.5 Conclusive Remarks on *Rambus*

The Federal Trade Commission has usually cultivated a strong role for enforcement against conduct undermining a standard setting process, on the ground of alleged harm to competition and consumers. In *Rambus*, however, the FTC has not given much relevance to the ambiguities of JEDEC policy rules, as the general understanding of the members and their expectation led to presume the existence of a duty to search and disclose potentially conflicting IPRs. The Court of Appeals, instead, seems to have defined better the correct balance in assessing conflicts in standard setting. The balance, as importantly noted, should properly take into consideration also the need for SSOs' participants of clear policy rules, in order to incentivise their participation to standardization processes. These observations undoubtedly presuppose that the duties to search,

¹¹⁴ *Rambus* (n° 62), at 23. The Court of Appeals' observations were not challenged by the U.S. Supreme Court (see *F.T.C. v Rambus*, Order of the U.S. Supreme Court (2009)), which denied the FTC's 'writ of certiorari'.

disclose and licence IPRs should not be usually imposed on IPRs owners out of the SSOs contexts. Undertakings may otherwise face the risk to be subject to unexpected restrictive conditions that would undermine their will to further developing innovative technologies. The ultimate outcome would be detrimental to dynamic efficiencies and, consequently, consumer choice and welfare. Consumers, indeed, may benefit not only when prices are low, but also when new products of better quality are launched in the market. On the ground of these considerations, therefore, it is reasonable to believe that a non-optimal balance between the pursuit of SSOs' objectives and protection of IPRs owners' interests may well determine considerable welfare losses.

The importance of striking a better balance in SSOs' legal frameworks is all the more evident when considering a further scenario. A rigid approach, it has been held, would likely lead a patent owner to reject participation to standard setting. This notwithstanding, the IPRs owner may still (legitimately) resort a court and obtain an injunction for patent infringement once the standard has been selected. Under these circumstances, therefore, the patent owner may try to enforce its rights without facing the risk to be liable under antitrust law. Such a consequence would certainly undermine the work and efforts that these organizations make to enhance dynamic efficiency and societal growth. Hence, the need to strike a balance which may effectively attract innovators' participation in standard setting.

Of course, the setting of a balanced legal framework which clearly defines the scope of the members' duties does not eliminate the need to assess properly other important aspects. The Court confirmed that, besides conduct, also the firms' intention must be examined in order to establish antitrust liability. The existence of anticompetitive effects furthermore plays a crucial role, as well as the causal link between the conduct and the effects. All these issues will be examined in separate sections.

In conclusion, there is certainly some merit in the Court of Appeals' analysis, especially when compared to the Commission's line of reasoning. This notwithstanding, the Court in *Rambus* seems to have underestimated a fundamental aspect. The Court indeed has not paid sufficient attention to the faults of a FRAND/RAND licensing model in SSOs' regulations. Neither the authority nor the Court of Appeals have ever assessed the risks that such a model may entail, but have probably presumed that FRAND/RAND could represent a proper balance between IPRs owners' and licensees' interests. This was perhaps due to the unwillingness to examine in depth the effectiveness of alternative licensing models. Nevertheless, striking the proper balance between SSOs' goals and patentees' aims on consistent rewards necessarily implies the need to define the optimal licensing framework. Part III of the work will be devoted to achieve this important objective.

3.2 Breach of FRAND/RAND Commitments

The second conduct deserving careful scrutiny consists in the mere breach of FRAND/RAND conditions by a firm whose technology has been incorporated in the standard. This means that the firm owning the selected technology may decide, after having disclosed the existence of its rights and accepted the licensing policy, to breach that agreement and subject the grant of IPRs licences to the payment of supra-competitive royalties. Should the mere breach of licensing terms be considered enforceable anticompetitive conduct, or should this behaviour be interpreted as legitimate? It could be argued that, if IPRs owners may demand *ex post* any royalty they want, a FRAND/RAND model would be deprived of its alleged function of protecting licensees from excessive prices. The risk is that the higher fees charged by the licensor may be passed down by the licensee, to the ultimate detriment of consumers¹¹⁵.

As attested by *Negotiated Data Solution*¹¹⁶, a similar problem may arise where the buyer of another firm's IP portfolio breaches the promise previously made by the seller to license under specified prices in a standard setting context. Here, the FTC remarked the need to respect any promise previously made by a seller on the licensing terms of essential IPRs. This may suggest that deception may not

¹¹⁵ On breach of FRAND/RAND terms, see for instance *Motorola v Rockwell International*, n° 95-575-SLR (D. Delaware, 1995).

¹¹⁶ *Negotiated Data Solutions LLC*, File n° 0510094, F.T.C. (2008). On the analysis of the case, see M.S. Royall and A.J. Di Vincenzo, "The FTC's N-Data Consent Order: A Missed Opportunity to Clarify Antitrust in Standard Setting", (2008) *Antitrust* 83.

always be necessary in order to apply Section 5 to a conduct undermining the whole process. Therefore, the rule established in *Negotiated Data Solution* could be interpreted as an important deviation from prior hold-up enforcement actions in *Dell*, *Unocal* and *Rambus*, where deception was instead required.

In the U.S. jurisprudence, *Qualcomm* can be considered as the most important case on breach of FRAND licensing terms. The following sections are hence devoted to understand better the line of reasoning of the courts in the studying of the conduct, and to assess whether and how the principles expressed therein may be reconciled with the early jurisprudence on the issue¹¹⁷.

3.2.1 Litigation in *Qualcomm*

*Qualcomm*¹¹⁸ confirmed that standardization is neither a neutral nor a peaceful process. The case represented another example of the judicial

¹¹⁷ *Inter alia*, see *Townshend v Rockwell International*, 55 U.S.P.Q. 2d 1011 (N.D. California, 2000). This case, however, presents some peculiarities, since the patent holder could be legitimately exculpated as it disclosed its proposed (RAND) licensing terms in advance. The Court, more in detail, recognised that the SSO (ITU) "was satisfied that the proposed terms submitted by 3Com evidenced willingness by 3Com to negotiate non-discriminatory, fair and reasonable terms" (at 1018). Given the absence of any royalty-increase after the adoption of the standard, the Court rejected the *ex post* licensing challenge that those terms were unfair.

¹¹⁸ *Broadcom v Qualcomm*, LEXIS 62090 (D. New Jersey, 2006); *Broadcom v Qualcomm*, 501 F.3d 297 (C. App. 3rd Circuit, 2007). Qualcomm has also been involved in several other cases worldwide (U.S., EU and China), concerning patent infringements and antitrust violations - see for instance the *Nokia v Qualcomm* saga, finally settled in 2008. Moreover, in the Broadcom/Qualcomm legal battle, it was also charged for 'ambushing' the standards institute JVT and barred from enforcing its IPRs (see *Qualcomm* (n° 14)).

uncertainty that has characterized the resolution of disputes related to SSOs' activities. Important questions were posed, regarding whether a patent holder's deceptive conduct, consisting in the breach of a FRAND promise, may be condemned under antitrust laws.

After a brief introduction to the facts of the case, the section will consider the legal arguments developed by the District Court and the U.S. Court of Appeals that dealt with Qualcomm's behaviour.

3.2.1.1 Analysis of the Company's Behaviour

The case started when Broadcom, a company active in the mobile phone industry, sued Qualcomm alleging that, by its intentional deception of private standard setting bodies, the latter had monopolized certain markets for cellular telephone technology and components¹¹⁹. The market involved in the case concerned mobile wireless telephony, where two different non-interoperable technology paths were in widespread use, the CDMA and GSM technologies¹²⁰. The standard used in the GSM path network was the third generation standard known as the 'Universal Mobile Telecommunications System (UMTS) Standard', developed by the European Telecommunications Standards Institute (ETSI).

¹¹⁹ The cellular telephone market is characterised by the use of different chipsets, whose function is to allow transmission of information to and from the wireless network. Industry-wide standards are necessary in order to facilitate interoperability between all the components.

¹²⁰ CDMA and GSM stand respectively for "code division multiple access" and "global system for mobility". Cellular telephone service providers operate under one or the other technology.

Some of the technologies included by the SSO in the UMTS standard were supplied by Qualcomm, which held IPRs over them¹²¹.

In order to avoid the risk that members could subvert and manipulate the standard setting process by exerting illegitimate control over the implementation of a standard, ETSI required participants to undertake FRAND commitments. Hence Qualcomm, as a member of ETSI, had committed to its licensing policy by accepting the fair reasonable and non-discriminatory terms.

Broadcom, however, lodged a complaint before the U.S. District Court. It alleged that Qualcomm, after having agreed to abide by ETSI licensing policy and after having succeeded in the selection of the standard, breached that agreement and started licensing under non FRAND conditions. Therefore, according to the plaintiff, the unlawful acquisition of monopoly power through deception violated the Sherman Act. In particular, Qualcomm's deceptive conduct consisted of a material omission, which finally led to mislead ETSI and its members as to its real intention to charge supra-competitive prices¹²². What is more, Broadcom alleged that Qualcomm had ignored its FRAND commitments to ETSI also by charging discriminatorily higher royalties to competitors and customers using chipsets not directly manufactured by Qualcomm. This strategy, as Broadcom alleged, was supposed to be part

¹²¹ Qualcomm's technology was called Wide-band CDMA (WCDMA); it was said to be essential to the practice of the standard.

¹²² *Broadcom v Qualcomm*, LEXIS 62090 (D. New Jersey, 2006).

of Qualcomm's business policy aiming at monopolistic power also in the UMTS chipset market. The latter, as it was argued, could represent a threat to the existing monopoly Qualcomm had in the CDMA chipset market¹²³. Finally, Broadcom claimed that Qualcomm was maintaining its monopoly in the markets for 3G CDMA technology and chipsets in violation of the Sherman Act as: a) most producers of UMTS mobiles were subject to Qualcomm's monopoly power in the CDMA markets; b) Qualcomm was using leverage over customers in the CDMA markets to destroy the UMTS chipset business; c) Broadcom, as an innovator in WCDMA technology and UMTS chipsets, was suffering injury¹²⁴.

In brief, Qualcomm's conduct was interpreted as able to compromise the SSO's reputation, credibility and ability to generate coalitions of intents. It was seen as a threat for the fragile equilibrium on which standardization was based.

3.2.1.2 Qualcomm and the Judicial Approach

The case was first decided by the District Court of New Jersey¹²⁵, and further appealed before the U.S. Court of Appeals for the Third Circuit¹²⁶. The following subsections will delve into the opposite views expressed by the

¹²³ Qualcomm, it was stated in the complaint, had 90% share in the market for CDMA-path chipsets; thus, by charging higher royalties in that market, indirectly imposed mobile manufacturers to purchase its UMTS-path chipsets.

¹²⁴ *Qualcomm* (n° 122).

¹²⁵ *Ibid.*

¹²⁶ *Broadcom v Qualcomm*, 501 F.3d 297 (C. App. 3rd Circuit, 2007).

courts. Indeed, while the judge of first instance rejected Broadcom's arguments, the Court of Appeals reversed that decision and joined the complainant's line of reasoning under several aspects.

Monopolization Claim

The District Court had dismissed the monopolization claim on the ground that Qualcomm allegedly enjoyed a legally sanctioned monopoly in its patented technology. In the Court's view, this had given Qualcomm the right to exclude competition and fix the price for licensing. Similarly, the judge of first instance had further argued that Qualcomm's conduct had not to be assessed under antitrust principles, as the adoption of the standard would have at all events eliminated competition¹²⁷. The District Court did not consider the role of FRAND as a guarantee for ETSI. Nor did it consider the possibility that ETSI would have chosen non-proprietary technology had it known about Qualcomm's intention. From this perspective, therefore, it seems that the court failed to develop a thorough examination of the dynamics of standardization.

¹²⁷ *Qualcomm* (n° 122), at 21; in the court's view, "[I]t is the SDO's decision to set a standard for WCDMA technology, not Qualcomm's 'inducement', that results in the absence of competing WCDMA technologies". Cf. with the decision in *Townshend* (n° 117), where the Court said that "given that a patent holder is permitted under the antitrust laws to completely exclude others from practicing his or her technology, the Court finds that 3Com's technology submission of proposed licensing terms with which it was willing to license does not state a violation of the antitrust laws".

The Third Circuit reversed the District Court's judgment. After mentioning the different elements Section 2 requires in order to find an infringement under antitrust law, the Court of Appeals clarified that "unethical and deceptive practices can constitute abuses of administrative or judicial processes that may result in antitrust violations"¹²⁸. Private SSOs, as it held, have historically been scrutinised by U.S. courts and federal authorities as they "can be rife with opportunities for anticompetitive activity"¹²⁹. At the same time, private standard setting can also advance on several levels the main antitrust goal, the promotion of consumer welfare¹³⁰. This is because standards that ensure the interoperability of goods also enhance the sharing of information among buyers of goods from competing producers, thereby promoting the utility of all goods and developing the overall consumer market¹³¹. As a consequence, this would allow undertakings to decrease research and development costs and to charge less for the same product. Standards, as the Third Circuit continued, may benefit consumers by reducing the switching costs between competing products and services, thereby promoting competition among manufacturers. They may also enhance competition at upstream level, as standard setting functions as an

¹²⁸ *Qualcomm* (n° 126), at 13 (citing the U.S. case *Allied Tube* (n° 33), at 500).

¹²⁹ *Qualcomm* (n° 126) (citing the U.S. case *American Society of Mechanical Engineers v Hydrolevel*, 456 U.S. 556 (1982), at 571).

¹³⁰ As already established in Chapter I, in the United States there is strong consensus for a consumer welfare standard. See for instance *Reiter v Sonotone*, 442 U.S. 330 (1979), at 343; *Business Electronics v Sharp Electronics*, 485 U.S. 717 (1988), at 723; *Leegin Creative Leather Products v PSKS*, 551 U.S. (2007); *Brooke Group* (n° 97).

¹³¹ *Qualcomm* (n° 126), at 13 (citing the U.S. case *Allied Tube* (n° 33), at 506-507).

incentive for firms to strive and improve technologies in order to be selected. Therefore, the development of a standard “does not eliminate competition among producers but, rather, moves the focus away from the development of potential standards and toward the development of means for implementing the chosen standard”¹³². These efficiencies, by enhancing consumer welfare and competition in the marketplace, demonstrate that standard setting processes are consistent with the goals of antitrust law¹³³.

The Court of Appeals, hence, held that SSOs, which could otherwise be interpreted as unlawful agreements between rivals not to manufacture or distribute certain goods, do not seem to infringe *per se* antitrust principles¹³⁴. This does not mean that there are no limits to their activities. Indeed, as it was noted, private standard setting is permitted under antitrust laws as long as it is “conducted in a non-partisan manner offering pro-competitive benefits and in the presence of ‘meaningful safeguards’ that prevent the standard-setting process from being biased by members with economic interests in stifling product competition”¹³⁵. This means that practices undermining the pro-competitive benefits of SSOs activities run the risk to be deemed unlawful and

¹³² *Qualcomm* (n° 126), at 14.

¹³³ P.E Areeda & H. Hovenkamp, *Antitrust Law: an Analysis of Antitrust Principles and Their Application* (2nd edn. Aspen Publishers, New York 2004).

¹³⁴ See also *Allied Tube* (n° 33), at 500-501; and the *Standards Development Organization Advancement Act of 2004* (n° 11).

¹³⁵ *Qualcomm* (n° 126), at 15 (citing, *inter alia*, *All v Cast Iron Soil Pipe Inst.*, 851 F.2d 478 (C. App. 1st Circuit, 1988), at 488).

sanctioned under antitrust law. In this context, the Third Circuit analysed the specific risks related to deception. In particular, after a standardised technology has been adopted and the industry has invested significant resources into the standard, the industry itself will find it locked into the technology adopted. In these circumstances, the patent holder may over-exploit its bargaining position and obtain supra-competitive royalties from the industry participants¹³⁶.

ETSI licensing policy had been implemented in order to avoid these risks¹³⁷. The costs and performance characteristics of the competing technologies were factors highly considered in the selection procedure. Qualcomm's deception on the licensing costs granted it an unfair advantage and distorted competition by favouring the adoption of its technology to the detriment of the alternatives¹³⁸.

On the basis of these elements, the U.S. Court of Appeals concluded that

"in a consensus-oriented private standard setting environment, a patent holder's intentionally false promise to license essential proprietary technology

¹³⁶ *Qualcomm* (n° 126), at 15. See also *Rambus* (n° 61), at 2; *Eastman Kodak v Image Technical Servs.*, 504 U.S. 451 (1992); and *Townshend* (n° 117). In *Townshend*, however, the court failed to recognize that standards may confer market power on the incorporated IPR.

¹³⁷ See D.G. Swanson & W.J. Baumol, "Reasonable and Non-discriminatory (RAND) Royalties, Standards Selection, and Control of Market Power", (2006) 73 *Antitrust Law Journal* 1, 5, 10-11.

¹³⁸ See *Qualcomm* (n° 126), at 23 (citing the U.S. case *Allied Tube* (n° 33), at 501; here it was stated that SSOs need to be free "from being biased by members with economic interests in stifling product competition"); and *Rambus* (n° 61) (in the FTC's view, "distorting choices through deception obscures the relative merits of alternatives and prevents the efficient selection of preferred technologies").

on FRAND terms, coupled with an SDO's reliance on that promise when including the technology in a standard, and the patent holder's subsequent breach of that promise, is actionable anticompetitive conduct"¹³⁹.

Deceptive conduct which hides the level of royalties a participant intends to charge may harm the competitive process no less than deceptive non-disclosure of IPRs¹⁴⁰. On the other hand, the District Court had erroneously concluded that monopoly was "the natural consequence of the standard setting processes, an unsupported factual finding that ignored the possibility of a standard comprised of non-proprietary technologies"¹⁴¹. It was shown that ETSI would not have adopted Qualcomm's technology had it known about its deceptive intention. With respect to deception, the District Court had even failed to recognize that Qualcomm's FRAND commitment was an essential part of its strategy to win inclusion of its technology in the standard¹⁴². For these reasons, the Court of Appeals reversed the decision on the first monopolization claim and rejected the main argument posed by Qualcomm, according to which the reasonableness of its licensing policy was not a subject to scrutinize under antitrust principles¹⁴³.

¹³⁹ *Qualcomm* (n° 126), at 24.

¹⁴⁰ *Ibid* (citing *Rambus*, where it was held that "distorting ... technology choices and undermining members' ability to protect themselves against patent hold-up ... caused harm to competition").

¹⁴¹ *Ibid*.

¹⁴² *Ibid*, at 21.

¹⁴³ *Ibid*, at 24 (mentioning *Georgia-Pacific v United States Plywood*, 318 F. Supp. 1116 (S.D. New York, 1970), at 1120).

Attempted Monopolization Claim

With respect to the second claim, concerning Qualcomm's attempted monopolization in the UMTS chipset market, the judge of first instance had argued that the complaint had not provided sufficient information to enable the Court to infer that Qualcomm's conduct was anticompetitive¹⁴⁴. This interpretation was rejected by the Third Circuit, which remembered that such a claim under section 2 of the Sherman Act must allege "(1) that the defendant has engaged in predatory or anticompetitive conduct with (2) a specific intent to monopolize and (3) a dangerous probability of achieving monopoly power"¹⁴⁵.

Broadcom had described numerous practices implemented by Qualcomm. The latter, in particular, had a near monopoly in the CDMA chipset market, and was striving to obtain a new monopoly in the UMTS chipsets market. In violation of its FRAND commitments, Qualcomm was charging higher royalties both to those licensees of the WCDMA technology and to those manufacturers who did not use Qualcomm's UMTS chipsets. On the other hand, Qualcomm was providing discounts to mobile manufacturers using only its UMTS chipsets¹⁴⁶. These practices harmed competition and undermined innovation. The Third Circuit considered the allegations of anticompetitive

¹⁴⁴ *Qualcomm* (n° 122), at 23-24.

¹⁴⁵ *Qualcomm* (n° 126), at 29. See also *Crossroads Cogeneration v Orange& Rockland Utils.*, 159 F.3d 129 (C. App. 3rd Circuit, 1998), at 141.

¹⁴⁶ *Qualcomm* (n° 126), at 30.

practices as sufficiently specific to satisfy the first element of an attempted monopolization claim¹⁴⁷.

Broadcom had also claimed that Qualcomm acted with specific intent to obtain a monopoly in the UMTS chipset market. Several of the anticompetitive practices lacked a legitimate business justification. As clarified in *Aspen Skiing*, evidence that business conduct is “not related to any apparent efficiency” may constitute proof of specific intent to monopolize¹⁴⁸. On the basis of these considerations, the Court of Appeals held that Broadcom’s complaint had completely satisfied the specific intent element¹⁴⁹.

Finally, in relation to the ‘dangerous probability’ of successful monopolization, the Court argued that this factor required a fact-sensitive inquiry¹⁵⁰. Broadcom had provided considerable details on Qualcomm’s conduct and anticompetitive effects. It had also demonstrated that Qualcomm’s practices “effectively foreclosed Broadcom’s entry into the UMTS chipset market”¹⁵¹. These arguments finally led the Court to accept Broadcom’s position with respect to its second claim on the attempted monopolization¹⁵².

¹⁴⁷ *Ibid.*

¹⁴⁸ *Aspen Skiing* (n° 87), at 608.

¹⁴⁹ *Qualcomm* (n° 126), at 31.

¹⁵⁰ See also *Barr Laboratories v Abbott Laboratories*, 978 F.2d 98 (C. App. 3rd Circuit, 1992).

¹⁵¹ *Qualcomm* (n° 126), at 32.

¹⁵² *Ibid*, at 32-33.

Unlawful Maintenance of Monopoly Claim

The U.S. Court of Appeals finally considered the third relevant antitrust claim, according to which Qualcomm was maintaining monopoly in the 3G CDMA technology and chipset markets in violation of the Sherman Act. As held before the District Court, Broadcom confirmed its view that Qualcomm was using leverage over customers in the CDMA markets to destroy the UMTS chipset business, and that Broadcom was consequently suffering injury.

The U.S. Court of Appeals, however, decided to affirm the District Court's dismissal of that claim¹⁵³ on the ground that Broadcom was lacking standing. It observed that there were insufficient factual allegations proving a causal link between Qualcomm's maintenance of its monopolies in the 3G CDMA technology and chipset markets and the alleged harm caused to Broadcom in the WCDMA technology and UMTS chipset markets. Injury to Broadcom was also considered to be extremely remote. In addition, the Third Circuit observed that Broadcom had not demonstrated to be active in the same relevant market as Qualcomm. Hence, it concluded that Broadcom's alleged injury was not 'inextricably intertwined' with Qualcomm's alleged anticompetitive conduct¹⁵⁴.

¹⁵³ *Qualcomm* (n° 122), at 23.

¹⁵⁴ *Qualcomm* (n° 126), at 34-35 (citing *Carpet Group International v Oriental Rug Importers Association*, 227 F.3d 62 (C. App. 3rd Circuit, 2000), at 76-77).

3.2.1.3 Conclusive Remarks on *Qualcomm*

The decision of the U.S. Court of Appeals in *Qualcomm* confirmed one more time that standard setting processes are subject to close scrutiny under antitrust principles, where competition to implement the standard is hindered rather than promoted. The Third Circuit importantly noted that standard setting processes are consistent with the main antitrust goal, *i.e.* consumer welfare. They may also enhance dynamic efficiencies and promote competition, in so far as no manipulation of the processes occurs. In the latter case, instead, standard setting may ultimately lead to increased fees for licenses and consequently higher prices for consumers, to the ultimate detriment of societal welfare.

With respect to the analysis of the conduct, *Qualcomm*'s deception was appraised as that kind of behaviour that may seriously impair the activities of a consensus-driven standard setting environment. Thus, in the Court's view, breach of FRAND terms may harm SSOs no less than non-disclosure of IPRs.

In order to establish an infringement of Section 2, the conduct must be wilful and harm competition. The Sherman Act should not be enforced against inadvertent failures to comply with SSOs' rules, as this may also compromise participation to standard setting by IPRs owners. At the same time, the intentional or wilful conduct must lead to anticompetitive effects. These effects in *Qualcomm* were represented by the missed opportunity for ETSI to adopt non-proprietary standards, had it known about the firm's intention to deceive.

As in *Rambus*, however, the risks deriving from the adoption of FRAND/RAND terms were not properly assessed. The Court of Appeals, indeed, did not take into proper account the potential threat deriving from litigation on their meaning, as the bottleneck of the whole process. It merely observed that “the reasonableness of royalties is an inquiry that courts routinely undertake”¹⁵⁵. With this respect, it cited as an example the 15-factors test proposed and developed in *Georgia Pacific*¹⁵⁶. As explained in Chapter III, however, this test raises more than a doubt due to the interpretative problems which may likely arise in applying the various criteria.

The faults of this licensing model will be further examined in Chapter VII, aimed at the setting of the optimal balance between patentees’ interests and standard setting goals. The following sections, instead, will be devoted to understand better the role of causation, intent and effects for the finding of an infringement under U.S. antitrust law. By delving into the enforcers’ approach to the issue, the work aims at a two-fold goal: a) identify any possible faults in the courts’ and Commission’s analysis; and b) outline potential best practices in enforcement activities.

¹⁵⁵ *Qualcomm* (n° 126), at 25.

¹⁵⁶ *Georgia-Pacific* (n° 143).

4. Causation

In order to establish antitrust liability under section 2 of the Sherman Act, it is necessary to prove causation, the causal link between the effects and the behaviour. Section 5 of the FTC Act, which regulates deceptive acts or practices, does not instead require neither the element of intention nor harm to competition¹⁵⁷. An act or practice is deceptive if it involves a representation, omission or practice that is likely to mislead consumers acting reasonably under the circumstances, and the representation omission or practice is material¹⁵⁸. It follows that causation between conduct and anticompetitive harm must only be proved in case of Sherman Act violations.

This section is devoted to the analysis of the various perspectives developed in the assessment of causation by the U.S. courts and the Commission, both in *Rambus* and (to a minor extent) *Qualcomm*.

4.1. Proof of Causation in *Rambus*

The thorniest issue for the FTC in *Rambus* was causation. The causation element and the standard of proof to establish anticompetitive effects have been at the core of intense discussions. As Areeda and Hovenkamp rightly evidence, to establish illegal monopolization courts require a causal link between the alleged exclusionary conduct and the attainment or

¹⁵⁷ See, for instance, *Pantron* (n° 7); and *Minuteman Press* (n° 7).

¹⁵⁸ 15 U.S.C. § 45.

maintenance of market power¹⁵⁹. To what extent, however, can this causal link be inferred or assumed from the anticompetitive conduct?

Inference of Causation

Some authors have argued that, in certain cases concerning anticompetitive conduct having natural and probable effects, proof of harm to competition is not necessary but it can be established by inference¹⁶⁰. In *Rambus* complaint counsel did not seem to have moved away from this position, in so far as he stated that it was only necessary to show “that Rambus’s failure to disclose is the type of conduct that is reasonably capable of causing JEDEC to include the undisclosed [Rambus] intellectual property in the [JEDEC] standards”¹⁶¹.

This interpretation of causality, however, does not seem supported by established jurisprudence, and may also present relevant risks for the SSOs activities. By inferring causation, courts and authorities may come more easily to establish antitrust liability under the Sherman Act. This may finally represent a potential obstacle to firms’ participation to standard setting processes.

¹⁵⁹ P.E Areeda & H. Hovenkamp (n° 133), § 650. See also J. Kattan, “Antitrust Implications: Disclosure and Commitments to Standard Setting Organizations” (2002) *Antitrust* 22.

¹⁶⁰ T.J. Muris, “The FTC and the Law of Monopolization”, (2000) 67 *Antitrust Law Journal* 693, 695-701.

¹⁶¹ *Rambus*, F.T.C. Dkt n° 9302, Complaint Counsel Post-Hearing Brief (9 September 2003), at 107.

Clear and Convincing Evidence Standard

Rambus, instead, claimed that complaint counsel had to satisfy a far higher standard of proof to demonstrate a causal link between its alleged exclusionary conduct and any resulting anticompetitive effects. This position was endorsed by the administrative law judge¹⁶². The U.S. company, in particular, referred to the necessity to prove the causal link under 'the clear and convincing' evidence standard, a heavier burden than the 'preponderance of the evidence test'¹⁶³. Under the former, the judge must be persuaded by the evidence that it is highly probable that the claim or affirmative defence is true¹⁶⁴. Under the 'preponderance of the evidence test', instead, it is required that the matter asserted seems more likely true than not¹⁶⁵. Both standards are less stringent than the 'proof beyond the reasonable doubt' test, which requires the judge to be close to certain of the truth of the matter asserted¹⁶⁶. Rambus claimed that the 'clear and convincing evidence standard' was necessary to protect innovators' rights to exercise their patents and reduce disincentives to take part in SSOs¹⁶⁷.

¹⁶² *Rambus* (n° 75), at 300.

¹⁶³ *Rambus* (n° 71), at 5 and 26.

¹⁶⁴ The 'clear and convincing evidence standard' was applied for instance in: *American Cyanamid*, 72 F.T.C. 623 (1967); and *VISX*, F.T.C. Dkt 9286, Initial Decision (27 May 1999). It may be applied also in criminal procedures.

¹⁶⁵ The 'preponderance of the evidence standard' is mainly adopted in U.S. civil cases. See *Concord Boat v Brunswick*, 207 F.3d 1039 (C. App. 8th Circuit, 2000).

¹⁶⁶ As the highest level of burden of persuasion, this standard is usually required in most U.S. criminal cases.

¹⁶⁷ *Rambus* (n° 71), at 15-16.

However, it could be counter-argued, a very high standard of proof may facilitate participants in their intent to subvert and manipulate legally a standard setting process to their advantage. This would finally reduce the incentives of other firms to participate in SSOs. Given that both inference of causation and a too high standard of proof may have negative effects, a legitimate doubt arises: which approach may better address the issue? Before answering the question, it seems relevant to examine the FTC's and Court of Appeals' views.

Commission's Analysis of Causation

On the debate, the Commission concluded in its decision that the same evidence establishing that Rambus had implemented an exclusionary conduct and had gained monopoly power contributed to show a causal link between Rambus's behaviour and its power. In this regard, it was stated that "the evidence links Rambus's conduct to JEDEC's adoption of SDRAM standards incorporating Rambus's patents and links JEDEC's adoption of those standards to Rambus's acquisition of monopoly power"¹⁶⁸. In relation to the first connection, the FTC considered that, as there were some elements showing JEDEC would have adopted an alternative technology had Rambus disclosed its IPRs, this evidence suggested a causal link between the firm's behaviour and the SSO's decision-making process¹⁶⁹. In relation to the second link, it was clear in

¹⁶⁸ *Rambus* (n° 61), at 74.

¹⁶⁹ *Ibid*, at 77.

the Commission's analysis that, once JEDEC had adopted Rambus's undisclosed technology, the market was then very likely to adopt the standardised choice¹⁷⁰.

Arguments of the U.S. Court of Appeals

The U.S. Court of Appeals, however, held that the Commission was wrong in retaining Rambus liable as it had failed to show the link between the alleged anticompetitive conduct and JEDEC's final choice of the standard¹⁷¹. The Court, in contrast with the findings of the authority, concluded that in order to establish an antitrust infringement under Section 2 a more explicit proof of causation must be given. In particular, it highlighted that the Sherman Act does not prohibit deception in standardization processes if the deceptive conduct cannot be proved to have caused the adoption of the proprietary technology as a standard¹⁷². In *Rambus*, there was insufficient evidence that JEDEC, had it known about the firm's patents, would have opted for different technologies. The failure to prove causation also explained why the FTC could not invoke (before the Supreme Court) the appeal decision adopted in *Qualcomm*, where the burden of proof had instead been satisfied for most of the antitrust claims¹⁷³.

¹⁷⁰ *Ibid*, at 78.

¹⁷¹ *Rambus* (n° 62), at 19.

¹⁷² *Ibid*, at 13-14.

¹⁷³ *Broadcom* (n° 126).

Preponderance of the Evidence Standard

The question, in conclusion, turns to which appropriate standard of proof should be adopted. In relation to the proof of causation between Rambus's conduct and JEDEC's choice of Rambus's technologies (the first causal link), Areeda and Hovenkamp noted that "an antitrust plaintiff must establish that the [SSO] would not have adopted the standard in question but for the misrepresentation or omission"¹⁷⁴. The proof of these crucial elements must be given under the 'preponderance of the evidence standard'. Also with respect to proof of causation between the anticompetitive conduct and the maintenance or attainment of monopoly (the second causal link), it has been held that the plaintiff "had the burden of pleading, introducing evidence, and presumably proving by preponderance of the evidence that anticompetitive behaviour has contributed significantly to the achievement or maintenance of monopoly"¹⁷⁵. The 'preponderance of the evidence standard', less stringent than the 'clear and convincing evidence' test, has been proposed in other U.S. cases decided under the Sherman Act¹⁷⁶. It seems to reflect better the need to balance innovators' interests in standard setting and the safeguard of SSOs' objectives. From this perspective, therefore, the application of this test in antitrust enforcement may probably be interpreted as the optimal guarantee for all the parties involved.

¹⁷⁴ P.E Areeda & H. Hovenkamp (n° 133) § 782b; see also H. Hovenkamp and M.A. Lemley, *Intellectual Property and Standard-Setting Organizations* (Supp. 2003) § 35.5b, at 35-44.

¹⁷⁵ P.E Areeda & H. Hovenkamp (n° 133) § 651.

¹⁷⁶ E.g., *Concord Boat* (n° 165).

4.2 Causality in *Qualcomm*

Unlike *Rambus*, *Qualcomm* did not present a thorough discussion of the causation issue¹⁷⁷. No reference was made as to the appropriate standard of proof discussed above. The judge of first instance had mainly focused on procedural aspects. With respect to the monopolization claim, the District Court had not developed an in-depth analysis on causation, as it had wrongly held that *Qualcomm*'s conduct could not be deemed unlawful. Similarly, causality was not an issue in the analysis of the other claims, on attempted monopolization and unlawful maintenance of monopoly power¹⁷⁸.

Before the U.S. Court of Appeals, *Qualcomm* was considered to have monopolised the market for UMTS technologies, in violation of section 2 of the Sherman Act. The Third Circuit, in particular, held that there was sufficient evidence to believe that *Qualcomm*'s deception had finally led to anticompetitive effects, consisting in the missed opportunity for ETSI to standardize non-proprietary technologies had it known about the firm's intention to charge higher fees¹⁷⁹. In relation to the second claim on attempted monopolization, it was similarly held that *Broadcom* had provided relevant details on conduct and effects. It had also demonstrated that *Qualcomm*'s practices "effectively foreclosed *Broadcom*'s entry into the UMTS chipset

¹⁷⁷ *Qualcomm* (n° 122); *Qualcomm* (n° 126).

¹⁷⁸ *Qualcomm* (n° 122). On the absence of causation in a breach of FRAND/RAND case, see also *Townshend* (n° 117).

¹⁷⁹ *Qualcomm* (n° 126), at 29.

market”¹⁸⁰. Only in the appraisal of the third claim, the Third Circuit manifested its concerns as to the causal connection between the antitrust violation and the harm to the plaintiff. It deemed insufficient the factual allegations proving a causal link between Qualcomm’s maintenance of monopoly in the 3G CDMA technology and chipset markets and the alleged harm caused to Broadcom in the WCDMA technology and UMTS chipset markets¹⁸¹. These considerations ultimately lead to reason that, in comparison to the District Court’s approach, the Court of Appeals seems to have interpreted better the theory of causality, on which the final decision was grounded.

5. Anticompetitive Effects

The analysis of the different cases on standards has evidenced the need to discuss anticompetitive effects, which are necessary for establishing antitrust liability under section 2 of the Sherman Act. In the U.S., the evaluation of monopolization charges requires a two-step process: on the one hand, the examination of the effects on competition and consumers¹⁸²; on the other, the appraisal of any existing business justification which a defendant may invoke¹⁸³. Article 102 TFEU, instead, does not seem to require harm to competition.

¹⁸⁰ *Ibid*, at 32.

¹⁸¹ *Ibid*, at 34-35 (citing *Carpet Group* (n° 154)).

¹⁸² See A. Pera and V. Auricchio, “Consumer Welfare, Standard of Proof and the Objectives of Competition Policy”, (2005) 1 *European Competition Journal* 153.

¹⁸³ See S. Salop and T. Krattenmaker, “Analyzing Anticompetitive Exclusion”, (1987) *Antitrust Law journal*.

This explains why a dominant undertaking charging excessive prices may infringe EU competition law, despite the absence of anticompetitive effects, and escape liability in the United States.

With respect to the possibility to presume anticompetitive effects when a certain conduct has occurred, such presumption may be justified only under Section 1 (and similarly, under Article 101 TFEU). A *per se* rule indeed seems to have been applied so far only to those violations that, by their very nature, affect antitrust more seriously, such as cartels. A rule of reason has been usually implemented in examining potentially risky unilateral conduct.

As to Section 5 FTCA, this does not require harm to competition in order to establish liability. Below, therefore, I will delve only into the arguments developed in *Rambus* and *Qualcomm* as to the role of effects.

5.1 *Rambus*, *Qualcomm* and the Debate on Effects

The *Rambus* saga highlights the contrasts arisen between the firm, the Commission and the U.S. Court of Appeals in the discussion on effects. Complaint counsel, in particular, in discussing the effects determined by the conduct, had focused on the exclusion of alternative technologies, the excessive fees level charged for SDRAM licenses and the likely consequential increase

in the price of SDRAM technology. This would have further led to a decrease of the output and to a reduction in the reliance on SSOs' activities¹⁸⁴.

The Commission endorsed this position and rejected the company's defensive brief, according to which no anticompetitive effects could have been ever deemed to exist¹⁸⁵. The authority rather argued that substantial record evidence showed that JEDEC members had become locked-in and were unable to avoid Rambus's royalties¹⁸⁶. In the Commission's view, several firms had invested relevant resources in the standardised technology, and it would have not been reasonable to switch to alternatives. No legitimate business justification was granted. However, the assessment of the authority did not properly apply antitrust principles.

The faults of the Commission's interpretation on effects were highlighted by the Court of Appeals, which reversed the ruling of the authority on the ground that it had failed to prove anticompetitive effects. With respect to the first scenario, indeed, the Court established that there was insufficient evidence to exclude that JEDEC would have adopted Rambus's technology even in case the firm had disclosed the existence of its IPRs. This consideration led the Court to note that it was not possible to establish anticompetitive effects¹⁸⁷. With respect

¹⁸⁴ *Rambus* (n° 57).

¹⁸⁵ *Rambus* (n° 71), at 72-74.

¹⁸⁶ *Rambus* (n° 61), at 99.

¹⁸⁷ *Rambus* (n° 62), at 12.

to the second scenario, in which JEDEC would have adopted Rambus's technology under RAND terms, the only consequence of deception was that JEDEC had lost an opportunity to seek lower royalties. But this, as the Court rightly held, did not imply harm to competition. There is no antitrust violation under U.S. laws if the deceptive conduct only influences the price charged without harming the competitive process. The Commission was wrong in referring to *Qualcomm* in order to define anticompetitive the charge of supra-competitive fees¹⁸⁸. To the extent that the ruling in *Qualcomm* rested on the argument that deception lured the SSO away from non-proprietary technology, it could not help the Commission in view of the inability to find that Rambus's conduct caused the SSO's choice. The authority itself had left open the possibility that Rambus's technology could have been standardised in any case¹⁸⁹.

In *Qualcomm*, instead, the dispute on the existence of anticompetitive effects involved the District Court and the Third Circuit. The former had argued that inclusion of Qualcomm's technology in the UMTS standard did not harm competition, as the ultimate consequence of any SSO process is the absence of competition¹⁹⁰. However, as rightly held by the Court of Appeals, the District Court was wrong, as there was evidence that ETSI would have not adopted Qualcomm's technology had it known about Qualcomm's intention to deceive. Broadcom had also properly described several unlawful practices implemented

¹⁸⁸ *Ibid*, at 17.

¹⁸⁹ *Rambus* (n° 61).

¹⁹⁰ *Qualcomm* (n° 122), at 18. On a similar ground, see also *Townshend* (n° 117), at 1021.

by Qualcomm, which was violating its FRAND commitments by charging higher royalties and providing discounts in a discriminatory way. These practices, in the Third Circuit's view, harmed competition and were sufficient to state a claim under section 2 of the Sherman Act¹⁹¹.

In conclusion, *Rambus* and *Qualcomm* seem to suggest that parties of a dispute will need to refer to anticompetitive effects by proving that a SSO would have not standardised a proprietary technology had it known about the existence of relevant IPRs. In addition, it may be necessary to prove that the SSO would have not opted for a proprietary technology had it known about the right holder's refusal to license under RAND terms. These appeal judgments, therefore, seem to have properly shed light on (and perhaps heightened) the burden of proving causation and anticompetitive effects of deceptive conduct.

6. Fault and Strict Liability

A further element, besides effects and causation, is needed in order to find an infringement under Section 2. It is necessary to prove that the conduct is wilful or intentional. A monopolization claim requires the wilful acquisition or maintenance of monopoly power by the firm under scrutiny¹⁹². In order to support an attempted monopolization claim, in addition, the plaintiff must

¹⁹¹ *Qualcomm* (n° 126), at 30.

¹⁹² See *United States v Grinnell*, 384 U.S. 563 (1966), at 570-571. This is known also a 'general intent', which refers to the intention to realize the conduct under examination.

prove a specific intent to monopolize¹⁹³. Unlike Section 2, instead, section 5 of the FTC Act does not require that deception be intentional¹⁹⁴. Similarly, as it will be explained in Chapter VI, intent does not play a role in the enforcement of Article 102 TFEU.

The following passages are devoted to the study of the intent element in *Rambus* and *Qualcomm*. Nonetheless, further interesting considerations will also be made with respect to *Dell*, decided under Section 5.

6.1 Intent Element in *Rambus* and *Qualcomm*

In *Rambus*, by referring to intent, complaint counsel noted that the U.S. microchip designer had engaged in a “pattern of deceptive, exclusionary conduct through which [it] consciously subverted an open standards process and thereby captured a monopoly in important technology-related markets”¹⁹⁵. These observations, rejected by the administrative law judge¹⁹⁶, were finally endorsed by the Commission, which confirmed that Rambus had unlawfully monopolized various technology markets through the deliberate manipulation of JEDEC’s activities. The authority, in particular, had observed that

¹⁹³ See *Spectrum Sports* (n° 2), at 456; and *Barr Laboratories* (n° 150), at 65. ‘Specific intent’ requires the intention to realize the effects prohibited by the law.

¹⁹⁴ 15 U.S.C. § 45.

¹⁹⁵ *Rambus* (n° 63).

¹⁹⁶ *Rambus* (n° 75), at 297-299.

"[b]y silently using JEDEC to assemble a patent portfolio to cover the SDRAM and DDR SDRAM standards, Rambus's conduct significantly contributed to JEDEC's choice of Rambus's technologies for incorporation in the JEDEC DRAM standards and to JEDEC's failure to secure assurances regarding future royalty rates"¹⁹⁷.

Intent, however, could not be a relevant issue in the arguments of the U.S. Court of Appeals. The Court remembered that an infringement of Section 2 requires the wilful acquisition or maintenance of monopoly power, as distinguished from growth or development as a consequence of a superior product, business acumen, or historical accident¹⁹⁸. This notwithstanding, it did not broaden the wilfulness issue as the Commission had even failed to prove harm to competition. This means that, in the absence of clear anticompetitive effects, it was useless to engage in the analysis of Rambus's will.

Therefore, it seems that to establish liability under section 2 of the Sherman Act both an intentional or wilful conduct and harm to competition are necessary. Consequently, it would not be possible to find an antitrust infringement in the absence of one of these elements. Even in case deception is shown to be wilful, harm to competition cannot be presumed (and *vice versa*). It needs to be proved under the 'preponderance of the evidence standard'.

¹⁹⁷ *Rambus* (n° 61), at 118-119.

¹⁹⁸ *Rambus* (n° 62), at 11.

As to the *Qualcomm* case, the District Court had not properly scrutinized intention, as the company was held to enjoy a legally sanctioned monopoly in its patented technology and to have the right to exclude competition¹⁹⁹.

The faults of this position were rightly highlighted by the Third Circuit, which rather argued that evidence showed Qualcomm had obtained and maintained market power wilfully, and not on the basis of competition on the merits. These arguments led the Court to uphold the appellant's monopolization claim²⁰⁰. Similarly, with reference to Broadcom's claim on attempted monopolization, the Third Circuit established that Qualcomm had acted with specific intent to obtain a monopoly in the UMTS chipset market. Several of the anticompetitive practices identified by Broadcom, moreover, allegedly lacked a legitimate business justification²⁰¹. From this perspective, the analysis developed by the Third Circuit seems to confirm the importance of proving intention in order to establish liability under section 2 of the Sherman Act.

6.2 Dell and the Inadvertent Failure to Disclose

Section 5, it has been said, outlaws unfair methods of competition and unfair or deceptive acts or practices. Deception does not require neither intention

¹⁹⁹ *Qualcomm* (n° 122), at 18.

²⁰⁰ *Qualcomm* (n° 126).

²⁰¹ See *Aspen Skiing* (n° 87), at 608 (footnote 39).

nor harm to competition²⁰². Nevertheless, the FTC's decision in *Dell* dwelled on the analysis of these elements and made some relevant points.

Unknowing Failure to Disclose

In *Dell*, the authority posed an important question: should unknowing or inadvertent failure to disclose essential IPRs be considered unlawful?²⁰³ The decision of the authority was strictly linked to the enforcement of VESA's rules and to the facts of the case, as there was evidence that Dell's failure to disclose was not inadvertent²⁰⁴.

The FTC notably argued that no general rule condemning inadvertent failure to disclose should be applied. If such a rule were in force, it would impose on the participants a regime of strict liability according to which they would put their IPRs under risks by simply joining SSOs. Under a strict liability regime, no justification for inadvertence is admitted. Firms with hundreds of employees and thousands of patents would be tempted by ignoring participation and enforcing their rights at a later stage, without facing risk of antitrust liability.

Of course, in case a company decides to take part in standard setting, the burden to search and disclose patents should be in theory placed on the patent

²⁰² *Pantron* (n° 7); and *Minuteman Press* (n° 7).

²⁰³ *Dell* (n° 15), at 625-626.

²⁰⁴ *Ibid.*

holder, as the latter is in the optimal position to determine if its IPRs read on the standard. However, an unintentional failure to disclose should not be sanctioned, also due to the relevant difficulties that search in patent portfolios may sometimes determine. In order to escape antitrust liability, there should be proof that failure to disclose was not caused by a negligent conduct, but rather by the material impossibility to search and find conflicting patents under reasonable circumstances.

Concept of Negligence

In *Dell*, it must be remembered, the dissenting Commissioner criticised the majority's arguments on intention. Besides the criticism for having failed to prove causation, the Commissioner added that the decision did not properly address the intent element. It was noted that "by finding a violation of Section 5 in the absence of any allegation of a knowing or intentional misrepresentation, the Commission effectively imposes a duty of disclosure on Dell beyond what VESA required"²⁰⁵. The Commissioner further argued that 'not inadvertent failure' did not necessarily mean intentional. "Negligence", as it was said, "is the legal characterization of conduct that seems closest to the standard of the majority"²⁰⁶. But negligence, as the Commissioner added, brought back to the

²⁰⁵ *Dell* (n° 22) at 630.

²⁰⁶ *Ibid*, at 642.

general duty of search that the majority had rejected²⁰⁷. In other words, it was held that by sanctioning negligence the authority would have admitted the existence of a generalised obligation to search and disclose essential IPRs.

Regardless of whether the issue in *Dell* concerned intent to deceive or negligence, the view of the dissenting Commissioner does not seem convincing. The concept of negligence is assessed against an objective standard, having regards usually to the circumstances and to the standard of care which would be reasonably expected of a reasonable person in similar circumstances²⁰⁸. It requires the existence of a duty, the breach of that duty, causation and harm²⁰⁹. In the context of standard setting, negligence implies a violation of a duty to identify and disclose patents. This violation, in terms of liability, cannot be compared to the infringement deriving from inadvertent behaviours, where proof is needed that firms could have not identified conflicting IPRs under reasonable circumstances.

The main question, hence, is whether a negligent conduct may be punishable in the same way as intentional deception. The answer, in my view, must be in the affirmative, in so far as both intention and negligence require (unlike inadvertent acts) a mental element: respectively, the consciousness of

²⁰⁷ *Ibid*, at 643.

²⁰⁸ See R. Posner, "A Theory of Negligence", (1972) 1 *Journal of Legal Studies* 28-96; R. Posner and W. Lande, "The Positive Economic Theory of Tort Law", (1981) 15 *Georgia Law Review* 851-924.

²⁰⁹ W.N. Hohfeld, *Fundamental Legal Conceptions* (Yale University Press, New Haven 1919) 58-59.

deceiving a standard setting body, and the acceptance of the risks deriving from non-disclosure of potentially conflicting IPRs.

A negligent conduct may arise, for instance, when a member does not arrange all the necessary available means to discover conflicting patents. In case it is shown under the 'preponderance of the evidence test' that -although the company did not have any intention to deceive- the member could have avoided harm by a diligent conduct, the firm should be considered liable under antitrust law²¹⁰.

7. Conclusion

The analysis developed in *Dell*, *Unocal*, *Rambus* and *Qualcomm* demonstrates that the Commission and the U.S. courts have been often involved in the assessment of potentially anticompetitive conduct in standardization contexts. The important function of SSOs in furthering the development of technological markets and in enhancing consumer welfare has never been underestimated. Thus, it is clear why in most of the discussed cases the courts and -despite to a minor extent- the FTC have carefully scrutinised potentially harmful behaviours. The litigation history and published decisions in these disputes may have partially contributed to advance antitrust doctrines used to challenge hold-up.

²¹⁰ J. Raz, "Responsibility and the Negligence Standard", (2010) 30(1) *Oxford Journal of Legal Theory*, 1-18.

Although in *Dell* and *Unocal* the Commission only focused on unfair competition and did not directly consider potential infringements of the Sherman Act, nevertheless the cases represented important precedents in antitrust enforcement actions brought for alleged unilateral abuse of SSOs' activities. *Dell*, in particular, represented one of the first instances of the FTC's willingness to enforce its powers under Section 5 to ban anticompetitive conduct in standard setting. The case clarified that no general duty to search and disclose patents should be deemed to exist. IPRs owners should be left free to decide whether to participate in SSOs activities. In case a firm opts for participation, then, a duty to search and disclose may only be imposed by the SSO's rules. Such a duty, on the contrary, should not be inferred under a general principle of good faith. In order to protect the IPRs owners' interests and preserve the aims of SSOs, clear written rules should be properly made known to members. Compliance with these rules should in theory work as a safe harbour.

On a different ground, SSOs' members who inadvertently fail to disclose patents ultimately covering the standard should not face antitrust liability. By condemning inadvertent failure to disclose, there could be the risk to implement a too much rigorous legal framework which would finally discourage patentees from participating in standard setting. Rather, intent and negligence are the appropriate standards under which liability may be established. Of course, the extent to which negligent or inadvertent failure to disclose IPRs

may give rise to liability under U.S. and EU laws may be another source of potential divergence between the two regimes²¹¹.

Much more complex analysis and debate were involved in *Rambus*. The conclusions finally reached by the Court seem to suggest that in future disputes SSOs and their participants will need to rely on much clearer rules in order to support legitimately their positions. However, regardless of the discussion on the meaning of the policy rules, it seems that the Commission's action failed to produce any tangible results as the approach embraced both in developing a theory of liability and in providing causation was not supported by convincing evidence. This is the reason why the conclusive analysis in *Rambus* finally led to a much different outcome in comparison with the *Qualcomm* decision. Nevertheless, the FTC's loss on appeal is not likely to reduce the level of governmental antitrust enforcement in this area.

Qualcomm, it must be recognised, similarly gave important indications on whether a patent holder's deception may be condemned under antitrust laws. The different outcome of that case may also be explained by the different regulatory environment: whereas JEDEC rules seemed complex and ambiguous, ETSI policy on disclosure and licensing commitments appeared to be clearer.

²¹¹ C.B. Hockett and R.G. Lipscomb, "Best FRANDs Forever? Standard-Setting Antitrust Enforcement in the United States and the European Union", (2009) 23(3) *Antitrust* 23.

In brief, these cases undoubtedly attest that private SSO processes can be pro-competitive and advance the promotion of consumer welfare. At the same time, however, they can facilitate SSOs' members to adopt anticompetitive conduct, especially when implementing FRAND/RAND terms. Deceptive behaviours in a consensus-driven standard setting environment, consisting of abuses of administrative or judicial processes, may result in antitrust violations and harm the competitive process. SSOs' members should therefore consider carefully their business strategy, as they may risk to be sanctioned under the Sherman Act or FTC Act. A firm owning patents over a technology may face liability when, although disclosing its relevant rights, it finally breaches the subscribed licensing terms. This behaviour may seriously harm the competitive process no less than deceptive non-disclosure (ambush) of IPRs, and could be consequently held enforceable anticompetitive practice. In all events, any assessment of conduct should balance the interests of IPRs owners with the objectives of standard setting bodies. The elements of intent, causation and effects, therefore, should be properly scrutinised under a test which optimally reflects the need to overcome this tension.

Finally, from the analysis of the U.S. case law on standard setting, it is clear that FRAND/RAND policies cannot represent an efficient solution. In order to overcome the risks -lengthy litigation and bottleneck of the activities- deriving from this licensing model and ensure a more transparent and fair process, a different regime should be implemented as a more workable framework.

Chapter VI “The EU Approach in the Standards - Market Power Dichotomy”

1. Introduction

The EU background in standardization clearly differs from the experience developed in the United States. The U.S. standard setting environment has evolved sooner and more rapidly. Both the U.S. literature and case law have heavily contributed -sometimes controversially- to identify the main issues related to standards. In the EU, instead, until a few years ago the interaction between IPRs, standards and competition was an area known to a group of legal specialists only¹. This notwithstanding, it seems important to delve also into the experience developed at the Union level, albeit more limited and recent.

The comparative analysis does reveal interesting features, as it reflects the divergent approaches adopted towards dominance abuse. In this context, several questions could be raised. For instance, it could be questioned why Rambus's arguments supporting the legitimacy of its conduct were assessed by the U.S. Court of Appeals and the EU Commission in different ways. Which is the approach that better reflects the optimal goal of competition? Whereas the U.S. courts, inspired by a more liberalist policy, tended to develop a more flexible analysis, the EU counterparts, more in line with an interventionist approach,

¹ S. Sattler, “Standardization under EU competition rules – the Commission’s new horizontal guidelines”, (2011) 32(7) *European Competition Law Review* 343.

have expressed higher concerns for abuses in the standard setting environment. Further interesting considerations could be inferred from the analysis of the Commission's approach in *Qualcomm*, with specific reference to the legitimacy of high pricing behaviours of IPRs owners. The bedrock for the analysis of these claims is Article 102 TFEU, which is the primary vehicle in addressing hold-up cases in the EU.

Besides considering the EU case law on standard setting, the chapter will also take into account the content and scope of the 'Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements'². The document highlights the position of the Commission on various issues related to standards: from the function of standard setting, to the anticompetitive risks which may potentially arise in the context of standardization agreements. In addition, a further relevant topic concerns the meaning and role of FRAND commitments as interpreted by the authority.

The analysis of the Guidelines and of the case law (structured on the duality *Rambus* – *Qualcomm*)³ will ultimately help in understanding whether the EU Commission addressed the problems arising in standard setting more effectively than the U.S. counterparts. On a further ground, it will also lead to identify those questions which remain still unanswered.

² European Commission, "Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements", [2011] O.J. C 11/1.

³ Case COMP/38.636 *Rambus* [2010] O.J. C 30; Case n° 39247 *Texas Instruments v Qualcomm* [2009].

2. Legal Framework

In order to understand the approach developed by the Commission in the appraisal of standard setting disputes, it is necessary to examine briefly the relevant legal framework. Article 102 TFEU is the legal provision to be enforced in case of abuses by dominant firms. A dominant position has been defined as a

“position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by giving it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of the consumers”⁴.

The concept of abuse has been defined by the Court of Justice as

“an objective concept relating to the behaviour of an undertaking in a dominant position which is such as to influence the structure of a market where, as a result of the very presence of the undertaking in question, the degree of competition is weakened and which, through recourse to methods different from those which condition normal competition [...], has the effect of hindering the maintenance of the degree of competition still existing in the market or growth of that competition”⁵.

⁴ See Case 27/76 *United Brands v European Commission* [1978] E.C.R. 207, at 65; and Case 85/76 *Hoffmann-La Roche v European Commission* [1979] E.C.R. 461, at 38.

⁵ Case 322/81 *Michelin v European Commission* [1983] E.C.R. 3471, at 70; and Case C-62/86 *AKZO v European Commission* [1991] E.C.R. I-3359, at 69.

It is out of the scope of this work to explore thoroughly the doctrinal and normative debate on the concepts of dominance and abuse⁶. It suffices here to say that Article 102 TFEU can be considered as the corresponding provision to section 2 of the Sherman Act, although it has a wider scope. Indeed, Article 102 does not only ban those behaviours which aim at preventing restricting or distorting competition (exclusionary conduct)⁷. It does also capture those abuses which lead to obtain an unlawful advantage regardless of the competitive structure of the market (exploitative practices). This seems to be one of the main differences between the U.S. and the EU legal frameworks. A typical example of an exploitative conduct consists in charging excessive prices to final consumers, where the price has no relation with its real economic value. Charging high prices does not usually have any negative effects on the competitive process. Rather, it could encourage other undertakings to enter the market and contribute to the development of dynamic competition in the long run. Nevertheless, it has been identified as a form of abuse in a number of cases⁸. The aim of including also this conduct under the prohibition of Article 102 might be perhaps one of the reasons why the Treaty of Rome did not make any reference in the text of the

⁶ On the issue, see R. Nazzini, *The Foundations of European Union Competition Law – The Objective and Principles of Article 102* (Oxford University Press, New York 2011).

⁷ See J. Temple Lang, "Fundamental Issues Concerning Abuse under Article 82 EC", (Annual Competition Policy Conference Regulatory Policy Institute Oxford - July 2005, available at: www.rpieurope.org/2005_Conference/Temple_Lang_Abuse_under_article_82EC.pdf).

⁸ Case 27/76 *United Brands v European Commission* [1978] E.C.R. 207; Case 26/75 *General Motors v European Commission* [1975] E.C.R. 1367; Case 30/87 *Bodson v Pompes Funebres* [1988] E.C.R. 2479; Case 226/84 *British Leyland v European Commission* [1986] E.C.R. 3263.

provision to 'an object or effect of restricting competition'⁹. However, there is still debate on the opportunity to consider this type of practice abusive, and the scarce number of related cases decided by the Commission and the EU courts does not clear the uncertainty arisen¹⁰.

Another relevant difference between the EU and the U.S. antitrust frameworks lies on the fact that Article 102, unlike section 2 of the Sherman Act, does not provide for the attempt to monopolize. This feature has led some commentators to argue that patent ambush should not be considered unlawful under EU competition law¹¹. Also the alleged irrelevance of intent in the enforcement of Article 102 TFEU may mark a significant difference.

Besides Article 102, the second provision deserving close scrutiny is Article 101 TFEU, which addresses anticompetitive agreements and concerted practices¹². Albeit not applicable to *Rambus* and *Qualcomm*, it has been appraised by the Commission as potentially enforceable also in standard setting contexts.

⁹ D. Sinclair, "Abuse of dominance at a crossroads - potential effect, object and appreciability under Article 82 EC", (2004) 25(8) *European Competition Law Review* 492.

¹⁰ See D. Geradin, "Pricing Abuses by Essential Patent Holders in a Standard-Setting Context: a View from Europe", (2009-2010) 76 *Antitrust Law Journal*; and D. Geradin and M. Rato, "Can Standard Setting Lead to Exploitative Abuse? A Dissonant View on Patent Hold-Up, Royalty Stacking and the Meaning of Frand", (2007) 3 *European Competition Journal* 101.

¹¹ *Ibid.*

¹² See C. Townley, *Article 81 EC and Public Policy* (Hart Publishing, Oxford 2009).

3. Patent Ambush and *Rambus*

The conduct of the microchip designer Rambus, besides drawing the attention of U.S. courts and authorities, has been scrutinised also on the other side of the Atlantic. The European Commission opened investigation against the U.S. firm, giving rise to the first case of patent ambush in the EU¹³. The intervention was justified as “Rambus is active worldwide, has obtained patent protection for the relevant technologies in Europe and it is enforcing its patents against companies applying the relevant standards in Europe”¹⁴. As the Commission argued, the firms allegedly damaged by Rambus’s conduct could have not always sought relief on the basis of a U.S. decision¹⁵. Hence, action by the EU enforcer was considered appropriate.

The next sections will focus on the analysis of the Commission’s line of reasoning. Due to the final acceptance of Rambus’s commitments, the case was closed without the adoption of a formal decision. As a consequence, only the arguments emerging from the ‘commitment decision’ will be examined. The conclusions will lead to clarify whether the Commission struck an optimal balance in the assessment of the conduct or whether its approach was rather faulty.

¹³ Case COMP/38.636 *Rambus* [2010] O.J. C 30.

¹⁴ European Commission, “Antitrust: Commission confirms sending a Statement of Objections to Rambus”, (23/08/2007) Press Release MEMO/07/330.

¹⁵ *Ibid.* At the time of the EU Commission’s investigation, the U.S. Court of Appeals for the D.C. Circuit had not yet adopted its final decision on the *Rambus* case (see Chapter V section 3.1.3).

3.1 Policy Principles and Abusive Conduct

In the course of 2007, the EU Commission sent a Statement of Objections¹⁶ to Rambus for having abused its dominant position by claiming unreasonable fees for the use of its technology¹⁷. Investigations had started following a joint complaint¹⁸ lodged by two companies, Infineon and Hynix¹⁹. A complete history of the case is well beyond the scope of this section, as the facts have been already detailed in Chapter V²⁰.

Here, it is worth focusing only on the main legal features emerging from *Rambus*, so as to appraise properly the line of reasoning developed by the Commission. These features concerned the content and clarity of JEDEC policy, the alleged existence of a good faith duty, and the abusive conduct of Rambus²¹.

¹⁶ Through this formal step, the Commission informs the parties subject to an investigation of the objections raised against them. Sending a Statement of Objections does not prejudge the final outcome, as the Commission may still decide to close proceedings without a formal decision.

¹⁷ European Commission, "Antitrust: Commission confirms sending a Statement of Objections to Rambus", (23/08/2007) Press Release MEMO/07/330.

¹⁸ See Article 3 of EEC Council Regulation n. 17/62, [1962] O.J. 13/204.

¹⁹ However, in 2005, Infineon withdrew its complaint as a result of patent litigation settlement.

²⁰ See Chapter V section 3.1.3.

²¹ As the Statement of Objections has not been published, the analysis of the Commission's reasoning will be based mainly on the arguments emerging from the mentioned Press Release.

3.1.1 JEDEC Policy and the Duty of Good Faith

Firstly, it seems important to highlight one more time the primary goal pursued by JEDEC²². JEDEC had a policy of open standards, promoting those freely available to all industry members or not subject to excessive and unreasonable licensing terms²³. This means that JEDEC did not consider only free technologies, but left open also the possibility to implement standards subjected to RAND fees.

In *Rambus*, it is well known, the problem lied on the clarity and awareness of the policy by the members. Indeed, it seems that JEDEC principles had not been properly revealed and explained to the participants. Furthermore, JEDEC language on disclosure policy had been interpreted as broad and amorphous²⁴. This view, supported by different U.S. courts, was not endorsed by the Commission, which did not doubt the clarity of the rules. In addition, it seems that the EU competition enforcer also relied on the existence of a general covenant of good faith to which SSOs' members would be subjected. Such a duty would impose an obligation of fair dealing towards the other members in identifying and disclosing essential rights, regardless of the letter of the policy.

However, the effectiveness of a general duty of good faith is doubtful. It is true that standards institutes must rely on a high level of cooperation

²² JEDEC Manual of Organization and Procedure, JM21-P § 1.1 (2010).

²³ See Chapter V section 3.1.3.1.

²⁴ See *Rambus v Infineon Technologies*, 318 F.3d 1097 (C. App. Federal Circuit, 2003).

between the participants in order to develop their projects. It is also true that Rambus, in the specific case, might have presumed its disclosure obligations. This notwithstanding, the first step to ensure the fairness and transparency of a standard setting process should be based on the enforcement of robust regulations. An ambiguous policy, instead, may mislead the SSOs' members as to the exact duties they are expected to fulfil. It may further discourage participation to SSOs activities from the industry concerned²⁵.

In light of these arguments, it seems that the Commission undervalued the importance of clear policy rules for SSOs. Even in case a general good faith covenant was admitted in standardization, this should not replace the need for robust guidelines. This means that the general expectations of the members should be based on clear and strong regulations, rather than on the existence of a good faith duty alone. This approach seems to define better the right balance between the interests of IPRs owners and the objectives of SSOs.

3.1.2 Relevant Market and Conduct

Besides the content and scope of JEDEC policy, the second issue deserving due attention concerned Rambus's conduct. Rambus, it has been said, designed manufactured and licensed DRAM and synchronous DRAM (SDRAM) chips, widely used by the IT industry. DRAM technologies, therefore, defined the

²⁵ See Chapter V section 3.1.3.

boundaries of the relevant product market, which had a global geographical scope. The DRAM technologies market, in particular, had to be distinguished from the final product market. As established by the 'Technology Transfer Regulation', indeed, the relevant technology market includes "technologies which are regarded by the licensees as interchangeable with or substitutable for the licensed technology, by reason of their technologies' characteristics, their royalties and their intended use"²⁶.

The complainants had alleged that Rambus had implemented a deceitful behaviour aimed at obtaining exorbitant fees from all DRAM chips manufacturers²⁷. Such a conduct consisted in the concealment of its relevant patents, in breach of JEDEC policy which promoted disclosure of both pending and issued IPRs covering the standard. Rambus, it was explained, had implemented this unfair strategy after having failed to persuade the industry to develop the company's technology (the RDRAM architecture) as *de facto* standard²⁸. In order to capture JEDEC specifications, the U.S. chip designer was secretly amending its patent claims hand in hand with the SSO's works. After the adoption of the standard, the industry had found itself locked-in, as it was not commercially viable to design, manufacture and sell alternative

²⁶ See Article 1 of the 'Commission Regulation (EC) n. 772/2004 on the Application of Article 81(3) of the Treaty to Categories of Technology Transfer Agreements', [2004] O.J. L 123.

²⁷ See the European Commission's 'Rejection Decision' addressed to Hynix (SG-Greffé (2010) D/275 C (2010) 150, Bruxelles 15/01/2010), at 3.

²⁸ *Ibid*, at 4.

technologies²⁹. Rambus was deemed to have abused its dominant position and have infringed Article 102 TFEU by hindering the SSO process and by subsequently charging excessive prices³⁰. The conduct was interpreted not only as exploitative but also as exclusionary, due to the alleged exclusion of potential alternatives to the standard ultimately adopted.

The complainants' position recalled the principle that "exercise of an exclusive right by the owner may, in exceptional circumstances, involve abusive conduct"³¹. A dominant firm, it is well-known, cannot be deprived of the right to protect its own commercial interests. However, the behaviour cannot be allowed when its actual purpose is to strengthen the dominant position and abuse it³². This principle was considered applicable to Rambus's strategy and to its attempt to obtain legal protection for the over-exploitation of its rights. The complainants' arguments could be in theory reconciled also with the view expressed in *ITT Promedia*³³ by the Court of First Instance. The latter held that "as access to the Court is a fundamental right [...], it is only in wholly exceptional circumstances that the fact that legal proceedings are brought is capable of

²⁹ The process of developing a standard usually entails different costs, related to: a) engineering and design work; b) prototype manufacturing and testing; c) provision of infrastructure for production; and d) marketing burden.

³⁰ Rambus had demanded royalties amounting to 0.75% and 3.5% of the price of SDRAM and DDR (Double Data Rate) chips respectively.

³¹ See Case C-418/01 *IMS Health GmbH v NDC Health GmbH* [2004] 4 C.M.L.R. 28, at 35.

³² Case 27/76 *United Brands v European Commission* [1978] E.C.R. 207, at 189.

³³ Case T-111/96 *ITT Promedia NV v European Commission* [1998] E.C.R. II-2937.

constituting an abuse of a dominant position”³⁴. In this case, the exceptional circumstances were identified in the fact that Rambus’s intention was to take advantage of its position and extract exorbitant fees.

On the other side of the spectrum, Rambus contested both the dominant position and the alleged abuse of it³⁵. In the attempt to legitimize Rambus’s conduct, some authors even noted that the EU competition framework (unlike U.S. antitrust law) does not prohibit the attempt to monopolize³⁶. Members withholding rights in the standard setting context cannot be said to be in a dominant position yet. IPRs alone do not confer such a status. Only after the adoption of the standard by the SSO and the subsequent implementation by the industry, the IPRs owner may be held dominant in the market of the standardised technology³⁷. Absent a dominant position, as the argument goes, failure to disclose alone cannot be interpreted as abusive. Hence, any exclusionary effects deriving from the conduct should not be appraised under Article 102. This position could be further reconciled with the view that challenged the very existence of exclusionary effects. Indeed, as confirmed by the U.S. jurisprudence, it was not certain that JEDEC would have opted for

³⁴ *Ibid*, at 60.

³⁵ This is the approach emerging from Rambus’s commitments, described in the next section.

³⁶ D. Geradin and M. Rato (n° 10) 160.

³⁷ D. Geradin (n° 10) 329.

alternatives had it known about the existence of Rambus's IPRs³⁸. However, even in case of no exclusion, it is undoubted that the conduct might still be deemed unlawful under EU competition law, as it could be theoretically interpreted as an exploitative practice. Although it is debatable whether charging excessive prices should fall under the competition law scrutiny, the behaviour still meets all the requirements for being captured by the spirit of Article 102(a)³⁹.

3.1.3 Assessment of the Conduct

In the Statement of Objections, the Commission expressed the view that Rambus had infringed Article 102 TFEU by claiming unreasonable royalties for the license of its rights covering DRAMS chips⁴⁰. Similarly to the approach developed by the FTC in the United States, the EU enforcer provisionally argued that the company had implemented a patent ambush, aimed at extracting exorbitant fees to the detriment of the industry concerned. As the authority held, although Rambus was aware of JEDEC disclosure duties, it had deliberately breached them⁴¹. It had further misled the SSO as to its relevant IPRs,

³⁸ In the United States, indeed, the FTC and the Court of Appeals had not excluded that JEDEC could have adopted Rambus's technology in any event (see Chapter V section 3.1.3).

³⁹ Cf. M. Glader and S. Chabert Larsen, "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", (2005) *Competition Law Insight* 3.

⁴⁰ European Commission, "Antitrust: Commission confirms sending a Statement of Objections to Rambus", (23/08/2007) Press Release MEMO/07/330.

⁴¹ European Commission's 'Commitment Decision' in Case COMP/38.636 *Rambus*, at 41 (available: www.ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=1_38636).

jeopardizing the whole standardization process⁴². Without the misleading conduct, Rambus would have not been able to charge the price demanded. In the Commission's view, indeed, JEDEC members would have preferred to implement free standards and would have consequently opted for any alternative technologies. With this regards, the Commission considered the alternatives as free, commercially and technically feasible⁴³.

In developing a theory of culpability, it is also likely that the Commission took into account both Articles 102(a) and 102(b) TFEU. The former, it is well-known, addresses unfair purchase or selling prices or other unfair trading conditions. The latter prohibits those practices by dominant firms which lead to limit production, markets, or technical development to the prejudice of the consumers. Rambus's behaviour may have been charged under both these provisions, as the application of exorbitant fees had also the effect of hindering the SSO process, to the ultimate detriment of consumer welfare. Perhaps, the choice to enforce Article 102(b) might appear all the more appropriate, due to the recognized doubts on the suitability of antitrust in assessing high pricing conduct. The letter of this provision, in addition, does not explicitly refer to an

⁴² During participation to JEDEC activities, Rambus had only disclosed the existence of one patent (the so-called '703' patent) which was not covering the standard. This gave JEDEC members the impression that Rambus was complying with the SSO's rules.

⁴³ European Commission's 'Rejection Decision' (SG-Greffé (2010) D/275 C (2010) 150, Bruxelles 15/01/2010), at 48.

exclusionary effect. As a consequence, it would have been easier to enforce in *Rambus*, due to the uncertainty on the existence of exclusion.

On a further different ground, it could be questioned whether the EU enforcer would have adopted the same restrictive approach even in case it would have found no formal breach of JEDEC policy. In this regard, the answer could be in the affirmative, as the Commission interpreted Rambus's intentional deception as also in breach of a general good faith duty⁴⁴. Thus, its misleading conduct would have been probably banned under all circumstances, regardless of the letter of the rules. The position of the Commission should be read in light of its past Communication on 'Intellectual Property and Standardization'⁴⁵. In that context, the authority had argued that innovators would act in bad faith when, although being aware of a conflict between their rights and standards, they did not reveal the existence of these IPRs until after the selection process. This strategy, it was observed, would force competitors to accept the payment of fees higher than those which could have been obtained at an earlier stage⁴⁶.

⁴⁴ European Commission, 'Commitment Decision' in Case COMP/38.636 *Rambus*, at 39. On the role of intent in the EU, see A. Bavasso, "The role of intent under Article 82 EC: from flushing the turkeys to spotting the lionesses in Regent's Park", (2005) 26(11) *European Competition Law Review*.

⁴⁵ European Commission, "Intellectual Property Rights and Standardization", (Communication) COM 445 final, 27 October 1992.

⁴⁶ *Ibid*, at 4.2.1 and 4.4.1.

3.1.4 Commitments

From a procedural perspective, in case of breach of Article 102 TFEU, the EU authority may require by decision that the company concerned brings such violation to an end⁴⁷. The decision may include an order to “do certain acts or provide certain advantages which have been wrongfully withheld, as well as prohibiting the continuation of certain action, practices or situations which are contrary to the Treaty”⁴⁸. The Commission may then enjoin a dominant firm to refrain from implementing any measures which may lead to effects similar to those of the abusive conduct⁴⁹. In any case, the remedy must be proportional to the identified infringement and must match its nature⁵⁰.

In *Rambus*, however, no formal decision establishing an infringement was eventually adopted, as the company had agreed to undertake commitments. In the Statement of Objections, the Commission concluded that Rambus should have remedied to the conduct by charging reasonable and non-discriminatory (RAND) fees for the use of its patents. The related amount should have been determined in accordance to all the circumstances of the case⁵¹. To this

⁴⁷ See Article 3 of the Council Regulation n° 1/2003, [2003] O.J. L 1/1.

⁴⁸ Joined Cases 6/73 and 7/73 *Commercial Solvents v European Commission* [1974] E.C.R. 223, at 45.

⁴⁹ Case T-83/91 *Tetra Pak v European Commission* (Tetra Pak II) [1993] E.C.R. II-755, at 220.

⁵⁰ Joined Cases C-241/91 and C-242/91 *P Radio Telefis Eireann & Independent Television Publications v European Commission* [1995] 4 C.M.L.R. 718, at 93.

⁵¹ European Commission, “Antitrust: Commission confirms sending a Statement of Objections to Rambus”, (23/08/2007) Press Release MEMO/07/330.

end, the EU Commission invited Rambus to disclose its interpretation of RAND royalties.

Rambus offered all market participants two sets of worldwide license grants, one for DRAMs technologies and one for memory controllers⁵². Firstly, it agreed to waive royalties for those DRAMs chips which were developed while it was a JEDEC member⁵³. As to the later developments of DRAMs (those developed after its withdrawal from JEDEC), it committed to license under a maximum fee⁵⁴. Also with respect to memory controllers, then, Rambus agreed to charge a variable fee within a fixed maximum rate⁵⁵. These commitments were submitted by Rambus under Article 9 of Regulation 1/2003 in order to meet the Commission's competition concerns⁵⁶.

This does not mean, however, that the U.S. chip designer had agreed with the authority's preliminary assessment of the factual and legal elements. The obligations were only interpreted by Rambus as aimed "to provide a clear

⁵² Memory controllers are integrated circuits capable of controlling DRAM memory devices.

⁵³ These were the SDRAM and DDR (Double Data Rate) technologies.

⁵⁴ The fee amounted to 1.5% per unit of selling price. These later developments included DDR2, DDR3, GDDR3 and GDDR4 DRAMs chips.

⁵⁵ The SDR (Single Data Rate) memory controller fees were between 1% and 1.5% per unit of selling price. For all controllers using later generations of DRAMs, the royalties varied between 2% and 2.65% per unit of selling price. The maximum rate set by Rambus amounted to \$ 20.

⁵⁶ Council Regulation n° 1/2003, [2003] O.J. L 1/1.

licensing structure at attractive rates for the next five years"⁵⁷. They were designed "to create a platform that will enable all sides to put aside their past differences and move towards a future environment where the industry resolves patent questions via licensing discussions rather than costly litigation"⁵⁸.

In assessing Rambus's licensing plan, the Commission first highlighted the importance of effective SSO processes for technical development. It further remarked the need for standards developed through non-discriminatory, open and transparent procedures to safeguard against anticompetitive outcomes and enhance consumer welfare⁵⁹. Rambus's conduct had undermined the development of a genuine and undistorted process, putting at risk the industry's confidence in the work of SSOs. Nonetheless, the commitments were deemed appropriate and adequate to address the competition concerns and to provide potential new entrants for a clear perspective on royalty costs⁶⁰. The industry, in other words, would have had in the disclosed rates a clear price benchmark. For these reasons, the commitments were eventually accepted⁶¹.

⁵⁷ See the final version of the 'Commitments' submitted by Rambus on 9 December 2009, available at http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=1_38636.

⁵⁸ *Ibid.* However, commitments were not conditional upon third parties settling patent litigation.

⁵⁹ Summary of Commission Decision in Case COMP/38.636 *Rambus* [2010] O.J. C 30/17, at 3.

⁶⁰ European Commission's 'Commitment Decision' in Case COMP/38.636 *Rambus*, at 55.

⁶¹ As to the FTC's decision on remedies, see Chapter V section 3.1.3.3.

3.1.5 Lessons from *Rambus*

The analysis of Rambus's conduct by the European Commission highlighted some important elements, concerning: a) the function of standards; b) the role of policy rules; c) the legal approach developed to tackle the abusive conduct; and d) the possibility to quantify FRAND/RAND terms.

As to the first point, the Commission has importantly recognised the role that standards play for technical development and dynamic efficiency. Standards promote economic interpenetration on the internal market, encourage development of new markets and improved supply conditions⁶². They tend to encourage competition, lower output and sales costs, promote interoperability, enhance product quality and provide information⁶³. Of course, in order to implement an effective standardization process, standards need to be developed through open, transparent and non-discriminatory procedures⁶⁴. Furthermore, in the European Commission's position, the adoption of one standard over another must be justifiable, both in terms of quality and costs⁶⁵. These considerations reflect the same views of the U.S. authorities and courts on the importance of effective standardization.

⁶² European Commission, "Guidelines on the Applicability of Article 81 of the EC Treaty to Horizontal Co-operation Agreements" [2001] O.J. C 3, at 169.

⁶³ European Commission, "The Role of European Standardization in the Framework of European Policies and Legislation", (Communication) COM 674 final, 18 October 2004.

⁶⁴ European Commission, "Guidelines on the Applicability of Article 81 of the EC Treaty to Horizontal Co-operation Agreements" [2001] O.J. C 3.

⁶⁵ *Ibid*, at 171.

More controversial, instead, was the well-known issue on the clarity of JEDEC policy. On the one hand, both the FTC in the U.S. and the Commission in the EU seem to have interpreted such rules as clear and properly disclosed. In addition, they relied on the existence of a general good faith duty that would apply to all members of SSOs. On the other, the U.S. Court of Appeals raised several doubts on the clarity of JEDEC policy and on the effectiveness of such a general covenant⁶⁶. The position of the Court seems undoubtedly more persuasive, mainly in light of the need to establish robust policy regulations and avoid misunderstandings on the members' duties.

The interpretation of JEDEC policy, then, necessarily recalls the legal approach adopted in the analysis of Rambus's behaviour. In this context, the EU Commission seems to have considered the company's conduct as both exploitative and exclusionary. However, as I have argued, the existence of exclusionary effects was not certain, due to the possibility that JEDEC could have adopted Rambus's technology in any event. This consideration explains why Rambus finally escaped antitrust liability in the U.S., where the Sherman Act requires harm to competitors as a condition for its enforcement. Nevertheless, the EU Commission could still legitimately appraise the conduct as an exploitative practice under Article 102 TFEU. To this end, as explained above, the enforcement of Article 102(b) might appear more appropriate, in light of the difficulties which may arise in interpreting price levels.

⁶⁶ See *Rambus v F.T.C.*, 522 F.3d 456 (C. App. D.C. Circuit, 2008).

However, it is likely that the Commission in the Statement of Objections considered the conduct also under Article 102(a), which bans excessive pricing. Such position may be confirmed by the fact that the authority required Rambus to remedy by charging reasonable fees, the amount of which should have been determined in accordance to the circumstances of the case. In other words, Rambus's royalties were deemed excessive. This further meant, in the authority's opinion, that the concept of FRAND/RAND could have been quantified. As a consequence, the U.S. chip designer finally proposed a set of licensing fees within a determined price range.

The possibility to determine the meaning of FRAND/RAND royalties is certainly one of the most interesting issues emerging from this case. However, two considerations should be made. Firstly, as observed in the course of the work, the concept of fair and reasonable is not an absolute one; hence, what the Commission may have interpreted as fair and reasonable could be defined by another court or authority as still unfair or unreasonable. Secondly, even admitting the possibility to quantify FRAND/RAND terms on a case by case basis, it is plausible that an agreement on such a meaning could only be reached after litigation. But litigation has negative effects on standardization, due to the implied costs and delays in innovation. Thus, in conclusion, the attempt to define fair and reasonable cannot be supported. The FRAND/RAND notion is a failed concept, which is likely to give rise to disputes on its very meaning to the ultimate detriment of the whole standard setting process.

4. Qualcomm and the Breach of FRAND Terms

The EU experience with standard setting and potential competition infringements is not limited to *Rambus*. Indeed, the Commission initiated proceedings also against Qualcomm⁶⁷, active in the market of mobile phones with IPRs covering both the CDMA and WCDMA standards⁶⁸. The EU investigation on Qualcomm's conduct followed the proceedings against the firm started by U.S. courts for the same behaviour, and already scrutinised in Chapter V⁶⁹. However, due to the differences of legal framework and enforcement mechanism between the EU and U.S. systems, it is relevant to examine also how the Commission tried to approach the dispute.

4.1 'FRAND(ly)' Licensing or Exploitation?

In the course of 2007, the EU enforcer decided to start investigations against Qualcomm for an alleged infringement of Article 102 TFEU⁷⁰, after complaints lodged by six mobile phone and chipset manufacturers⁷¹. Similarly to what held

⁶⁷ See Case n° 39247 *Texas Instruments v Qualcomm* [2009]; and European Commission, "Antitrust: Commission initiates formal proceedings against Qualcomm", (01/10/2007) Press Release MEMO/07/389.

⁶⁸ CDMA and WCDMA respectively stand for 'Code Division Multiple Access' and 'Wide-Band CDMA'. WCDMA standard forms part of the 3G (third generation) EU phone mobile technology.

⁶⁹ See Chapter V section 3.2.1.

⁷⁰ The legal base of this procedural step is Article 2 of Commission Regulation n° 773/2004. Article 2 provides that the Commission may initiate proceedings with a view to adopting at a later stage a decision on substance at any point in time, but at the latest when issuing a Statement of Objections or a preliminary assessment notice in a settlement procedure.

⁷¹ These were Ericsson, Nokia, Texas Instruments, Broadcom, NEC and Panasonic.

by Broadcom in the U.S.⁷², the complainants had alleged that Qualcomm's licensing practices for the WCDMA standard were not fair reasonable and non-discriminatory (FRAND) and were in breach of EU competition law. In this context, the complainants had alleged that charging non-FRAND royalties, in violation of the duty undertaken under the SSO (ETSI) policy, could have led to higher handset prices for consumers, a slower development of the third generation standard for mobile phone technology, and negative effects also for the development of the future fourth generation standard⁷³.

The investigation, therefore, did not concern patent ambush, as Qualcomm had disclosed all its relevant IPRs. It was rather focused on the level of royalties charged by the company and on the risk that Qualcomm could have gained extra power as a result of its technology incorporated in the standard. As the EU authority held, "a finding of exploitative practices by Qualcomm in the WCDMA licensing market contrary to Article 82 of the EC Treaty may depend on whether the licensing terms imposed by Qualcomm are in breach of its FRAND commitment"⁷⁴. This means that the Commission was interested in understanding whether Qualcomm was dominant in the relevant market and whether it had exploited its position by charging unreasonably high prices.

⁷² *Broadcom v Qualcomm*, 501 F.3d 297 (C. App. 3rd Circuit, 2007).

⁷³ These allegations were also at the basis of further investigations against Qualcomm led, *inter alia*, by the Korean Fair Trade Commission (KFTC) and Japan Fair Trade Commission (JFTC).

⁷⁴ European Commission, "Commission Initiates Formal Proceedings against Qualcomm", (1 October 2007) Press Release MEMO/07/389.

Furthermore, the concerns of the Commission were also based on the company's price discrimination strategy. Qualcomm, indeed, was excluding competitors by giving discounts for exclusive customers of its mobile phone chipsets. These practices could discourage firms to participate in SSOs and consequently jeopardize the innovative effort within standards⁷⁵.

However, Qualcomm eventually signed mutual agreements with all the complainants and settled the dispute⁷⁶. This fact prompted the authority to close the investigation, at a time when it had not yet reached any formal conclusions. This further means that the case did not ultimately lead to discuss FRAND criteria, including the numeric proportionality rule proposed by the complainants⁷⁷. Therefore, *Qualcomm* probably represented a missed opportunity for those authors still supporting the possibility to define fair reasonable and non-discriminatory terms⁷⁸. Nevertheless, the case is relevant as it highlighted the EU Commission's interventionist approach towards high pricing and discriminatory conduct, especially in those sectors which are key to enhance innovation and welfare.

⁷⁵ A. Chronopoulos, "Patenting standards - a case for US antitrust law or a call for recognizing immanent public policy limitations to the exploitation rights conferred by the Patent Act?", (2009) 40(7) *International Review of Intellectual Property and Competition Law* 790.

⁷⁶ The worldwide litigation between Qualcomm and Broadcom, for instance, was settled in 2009 under condition that the former would pay Broadcom \$ 891 million over four years.

⁷⁷ S. Sattler (n° 1) 347. On the concept of numeric proportionality, see Chapter III section 3.3.3.1.

⁷⁸ See A. Layne Farrar, "Non discriminatory pricing: is standard setting different?", (2010) 6(4) *Journal of Competition Law and Economics* 812.

5. Guidelines on Horizontal Co-operation Agreements

As *Qualcomm* and *Rambus* attested, the EU experience in standard setting is rather limited and not comparable to the U.S. background. The procedural dynamics of these cases did not allow defining in depth a well-established EU practice in tackling the risks related to standards. In order to gain a clearer insight, it seems then relevant to examine also the content and goals of the Commission's 'Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements', albeit not a binding legislative act⁷⁹.

The latter set out the principles for the assessment under Article 101 TFEU of agreements relating to horizontal co-operation between competing undertakings and between non-competitors. The Guidelines look at the economic benefits deriving from horizontal co-operation, in terms of risk sharing, cost savings, investment incentives and welfare enhancement. At the same time, they identify the potential anticompetitive risks related to these agreements, from price fixing to output reduction and market sharing⁸⁰.

Among the most common types of horizontal co-operation⁸¹, the Guidelines scrutinize the activities of standard setting organizations. In particular, they

⁷⁹ European Commission, "Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements", [2011] O.J. C 11/1. The document replaced the 2001 version ("Guidelines on the Applicability of Article 81 EC to Horizontal Co-operation Agreements" [2001] O.J. C 3/2), which was considered as too broad to offer effective guidance for SSOs and other stakeholders.

⁸⁰ *Ibid*, at 2-3.

⁸¹ E.g., R&D, production, purchasing and commercialization agreements.

appraise the function of standards, identify the markets potentially concerned and analyse the risks standardization may raise. To this end, they apply both legal and economic criteria, based on the assessment of market structure and market shares. Furthermore, the Guidelines highlight the Commission's position on the well-known dispute concerning FRAND terms. In this context, they review the possibility to determine the meaning of fair reasonable and non-discriminatory conditions. This is certainly a crucial point for standard setting processes, as several organizations have implemented FRAND/RAND terms⁸². This notwithstanding, it is not clear which interpretative criterion should ultimately prevail.

5.1 Standardization Agreements

First, the Guidelines give an invaluable insight on the crucial role of standardization agreements, focused on the "definition of technical or quality requirements with which current or future products, production processes, services or methods may comply"⁸³. Standardization, it is observed, is key to economic interpenetration on the internal market and to the development of new and improved products markets and supply conditions⁸⁴. It can take

⁸² For instance, ETSI, OASIS and IEEE usually refer to FRAND commitments. IETF, IEC, ITU and ISO consider instead RAND licensing policies.

⁸³ European Commission, "Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements", [2011] O.J. C 11/1, at 257.

⁸⁴ *Ibid*, at 263.

different forms, depending on the parties involved: from national or European organizations, to private *consortia* and independent firms⁸⁵.

As to the effects, then, four markets are seen as potentially affected by standard setting activities: i) the product or service market to which the standard relates; ii) the relevant technology market, in case IPRs covering the standard are marketed separately; iii) the market for standard setting, in case different SSOs or agreements exist; and iv) where relevant, a distinct market for testing and certification⁸⁶. In these markets, the Guidelines note that standard setting may raise competition law concerns, both in case of agreements between undertakings and agreements within a standard setting institute⁸⁷. At the same time, however, standardization may also lead to efficiency gains. Therefore, two different types of assessment are considered, under Article 101(1) and Article 101(3) TFEU.

In the next subsections, I will delve into the approach developed by the Commission to tackle the anticompetitive effects arising from standard setting. As a premise to the issue, I will first examine the core policy principles emerging from the Guidelines. Due regard will also be given to the authority's position on the meaning of fair reasonable and non-discriminatory terms.

⁸⁵ On the possible forms of standardization, see Chapter III section 3.

⁸⁶ European Commission, "Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements", [2011] O.J. C 11/1, at 261.

⁸⁷ *Ibid*, at 258.

5.1.1 Core Policy Principles

The analysis of the Guidelines leads to identify some basic principles which are seen as the core of effective policies and which may constitute 'safe harbours'. As recognised by the Commission, there exist different competing models of standard setting which can be freely adopted by SSOs. The latter, however, must implement rules and procedures that do not infringe competition law⁸⁸. To this end, it is essential to ensure unrestricted participation in standard setting by guaranteeing that all competitors can participate to the selection of the standard. SSOs, in particular, should develop objective and non-discriminatory procedures for allocating voting rights and selecting the technology to include in the standard⁸⁹. The scope of this principle must be read also in light of the need to encourage effective participation of IPRs owners. Indeed, the involvement of a significant number of innovators may likely lead to the selection of the optimal standard, to the benefit of societal welfare.

On a further ground, SSOs should implement transparent procedures "which allow stakeholders to effectively inform themselves of upcoming, on-going and finalised standardization work in good time at each stage of the development of the standard"⁹⁰. In case of standards involving IPRs, the Commission highlights the need to develop clear and balanced IPR policies,

⁸⁸ *Ibid*, at 279. On the issue, see also Case IV/35.006 *ETSI Interim IPR Policy* [1995] O.J. C 76/5.

⁸⁹ European Commission, "Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements", [2011] O.J. C 11/1, at 280-281.

⁹⁰ *Ibid*, at 282.

adapted to the particular industry and to the SSO's needs⁹¹. Transparency must therefore be interpreted as a crucial safeguard against anticompetitive risks.

Finally, the Guidelines examine the role of a good faith duty to disclose. In this context, as it is observed, SSOs' members should be required to reveal those IPRs which are relevant to the standard. In this way, the standard setting body would be able to make an informed choice of technology and ensure effective access to the standard. As further argued, "such a disclosure obligation could be based on ongoing disclosure as the standard develops and on reasonable endeavours to identify IPR reading on the potential standard"⁹². With respect to these last considerations, however, several doubts may arise. Firstly, it is not clear whether the Commission implicitly recognized the necessity to implement a duty to search. On a different ground, the Commission did not precisely identify an optimal time of disclosure of essential rights. It did not even set the scope of the mentioned good faith duty. The Guidelines, therefore, leave many questions open, including that on the enforceability of the policy models. On the other side, however, it is true that they make some interesting observations, which will be recalled and further developed in Chapter VII. In particular, as to the subject of disclosure, the Guidelines notably state that members may preserve their trade secrets by simply stating to have IPRs claims over a standard, without disclosing specific claims or applications.

⁹¹ *Ibid*, at 284.

⁹² *Ibid*, at 286.

5.1.2 FRAND Terms

One of the most interesting questions addressed by the Commission in the attempt to provide for more legal certainty concerns the meaning and role of FRAND. The issue, as explained in Chapter III, is certainly crucial to standardization, due to the wide adoption of this licensing model by standard setting institutes. This being premised, the Guidelines note that

“[i]n order to ensure effective access to the standard, the IPR policy would need to require participants wishing to have their IPR included in the standard to provide an irrevocable commitment in writing to offer to license their essential IPR to all third parties on fair, reasonable and non-discriminatory terms”⁹³.

The *ex ante* implementation of FRAND terms, in the Commission’s view, should prevent innovators from jeopardizing SSOs processes through the charging of excessive fees or a refusal to license. In order to ensure its effectiveness, the commitment should bind also third-party firms which purchase (at a later stage) the IPRs subjected to a member’s FRAND promise⁹⁴. This effect, according to the Guidelines, could be obtained by including a contractual clause between the buyer and the seller⁹⁵.

⁹³ *Ibid*, at 285.

⁹⁴ On the scope of this argument, see European Commission, “Commission Welcomes IPCom’s Public FRAND Declaration”, (10/12/2009) Press Release MEMO/09/549.

⁹⁵ European Commission, “Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements”, [2011] O.J. C 11/1, at 285. These views recall the FTC’s arguments developed in the case *Negotiated Data Solutions* (above, Chapter V section 3.2).

These observations undoubtedly reveal interesting ideas. The proposal of an irrevocable commitment in writing, for instance, may give more guarantees in terms of fulfillment of the selected innovator's promise. Furthermore, the proposal to transfer to third parties also the FRAND commitment may preserve the outcome of the process. This notwithstanding, serious doubts arise as to the arguments relating to the meaning of FRAND.

Firstly, the Guidelines note that the SSOs' members themselves will have to assess whether the level of fees charged fulfils the FRAND commitment⁹⁶. Secondly, they argue that, in case of a dispute, "the assessment of whether fees charged for access to IPR in the standard setting context are unfair or unreasonable should be based on whether the fees bear a reasonable relationship to the economic value of the IPR"⁹⁷. It is alleged that, in order to qualify royalty fees as excessive, the conditions for an abuse of a dominant position as set out in Article 102 TFEU and in the case law of the EU courts must be fulfilled⁹⁸. The Guidelines identify various ways to make the assessment, provided that cost-based methods seldom work due to the difficulties arising in the appraisal of IPRs related costs⁹⁹. They suggest to compare the royalties charged by the

⁹⁶ *Ibid*, at 288.

⁹⁷ *Ibid*, at 289. See also Case 27/76 *United Brands v European Commission* [1978] E.C.R. 207, at 250; Case C-385/07 P *Der Grune Punkt – Duales System Deutschland GmbH v European Commission* [2009] E.C.R. I-6155, at 142; and *Attheraces v British Horse Racing Board*, [2007] E.W.C.A. 38.

⁹⁸ Case 27/76 *United Brands v European Commission* [1978] E.C.R. 207.

⁹⁹ European Commission, "Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements", [2011] O.J. C 11/1, at 289.

innovator in an *ex ante* competitive environment (before the industry is locked-in) with those charged *ex post* (after the lock-in effect has occurred)¹⁰⁰. However, this method does not seem faultless, mainly due to the risk that licences may have been overpriced or underestimated in the course of previous negotiations¹⁰¹. The Guidelines, then, consider the possibility “to obtain an independent expert assessment of the objective centrality and essentiality to the standard at issue of the relevant IPR portfolio”¹⁰². However, also this system may be subjected to criticism. Two independent experts appointed by the licensor and licensee, indeed, will probably have conflicting perspectives as to the level of fair and reasonable terms. Finally, the Guidelines observe that the level of fees charged for the same IPR in other comparable standards may also provide an indication¹⁰³. Perhaps, also this method could raise some doubts, due to the risk that royalty rates charged in other standards may not necessarily reflect a fair and reasonable price. The list of criteria, as the Commission clarifies, is not exhaustive but further ways for defining FRAND might be adopted.

On a different ground, the authority leaves open the possibility for the interested parties to resolve their disputes on the issue before the competent civil

¹⁰⁰ *Ibid.*

¹⁰¹ On the faults of the alternative methods suggested for the appraisal of FRAND/RAND licensing conditions, see also Chapter III section 3.3.3.

¹⁰² European Commission, “Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements”, [2011] O.J. C 11/1, at 290.

¹⁰³ *Ibid.*

or commercial courts¹⁰⁴. This means that the Commission not only overrated the effectiveness of the cited interpretative methods. It also failed to consider the risks deriving from lengthy litigation, in terms of bottleneck of standardization and delays of innovative processes. In light of the above, in conclusion, the Commission's approach to FRAND terms is certainly one of the most problematic matters emerging from the text of the document.

5.1.3 Anticompetitive Conduct

The examination of the core policy principles does not exhaust the analysis of the most relevant issues. The Commission's assessment of anticompetitive practices is undoubtedly a subject which needs close scrutiny. In this context, two different perspectives are developed. On the one hand, the Guidelines consider those restrictive practices which may affect price competition, production, markets and technical development. On the other, they delve into the efficiency gains which may potentially arise from standards and which may lead to an exemption under Article 101(3) TFEU. The Commission, however, does not examine thoroughly the concept of hold-up. It merely mentions the risk that members may behave in anticompetitive ways by holding-up users after the adoption of the standard¹⁰⁵.

¹⁰⁴ *Ibid*, at 291.

¹⁰⁵ European Commission, "Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements", [2011] O.J. C 11/1, at 269.

5.1.3.1 Restrictive Practices in Standardization

Potential restrictive practices may lead to a “reduction in price competition, foreclosure of innovative technologies and exclusion of, or discrimination against, certain companies by prevention of effective access to the standard”¹⁰⁶.

As to the first channel, reduction or elimination of price competition may occur when firms start discussing prices in the context of standard setting¹⁰⁷. These restrictions could in theory occur either on the supplier or on the purchaser side of the market for the standard. Standardization agreements which allow early disclosure of most restrictive licensing terms may potentially facilitate price fixing of downstream products or of substitute IPRs or technology between the SSO’s participants. These agreements, in the Commission’s view, should be interpreted as restrictions of competition by object, prohibited by Article 101(1) TFEU¹⁰⁸. However, as clarified in Chapter IV, a serious risk of price fixing may possibly occur only in case of licensees discussing sale prices of downstream products. Instead, it is not clear why competing licensors should jointly set the level of royalties for the relevant IPRs. Prior to the adoption of the standard, indeed, innovators usually compete with each other for the selection of the proprietary technology¹⁰⁹.

¹⁰⁶ *Ibid*, at 264.

¹⁰⁷ *Ibid*, at 265.

¹⁰⁸ *Ibid*, at 274.

¹⁰⁹ See Chapter IV section 3.2.2.

Secondly, further concerns may arise in case of foreclosure of competing innovative technologies. This may happen when, during the selection process, undertakings with competing technologies are unjustifiably excluded. Similar effects could arise in case the producers of an incumbent product collude with the SSO's members to exclude new technologies from an already existing standard. Also these practices, as the Commission rightly notes, should be considered as restrictions of competition by object. Their ultimate effect would be detrimental to technical development and innovation¹¹⁰. These considerations evoke the Commission's conclusions in the case *Pre-Insulated Pipes*, where the infringement of Article 101(1) TFEU consisted in the use of "norms and standards in order to prevent or delay the introduction of new technology which would result in price reductions"¹¹¹.

Thirdly, the Guidelines identify a serious risk of anticompetitive effects in the exclusion of undertakings from access to the standard¹¹². Under these circumstances, firms might be completely prevented from obtaining access to the result of the standard (the technical specifications or the essential IPRs). Alternatively, they might be granted access only on prohibitive or discriminatory terms. In order to limit these risks, the Guidelines remark the importance of

¹¹⁰ European Commission, "Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements", [2011] O.J. C 11/1, at 266.

¹¹¹ Case IV/35.691 *Pre-Insulated Pipes* [1999] O.J. L 24, at 147.

¹¹² European Commission, "Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements", [2011] O.J. C 11/1, at 268 and 295.

clear disclosure policies requiring members to reveal *ex ante* the existence of relevant IPRs. This way, SSOs' participants may easily identify which technologies are proprietary and may consequently make a more informed decision on the basis of more transparent procedures. Besides access to the results of the standard, also access to the standard setting process may be limited. Standard setting agreements may indeed discriminate against particular types of participants or potential members, and exclude them from participation to the SSO's activities¹¹³. This could also lead to a restriction of competition contrary to Article 101(1) TFEU¹¹⁴.

However, it is further added, in case of several competing standards or effective competition between standardised and non-standardised solutions, a limitation of access may not necessarily lead to restrictive effects on competition¹¹⁵. Similarly, if the limitation on the number of the participants was ancillary to the implementation of the standard, then the agreement would seldom lead to restrictive effects on competition in violation of Article 101(1).

But even in case of negative effects determined by restricted participation, these

¹¹³ See the Commission's decision in Case IV/31.458 *X/Open Group* [1987] O.J. L 35, at 36. Here, the Commission considered that "even if the standard adopted were made public, the restricted membership policy had the effect of preventing non-members from influencing the results of the work of the group and from getting the know-how and technical understanding relating to the standards which the members were likely to acquire". This led to an infringement of Art. 101(1).

¹¹⁴ European Commission, "Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements", [2011] O.J. C 11/1, at 297.

¹¹⁵ *Ibid*, at 294-295.

effects could be limited or removed “by ensuring that stakeholders are kept informed and consulted on the work in progress”¹¹⁶.

More in general, as the Guidelines clarify, standardization agreements which do not restrict competition by object must be assessed in their legal and economic context, with regard to their actual and likely effects on competition¹¹⁷. Only in case of absence of market power these agreements would likely fall outside of the scope of Article 101(1) TFEU. The existence of restrictive effects may depend also on whether SSOs’ members remain free to develop alternative standards or products that do not comply with the selected standard¹¹⁸.

For instance, in case an organization binds its members to produce only products in compliance with the standard, there would be a higher risk of negative effects on competition. This happened in the case *Philips/VCR*, where the parties were prohibited to manufacture and distribute products different from those complying with the standard¹¹⁹. It is also true, at the same time, that in case of standards only covering minor aspects or parts of the end product competition concerns would be less likely¹²⁰.

¹¹⁶ *Ibid*, at 295.

¹¹⁷ *Ibid*, at 277.

¹¹⁸ *Ibid*, at 293.

¹¹⁹ See also Case IV/29/151 *Philips/VCR* [1978] O.J. L 47, at 23.

¹²⁰ European Commission, “Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements”, [2011] O.J. C 11/1, at 293.

5.1.3.2 Efficiency Gains

Despite the risks of anticompetitive practices, standardization agreements may also give rise to substantial efficiency gains. In order to outweigh any restrictive effects, these efficiency gains must be passed on to consumers¹²¹. In this regard, for instance, the Guidelines remark the important role played by Union wide standards. The latter, as powerful harmonizing factors, may facilitate market integration between the Member States, ultimately leading to lower prices and increased consumer choice. With respect to those standards promoting technical interoperability, the Guidelines highlight their beneficial effects in terms of increased competition between different technologies and reduced risk of lock-in effects. Standards, as it is further argued, may also reduce transaction costs for sellers and buyers, and may have a crucial impact on innovation. To this end, “[t]hey can reduce the time it takes to bring a new technology to the market and facilitate innovation by allowing companies to build on top of agreed solutions”¹²². In order to achieve these efficiency gains, the information necessary to apply the standard must be available to those wishing to enter the market¹²³. The willingness to make available the results of a standard as quickly as possible influenced the Commission’s decision in *X/Open Group* to grant an exemption under Article 101(3) TFEU¹²⁴.

¹²¹ *Ibid*, at 321.

¹²² *Ibid*, at 308.

¹²³ *Ibid*, at 309.

¹²⁴ Case IV/31.458 *X/Open Group* [1987] O.J. L 35, at 42.

On a further different ground, the Commission notably argues that restrictions on competition may be accepted as long as they are indispensable to achieve these efficiency gains¹²⁵. This means that standardization agreements should cover no more than what is strictly necessary to achieve their goals¹²⁶. Those restrictions which go beyond the objective of achieving efficiencies do not fulfil the criteria of Article 101(3) TFEU.

For instance, limited access to the standard setting process may only be justified as long as the parties demonstrate significant inefficiencies from unlimited participation¹²⁷. No justification, instead, may be given in case of standardization agreements limiting the use of a proprietary technology to a particular standard. Exclusive use, it is explained, could limit inter-technology competition and would not be indispensable for the achievement of any efficiency¹²⁸. In the same vein, agreements which make a standard binding for the industry are in principle not indispensable¹²⁹. The cited case *Philips/VCR* also gave an example of unnecessary restrictions, since the constraints imposed on the parties were not indispensable to attain any efficiency¹³⁰.

¹²⁵ European Commission, "Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements", [2011] O.J. C 11/1, at 314-315.

¹²⁶ *Ibid*, at 317.

¹²⁷ *Ibid*, at 316. See also Case 39.416 *Ship Classification* [2010] O.J. C 2.

¹²⁸ European Commission, "Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements", [2011] O.J. C 11/1, at 317.

¹²⁹ *Ibid*, at 318.

¹³⁰ Case IV/29/151 *Philips/VCR* [1978] O.J. L 47, at 31.

6. Conclusion

In brief, it is undoubted that the Guidelines develop interesting concepts and innovative ideas. The implementation of transparent, unrestricted processes is considered at the basis of productive standard setting¹³¹. In comparison to the case law, a stronger need for more effective policies is highlighted. Thus, it is to be welcomed that the Commission apparently follows the principle that prevention is better than cure. However, the Guidelines leave several issues open. They contribute only partially to solve the tension between standards, IPRs and competition. For instance, it is not clear which is the authority's position on search requirements. In addition, the Commission did not thoroughly explain how disclosure policies may function in practice, in terms of time of disclosure and good faith duty. Also the proposed assessment of FRAND terms does not provide for more legal certainty. Likewise, doubts exist as to how a prevention-based approach could be reconciled with an effective enforcement mechanism.

As to the case law, it is clear that the Commission was not able to strike an optimal balance between innovators' interests and SSOs' aims. However notable the analysis of the benefits of standards, the Commission had undervalued the importance of robust policy rules. It further failed to detect the faults of FRAND licensing and the related high risks of litigation. Therefore, in conclusion, all these issues still need an appropriate and comprehensive examination.

¹³¹ See also European Commission, "Towards an Increased Contribution from Standardization to Innovation in Europe", (Communication) COM 133 final, 11 March 2008.

Chapter VII “Suggested Model and Enforcement”

1. Introduction

The arguments developed in the first chapters have focused on the roles and objectives of IP and antitrust laws¹. It has been argued that, although a superficial tension may exist, IPRs and competition are finally concordant in enhancing consumer welfare and dynamic efficiency. The achievement of these goals may ultimately raise the welfare of the society as a whole. This notwithstanding, specific attention has also been paid to one of those fields where the interaction IP-competition may lead to potentially harmful conflicts.

In this context, the standard setting environment has been considered, under both the EU and U.S. perspectives². In particular, it has been explained how standardization processes may lead IPRs owners to over-exploit their market power and compromise the ultimate function of standards, to the detriment of consumer surplus and societal productivity. The main solutions cited by the literature in terms of policies have not proved to be effective remedies to tackle the risks arising in the field. Thus, uncertainty still exists as to the most workable regime for SSOs.

¹ See Part I, Chapters I and II.

² See Part II, Chapters IV, V and VI.

In view of these considerations, this chapter aims at striking an optimal policy framework which may ensure from an *ex ante* perspective the proper functioning of standardization, without reducing the IPRs owners' incentives to participate in SSOs. After briefly recalling the faults of the FRAND model and early negotiation regime, I will consider an alternative licensing policy which may prove to be far more effective. Other important remarks will be given on the need to establish search and disclosure duties, which may play a relevant influence on innovators' will to participate in standard setting.

Besides proposing a workable model, further questions will be addressed. Which role, if any, may the enforcement of contract law play in limiting the negative effects of unfair conduct by IPRs owners? Further tools of private law will also be examined as possible *ex post* remedies. Among these, the work will draw the attention to those doctrines advancing proposals of patent restrictions. Would patent law defenses and counterclaims to patent infringement be effective means to address the risks arising in standard setting? The *pro* and *contra* of these alternative theories will be considered, with particular reference to their effects on the IPRs owners' incentives to invest in innovation. Indeed, it is still debated whether limiting the scope of IPRs protection may ultimately lead to detrimental effects on the long-run societal growth. Finally, due to the problems these private law remedies may raise, it will be questioned whether an effective competition or antitrust system enforcing a consumer welfare test may succeed -from an *ex post* perspective- in constraining misleading behaviours.

2. Promoting Innovation and Protecting Competition

Before looking at the optimal model reflecting IPRs owners' interests and standard setting goals, it seems important to review in more detail one basic cornerstone, which is the need to reconcile the promotion of innovation with the protection of competition.

It is true that the economic growth strongly relies on innovative capability; and competition and intellectual property rights are well-known key factors to innovation, as they both aim at strengthening innovative competition³. However, it has also been said that IPRs and competition may potentially give rise to a controversial relation. In this context, U.S. and EU antitrust enforcers have sometimes pursued the aim to reconcile innovation and competition in slightly different ways.

The next sections will delve into these different approaches and will further explore the intersection between IPRs, standardization and competition. The considerations developed therein will be paramount in order to understand and justify the optimal policy model for standard setting organizations.

³ S. Sattler, "Standardization under EU competition rules - the Commission's new horizontal guidelines", (2011) 32(7) *European Competition Law Review* 344. On the one hand, the author notes, IPRs encourage innovation by rewarding investments in R&D; on the other, competition drives undertakings to innovate in order to succeed and constrain rivals' business.

2.1 U.S. v EU Perspectives

The importance of innovation for consumer and societal welfare has been clearly recognised both in the U.S. and in the European Union. The recently modified Treaty on the EU, for instance, has identified the Union's aim to promote scientific and technological advance as a crucial step towards the achievement of innovation⁴. On a similar ground, U.S. courts and agencies have often stressed the need to enhance innovation as a means to increase the national wealth⁵.

However, it is clear that in order to enhance dynamic efficiency it is necessary to encourage firms to develop new innovative products. In the absence of incentives, the level of investment that maximizes the net value to society would not be undertaken, and dynamic inefficiencies would arise⁶. In this context, undertakings are usually incentivised to invest in research and development as long as they get rewarded for their economic efforts⁷. This is the well-known function of IPRs, which confer on the owners the exclusive right

⁴ Article 3(3), Treaty on the European Union (TEU), O.J. 2010 C 83/13.

⁵ See for instance *Verizon Communications v Trinko*, 540 U.S. 398 (2004).

⁶ J.G. Sidak, "Patent Hold-up and Oligopsonistic Collusion in Standard-Setting Organizations", (2009) 5(1) *Journal of Competition Law & Economics* 141.

⁷ D. Geradin and M. Rato, "Can Standard-Setting Lead to Exploitative Abuse? A Dissonant View on Patent Hold-Up, Royalty Stacking and the Meaning of Frand" (2007) 3 *European Competition Journal* 110.

to exploit their inventions and grant a license to interested firms upon the payment of royalties⁸.

As explained by U.S. agencies, IP laws provide a complex system of affirmative rewards by “establishing enforceable property rights for the creators of new and useful products, more efficient processes, and original works of expression”⁹. On the other side of the Atlantic, the EU Commission has similarly recognized the importance of IPRs and of the licensing mechanism, which is interpreted as a crucial means for innovators to cover their costs¹⁰.

However, dissimilarities may arise when appraising the perspectives adopted by U.S. and EU authorities to protect competition from the over-exploitation of IPRs. For instance, U.S. antitrust enforcers seem to have developed a more permissive approach in interpreting the role of monopolistic innovators. As held by the U.S. Supreme Court, indeed,

“[t]he mere possession of monopoly [...] and the opportunity to charge monopoly prices—at least for a short period—is what attracts ‘business

⁸ See Part I Chapter II.

⁹ Report of the U.S. Department of Justice and Federal Trade Commission, “Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition”, (April 2007) 1.

¹⁰ See the European Commission, “Guidelines on the application of Article 81 of the EC Treaty to technology transfer agreements”, [2004] O.J. C 101, at 17.

acumen' in the first place; it induces risk taking that produces innovation and economic growth"¹¹.

The EU counterparts, instead, have traditionally looked at monopolies from a more restrictive perspective, as a potential danger for the market structure and for societal welfare. Unlike the interpretation given by the U.S. Supreme Court, the opportunity to charge monopoly prices can be scrutinised by the EU competition enforcers under Article 102(a) TFEU, which prohibits high pricing conduct¹².

These different views, for instance, are reflected in the analysis of the jurisprudence on standard setting, with particular reference to the *Rambus* case¹³. This notwithstanding, as I will argue in the course of the chapter, the development of a right balance in standard setting policies may help in reducing the existing gap between the EU and U.S. perspectives when enforcing the law. This means that the very detection of the optimal equilibrium between SSOs' aims and innovators' interests may facilitate the implementation of similar approaches by EU and U.S. enforcers towards standardization issues.

¹¹ *Verizon* (n° 5) 398.

¹² Article 102(a), Treaty on the Functioning of the European Union (TFEU), O.J. [2010] C 83/89.

¹³ Cf. the European Commission's Statement of Objections in Case COMP/38.636 *Rambus* [2010] O.J. C 30; and *Rambus v F.T.C.*, 522 F.3d 456 (C. App. D.C. Circuit, 2008).

2.2 IPRs, Competition and the Standards

The considerations developed above on the need to reward innovators hold true also in case of standard setting. By having their protected inventions included in the standard, IPRs holders may be rewarded for their contribution to technological progress and innovation¹⁴.

With respect to standards, the EU Commission has notably clarified that “a stronger role for standardization in support of innovation is important for the European effort to address economic, environmental and social challenges”¹⁵. Standards permit mass-collaboration and facilitate the dissemination of knowledge, ultimately leading to more innovation¹⁶.

However, a few legitimate questions could be posed. Would the adoption of non-proprietary standards lead to fewer firms investing in innovation? And would the requirement on selected IPRs owners to waive their royalties lead to similar consequences? It is undoubted that standard setting concerns several important industries¹⁷, and that SSOs’ IPRs policies may well incentivise or discourage firms from further investing in expensive innovative processes.

¹⁴ M.C. Naughton and R. Wolfram, “The Antitrust Risks of Unilateral Conduct in Standard Setting, in the Light of the FTC’s case against Rambus Inc.”, (2004) 49 *Antitrust Bulletin* 701.

¹⁵ European Commission, “Towards an Increased Contribution from Standardization to Innovation in Europe”, (Communication) COM 133 final, 11 March 2008.

¹⁶ J. Gstalter, “Open Standards and Antitrust”, (2010) 1 *Concurrences* 3.

¹⁷ E.g., from telecommunications, to IT and electronic engineering.

In light of the above, it seems reasonable to argue that the automatic exclusion of IPRs licensing from standardization would likely lead to less innovation and less competition within the standards, especially in case of technically complex ones¹⁸. The immediate consequence could be a reduced number of standards, of a lower quality¹⁹. The ultimate effect would be detrimental to the welfare of consumers, and may impact negatively the societal growth²⁰.

This notwithstanding, it has also been said that innovators participating in standard setting may implement unfair conduct aimed at excluding competitors and charging exorbitant fees²¹. This is due to the fact that IPRs in standards may have an undesirable impact which may ultimately frustrate competition and technical development²². Exploitative and exclusionary practices may hence undermine the objective of standard setting, to the detriment of innovation and societal productivity.

¹⁸ Cf. J. Bessen, "Open Source Software: Free Provision of Complex Public Goods", in J. Bitzer and P. Schroder, *The Economics of Open Source Development* (Elsevier Science Publishers, 2006).

¹⁹ J.C. De Vellis, "Patenting Industry Standards: Balancing the Rights of Patent Holders with the Need for Industry-Wide Standards", (2003) 31 *AIPLA Quarterly Journal*.

²⁰ See D. Geradin, "Pricing Abuses by Essential Patent Holders in a Standard-Setting Context: a View from Europe", (2009-2010) 76 *Antitrust Law Journal*. The author notes that "licensing as such is pro-competitive as it leads to dissemination of technology and promotes innovation".

²¹ Above, Chapter IV sections 3 and 4.

²² K.J. Koelman, "An exceptio standardis: do we need an IP exemption for standards?", (2006) 37(7) *International Review of Intellectual Property and Competition Law* 823.

How to strike, then, the optimal balance between IPRs and industry standards, between investment incentives and competition goals? It is true that standardization, IPRs and competition can all play a role in promoting technological development, but it seems also vital to keep the balance right²³. This is the approach endorsed by the European Commission in dealing with standardization, according to which:

“[...] both intellectual property rights and standardization encourage innovation and facilitate the dissemination of technologies. However, as they contribute to these common objectives by different means, due regard should be paid to the interrelation between IPR and standardization”²⁴.

The next sections will shed light on the issue and will identify the optimal framework for SSOs' policies. It will be explained that under few particular circumstances it may be reasonable to require innovators to license their IPRs for free, but only when this is necessary to preserve the fairness and transparency of the whole standardization process.

²³ P. Hellstrom, T. Kramler and F.W. Bulst, “Holding Standardization to Competition Law Standards”, (2010) 1 *Concurrences* 26.

²⁴ J. Gstalter (n° 16) 3. See also European Commission, “Modernising ICT Standardization in the EU -The Way Forward”, (Communication) COM 324 final, 3 July 2009, § 2.4.

3. Robust SSOs Rules as Effective *Ex Ante* Tools

From the arguments developed in the previous chapters, it should be clear that the risk of unfair practices affecting standards is closely related to the effectiveness of SSOs' policies. The implementation of certain rules over different ones may either encourage or discourage patentees from adopting misleading conduct. Therefore, in order to avoid patent hold-up, it seems essential to implement a more robust policy framework as an *ex ante* tool.

This section is devoted to understand better which model may guarantee a fair and transparent standard setting process. After having highlighted the faults of the main policy frameworks supported by the literature and SSOs, I will argue in favour of a different option which has not been given due attention by the standard setting environment. The analysis of this model will be focused on both licensing, search and disclosure commitments²⁵.

3.1 Failure of FRAND and Joint Negotiation Models

As made clear in Chapter IV, both the FRAND/RAND model and the joint negotiation regime have shown different faults that preclude their adoption as optimal policy frameworks. The former has been widely implemented by the standard setting environment²⁶, although it poses many questions on definitions

²⁵ See Chapter III section 3.3, for an overview of the policy rules usually adopted by SSOs.

²⁶ In implementing their licensing rules, ETSI, OASIS and IEEE usually refer to FRAND; on the other hand, IETF, IEC, ITU and ISO consider RAND terms.

and firms' liability. Several arguments make it difficult to endorse the view of those authors supporting the FRAND/RAND regime²⁷. The main problem, as I have noted, concerns the very meaning of fair and reasonable terms, which both courts and SSOs have seldom elaborated²⁸. The uncertainty over the level of fees that licensees will be eventually charged may undermine the whole standard setting process. The model, therefore, does not seem the most effective answer when setting IPRs licensing rules.

On a similar ground, also the joint negotiation of royalties cannot represent the optimal model due to the cited negative effects identified by the literature²⁹. Besides the alleged concern for collusive behaviours, there might be a more serious risk that discussions on licensing terms may ultimately lead to exhausting policy battles between the members, compromising or delaying the adoption of a standard³⁰. Furthermore, *ex ante* joint negotiation may be unfavourable for those firms joining the SSO later in the process, as they would have to accept terms already agreed by other participants³¹. More importantly, the implementation of the joint negotiation model may discourage innovators from taking part in standard setting, in the fear that the

²⁷ D.J. Teece and E.F. Sherry, "Standard Setting and Antitrust", (2003) 84 *Minnesota Law Review* 1973.

²⁸ See Chapter IV section 3.2.1.

²⁹ See, *inter alia*, J.G. Sidak (n° 6) 141-142.

³⁰ See Chapter IV section 3.2.2.

³¹ M. Valimaki, "A flexible Approach to RAND Licensing", (2008) 29(12) *European Competition Law Review* 689.

majority of industry users and implementers may impose on them a low price. In addition, also the effectiveness of negotiations between innovators in the context of patent pools has raised serious doubts³². In light of these observations, the *ex ante* joint negotiation of licensing terms, in and outside patent pools, cannot be considered as a viable alternative to the FRAND/RAND option.

3.2 Optimal Policy Framework

Besides the much debated joint negotiation system and FRAND/RAND model, the literature coyly mentions a third option as a means to eliminate the risks of hold-up: the unilateral disclosure of the maximum royalty level or most restrictive non-pricing terms³³. According to this framework, IPRs owners joining SSOs would have to disclose, unilaterally and before the formal adoption of the standard, the maximum level of price or the most restrictive non-pricing conditions they would charge for the licensing of relevant rights. In comparison with the other models, such an option seems to have various advantages, and avoids many of the concerns raised with respect to early joint negotiation and FRAND/RAND terms.

³² See Chapter III section 3.3.3.4.

³³ See R.A. Skitol, "Concerted Buying Power: Its Potential for Addressing the Patent Hold-up Problem in Standard Setting", (2004-2005) 72 *Antitrust Law Journal* 742; J.G. Sidak (n° 6) 171; S. Sattler (n° 3) 348; and G. Ohana, M. Hansen, O. Shah, "Disclosure and Negotiation of Licensing Terms Prior to Adoption of Industry Standards: Preventing Another Patent Ambush?", (2003) 24 (12) *European Competition Law Review* 648. The latter, for instance, do not consider early unilateral disclosure on its own (*i.e.* without allowing joint negotiation) as a practicable solution.

The next sections will be devoted to understand why this mechanism seems to represent a better option as a sound licensing framework for standards institutes. In this regard, I will also try to address various questions that may concern the implementation of the model and the enforcement of those clauses (e.g., locked-in and opt-out conditions) directly linked to it. Finally, besides the analysis of the optimal licensing rule, further relevant observations will regard the members' search and disclosure duties, as these may also play a crucial role in the SSOs' IPRs policies.

3.2.1 Unilateral Disclosure of the Maximum Licensing Terms

The maximum cap model would consist in a voluntary mechanism for IPRs owners to disclose unilaterally the licensing terms in advance³⁴. This regime undoubtedly presents several advantages. First, *ex ante* unilateral disclosure of the level of royalties or most restrictive non-pricing conditions would overcome the risks related to the uncertainties of the FRAND/RAND model. The latter leaves potential implementers of a technology uncertain as to the economic terms on which IPRs will be licensed³⁵. This aspect might finally lead the SSO to design around the patented technology or block the whole process. It may also lead licensees to litigate the meaning of FRAND/RAND before a court. That is why implementing FRAND/RAND terms has been interpreted as a highly

³⁴ M. Valimaki (n° 31) 689. As the author notes, both IEEE and IETF suggest that the IPRs owner should provide the information unilaterally.

³⁵ G. Ohana, M. Hansen, O. Shah (n° 33) 647.

inefficient means to tackle patent hold-up³⁶. The adoption of IPRs policies requiring early disclosure of the licensing terms, instead, would eliminate these risks, giving members more certainties about the conditions to be applied. In addition, the SSOs' working groups would be able to consider not only the technical merits of the proposed solution, but also its specific costs.

Secondly, a unilateral disclosure requirement seems to be a better means even when compared to the *ex ante* joint negotiation. The latter, it has been said, may lead to exhausting policy battles between SSO's members, as it might be complex to agree on a level of price which could be acceptable for all the different players³⁷. By unilaterally specifying the most restrictive terms for the licensing of relevant rights, the risk of internal conflicts would not arise. This mechanism may also prove effective in encouraging participation to SSOs from IPRs owners and other implementers. Absent joint discussions of fees, indeed, patent holders would not incur the risk (typical of the early negotiation model) of being imposed low prices by SSO's members³⁸. What is more, in case the standard setting body required disclosure also of pending IPRs, patent owners may find it more reasonable to establish a cap of fees -valid for both pending and issued rights- than to negotiate the exact value of a right which has still to be granted³⁹. Besides IPRs owners, also implementers and other firms

³⁶ *Ibid.*

³⁷ See the Report of the U.S. Department of Justice and Federal Trade Commission (n° 9) 50.

³⁸ On the faults of early joint negotiation of prices, see J.G. Sidak (n° 6) 141-142.

³⁹ Cf. M.C. Naughton and R. Wolfram (n° 14) 764-765.

without relevant patents may find the model more transparent and fair. In particular, they could be more willing to take part in the standard setting process even at a late stage, without having to accept policy terms previously agreed by patentees and other competing licensees⁴⁰.

Thirdly, as far as the members are not involved in negotiations of licensing terms, competition agencies may find it difficult to enforce those rules forbidding price fixing. Indeed, the U.S. Department of Justice has notably argued that with voluntary disclosure of licensing terms firms can make “better informed decisions, which could further lead to faster development, implementation, and adoption of a standard as well as fewer litigated disputes”⁴¹. Put differently, a system based on the unilateral disclosure of the maximum terms would seldom raise concerns about potential collusive conduct. It is true, however, that such a risk appears to be of limited relevance in the early negotiation system⁴², or at least less relevant than some authors⁴³ or authorities would argue⁴⁴. Nevertheless, in a standard setting body implementing a maximum cap regime, anticompetitive collusive behaviours would be even less likely, due to the

⁴⁰ See M. Valimaki (n° 31) 689.

⁴¹ See T.O. Barnett, “Response to Institute of Electrical and Electronics Engineering, Inc.’s Request for Business Review Letter”, (U.S. Department of Justice, Antitrust Division, 30 April 2007).

⁴² As already noted, there is no certainty that IPRs owners’ collusion, in the context of *ex ante* joint negotiations, would finally lead to higher fees being set (see above, Chapter IV section 3.2.2).

⁴³ E.g., J.G. Sidak (n° 6) 123.

⁴⁴ European Commission, “Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements”, [2011] O.J. C 11/1.

absence of those negotiation mechanisms which could facilitate IPRs owners' collusive plans to set higher fees. The only plausible risk of collusion could arise in case licensees started to discuss downstream prices of products incorporating the standardized technology. However, this possibility is not peculiar to a particular IPRs regime, but may arise under any SSO policy.

Finally, a further reason may encourage the adoption of the cap. Due to the existence of specific price benchmarks and non-pricing terms, unfair behaviours consisting in the charging of higher fees and application of more restrictive conditions than those specified *ex ante* would be seldom successful. This is because a maximum cap would be potentially easier to enforce before a court than an undefined licensing framework (as one based on FRAND terms). This notwithstanding, as better explained in the next sections, there is still debate in the literature on whether the SSOs' policy rules may be interpreted and legitimately enforced as effective contractual provisions.

For the sake of clarity, also the unilateral disclosure model may be in theory criticized, due to alleged obstacles that may affect the standard setting process⁴⁵. The criticism lies on the fact that IPRs owners may be bound too early by the licensing scheme, and would be required to make maximum terms quantifications without fully knowing at times the specific contribution their

⁴⁵ M. Valimaki (n° 31) 689.

technology may bring towards innovation and welfare⁴⁶. Nevertheless, this appears to be a minor issue, especially when compared with the faults arising in the FRAND and negotiation models⁴⁷. As I will suggest, indeed, the problem may be solved by setting the optimal time of disclosure of relevant IPRs.

3.2.2 Unilateral Disclosure and SSOs' Policies

Despite all the merits of the unilateral early disclosure model, the majority of SSOs have usually implemented FRAND/RAND licensing terms in their IPRs policies⁴⁸. This is probably because they have (wrongly) appraised unilateral early disclosure as a potential disincentive for IPRs holders and industry implementers to take part in SSOs. Only in the very last years, few organizations have started to consider the adoption of IPRs policy rules promoting disclosure of the maximum cap for licensing relevant rights.

The VMEbus International Trade Association (VITA), for instance, has recently adopted a patent policy requiring members to declare the highest royalty rate for all patent claims the member owns or controls, and which may become essential to implement the standard⁴⁹. At the same time, VITA also requires its participants to agree on granting to all members a perpetual patent

⁴⁶ *Ibid.*

⁴⁷ See above, section 3.1. See also Chapter IV sections 3.2.1 and 3.2.2.

⁴⁸ Among these, ETSI, JEDEC, VITA, OASIS, IEEE, IETF, IEC, ITU and ISO.

⁴⁹ See VITA Standards Organization, "Policies and Procedures" (30 November 2009), § 10.3.2.

license -for their patent claims essential to the standard- on fair reasonable and non-discriminatory conditions⁵⁰. Besides VITA, also the Institute of Electrical and Electronics Engineers (IEEE) mentions a maximum royalty cap in its licensing policy. IEEE specifies that IPRs owners may provide on a voluntary basis a 'not to exceed' license fee or rate commitment. This notwithstanding, the SSO also states that patent holders may be required to submit a letter of assurance in which they declare to commit either to FRAND terms or to royalty free conditions⁵¹.

Two more organizations include policies rules regulating unilateral disclosure. The European Telecommunications Standards Institute (ETSI), besides encouraging its members to commit to FRAND licensing terms, also states that unilateral and voluntary early disclosure of royalties is not prohibited by ETSI directives⁵². The Internet Engineering Task Force (IETF), then, not only promotes RAND or royalty free licensing terms, but also encourages members to include more specific licensing information in their IPRs disclosure⁵³.

All these models may be considered as hybrid IPRs systems combining FRAND/RAND commitments with unilateral disclosure mechanisms. Therefore, they still undervalue the risks arising from an undefined licensing policy.

⁵⁰ *Ibid*, § 10.3.1.

⁵¹ See IEEE-SA, "Standards Board Bylaws", Section 6.2 Patents Policy (2006).

⁵² ETSI, "Guide on IPRs", § 4.1 (27 November 2008).

⁵³ Internet Engineering Task Force (IETF), "Intellectual Property Rights in IETF Technology", (Harvard University, March 2005), § 6.5.

This notwithstanding, they may also be interpreted as important steps towards the possible oncoming adoption of a maximum cap regime by the whole standard setting environment. Further elements, as better explained below, support this position.

3.2.3 Maximum Cap in the Views of U.S. and EU Antitrust Enforcers

The merits of the model under examination seem to have been recognized by antitrust agencies and authorities both in the U.S. and in the European Union. In outlining its position on various SSOs patent policies, the Antitrust Division of the U.S. Department of Justice has already clarified that a maximum royalty cap (coupled with a statement on most restrictive non-royalties terms and other disclosure obligations) may well “reduce the likelihood of unexpected licensing terms that threaten the success of future.... standards” and “expand the scope of competition between alternative technological solutions during the standard setting process”⁵⁴. In that context, the Antitrust Division also explained that a policy explicitly forbidding joint negotiations of prices among members clearly overcomes the risks of collusive behaviours⁵⁵. This notwithstanding, the authority also added that, even if information exchanges occurred, these would not be appraised under a *per se* rule of illegality, but under the rule of reason⁵⁶.

⁵⁴ See T.O. Barnett, “Response to VMEbus International Trade Association’s Request for Business Review Letter”, (U.S. Department of Justice, Antitrust Division, 30 October 2006).

⁵⁵ *Ibid*, § 4.

⁵⁶ *Ibid*, footnote 27.

This position –supported by different U.S. agencies⁵⁷– was confirmed also in a further intervention, where the Department of Justice argued that “unless the standard setting process is used as a sham to cloak naked price fixing or bid rigging, the Department analyses action during the standard setting process under the rule of reason”⁵⁸. Turning back to unilateral disclosure, the Antitrust Division importantly observed that with voluntary disclosure of licensing terms firms can make “better informed decisions, which could further lead to faster development, implementation, and adoption of a standard as well as fewer litigated disputes”⁵⁹.

On the other side of the Atlantic, the EU Commission, in its recent ‘Guidelines on Horizontal Cooperation Agreements’⁶⁰, has clearly acknowledged the alleged merits of FRAND/RAND commitments⁶¹. It has then clarified that agreements intended “to jointly fix prices either of downstream products or of substitute IPR or technology will constitute restrictions of competition by

⁵⁷ U.S. Department of Justice and Federal Trade Commission (n° 9) 53-56; and Antitrust Modernization Commission (AMC), “Final Report and Recommendations”, (April 2007) 117. *Contra*, see J.G. Sidak (n° 6) 188.

⁵⁸ See T.O. Barnett (n° 41).

⁵⁹ *Ibid.* See also the U.S. case *Townshend v Rockwell International*, 55 U.S.P.Q. 2d 1011 (N.D. California, 2000). Here, the IPRs owner had disclosed *ex ante* its licensing terms. However, the inclusion in the SSO’s (ITU) policy of RAND terms gave the plaintiff the pretext to argue that those terms were not RAND. This seems to confirm that FRAND/RAND licensing policies may easily lead to litigation, and should thus be interpreted as highly inefficient means.

⁶⁰ For a thorough analysis of the Guidelines, see above Chapter VI section 5.

⁶¹ European Commission, “Guidelines on the Applicability of Article 101 TFEU to Horizontal Co-operation Agreements”, [2011] O.J. C 11/1, at 283, 285 and 287.

object”⁶². Besides these relevant statements, the EU competition enforcer has also taken into due consideration the possibility to implement IPRs policy rules promoting unilateral disclosure. In this context, it has recognised that standard setting agreements providing for unilateral *ex ante* disclosure of most restrictive licensing terms (including a maximum royalty cap) would not in principle restrict competition within the meaning of Article 101(1) TFEU. Rather, early disclosure would enable SSOs to take informed decisions on the alternative technologies and to appraise not only the technical merits but also their costs⁶³.

These considerations confirm that a maximum cap regime may well prove to be effective in limiting hold-up and guaranteeing a more transparent process. Successful standardization may incentivise follow-on innovation, to the ultimate benefit of consumers and societal growth. However, neither the EU nor the U.S. antitrust enforcers have ever shed light on other important questions. Firstly, there is still uncertainty on the optimal way to implement the cap, in terms of time and way of disclosure. Secondly, it is not clear which rules, if any, should complement this licensing model. Finally, further doubts concern the way a maximum cap regime may be enforced.

⁶² *Ibid*, at 274.

⁶³ *Ibid*, at 299. On the potential benefits of unilateral *ex ante* disclosure policies, see also European Commission, “Modernising ICT Standardization in the EU – The Way Forward”, (Communication) COM 324 final, 3 July 2009, § 2.4.

3.2.4 Practical Implementation of the Maximum Cap

Once defined the advantages of the maximum cap regime and highlighted the views expressed by the enforcement authorities, it is necessary to evaluate its practical implementation. Several questions arise on the functioning of the model. The main issues deserving attention concern both the time and way of disclosure⁶⁴.

3.2.4.1 Time of Disclosure

Firstly, in case of a maximum cap framework, SSOs should establish the time for disclosing the royalties and most restrictive non pricing conditions. Time indeed is an inherent decisive feature in every standardization process. Different options may be taken into consideration. For instance, SSOs could require IPRs owners to disclose their terms as soon as they join the organizations. This option would give SSOs a wide lapse of time to appraise the different levels of rates proposed by innovators. However, early disclosure may be problematic under other perspectives. At early stages, indeed, standard setting organizations may not have yet a clear idea of which technology should be developed. In other words, too many alternative projects may be under discussion.

⁶⁴ On the issue, see G. Ohana, M. Hansen, O. Shah (n° 33) 644.

Under these circumstances, it would not be reasonable to require the participants to fulfil any disclosure commitments⁶⁵.

Another option would require innovators to disclose their maximum licensing terms just before the formal adoption of the standard. However, also this choice may sound unfeasible, as the SSO members may have already incurred sunk costs during the process for researching on the optimal standard⁶⁶. In case the royalties for the technology promoted by the industry were ultimately deemed excessive, the investments made earlier would be lost. Hence, the need to have a clear understanding of the technologies' costs well before the final vote on standard.

Given these reasons, IPRs holders should be required to submit their licensing terms not before the first SSO's resolution on the projects examined. In other words, it is crucial that the standard setting environment be well oriented towards the development of specific technical proposals. At the same time, the submission should be made well before the final choice on the standard. More importantly, the cap should be submitted together with disclosure of relevant rights. Indeed, it would be unreasonable to reveal licensing terms without disclosing the IPRs they refer to.

⁶⁵ See J. Farrell, J. Hayes, C. Shapiro and T. Sullivan, "Standard Setting, Patents, and Hold-Up", (2007) 74 *Antitrust Law Journal* 627-628.

⁶⁶ *Ibid.*

Finally, the time of disclosure should bind innovators and work as a 'locked-in' clause. This means that, after revealing the existence of conflicting rights and related commercial terms, IPRs holders should be banned from withdrawing from the organization. Until that moment, it would be still reasonable to let innovators exercise a sort of 'opt-out' option. This way, the industry concerned would not risk losing the investments made in developing the proprietary standard due to the unexpected withdrawal of the IPRs owner. At the same time, members would have the opportunity to evaluate better the *pro* and *contra* of being part of the standard setting process, as well as their will to license potentially conflicting rights. The locked-in and opt-out system, what is more, does not seem to raise competition law concerns. By providing an opt-out option, no one could argue that the IPRs policy merely leads to an automatic compulsory licensing mechanism⁶⁷.

3.2.4.2 Means of Disclosure

Besides the time of disclosure, it is also imperative to establish how innovators should convey their terms. Some authors, for instance, mention the possibility to submit licensing plans in a sealed envelope⁶⁸. This mechanism may

⁶⁷ See the Case IV/35.006 *ETSI Interim IPR Policy* [1995] O.J. C 76/5. Here, the European Commission rejected the 'licensing by default' rule, according to which IPRs owners had to agree *ex ante* (as a condition to participate) that their rights would be incorporated in the standard when deemed essential. The Commission interpreted such provision as a disincentive to innovate.

⁶⁸ G. Ohana, M. Hansen, O. Shah (n° 33) 655.

present some advantages, especially in case of late opening of the envelope. In particular, this method may eliminate any potential risk of pressure made by the industry on innovators to lower their rates, and may thus ensure the highest level of transparency. Furthermore, by keeping the licensing terms secret until the final vote it would be possible to reduce the risk of price discussions and avoid potential antitrust enforcement⁶⁹. This notwithstanding, by implementing this option, the standard setting body would be aware of the licensing costs only at a very late stage. As explained above, industry users and manufacturers may have already invested resources in the development of a specific technology. Therefore, it is clear that this mechanism would not fulfil the SSOs' need to be informed about licensing rates well in advance. As an alternative, members could be required to submit their terms in a sealed envelope to be disclosed only after a preliminary evaluation of the technical proposals, but still well before the voting stage. This option, it has been noted, may be interesting where the organizations wish to attract various technical solutions to a problem, and immediate disclosure of commercial terms might dissuade proponents from coming forward⁷⁰.

In my view, a sound disclosure system may consist in submitting (together with disclosure of essential rights) an irrevocable and unconditional commitment

⁶⁹ However, as explained in Chapter IV section 3.2.2, the risk of collusion in SSOs seems to be low. Such a risk could mainly concern manufacturers discussing resale prices of final products.

⁷⁰ G. Ohana, M. Hansen, O. Shah (n° 33) 651. The authors mention as example the case of the SDMI Project (a quasi-SSO), which implemented a disclosure system based on sealed envelopes.

in writing. The irrevocability of the licensing proposal should be interpreted as prohibition to raise the price submitted or ask for more restrictive non-pricing terms. This may lead to avoid risks of 'gamesmanship', where those patentees supported by the industries may exploit their position and try to extract higher royalties. At the same time, however, it seems reasonable to leave innovators the right to submit subsequent declarations with lower rates and less restrictive conditions. IPRs owners, in other words, should be left free to make their commercial terms more attractive even after the submission of the cap. This system may be indirectly helpful in limiting the risk of royalty stacking, which may occur in case of complementary technologies. Leaving innovators the right to lower the fees may indeed reduce the risk of exorbitant cumulative rates.

Any written proposals, then, should be unconditional and applied in a non-discriminatory way to all firms requiring licenses for implementing the standardized technology. This mechanism has been partly considered by few organizations⁷¹. It may only benefit the competitiveness of SSOs processes and may ultimately lead to lower prices for consumers. Besides, by preserving patentees' right to decide the subject of disclosure and the related terms, it may still work as a safeguard for innovators' interests in standards.

⁷¹ See VITA Standards Organization – Policies and Procedures (30 November 2009). Section 10.3 states that “[t]he Declaration is irrevocable. If a subsequent Declaration covering previously disclosed information is submitted, the subsequent Declaration may only supersede the prior Declaration if the subsequent Declaration is less restrictive upon prospective licensees than the former Declaration. Otherwise, the former Declaration continues to apply”. However, this policy raises some doubts, as it still refers to the need to license under the ambiguous FRAND terms.

3.2.5 Search and Disclosure Commitments

The described licensing mechanism is at the core of a policy which I believe to be the optimal choice. However, the analysis and implementation of licensing models alone would be of limited help in the pursuit of the best policy system. In order to define properly the boundaries between the members' duties and powers, it is also crucial to deal with further regulations, covering search and disclosure commitments.

3.2.5.1 Duty to Search

The function and limits of search rules have been already identified in Chapter III⁷². In that context, it has been explained that these provisions may be adopted to require members to search for potentially conflicting rights within their IPRs portfolios⁷³. Here, it is worth examining the main objections made against the implementation of those rules, in order to understand whether they could be part or not of the optimal policy framework. Firstly, as I have argued, the adoption of a duty to search may impose on members a high burden which could deter them from participating in standard setting⁷⁴. This is because undertakings usually send engineers and not patent lawyers to represent them before the organizations. While engineers have a deeper understanding of the subject matter to be discussed, at the same time they do not have extensive

⁷² Chapter III section 3.3.1.

⁷³ M.C. Naughton and R. Wolfram (n° 14) 759.

⁷⁴ *Ibid*, 761.

knowledge of their firms' IPRs portfolios. It may happen, therefore, that engineers are not prepared to fulfil any search requirement. This holds true especially when a member has hundreds of patents which may potentially conflict with the standard⁷⁵. A second factor may have a negative influence on the innovators' will to search for relevant rights. Standardization is a process *in itinere*, where different proposals could be considered before the adoption of the final version of the standard. Therefore, it may be difficult to determine when a firm is required to search for potentially conflicting IPRs⁷⁶. Finally, a further practical reason may lead SSOs to omit a duty to search in their regulations. Imposing a search commitment for potentially conflicting rights may be quite costly to members with large IPRs portfolios⁷⁷.

In brief, it is true that the use of extensive search rules could help to achieve high level of transparency in SSOs processes. At the same time, however, the implementation of search requirements may drastically reduce the number of IPRs holders participating in standard setting. Reduced participation would probably lead to develop standards of a lower quality. It may further lead to a higher risk of patent litigation⁷⁸. In light of these factors, the effectiveness of these provisions seems more than doubtful. In order to strike the right balance

⁷⁵ M. Lemley, "Intellectual Property Rights and Standard-Setting Organizations", (2002) 90 *California Law Review* 1907.

⁷⁶ D.J. Teece and E.F. Sherry (n° 27) 1947.

⁷⁷ *Ibid*, 1951.

⁷⁸ See Chapter III section 3.3.1.

between innovators' interests and standard setting aims, search commitments should not be part of SSOs' regulations. This way, the advantages of the maximum cap regime will be preserved.

3.2.5.2 Duty to Disclose

The maximum cap framework, as optimal licensing option, must be complemented with an effective disclosure system. Licensing provisions alone, indeed, would not be able to guarantee an efficient standardization process. Given the alleged risks connected to the implementation of search requirements, it is legitimate to question how disclosure rules should be shaped by SSOs. In Part I, I have already discussed the role of disclosure policies, which are adopted by the vast majority of SSOs⁷⁹. Disclosure rules usually require participants to reveal the existence of essential IPRs within their actual knowledge, without imposing any specific search activities. They may also encourage the disclosure of other firms' relevant rights of which a member is aware. Their main function is to reduce the risks of unfair conduct⁸⁰. As done before with respect to search commitments, it seems important here to highlight those conclusions and appraise the effectiveness of the various disclosure systems. In particular, it is essential to understand which mechanism may better

⁷⁹ See Chapter III section 3.3.2.

⁸⁰ J. Farrell, J. Hayes, C. Shapiro and T. Sullivan (n° 65) 624.

complement the maximum cap framework. From this perspective, two different issues deserve careful attention: the time and subject of disclosure.

Time of Disclosure

Firstly, in relation to the time of disclosure, it is clear that innovators should not be required to reveal immediately the existence of relevant IPRs. SSOs, in other words, should refrain from imposing a duty to disclose at the very initial stage. This is because, as evidenced in the previous section, at the beginning of the activities SSOs may have unclear and undefined ideas of the project to be developed⁸¹. At the same time, however, disclosure should not be made too close to the formal adoption of the standard, as in the meantime industry manufacturers may have undertaken investments towards the development of a specific proposal. The same considerations developed above on the 'timely' disclosure of the maximum cap should apply here. Therefore, disclosure of essential IPRs should be made, together with submission of the cap, as soon as the standard setting body moves its first steps toward the development of a particular project⁸². Depending on the choice of each organization, these steps could be formalized through a first resolution or vote in the course of SSOs meetings. This mechanism may preserve both the optimal functioning of

⁸¹ *Ibid*, 628.

⁸² On the importance to define the optimal time of disclosure, see European Commission, "Commission Welcomes Changes in ETSI IPR Rules to Prevent 'Patent Ambush' ", (12 December 2005) Press Release IP/05/1565.

standardization and the need to enable IPRs holders to identify those rights in conflict with the standard. As often emphasised in the course of the work, striking the optimal framework implies the well-known need to balance between innovators' interests and standard setting objectives.

Subject of Disclosure

The second issue deserving due attention concerns the subject of disclosure. In Chapter III, the distinction between disclosure of pending and of issued IPRs has been the core of the analysis⁸³. In that context, it has been noted that only few organizations require members to disclose both issued and pending rights⁸⁴. This is because of both practical and policy reasons. On the one hand, SSOs are aware of the difficulties to determine whether a pending right may potentially conflict with a standard⁸⁵. On the other, it has been argued, requiring firms to disclose pending applications may compromise their trade secret rights⁸⁶. It is in light of these arguments that SSOs do not usually require innovators to reveal pending IPRs potentially related to the standard. However, as I have observed, disclosure of pending applications would not necessarily compromise the applicants' trade secret. By revealing only the existence and scope of a patent

⁸³ See Chapter III section 3.3.2.

⁸⁴ Among these, for instance, JEDEC, ETSI, W3C and ITU.

⁸⁵ M.C. Naughton and R. Wolfram (n° 14) 763-764.

⁸⁶ R.J. Taffet, "Patented Technology and Standard Setting: a Standard Development Organization View", in ABA Antitrust Section, *A Year in the Life of a High Tech Standard Setting Organization* (Spring Meeting, 25 April 2002).

application, but not the technical know-how of the invention, innovators may still preserve their interests⁸⁷. Indeed, it is doubtful that the substance of an invention could be inferred without access to the related technical know-how. Therefore, the mere disclosure of the existence and scope of pending IPRs may still preserve the applicants' trade secrets. At the same time, it may grant SSOs sufficient details to make the optimal choice and limit the risks of unfair conduct. That is why disclosure requirements should also include a partial description of pending rights.

Pending IPRs under the Maximum Cap

This choice is all the more reasonable when adopted to complement a maximum cap framework. Under this licensing model, indeed, non-disclosure or description of pending IPRs may risk to compromise the whole standardization process. Assuming that a standard setting body implementing the maximum cap did not require any disclosure of pending rights, one legitimate question could be raised. What would happen in case the IPRs applications covering the standard were ultimately granted? Under these circumstances, it could be supposed, SSOs may impose to license the undisclosed IPRs under the same terms submitted with the cap, so as to preserve the effectiveness of the process.

⁸⁷ M. Lemley (n° 75) 1943.

However, this solution does not seem workable, but could be used by innovators to their advantage in order to over-exploit their rights. It may happen, indeed, that a member submits extremely high licensing terms, together with disclosure of the issued IPRs these terms refer to. In this situation, it is very likely that the SSO decides to opt for a different standard, in order to avoid the payment of prohibitive levels of royalties. However, it cannot be excluded that the standard ultimately chosen may cover one of those pending IPRs not disclosed by the innovator and formally subjected to the same restrictive conditions submitted with the cap. Under these circumstances, the SSO member whose (initially pending) rights are in conflict with the standard may legitimately claim for payment of the exorbitant royalties specified in advance. It is in view of this fault that this system cannot be developed. A maximum cap cannot be successfully implemented without shaping a more robust regime also for pending IPRs.

In order to achieve the optimal compromise between SSOs' goals and innovators' interests, standards institutes should better implement a cap regime covering only those rights properly disclosed. In other words, the licensing terms submitted by innovators should apply only with respect to those issued and pending rights revealed in due time to the SSOs' committees. All those IPRs which were not disclosed, either intentionally or unknowingly, should instead fall out of the maximum cap. In particular, SSOs policies should require IPRs owners to waive any claim and license any hidden rights for free. This rule

should apply also for those members which had initially denied the existence of any relevant IPRs and had thus omitted to submit a maximum cap. Such a mechanism seems to be necessary in order to preserve the whole standard setting system. The clear advantage is that it would allow SSOs to develop standards without risk to be hindered by late disclosure of essential rights.

On the other side, it could be argued that imposing a free license for hidden IPRs may conflict with the policy choice to omit search requirements, and may also represent a too draconian measure for innovators. The latter could be in theory discouraged from taking part in standard setting. However, in my view, the model may still work as an incentive for IPRs holders to participate and reveal the existence of their pending or issued rights related to the standard. By failing to participate and disclose, innovators would lose a concrete opportunity to get rewarded for their investments in innovation. Indeed, with respect to the rights disclosed in due time, the selected innovator may ask for the maximum price or most restrictive non-price conditions proposed *ex ante*. Therefore, the very opportunity to apply the desired licensing terms should balance the negative effects of a fee waiver for any hidden rights. In addition, the choice to avoid any formal and binding search requirement may be well-accepted by SSOs' members and should be interpreted as part of the delicate balance between innovators' interests and standard setting goals. It is clear, however, that the pursuit of this balance could also warrant a rule requiring members to return any collected fees in case of invalid IPRs (over-disclosure).

4. Enforcement of Contract Law as *Ex Post* Possible Remedy

Once defined the structure of the optimal policy framework and highlighted its advantages, it is legitimate to question how such a model may be enforced. Indeed, the SSOs policy rules are not laws and are not enforceable by themselves. They rather need to be enforced on the basis of legal principles⁸⁸. In this context, contract law could be considered as a potential tool to preserve -from an *ex post* perspective- the outcome of SSOs' processes⁸⁹. This holds true as far as the rules subscribed by the members are interpreted as contractual provisions. In other words, the SSO's legal framework should be interpreted as an agreement between the organization and the participants.

There are different ways to turn SSOs' policies in enforceable contracts. The participants, for instance, may subscribe a document which binds them to comply with the IPRs guidelines. As an alternative, they may commit themselves to comply with any SSO's bylaws. In addition, it would be also possible to rely simply on sufficient factual circumstances without the need of any written documents⁹⁰.

⁸⁸ J.H. Park, *Patents and Industry Standards* (Edward Elgar, Cheltenham 2010) 46.

⁸⁹ On the argument, see B.H. Kobayashi and J.D. Wright, "Federalism, Substantive Pre-emption, and Limits on Antitrust: An Application to Patent Holdup", (2009) 5 *Journal of Competition Law and Economics* 469. See also R. Hewitt Pate (Assistant Attorney General for Antitrust - U.S. Department of Justice), "Competition and Intellectual Property in the U.S.: Licensing Freedom and the Limits of Antitrust" (Speech at *EU Competition Workshop*, Florence - 3 June 2005), available at <http://www.usdoj.gov/atr/public/speeches/209359.pdf>.

⁹⁰ J.H. Park (n° 88) 46. See also M. Lemley (n° 75) 1910-1911.

Breach of Contract

Under these perspectives, IPRs owners taking part in standard setting may breach that agreement by either infringing the established cap or refusing to license the essential rights.

Firstly, IPRs holders would potentially incur the risk to be sued for breach of contract in case they required the payment of royalties for those essential rights not properly disclosed. The latter, it has been said, should be licensed for free, in order to preserve the fairness and transparency of the standard setting environment. A further concern could also arise when IPRs owners tried to apply for the rights disclosed in due time more restrictive terms than those specified *ex ante*. In brief, innovators could be deemed responsible in case they failed to fulfil the subscribed licensing conditions⁹¹.

Secondly, contract law may apply in case the selected member ultimately refused to sell any license for the relevant IPRs. Under these circumstances, there would be no direct breach of the maximum cap, but a mere infringement of the duty to license. This notwithstanding, also this case may entail the enforcement of contract law for breach of a contractual provision accepted by the parties of the agreement.

⁹¹ See J. Gstalter (nº 16) 16. The author argued that “promotion of competition through open standards is at the confluence of contractual law, competition law, IPR law and other public policy instruments”.

Limitations

However, as it has been argued, the application of the theory of contract to cooperative standard setting may be problematic under different grounds⁹². On the one hand, the contract would be between the single participant and the standard setting body. In case of infringement, all those firms that were not part of the organization and that are interested in obtaining a license from the selected innovator would lack standing to make a claim. They should be considered as incidental beneficiaries, which generally are not allowed to enforce the contract⁹³.

With respect to the other members, they could similarly not be considered part of the infringed contract. However, in their capacity of intended beneficiaries, members could require the SSO to enforce the agreement on their behalf. In case this was not practicable, and depending on the legal system concerned, they could be even granted standing to sue⁹⁴.

As one commentator observed, “contract law remedies are therefore deficient in deterring patent ambush and widen the access to the standard because they are only available to a restricted number of claimants”⁹⁵.

⁹² J.H. Park (n° 88) 46-47.

⁹³ M. Lemley (n° 75) 1914-1916.

⁹⁴ *Ibid*, 1914-1915.

⁹⁵ A. Chronopoulos, “Patenting standards - a case for US antitrust law or a call for recognizing immanent public policy limitations to the exploitation rights conferred by the Patent Act?” (2009) 40(7) *International Review of Intellectual Property and Competition Law* 801.

On a further different ground, the enforcement of contract law for breach of IPRs policies would not fully compensate the damage caused by the infringement⁹⁶. A member who failed to obtain a license under the terms disclosed *ex ante* may be compensated for the expected gain from the contract. This is usually the net value -after subtraction of the licensing fees- it could have obtained by use of the standard. However, a remedy for contract damage does not usually consist in an injunctive relief, which could be an order by a civil court imposing a compulsory license⁹⁷. It is thus clear that the damage suffered by the whole society, in terms of losses from the missed implementation of the standard, would be seldom repaid.

Effectiveness

Although the application of contract law to enforce SSOs rules has the cited limitations, it may still be considered as an *ex post* possible remedy to unlawful conduct. It is true that this tool is not likely to fully compensate the infringement; however, it may still work as a deterrent to unfair innovators.

The effectiveness of contract law is all the more evident when applied in the context of the proposed policy model. Indeed, the potential enforceability of the maximum cap under contract law is the main difference between the breach

⁹⁶ M. Lemley (n° 75), 1916-1917.

⁹⁷ J.H. Park (n° 88) 47.

of an established cap and the infringement of FRAND/RAND conditions. Under a FRAND/RAND regime, characterized by the absence of specific price benchmarks, it could be more complex and lengthy to assert one's right before a civil court⁹⁸. Various authors have already acknowledged courts' reluctance to deal with FRAND/RAND definitions⁹⁹. Furthermore, the economic literature focusing on the meaning of these terms has developed divergent theories which have only increased uncertainty rather than solve the issue¹⁰⁰.

On the ground of these remarks, the maximum cap regime, complemented by the proposed disclosure system, could have more chances to be enforced as a contract than a FRAND/RAND model may ever have. This would also explain why the implementation of this mechanism should be preferred to any other framework in the setting of SSOs' IPRs policies.

⁹⁸ *Contra*, see D. Geradin and M. Rato (n° 7) 119-120. The authors consider FRAND/RAND terms as a workable and enforceable licensing option.

⁹⁹ M. Valimaki (n° 31) 690; G. Ohana, M. Hansen, O. Shah (n° 33) 647.

¹⁰⁰ See, *inter alia*, A. Layne Farrar, A.J. Padilla and R. Schmalensee, "Pricing Patents for Licensing in Standard-Setting Organizations: Making Sense of Frand Commitments", (2007) 74 *Antitrust Law Journal* 671; D. Geradin and M. Rato (n° 7) 112; D.G. Swanson and W.J. Baumol, "Reasonable and Non-discriminatory (RAND) Royalties, Standards Selection, and Control of Market Power", (2005) 73 *Antitrust Law Journal* 10; and M.A. Lemley and C. Shapiro, "Patent Hold-up and Royalty Stacking", (2007) 85 *Texas Law Review* 1991.

5. Enforcement of Further Private Law Remedies

Contract law is not the only remedy of private law which could be enforced in case of misleading conduct of SSOs' members holding IPRs. Part of the literature mentions further tools or legal theories which may be applied¹⁰¹. These remedies have been established in the United States and refer to: a) the equitable estoppel doctrine; b) the implied license theory; c) the fraud defence; and d) the patent misuse claim.

5.1 Equitable Estoppel

The equitable estoppel is a remedy which could be used in the SSO context to tackle the risks deriving from misleading conduct¹⁰². More in detail, equitable estoppel can be a potential tool to regulate the duty to disclose essential IPRs. Three conditions are required for applying the doctrine: i) the innovator, through misleading conduct, leads the alleged infringer to infer that the innovator will not enforce its rights; ii) the alleged infringer reasonably relies on the misleading conduct; and iii) due to the reliance, the alleged infringer will be prejudiced if the innovator is allowed to enforce its rights¹⁰³. These three factors must be

¹⁰¹ J.H. Park (n° 88) 47-48; M. Lemley (n° 75) 1918-1919.

¹⁰² J. Verbruggen and A. Lorincz, "Patents and technical standards", (2002) 33(2) *International Review of Intellectual Property and Competition Law* 149.

¹⁰³ *A.C. Aukerman Company v R.L. Chaides Construction*, 960 F.2d 1020 (C. App. Federal Circuit, 1992).

intended as cumulative¹⁰⁴. When all of them are established, the doctrine aims at preventing the misleading innovator from enforcing its rights¹⁰⁵. To this end, the intent of the IPRs holder is not relevant.

Equitable estoppel may find application both in case of IPRs owners which actively mislead the SSO and in case of a mere omission to speak, provided that the organization imposes on members a clear duty to disclose¹⁰⁶. What is more, besides the case of failure to disclose, the doctrine could be enforced under further circumstances. Indeed, as the literature clarified, the equitable estoppel could be applied also when a member, after having disclosed its relevant rights and having promised to waive any claim, ultimately tried to enforce them¹⁰⁷.

As already explained, in the context of SSOs implementing a maximum cap framework IPRs holders would be encouraged to disclose any essential (pending or issued) rights. Such a mechanism would enable them to establish the level of fees or other non-price conditions desired, without the risk of lengthy

¹⁰⁴ See *Symbol Techs. v Proxim*, No. Civ. 01-801-SLR, 2004 WL 1770290 (D. Delaware, 2004) (rejecting an estoppel defence when the firm had no duty to disclose its patent rights).

¹⁰⁵ *Potter Instrument v Storage Technology*, 207 U.S.P.Q. 763 (E.D. Virginia, 1980); *Stambler v Diebold*, 11 U.S.P.Q. 2d 1709 (E.D.N.Y., 1988) (holding that estoppel precluded plaintiff from succeeding on a patent infringement claim brought after having failed to disclose its patent interests in the context of an ANSI standards committee).

¹⁰⁶ M.S. Royall, “Standard Setting and Exclusionary Conduct: The Role of Antitrust in Policing Unilateral Abuses of Standard-Setting Processes”, (2003-2004) 18 *Antitrust* 46. As already held in Chapter V, the implementation of clear policy rules -properly made known to the members- is the precondition for enforcing any tool against alleged unfair conduct.

¹⁰⁷ J.H. Park (n° 88) 48.

negotiations with the firms interested in a license. Hence, the risk of ambush and, more in general, of any other unfair behaviour would be limited. This notwithstanding, in the unlikely case of misleading conduct, the doctrine of equitable estoppel could represent a further tool to address the problem.

However, it is also true that this remedy “cannot come to the rescue of all entities worthy of protection because it requires a privity relationship of the patentee to each individual infringer”¹⁰⁸. In other words, limitations exist on the application of equitable estoppel, as only those parties which can prove to have been misled and to have reasonably relied on the innovator’s promise can benefit from the enforcement of the doctrine¹⁰⁹. Non-members would clearly fall outside the category of beneficiaries. SSOs could in theory plug this loophole by providing in their agreements that the public should benefit as third party. In fact, this would not be a workable solution, due to the difficulty of enforcing contractual provisions characterized by an indefinite and too broad scope¹¹⁰. In addition, it is doubtful whether the ‘privity relationship’ condition could be fulfilled and demonstrated even under these specific circumstances.

¹⁰⁸ A. Chronopoulos (n° 95) 802.

¹⁰⁹ On the argument, see also J.M. Mueller, “Patenting Industry Standards”, (2001) 34 *J. Marshall Law Review* 924; and R.P. Merges and J.M. Kuhn, “An Estoppel Doctrine for Patented Standards”, (2009) 97 *California Law Review* 41-48. The latter try to overcome this doctrinal fault and refer to a “gradually developing reliance interest” of members as they proceed to invest in the standard.

¹¹⁰ D. Lim, “Misconduct in Standard Setting: the Case for Patent Misuse”, (2011) 51(4) *IDEA* 578.

5.2 Implied License

Implied license has been mentioned by part of the literature as a variation of equitable estoppel and as another possible remedy to address misleading conduct in SSOs contexts¹¹¹. While equitable estoppel may apply where the innovator leads other members to believe that no right will be enforced, implied license requires different conditions. Indeed, courts may apply the principle when the IPRs holder, after having disclosed its relevant rights and having submitted the licensing terms, ultimately breaches that agreement.

Under these circumstances the innovator does not mislead the other members to believe that his rights will not be enforced. The IPRs holder merely refuses to license under the disclosed licensing conditions. If the innovator tried to enforce the rights by filing an infringement suit, the alleged infringer may require the court to apply the theory of implied license¹¹². The latter, it must be noted, differs from the remedy of contract law as it should finally lead the alleged infringer to obtain a license¹¹³.

¹¹¹ J.H. Park (n° 88) 49-50; M. Lemley (n° 75) 1925; R.H. Stern, "Rambus v Infineon: the Superior Aptness of Common Law Remedies than Antitrust for Standardization Skulduggery", (2001) 23(10) *European Intellectual Property Review* 499.

¹¹² See *Wang Labs. v Mitsubishi Elecs. Am.*, 103 F.3d 1571 (C. App. Federal Circuit, 1997). Here, the court held that Mitsubishi was entitled to an irrevocable royalty-free implied license.

¹¹³ J.H. Park (n° 88) 50. As Park argues, the implied license theory, the equitable estoppel and contract law are all remedies used in a defensive way.

5.3 Fraud

The fraud defence may provide a remedy in case of members breaching their policy duty. In comparison to an antitrust claim, it may have more chances to succeed, as it does not require establishing market power in a defined market¹¹⁴. The fraud theory, applied in the context of the *Rambus* litigation¹¹⁵, can be either actual or constructive.

Constructive fraud requires the “breach of duty by one in a confidential or fiduciary relationship to another that induces justifiable reliance by the other to his or her prejudice”¹¹⁶. In the context of standard setting, the existence of such a direct relationship between a IPRs holder and another member is unlikely. Rather, actual fraud may be in theory a more common problem for SSOs. In order to raise an actual fraud action, a party must establish the following elements: (1) a false representation (2) of a material fact, (3) made with knowledge of that material fact (4) with the intent to induce reliance (5) where the other party takes action in justifiable reliance and (6) results in damages.

As to the first element, this may consist either in an affirmative statement or in concealment. In standard setting, a false representation may be established

¹¹⁴ M. Lemley (n° 75) 1935; J.H. Park (n° 88) 53.

¹¹⁵ *Rambus v Infineon Technologies*, 164 F. Supp. 2d (E.D. Virginia, 2001); and *Rambus v Infineon Technologies*, 318 F.3d 1081 (C. App. Federal Circuit, 2003). See also R.H. Stern (n° 111); and M.S. Royall, A. Tessar and A.J. Di Vincenzo, “Deterring ‘Patent Ambush’ in Standard Setting: Lessons from *Rambus* and *Qualcomm*”, (2009) 23(3) *Antitrust* 34.

¹¹⁶ P.D. Sabido, “Defending against Patent Infringement Suits in Standard-Setting Organizations: *Rambus Inc. v Infineon Technologies*”, (2003-2004) 13 *Federal Circuit Bar Journal* 641-642.

when a member fails to disclose its relevant IPRs or mislead other members as to its will to license under a maximum cap. With respect to the second element, materiality exists if the defrauded party would have acted differently had it known about the fact. This means that the SSO would have opted for a different standard had it known about the conduct¹¹⁷. Knowledge of the material fact, then, exists when the defrauded party proves that the IPRs holder actually knew about the conflict with the standard. The defrauded party must also prove that the conduct was intentional to induce reliance by other parties. This means that the alleged defrauder must have a clear understanding of its duties and intentionally breached them. The existence of these duties may also help in proving justifiable reliance on the defrauder's false representation. Finally, the defrauded party must prove the existence of monetary or economic loss caused by the misrepresentation, which may include the costs of obtaining a license or designing around the IPRs. The alleged infringer may prove damages if the IPRs owner is successful in its infringement suit.

However, similarly to the other private law remedies, also the fraud defence has some limits. The alleged defrauder must have some duty to the defrauded party. This means that the remedy cannot be claimed by non-members¹¹⁸.

¹¹⁷ J.H. Park (n° 88) 52.

¹¹⁸ On the scope of the fraud claim see A. Chronopoulos (n° 95) note 85; M.S. Royall, A. Tessar and A.J. Di Vincenzo (n° 115) 34; and M.S. Royall (n° 106) 46 (citing *Walker Process v Food Mach. & Chem.*, 382 U.S. 172 (1965), where prove of actual fraud was required to enforce Section 2).

5.4 Patent Misuse

Equitable estoppel, the implied license theory and fraud do not exhaust the list of further potential tools which could be enforced in the SSO environment. Besides these remedies, which complement the enforcement of contract principles, one further option must be considered: patent misuse. The patent misuse doctrine represents a public policy defence against patent enforcement by IPRs owners¹¹⁹. When applied, it leads to substantive limitations of patent exploitation justified by public policy reasons¹²⁰.

Patent misuse occurs when a patent holder, through his conduct, "impermissibly broadens the patent so as to extend the patent [owner's] statutory rights"¹²¹. When the misuse defence is endorsed in a suit for patent infringement, the patent is declared unenforceable for as long as the adverse effects of the misuse last. Consequently, the patent owner cannot enforce its rights against any other infringer. This holds true even if the defendant has suffered no injury from the unlawful conduct¹²².

¹¹⁹ *Ibid*, 784; D. Lim (n° 110) 557.

¹²⁰ *Mallinckrodt v Medipart*, 976 F.2d 700 (C. App. Federal Circuit, 1992).

¹²¹ R.P. Taylor, "Standard Setting: A Growing Morass", (2002) *Intellectual Property Antitrust* 556.

¹²² See M.J. Adelman, *Patent Law Perspectives* (2nd edn Bender, New York 1982); and W.J. Nicoson, "Misuse of the Misuse Doctrine in Infringement Suits", (1962) 9 *UCLA Law Review* 76. On the analysis of patent law remedies for hold-up, see also E. Ramirez and L. Kimmel, "A Competition Policy Perspective on Patent Law: the Federal Trade Commission's Report on the Evolving IP Marketplace", (2011) *The Antitrust Source*.

Effectiveness

In comparison with the other cited remedies, the patent misuse doctrine has been considered as a more effective tool in balancing IPRs protection and limitation¹²³. Different authors, what is more, interpret the misuse defence as an effective means also to address misleading conduct in SSOs¹²⁴. For instance, it could be used against patent ambush, considered as an impermissible exploitation of the economic scope of the patent and contrary to the public interest¹²⁵. By applying the patent misuse principle, a court would make the patent unenforceable and would preserve the outcome of standard setting. In particular, “rendering the patent unenforceable in cases of deceptive continuations from participants in SSOs would facilitate the creation of standards that are accessible by the greatest possible number of competitors”¹²⁶.

From a further perspective, and unlike most of the cited remedies, the misuse theory protects an entire category of infringers: all users of the selected standard¹²⁷. This is because misuse does not require continuity or privity between patentees and the alleged infringers, but applies even when innovators do not have any direct relationship with industry users. Finally, with respect to antitrust claims, the enforcement of the misuse doctrine would relieve a court of

¹²³ See Note, “Is the Patent Misuse Doctrine Obsolete?”, (1997) 110 *Harvard Law Review* 1922.

¹²⁴ J.M. Mueller (n° 109) 935; D. Lim (n° 110) 580.

¹²⁵ A. Chronopoulos (n° 95) 814.

¹²⁶ *Ibid*, 813.

¹²⁷ D. Lim (n° 110) 580.

the duty to deal with the thorny issue of punitive damages. Indeed, this remedy merely leads to suspend patent enforceability, until the misconduct is purged¹²⁸.

Despite the cited advantages, however, there is still uncertainty as to the scope and purpose of patent misuse¹²⁹. For instance, as some authors noted, antitrust analysis of IPRs misuse may have absorbed the doctrine¹³⁰. This view may ultimately lead to argue that there is the risk of enforcing two similar remedies against the same conduct. As a counter-argument, perhaps, it could be said that patent misuse is broader than antitrust liability, as it extends to “some sorts of conduct antitrust laws would not reach”¹³¹. On a different ground, also the argument that the misuse doctrine unduly impairs the value of patents should be rejected, in light of the fact that unenforceability is only a temporary but not permanent effect¹³².

¹²⁸ *B.B. Chemical v Ellis*, 314 U.S. 495 (1942).

¹²⁹ M. Lemley, “The Economic Irrationality of the Patent Misuse Doctrine”, (1990) 8 *California Law Review* 1599.

¹³⁰ J.R. Bennet, “Patent Misuse: Must an Alleged Infringer Prove an Antitrust Violation?”, (1989) 17 *AIPLA Quarterly Journal* 1; J.M. Webb and L.A. Locke, “Intellectual Property Misuse: Developments in the Misuse Doctrine”, (1991) 4 *Harvard Journal of Law and Technology* 257; and G.E. Frost, “Patent Misuse As A Per Se Antitrust Violation”, in J. Rahl and E. Zaidins, *Conference on the Antitrust Laws and the Attorney General's Committee Report* (1955).

¹³¹ H. Hovenkamp *et al.*, *IP & Antitrust* (Suppl. 2008) § 3.2. On the issue, see also R.C. Feldman, “The Insufficiency of Antitrust Analysis for Patent Misuse”, (2003) 55 *Hastings Law Journal* 399.

¹³² D. Lim (n° 110) 582.

Main Criticism

Besides these observations, a more serious dispute is on whether this remedy may be effectively applied in standard setting. Courts, it has been noted, have found it difficult to apply the doctrine when members merely concealed their rights¹³³. In other cases, courts have rejected the claim that charging unreasonably high royalties constitutes patent misuse¹³⁴. More in general, some authors believe that applying the misuse doctrine in standard setting “disregards the value of a patented technology and its contribution to the industry”¹³⁵.

The more challenging criticism concerns the applicability of patent misuse to the case of exorbitant royalties. In other words, it is disputable whether a court may enforce this remedy even when there is no concealment of IPRs but only a request for excessive fees. This may happen when an innovator, after having disclosed the relevant rights and submitted the maximum cap, ultimately breaches that cap. In the previous sections, it has been explained that this conduct may be in theory addressed by enforcing contract law¹³⁶. Would the enforcement of the misuse principle be similarly appropriate? The behaviour

¹³³ M.G. Cowie and J.P. Lavelle, “Patents Covering Industry Standards: The Risks to Enforceability Due to Conduct Before Standard-Setting Organizations”, (2002) 30 *AIPLA Quarterly Journal* 115.

¹³⁴ *W.L. Gore & Assoc. v Carlisle*, 529 F.2d 614 (C. App. 3rd Circuit, 1976), at 622-623.

¹³⁵ L. Zhang, “How IPR policies of telecommunication standard-setting organizations can effectively address the patent ambush problem”, (2010) 41(4) *International Review of Intellectual Property and Competition Law* 407.

¹³⁶ See above section 4.

should be distinguished from the case where IPRs owners ask for royalties beyond the expiration (the life) of the patent; under these circumstances, fewer doubts exist about the reasonableness of a misuse claim¹³⁷.

In order to answer the question, it is first necessary to recall a basic but important concept. In a society pursuing the maximization of societal welfare and dynamic efficiency, IPRs owners should be allowed to choose a trading party and fix the desired price for licensing their rights. Without such incentives, firms would seldom invest substantial resources in innovation. Only under exceptional circumstances should these rights be legitimately constrained. This being stated, standard setting may well justify some limitations, especially in case of misleading conduct by IPRs holders. The existence of public interests underlying the widespread adoption of a standard may give further reasons for a liability approach. It is in view of these remarks that the charging of excessive fees, in breach of the maximum cap submitted, could also justify the enforcement of a patent misuse defence.

The implementation of a maximum cap itself would help in overcoming the uncertainties about the applicability of patent misuse to the case of excessive royalties. In this context, it has already been discussed the difficulty to define the

¹³⁷ *Brulotte v Thys*, 379 U.S. 29 (1964), at 32 (stating that “a patentee’s use of a royalty agreement that projects beyond the expiration date of the patent is unlawful per se”). See also the Report of the U.S. Department of Justice and Federal Trade Commission (n° 9) 97.

meaning of FRAND/RAND licensing terms¹³⁸. It would then be absurd for a court to establish the existence of misuse without having such a concept clear. When adopting a maximum cap model, instead, the breach of the specific price benchmark may well enable a court to develop a more reasonable justification for the enforcement of the misuse legal remedy.

To sum up, the patent misuse doctrine may well play a role in the pursuit of a balance between the innovators' interests and standard setting aims. Albeit some doubts may rise on the scope of its application¹³⁹, I would rather remark its effectiveness as evidenced by the literature¹⁴⁰. It is true, however, that this doctrine is circumscribed to the U.S. legal framework. The EU jurisdiction has not yet developed a patent misuse theory. One commentator has suggested "a pro-competitive application of national unfair competition laws, under which the prominence would be given on the interests of the consuming public"¹⁴¹. This approach, it could be argued, would allegedly allow filling the gaps of a patent system which exhaustively enumerates all the various exceptions to IPRs protection¹⁴².

¹³⁸ D. Lim (n° 110) 587.

¹³⁹ E.g., further doubts may rise also on whether it may apply to the case of refusal to license.

¹⁴⁰ See *inter alia* J.M. Mueller, "Patent Misuse through the Capture of Industry Standards", (2002)

17 *Berkeley Technology Law Journal* 623.

¹⁴¹ A. Chronopoulos (n° 95) 816.

¹⁴² *Ibid.*

However, it should not be forgotten that the EU legal framework already provides one specific tool to control excessive prices: Article 102 TFEU¹⁴³. Further relevant remarks on the scope of this rule will be given in the next sections.

5.5 Conclusive Remarks on Alternative Private Remedies

Contract law is not the only private remedy which could be potentially enforced in case of misleading conduct by innovators. Further tools exist, in particular in the U.S. legal framework. Among these, equitable estoppel, the implied license theory, fraud and the patent misuse defence have been discussed. All these remedies and principles, in theory, may function as a deterrent against unfair behaviours in standard setting. However, they do present some limitations of different nature. For instance, leaving aside the misuse claim, it seems that only SSOs' members could benefit from their application.

This being stated, I have also explained that the implementation of a maximum licensing cap may facilitate a more effective enforcement of these tools. At the same time, and more importantly, it may discourage innovators from implementing any unfair behaviours.

¹⁴³ See above Chapter IV section 4.2.

6. Enforcement of Competition as *Ex Post* Effective Remedy

The examination of the abovementioned remedies of civil law does not exhaust the studying of all the legal principles which may find application. Given the limitations these tools present, it seems also necessary to look at further potentially effective remedies. In this context, it is legitimate to question how the breach of the cap or the mere refusal to license may be treated under U.S. and EU competition laws. The analysis developed in Part II has already attested that both U.S. and EU antitrust enforcers have often scrutinized unlawful practices in standard setting¹⁴⁴. Thus, it may be argued that the enforcement of antitrust rules could be well interpreted as an *ex post* potential remedy to any unfair or misleading conduct.

This section is devoted to understand better how antitrust regulations may help in preserving the activities of SSOs implementing a maximum cap regime. In the analysis of the issue, I will also deal with a further related topic, concerning the application of excessive prices.

6.1 Breach of the Maximum Cap

At first sight, the breach of the maximum cap may lead to consequences similar to those established by some courts with respect to the breach of

¹⁴⁴ Above, Chapters V and VI.

FRAND/RAND terms¹⁴⁵. Therefore, in case there is evidence that the SSO would have not adopted the patented technology but would have rather opted for alternatives had it known about the intention to breach the cap, the behaviour may be prohibited under both EU and U.S. antitrust laws. On the one hand, U.S. enforcers may only interpret the conduct as exclusionary under section 2 of the Sherman Act¹⁴⁶. On the other, the EU counterparts could fine the breach of the maximum cap both as exclusionary and exploitative conduct.

In case, instead, no exclusionary effect is found as it is proved that the SSO would have chosen the selected technology under all circumstances, no concern would arise under the Sherman Act¹⁴⁷. The latter, indeed, does not prohibit exploitative practices. In the EU, however, the conduct might still be charged as abusive exploitation under Article 102 of the Treaty on the Functioning of the European Union¹⁴⁸.

¹⁴⁵ E.g., *Rambus v F.T.C.*, 522 F.3d 456 (C. App. D.C. Circuit, 2008); *Broadcom v Qualcomm*, 501 F.3d 297 (C. App. 3rd Circuit, 2007).

¹⁴⁶ J.H. Park (n° 88) 51. In considering antitrust liability in the context of formal (*de jure*) standardization, Park identifies the attempted monopolization claim as the most likely tool under Section 2 of the Sherman Act.

¹⁴⁷ *Ibid.*

¹⁴⁸ See European Commission, “Commission Initiates Formal Proceedings against Qualcomm”, (1 October 2007) Press Release MEMO/07/389.

Competition as a Means to Regulate Prices

The issue recalls the heated debate on whether competition authorities are well-suited to deal with price regulation, a problem which has been partly scrutinized in Chapter IV¹⁴⁹.

Excessive prices, it is well-known, clearly affect consumer welfare. Consumers would be induced to limit their purchase of goods and services, to the ultimate detriment of the societal growth. This is because industrial productivity is usually affected by reduced consumption levels. These negative effects would more likely occur in those markets where high barriers do not facilitate entry by competitors, that is where competition is static.

The investments made by the industry involved in standard setting may well be interpreted as a consistent obstacle. Indeed, in case the selected IPRs owner breached the maximum cap, implementers and users would seldom reinvest their resources in the development of a new technology, as they would find themselves locked into the standard (lock-in effect). Therefore, also intervention by a competition authority -besides that of a civil court under private law- may prove effective in preventing patentees from exploiting market power and harming consumers. However, in light of the mentioned difficulty of appraising when a price is excessive, it is legitimate to question which tool a competition enforcer may adopt to address the issue. Article 102(a) TFEU,

¹⁴⁹ See Chapter IV section 4.3.

in prohibiting the imposition of unfair purchase or selling prices, raises the cited doubts¹⁵⁰.

The conduct, in my view, might be better addressed by Article 102(b) TFEU¹⁵¹. This provision prohibits conduct implemented by dominant undertakings and limiting production, markets, or technical development to the prejudice of the consumers. The behaviour of a patentee breaching the promise to charge within a maximum fee or apply licensing terms within the specified most restrictive conditions may be caught by the spirit of the article. After being selected by the SSO process, the patentee would likely acquire a dominant position in the market of the protected technology. This fact alone would meet the pre-condition for the finding of an abuse by Article 102 TFEU. The breach of the cap, then, could clearly lead to limit the production of the selected technology, as the industry concerned would seldom agree on terms higher than those established *ex ante*. The ultimate effect would be detrimental to consumers and societal growth.

In the U.S., instead, the absence of exploitative abuses in the Sherman Act reduces the scope of the antitrust enforcers' intervention. In relation to high

¹⁵⁰ Article 102(a), Treaty on the Functioning of the European Union, O.J. [2010] C 83/89. On the application of this provision, see Case 27/76 *United Brands v European Commission* [1978] E.C.R. 207; Case 26/75 *General Motors v European Commission* [1975] E.C.R. 1367; Case 30/87 *Bodson v Pompes Funebres* [1988] E.C.R. 2479; and Case 226/84 *British Leyland v European Commission* [1986] E.C.R. 3263.

¹⁵¹ Article 102(b), Treaty on the Functioning of the European Union, O.J. [2010] C 83/89.

pricing conduct, U.S. courts' decisions have held that "[a] pristine monopolist...may charge as high a rate as the market will bear"¹⁵². On a similar basis, it has been noted that a natural monopolist that acquired and maintained its monopoly "without excluding competitors by improper means is not guilty of 'monopolizing' in violation of the Sherman Act...and can therefore charge any price that it wants... for the antitrust laws are not a price-control statute..."¹⁵³.

This notwithstanding, the breach of a maximum cap in the absence of exclusionary effects may be potentially caught by section 5 of the FTC Act¹⁵⁴. This provision, which prevents unfair methods of competition and deceptive practices, was enforced in *Negotiated Data Solutions*¹⁵⁵. In that case, the licensor had first purchased certain patents from a SSO member. It had then tried to charge fees higher than those previously agreed by the initial owner of those patents. This means that, leaving aside the enforceability of contract rules and of the other civil law remedies, Section 5 may represent an important means to support the FTC's monitoring over unfair conduct. That case may further suggest that a maximum cap should bind any third party later purchasing relevant IPRs.

¹⁵² *Berkey Photo v Eastman Kodak*, 603 F.2d 263 (C. App. 2nd Circuit, 1979), at 297.

¹⁵³ *Blue Cross and Blue Shield United of Wisconsin v Marshfield Clinic*, 65 F.3d 1406 (C. App. 7th Circuit, 1995) at 1413, citing *National Reporting v Alderson Reporting*, 763 F.2d 1020 (C. App. 8th Circuit, 1985); *U.S. v Aluminum Co. of America*, 148 F.2d 416 (C. App. 2nd Circuit, 1945), at 430; *Ball Memorial Hospital v Mutual Hospital*, 784 F.2d 1325 (C. App. 7th Circuit, 1986), at 1339; *Berkey Photo v Eastman Kodak*, 603 F.2d 296 (C. App. 2nd Circuit, 1979).

¹⁵⁴ 15 U.S.C. § 45.

¹⁵⁵ *Negotiated Data Solutions LLC*, File n° 0510094, F.T.C. (2008).

6.2 Refusal to License

Besides the breach of the maximum cap, a further different conduct should be examined: the mere refusal to license. The selected innovator, as noted before, may merely decide to refuse any license. Under these circumstances, there would be no request for a higher level of royalties. Of course, this situation is unlikely, as IPRs holders have usually all the interest to get rewarded for their efforts in innovation. By refusing to license, they would clearly lose the opportunity to recover their investments. This notwithstanding, there may be exceptional reasons leading members to deny the licenses¹⁵⁶. If this happened, besides the enforcement of private law remedies, it could be questioned how antitrust enforcers may intervene.

Alternative Perspectives

The problem partially recalls the observations made in Part I of the work, on refusal to deal or license by IPRs holders¹⁵⁷. In that context, the legal principles examined referred to the IP-antitrust tension from a general perspective, as unrelated to the standard setting environment¹⁵⁸. It could be argued that, in the analysis of the tension, the considerations may change

¹⁵⁶ For instance, it could be supposed, an innovator may lately decide to develop further its technology and try to exploit it in the context of more remunerative future projects.

¹⁵⁷ See Chapter II sections 3 and 4.

¹⁵⁸ See C. Koenig and K. Spiekermann, "EC competition law issues of standard setting by officially-entrusted versus private organisations", (2010) 31(11) *European Competition Law Review* 452; D. Geradin and M. Rato (n° 7) 154; M. Valimaki (n° 31) 690.

depending on whether the innovator is part or not of a standard setting process. This view seems to be supported by part of the literature, which noted that "patent issues of formal standards are different from those of informal standards because constraints placed on the holders of patents essential to standards are greater in formal standards than in informal standards"¹⁵⁹. Put differently, innovators developing informal (*de facto*) standards do not have to comply with any SSO policy. Consequently, the enforcement of antitrust principles in case of refusal to deal could in theory reflect these different contexts.

The IPRs-Competition Dichotomy

Before answering the question, it is necessary to draw the attention on some basic concepts mentioned at the beginning of the work. IPRs, it is well known, are exclusive rights which grant the holder the exclusive control of the protected subject matter. In the absence of exceptional circumstances, the innovator should have the right to refuse to deal or license. These arguments have been endorsed – albeit to different extents- by both U.S. and EU courts, which have clarified that a mere refusal to license does not usually constitute an antitrust infringement. The right to exclude rivals is indeed the very essence of exclusive property rights¹⁶⁰. By imposing a duty to license or to deal, courts may reduce the

¹⁵⁹ J.H. Park (nº 88) 23-24.

¹⁶⁰ On the argument, see P.A. Preovolos, "Antitrust, Intellectual Property, Standards and Interoperability", (1999) *Practising Law Institute* 257.

incentive to innovate, to the ultimate detriment of societal welfare¹⁶¹. However, the analysis of the case law on the interaction IP-competition has also led to identify those elements which represent the exceptions justifying an order to license. In the U.S., courts have mainly referred to the *Aspen Skiing* principle¹⁶², the essential facility doctrine¹⁶³ and the monopoly leveraging theory¹⁶⁴. In the Union, instead, the Commission and the EU courts have often taken into consideration the concept of exceptional circumstances¹⁶⁵. These legal principles have been properly scrutinized in Chapter II. It suffices here to remember that their application has been considered limited by both EU and U.S. antitrust enforcers¹⁶⁶. In only few cases, indeed, an innovator has been charged for refusal to deal or license¹⁶⁷.

¹⁶¹ J.B. Kobak, "Intellectual Property, Refusals to Deal and the U.S. Antitrust Laws", (2005) *Practising Law institute* 402.

¹⁶² *Aspen Skiing v Aspen Highlands Skiing*, 472 U.S. 585 (1985).

¹⁶³ *MCI Communications v AT&T*, 708 F.2d 1081 (C. App. 7th Circuit, 1983); *Alaska Airlines v United Airlines*, 948 F.2d 536 (C. App. 9th Circuit, 1991).

¹⁶⁴ *Berkey Photo v Eastman Kodak*, 603 F.2d 263 (C. App. 2nd Circuit, 1979).

¹⁶⁵ Case 238/87 *Volvo AB v Erik Veng (UK)* [1989] 4 C.M.L.R. 122; Case 53/87 *Consorzio Italiano della Componentistica di Ricambio per Autoveicoli and Maxicar v Regie Nationale des Usines Renault* [1990] 4 C.M.L.R. 265; Joined Cases C 241-242/91 *P Radio Telefis Eireann & Independent Television Publications v European Commission* [1995] 4 C.M.L.R. 718; *Tierce Ladbrooke SA v European Commission* [1997] E.C.R. II 923; Case C-7/97 *Oscar Bronner GmbH Co KG v Mediaprint Zeitungs - und Zeitschriftenverlag GmbH & Co. KG* [1998] E.C.R. I-7791; Case C-418/01 *IMS Health GmbH v NDC Health GmbH* [2004] 4 C.M.L.R. 28.

¹⁶⁶ See, for instance, *Image Technical Servs. v Eastman Kodak*, 125 F.3d 1195 (C. App. 9th Circuit, 1997); and Case T-201/04 *Microsoft v European Commission* [2007] E.C.R. II-03601.

¹⁶⁷ On the issue, see D. Geradin, "Limiting the Scope of Article 82 of the EC Treaty: What can the EU Learn from the US Supreme Court's Judgment in *Trinko* in the wake of *Microsoft*, *IMS*, and

Refusal to License in Standard Setting

This being premised, the question is whether a SSO member's refusal to license may be considered under the same legal principles mentioned above, or whether such refusal may justify the adoption of a more rigid approach.

A more severe analysis could be in theory invoked in consideration of the conduct of the member that refuses to license after having subscribed the SSO's rules. However, in my view, there is no solid ground for altering the conditions established by the EU and U.S. jurisprudence in the enforcement of those principles. Thus, reference to the exceptional circumstances by the EU enforcers should still be grounded on the same cumulative factors: a) the indispensability of the license to launch a particular business; b) the elimination of competition in case of refusal; c) the development of a new product or service for which there is a potential demand; d) and the absence of objective justifications for the refusal. This test could be encompassed by the spirit and letter of Article 102(b) TFEU, which bans those practices limiting production, markets or technical development¹⁶⁸. Similarly to what held on excessive pricing, Article 102(b) is probably the most suitable provision to address also refusal to deal. With respect to the U.S. framework, section 2 of the Sherman Act is the relevant legal rule. However, the existence of objective justifications or the lack of

Deutsche Telekom", (2004) 41 *Common Market Law Review* 1519; L. Zhang, "Refusal to license intellectual property rights under Article 82 EC in light of standardisation context", (2010) 32(8) *European Intellectual Property Review* 402; and K.J. Koelman (n° 22) 827.

¹⁶⁸ Perhaps, it could be argued that in SSOs' contexts this test may be more easily fulfilled.

alternative standards would make unlikely the enforcement of antitrust principles under this provision.

To sum up, refusal to license in the context of standardization activities does not justify a change in the analytical approach to the issue. It is in view of these remarks that the EU concept of exceptional circumstances and the principles developed by the U.S. jurisprudence may find application only in limited cases¹⁶⁹. This notwithstanding, the existence of limitations does not preclude the enforcement of further remedies. For instance, refusal to license by a SSO's member could also be appraised in the U.S. under section 5 of the FTC Act, which prohibits entities from engaging in unfair or deceptive acts¹⁷⁰.

In any case, it is worth restating, it is unlikely that the selected IPRs holder would refuse to license its rights and lose the opportunity to get rewarded. This situation may hypothetically occur out of the standard setting context, between an innovator and a competitor seeking a license. Indeed, it could happen that the parties do not find an agreement on the level of royalties. However, in the context of a SSO implementing a policy model based on the maximum cap, refusal to license would be highly improbable. Under this regime, the innovator itself makes the explicit choice of the level of royalties or of the other non-pricing terms desired. Compliance with the cap would consequently make less relevant the issues (e.g., on exceptional circumstances) arising from refusal to license.

¹⁶⁹ J.H. Park (n° 88) Chapters 3 and 4.

¹⁷⁰ 15 U.S.C. § 45.

6.3 Conclusive Remarks on the Role of Competition

In conclusion, antitrust regulations may represent a further tool -besides civil law remedies- to constrain *ex post* the negative effects of unfair conduct and discourage other competitors from further developing similar strategies¹⁷¹. It is true that some theoretical limitations exist, with particular reference to the case of refusal to deal. This notwithstanding, as it has been said, refusal to license after having subscribed the policy rules is unlikely. What is more, with particular reference to the U.S. jurisdiction, section 5 FTCA may still fill the gaps left by the Sherman Act. Therefore, it seems that an effective competition framework based on the enforcement of a consumer welfare test may well come abreast of a robust IPRs policy in the effort to preserve standard setting processes¹⁷². Perhaps, in comparison to the other private law remedies, antitrust seems to be an even better enforcement tool, due to the prominent role given to consumer protection.

This being stated, a crucial concept should be remarked one more time. A maximum cap, as the optimal compromise between innovators' interests and standard setting goals, would undoubtedly have more chances to be fulfilled than a FRAND/RAND commitment may ever have. This would certainly make less relevant the implementation of a good faith duty by SSOs. As a logical consequence, it would also reduce the risk of intervention by courts or authorities enforcing antitrust regulations.

¹⁷¹ *Contra*, see J.H. Park (n° 88) 51. The author finally argues that "antitrust laws can be used in limited circumstances in relation to standards incorporating patents".

¹⁷² On the benefits of the consumer welfare enforcement test, see Chapter I section 2.2.1.

7. Conclusion

The main goal of this chapter was to find a solution to the tension arising in standard setting between IP and competition laws. As it has been explained, an optimal balance between patentees' interests and standardization goals should be shaped on the following principles: a) duty to disclose issued IPRs; b) duty to describe the scope and function of pending rights; and c) duty to license disclosed IPRs under the maximum cap and undisclosed essential rights for free.

Under this legal framework, patentees would be required to disclose *ex ante* the maximum level of royalty or the most restrictive non-pricing terms to be applied in case of selection. Such a model, to be implemented in a non-discriminatory manner, would cover both issued and pending IPRs. Those rights which were not disclosed (either intentionally or inadvertently) should instead be licensed for free. This licensing restriction seems to be necessary in order to preserve the whole standardization process.

The maximum cap rule, more importantly, would help in tackling *ex ante* the hold-up issue, typically arising under FRAND/RAND terms. Indeed, the opportunity itself to fix the licensing terms desired should encourage IPRs owners to fulfil their commitments and refrain from misleading the other members. Nonetheless, in case of deception, the model would be potentially easier to enforce before a court. Contract law, antitrust and the further private law remedies (fraud, implied license, equitable estoppel and patent misuse)

developed in the U.S. may all benefit in terms of enforceability from the implementation of a maximum cap.

Finally, with respect to the merits of the other rules completing the model, the exclusion of a general duty to search essential IPRs (either issued or pending) and to fully disclose relevant pending rights may well encourage innovators to take part in standard setting. The effect to incentivise participation in SSOs is all the more important when considering the potential obstacles arising from non-participation. Indeed, as I have made clear, in case of conflict with the rights of non-members the latter may be obliged to grant a license to standard users only under those exceptional circumstances identified in Chapter II. By encouraging (through the cited rules) a more significant participation, the risk of blocking patents would be substantially reduced.

All these advantages would have been probably observed had JEDEC and ETSI implemented the suggested framework. Under these circumstances, it is unlikely that Rambus or Qualcomm would have acted in an unfair or misleading way. Rather, they would have seen the opportunity to charge the desired licensing price and get rewarded for their investments in research and innovation. Furthermore, by disclosing a specific licensing cap, they would have had no possibility to hold-up the other members. As a consequence, both ETSI and JEDEC would have been able to bring their technologies in the marketplace in the most effective and timely way.

In conclusion, the described policy model would ensure both patentees and licensees more transparent and effective SSOs processes. This would hold true from an *ex ante* perspective, in the first place. It would also hold true *ex post*, since antitrust and private law defenses may both have roles to play in ensuring protection against market-wide harm resulting from the breach of the cap. In the area of standard setting, as elsewhere, private defences and antitrust doctrines need not to be viewed as mutually exclusive, but as bodies of law which may lead to complementary remedies. Their ultimate effect would be beneficial to consumer and societal welfare, which are the true goals of standardization.

General Conclusions

Competition and IPRs are both necessary for a market to work efficiently and to achieve dynamic competition. In terms of objectives, the tension between them is only apparent. Properly applied, strong intellectual property protection creates the competitive environment necessary to allow firms to profit from their inventions. This encourages innovation effort and improves dynamic efficiency, to the ultimate benefit of consumer and societal welfare. Antitrust and IP laws, thus, should be seen as encouraging firms to engage in competition, and in particular competition that involves risks and long-term investments. On the other side of the spectrum, it seems also important to strike the right balance between investment incentives and competition objectives. Indeed, any abuse of market power may cause significant harm to the society well-being. At the same time, any form of control of market power should preserve firms' incentives to invest in the market. The crucial aim is to develop a proper balance which avoids risks of substantial losses in long-term societal welfare. To this end, EU and U.S. competition laws should deter IPRs owners from obtaining greater power than that inherent in the relevant IPR grant.

This being premised, the field of standard setting clearly represents a context where IPRs and competition law may potentially conflict. Patent hold-up represents the most serious risk for SSOs, and provides a solid foundation for concerns about consumer and societal welfare. This opportunistic behaviour has

led IPRs holders to gain illegitimate economic advantages, at the expense of the whole standardization system. The cause of the problem must be identified in the unclear regulations widely adopted so far by standards institutes. Such uncertainty raises several questions as to the best path between reducing antitrust risks and protecting IPRs. EU and U.S. antitrust enforcers have adopted a set of key judgments in the attempt to define rights and obligations of the parties involved. *Rambus* and *Qualcomm* certainly provide some more guidance than that existing until a few years ago. However, they did not answer all the questions that SSOs' participants may raise. One core question, in particular, still needs a comprehensive answer: how to solve the hold-up problem, and strike the optimal balance between standardization goals and innovators' interests?

This thesis has made clear that, in order to solve the tension between IPRs and competition in standard setting, an improved policy system should be developed. Such a model should be based on the *ex ante* unilateral disclosure of the maximum price and other non-pricing licensing terms. Further rules on disclosure of issued and pending rights should be included, as part of the delicate balance between industry standards and IPRs holders' interests. Striking the optimal balance, however, also means that undue restrictions on innovators should be avoided. This means that members need not feel compelled to do more than is required, particularly when this would lead to weaken their IPRs. The adoption of an improved policy model based on unilateral early disclosure may also prove effective when appraised from an *ex post* perspective.

A maximum cap regime, indeed, would be easier to enforce in case of misleading or deceptive practices. In this regard, the conclusive chapter has developed an in-depth examination of the different legal tools which could be potentially applied. Competition law is certainly one effective remedy against hold-up. It is true that, when comparing the EU and U.S. frameworks, full convergence of transatlantic trends in antitrust jurisprudence is unlikely in the immediate future. This is because of the different cultures, histories, economic conditions and antitrust statutes existing in the U.S. and the EU. However, an expansive use of section 5 of the FTC Act may (at least partially) reduce the differences between U.S. and EU enforcement practices in standardization cases. In addition, convergence between the EU and U.S. frameworks could also be achieved by promoting more private enforcement actions in the EU.

Current and future challenges demand an in-depth reflection on the scope and the role of standardization in the emerging global context. As standardization activities are increasingly global, both firms and standards institutes will need to pay greater attention to the legal frameworks and enforcement systems that may apply to them. This work has developed a thorough examination of the main risks arising in standard setting, which may weaken its contribution to innovation, consumer welfare and societal growth. The path proposed to update the current policies and optimize enforcement practices will hopefully help the standard setting environment to navigate through the existing uncertainty.

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