THE VALUE OF INTANGIBLES
-
REMEDIES FOR ABUSE OF REFUSAL TO LICENSE

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I. INTRODUCTION

"The effectiveness of any competition authorities' enforcement depends as much on the actual implementation of the adopted decisions as on the investigation of the infringements and the findings of liability. Once liability has been established, re-establishing the conditions for effective competition is the ultimate objective of competition law and remedies are the means to achieve this goal. Remedies, and their proper design, are therefore a key aspect in enforcing competition policy and allowing markets to develop to their fullest potential." [2]

This statement made by former EC Director General for Competition Philip Lowe contrasts with the poor interest shown in remedies by the European Commission (the "Commission") or the legal literature. If competition authorities spend great amounts of time and resources discussing the finding of an infringement, i.e. liability, remedies are often neglected.[3]

"Typically, a competition law remedy aims to stop the violator's illegal behaviour, its anticompetitive effects, and its recurrence, as well as to restore competition."[4] If these objectives are clear, identifying the adequate remedy has generally proven to be difficult as many issues appear at the implementation stage. Tagging a behavior as anticompetitive usually does not suffice. In many cases, cease-and-desist orders are not sufficiently clearly defined to allow the firm under control to determine what are the boundaries of the legality and what behaviour it should adopt in the future. The task of the competition authority is tricky. Flawed remedies could harm competition beyond what has already been done: too strict, too specific a remedy, and it will be implemented to the letter, even in an inefficient way, while, on the contrary, too loose, too broad terms will let the firm uncertain as to how to adapt its conduct, or will give the firm the opportunity to evade the remedy without technically violating it.[5]

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[2] P. LOWE and F. MAIER-RIGAUD, "Quo Vadis Antitrust Remedies", in B. HAWK (ed.), *International Antitrust Law & Policy: Fordham Competition Law 2007*, Fordham, Fordham University School of Law, 2008, p. 597.

[3] K. HYLTON, "Remedies, Antitrust Law, and *Microsoft* : Comment on Shapiro", *Antitrust Law Journal*, 2009, p. 773.

[4] OECD, Roundtable on Remedies and Sanctions in Abuse of Dominance Cases, Background Note, DAF/COMP(2006)19, p. 18. See also T. BARNETT, "Section 2 Remedies : A Necessary Challenge", in B. HAWK (ed.), *International Antitrust Law & Policy: Fordham Competition Law 2007*, Fordham, Fordham University School of Law, 2008, p. 550, who adds as goal of antitrust remedies the compensation of the victims of the violation.

[5] B. LASSERRE intervention, in A. REINDL (Presider), "Session Four Roundtable. Remedies and Sanctions for Unlawful Unilateral Conduct", in B. HAWK (ed.), *International Antitrust Law & Policy: Fordham Competition Law 2007*, Fordham, Fordham University School of Law, 2008, p. 629.

The recent *Microsoft* case illustrates this issue. Four years after it had found Microsoft guilty of abuse of dominant position, the Commission fined the undertaking € 899 million for non-compliance with the remedy imposed[6], despite the fact that the terms of the remedy were particularly broad, and the obligation to execute was particularly obscure.[7]

Regarding the difficulties of implementation, administration and monitoring, the issue of the remedies has to be addressed in the first stages of developing a case, even well before the agency may be ready to initiate formal proceedings. In fact, "if there is no practical remedy for an apparent abuse, one that clearly improves the situation and does not entail excessive monitoring costs, then there is no point in devoting scarce public resources in pursuit of the case".[8]

Over the last few years, the European Commission issued several documents clarifying its practice and setting out the enforcement priorities that will guide its action in applying Articles 101 and 102 of the Treaty on the Functioning of the European Union ("TFEU")[9]. Unfortunately, no initiative whatsoever has been taken to draft provisions on remedies. More transparency and more predictability would be welcomed, though. Guidelines on remedies would provide certainty to the economic operators, and some coherence in the action of the competition authority, therefore saving public money.

The present contribution will focus on the analysis of remedies for abuse of refusal to license intellectual property rights, whose importance can only grow with the raise of the new economy. Additionally, compulsory licensing presents the interest to share common features with remedies for other kinds of abusive conducts, such as excessive pricing.

Following this introduction, Section II quickly reviews the relevant case law. Section III approaches the measures that can be taken in order to reduce *ex-ante* the risks of abuse. Section IV represents the main part of our analysis and will focus on the issues related to the licensing conditions themselves. Section V concludes.

II. ABUSE OF REFUSAL TO LICENSE

At the very core of the rights of an intellectual property right (IPR) holder is the right to prevent third parties from making, using, offering for sale, selling, or importing the protected subject matter[10].

[6] Press release, "Antitrust: Commission imposes € 899 million penalty on Microsoft for non-compliance with March 2004 Decision", IP/08/318, 27 Feb. 2008, (available at: http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/318&format=HTML&aged=0&language=EN&guiLanguage=en).

[7] On the obligation to license on "reasonable and non-discriminatory" terms, see part IV.

[8] R. ANDERSON and A. HEIMLER, "Abuse of Dominant Position. Enforcement Issues and Approaches for Developing Countries", in V. DHALL (ed.) *Competition Law Today. Concept, Issues, and the Law in Practice*, Oxford, Oxford University Press, 2007, p. 84.

[9] See for example: Guidance on the Commission's Enforcement Priorities in Applying Article 82 EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings, 3 December 2008, COM(2008), 26 p. (available at: http://ec.europa.eu/competition/antitrust/art82/guidance.pdf).

[10] Agreement on Trade-Related Aspects of Intellectual Property Rights, signed in Marrakesh, Morocco on 15 April 1994, Part II Standards Concerning the Availability, Scope and Use of Intellectual Property Rights.

This explains the particular reluctance of the competition authorities to recognize any abuse of dominant position for the mere refusal to license intellectual property rights. As the Court of Justice of the European Union ("CJEU") stated about protected designs in the *Volvo v. Veng* case:

> "It must (…) be emphasized that the right of the proprietor of a protected design to prevent third parties from manufacturing and selling or importing, without its consent, products incorporating the design constitutes the very subject-matter of his exclusive right. It follows that an obligation imposed upon the proprietor of a protected design to grant to third parties, even in return for a reasonable royalty, a license for the supply of products incorporating the design would lead to the proprietor thereof being deprived of the substance of his exclusive right, and that a refusal to grant such a license cannot in itself constitute an abuse of a dominant position."[11]

The principle established by the Court is clear: even dominant undertakings are free to choose their licensees and to dispose freely of their property. However, as no right is absolute, this principle had to be moderated. In a generic formula the CJEU stated soon later that the exercise of its exclusive rights by an IPR holder may be deemed abusive in "exceptional circumstances". [12]
What constitutes "exceptional circumstances" still had to be specified, though. The subsequent case law tried to determine an appropriate test[13].

In *Microsoft*, the last relevant case to date[14], Microsoft was found guilty of abuse of dominant position for having refused to license the interoperability protocols of its PC operating system to its competitors on the market for work group server operating systems[15].

On this occasion, the General Court (GC) stated that, according to the prior case law (*Magill*[16], *IMS Health*[17]), the refusal by a dominant undertaking to license an intellectual property right to a third party constitutes an abuse of dominant position under the following conditions:

- the refusal relates to a product or service crucial to carrying out a particular activity on a neighbouring market;

[11] ECJ, 5 October 1988, C-238/87, AB Volvo v Erik Veng (UK) Ltd., *E.C.R.*, 1988, p. 06211, para. 8.
[12] ECJ, 6 April 1995, C-241/91 P and C-242/91 P, Radio Telefis Eireann (RTE) and Independent Television Publications Ltd (ITP) v Commission of the European Communities, *E.C.R.*, 1995, p. I-00743, para. 50.
[13] An extensive discussion of the conditions under which a refusal to license has to be considered abusive would fall outside of the scope of this paper. An impressive number of authors have commented the relevant case law. See, among many : S. ANDERMAN and H. SCHMIDT, "EC competition policy and IPRs", in S. ANDERMAN (ed.), *The Interface between Intellectual Property Rights and Competition Policy*, Cambridge, Cambridge University Press, 2007, pp. 37-124 ; A. VAN ROOIJEN, "The Role of Investments in Refusals to Deal", *World Comp.*, 2008, pp. 63-88 ; and D. HOWART and K. McMAHON, " 'Windows has Performed an Illegal Operation': the Court of First Instance's Judgment in Microsoft v Commission", *E.C.I.R.*, 2008, pp. 117-124.
[14] GC, 17 September 2007, T-201/04, Microsoft v. Commission, *E.C.R.*, 2007, p. II-03601.
[15] Press release, "Commission concludes on Microsoft investigation, imposes conduct remedies and a fine", IP/04/382, 25 March 2004 (available at: http://europa.eu/rapid/pressReleasesAction.do?reference=IP/04/382&format=HTML&aged=0&language=EN&guiLanguage=en).
[16] ECJ, 6 April 1995, C-241/91 P and C-242/91 P, Radio Telefis Eireann (RTE) and Independent Television Publications Ltd (ITP) v Commission of the European Communities, *E.C.R.*, 1995, p.I-00743.
[17] ECJ, 29 April 2004, C-418/01, IMS Health GmbH & Co. OHG v NDC Health GmbH & Co. KG., *E.C.R.*, 2004, p. I-05039.

- the refusal is such as to exclude any effective competition on that neighbouring market;
- the refusal prevents the appearance of a new product for which there is potential consumer demand; and,
- the refusal is not objectively justified.

These conditions are far from clear[18]. In addition, each of them has been distorted.

As regards the first condition, the GC upheld the view of the Commission: despite the presence of competitors on the downstream market, information is considered indispensable to be active on the market if the interoperability protocols are necessary to continue to be an "economically viable" competitor. Second, it was held that a "risk" or a "likelihood" of competition being eliminated on the neighbouring market could be enough to intervene. Third, as to the new product requirement, it would be sufficient to establish that the refusal to license limits technical developments, and is thus able to prevent the emergence of new products to the prejudice of consumer choice[19].

Earlier, the CJEU had already stretched some of the above-mentioned conditions. Regarding the existence of a neighboring or secondary market, it held that: "it is sufficient that a potential market or even hypothetical market can be identified". Regarding the requirement of a new product, the CJEU referred to the mere "intention" to produce new goods and services. Thus, the refusal to license may be regarded abusive "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 not offered by the owner of the right and for which there is a potential consumer demand"[20].

We therefore agree with the view according to which the four mentioned conditions were "tweaked in ways that promise to significantly ease the investigatory burden on regulators in future refusal to deal case"[21]. More, several legal observers do not hesitate to go further and plead for an even wider enlargement of the conditions under which "exceptional circumstances" and abuse of dominant position have to be acknowledged[22]. Therefore,

[18] Well before *Microsoft* many questions arose as to how interpret the four conditions set by the ECJ. For instance, the Court did not provide any guidance to the national courts on how they should answer the question of whether there was a new product. It did not indicate either how strong must be the potential consumer demand. For an analysis of IMS, see J. KILLICK, "IMS and *Microsoft* Judged in the Cold Light of *IMS*", *Comp. L. Rev.*, vol. 1, issue 2, 2004, pp. 23-47.

[19] GC, 17 September 2007, T-201/04, Microsoft v. Commission, *E.C.R.*, 2007, p. II-03601, respectively para. 352, 561, 632 and 647. Concerning the fourth condition, the Court added (para. 690) that the mere fact of holding intellectual property rights cannot in itself constitute objective justification for the refusal to grant a licence, otherwise the exception to the exclusive right established by the case-law could never apply.

[20] ECJ, 29 April 2004, C-418/01, IMS Health GmbH & Co. OHG v NDC Health GmbH & Co. KG., *op. cit.*, para. 44-45 and 49.

[21] I. EAGLES and L. LONGDIN, "Microsoft's Refusal to Disclose Software Interoperability Information and the Court of First Instance", *E.I.P.R.*, 2008, p. 208.

[22] For example, it has been argued that competition authorities should seriously consider ordering the dominant undertaking to license as soon as a patented technology has become de facto the dominant standard in sectors characterized by factors such as network effects, which by locking-in consumers, make it impossible for competitors to enter and compete. See G. GHIDINI and E. AREZZO, "Less 'exclusion' for more innovation thru competition. On the 'Intersection' between IP and Competition Law", University of Tilburg, Symposium April 14, 2008, pp. 14-15 (available at: http://www.tilburguniversity.nl/tilec/events/conferences/14042008/#speakers). It has also been contended that competition law should be used to take over from article 31 (i) of the TRIPS Agreement concerning follow-on innovations. An overstretching of the 'secondary market' and the 'new

regarding the current proclivity showed towards compulsory licensing in the case law as well as in the literature after years of defiance, it is very likely that convictions for refusal to license will intensify in the near future.

III. EX-ANTE REMEDIES

Some of the most resounding decisions of the Court of Justice of the European Union on compulsory licensing have been taken regarding IP rights which many considered had been illegitimately granted. Firms that had obtained intellectual property rights protection over an input were then able to impede competition in a specific market without having made any innovation worthy of protection[23].

Admittedly, the competition authority was confronted with issues originating from bodies of law it could not modify[24]. Facing such a situation, the European Commission decided to intervene and to invoke competition law to correct what was perceived as a deviance of IP law. This policy found some supporters[25]. However, a sounder approach would probably be to amend IP law to prevent the appearance of this kind of situation[26].

A reduction in the number of rights of poor innovative value can lead to a limitation of the situations under which IP protection unduly forecloses market access and the intervention of the competition authority. Therefore, we shall devote some space to the review of the *ex-ante* remedies that are liable to be introduced into the different bodies of IP laws.

A. COPYRIGHT LAW

Surprisingly, in two landmark cases involving a refusal to license intellectual property (*Magill* and *IMS Health*) the issue at stake was the licensing of copyrighted information. “Generally

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product’ requirements would then allow the competition authority to order the licensing of a first patent on which infringes a dependent invention that does not constitute an important technical advance of considerable economic significance. See I. HARACOGLOU, “Competition Law as a Patent ‘Safety Net’ in the Biopharmaceutical Industry, *Comp. L. Rev.*, 2004, pp. 79-83.

[23] M. MOTTA, *Competition policy : theory and practice*, Cambridge, Cambridge University Press, 2004, p. 68.

[24] Intellectual property rights are a matter of domestic law. As the ECJ stated: “the determination of the conditions and procedures under which the protection of [IPRs] is granted is a matter for national rules of each Member State.” ECJ, 5 Oct. 1988, C-238/87, AB Volvo v Erik Veng (UK) Ltd., *op. cit.*, para. 7.

[25] See, for example, W. CORNISH and D. LLEWELLYN, *Intellectual Property : Patents, Copyright, Trade Marks and Allied Rights*, London, Sweet & Maxwell, 5th ed., 2003, p. 755: “In a period when intellectual property rights are being rapidly expanded, it must be wise for competition authorities to retain some ultimate means of curbing their range in egregious cases, which, in the scramble to satisfy industrial lobbies, legislatures may not have sufficiently cogitated.”

[26] So, in the US some kind of safeguard measures against IP misuses are contained within IP law: the judicial doctrines of patent and copyright misuses can be invoked as defenses against patent or copyright infringements. They require the alleged infringer to prove that the IPR holder has wrongfully broadened the physical and temporal scope of the IPR, producing anticompetitive effects. “The Commission and the EU courts, in contrast, are not entitled to rule about the validity and the infringement of national IPRs, so that their decisions and judgments seem jeopardized by the existence of shaky IPRs that a US federal Court would have declared invalid”. M. MAGGIOLINO, *Monopolists’ Refusal to Deal in IP: US Courts and EU Institutions line up along some Cultural and Jurisdictional Cleavages*, 3rd Annual Conference of the EPIP Association, Bern, Switzerland - Gurten Park / October 3-4, 2008, pp. 9-10 and 26 (available at: http://www.epip.eu/conferences/epip03/). On patent misuse, see also H. HOVENKAMP, *The Antitrust Enterprise : principle and execution*, Cambridge MA, Harvard University Press, 2005, p.272.

speaking, the protection conferred by copyrights is severely limited in scope; in summary, copyrights protect the expression of an idea, not the idea itself. Consequently, it is very unlikely that copyrighted information can be an indispensable input. The circumstances of *Magill* and *IMS Health* are indeed quite special."[27]

In *Magill*, the compiler of a comprehensive TV guide combining the contents of the three individual TV guides sold separately by the respective TV companies faced an infringement action. The TV companies claimed that the TV listings were protected under copyright and obtained the condemnation of Magill. Later, the compiler successfully complained to the European Commission that the TV companies' refusal to license the listings constituted an abusive conduct under Article 102 TFEU[28].

IMS Health provided data on regional sales of pharmaceutical products in Germany to pharmaceutical laboratories. These data were formatted according to a 1860 brick structure, each brick corresponding to a designated geographic area. The brick structure, determined with the active participation of the undertakings of the pharmaceutical industry, became the normal industry standard to which the clients adapted their information and distribution systems. NDC Health made a complaint to the Commission claiming that the 1860 brick structure had become an essential facility to provide sales data services and that IMS's refusal to grant license on it constituted an infringement of Article 102[29].

In both cases, the innovative value of the right at stake was limited. In both cases, the Commission issued an order to license.

Regarding the reform of copyright law, the main difficulty results from the fact that the conditions of legal protection are set by the national legislatures and therefore vary. For example, under UK law, the originality threshold has been set at a very low level[30]; the protection of mere TV listings was an "extension of copyright to subject-matter (straightforward factual information), which many Member States would consider not to justify intellectual protection in the first place"[31]. Such discrepancies within the various European bodies of law hinders any reform of the IP laws.

Fortunately, some harmonization measures have been taken under the internal market provisions of the EC Treaty[32]. These measures strengthen the innovative level required for copyright protection.

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[27] C. AHLBORN, V. DENICOLÒ, D. GÉRADIN and A. JORGE PADILLA, *DG Comp's Discussion Paper on Article 82: Implications of the Proposed Framework and Antitrust Rules for Dynamically Competitive Industries*, 2006, pp. 47-48 (available at: www.ssrn.com).

[28] ECJ, 6 April 1995, C-241/91 P and C-242/91 P, Radio Telefis Eireann (RTE) and Independent Television Publications Ltd (ITP) v Commission of the European Communities, *E.C.R.*, 1995 p. I-00743, para. 7-11.

[29] ECJ, 29 April 2004, C-418/01, IMS Health GmbH & Co. OHG v NDC Health GmbH & Co. KG., *op. cit.*, para. 3-11.

[30] Under UK copyright law a work is protected if it can be regarded as original. Originality is based on the degree of labour, skill or judgment shown by the author of the work and follows the 'sweat of the brow' doctrine: works of little originality can be protected if sufficient efforts have been expanded. See Walter v. Lane [1900] AC 539 and N. GRAVELLS, "Authorship and originality: the persistent influence of Walter v. Lane", *I.P.Q.*, 2007, p. 270.

[31] W. CORNISH and D. LLEWELLYN, *op. cit.*, p. 755.

[32] The harmonization Directives were taken on the basis of Article 95 EC.

For example, under the computer programs Directive, computer programs are legally protected if they are original in as much as the program "is the author's own intellectual creation"[33].

In the same vein, databases are protected by copyright if they "constitute the author's own intellectual creation". The so-called "sui generis" right to prevent extraction and re-utilization of the contents of a database is acknowledged to the maker of a database "which shows that there has been qualitatively and/or quantitatively a substantial investment in either the obtaining, verification or presentation of the contents" [34].

It is broadly admitted that the introduction within the database Directive of the "author's own intellectual creation" criterion has raised the standard for copyright, at least in common law countries, where the "sweat of the brow" criterion confers too generous a protection. Actually, it seems that even the "substantial investment" standard of the sui-generis right is more demanding than the UK requirement of originality[35].

In our view, had these provisions been enacted at the time of the *Magill* case, no intellectual property right would have been acknowledged to the licensors. Indeed, the structure of the TV listings, organized on the basis of a chronological order, would probably not have fulfilled the "author's own intellectual creation" requirement for copyright protection. As for the sui generis right, it seems that since TV listings are the mere transcript of the programming of the different channels, it would be difficult to argue that substantial investments were made for their obtaining.

Regarding the *IMS* case, the domestic jurisdiction of Appeal (the *Oberlandesgericht Frankfurt am Main*) ruled on the IP rights of IMS Health in the running of the proceedings before the CJEU. The national Court established that the 1860 brick structure was a databank within the meaning of the German Copyright Act. However, the "copyright protection could not be extended to the modular structure in itself as an essential part of the data bank since it amounted to a mere ordering principle with no value when extracted from the creative work"[36]. The Court also held that German law affords sui generis protection for the contents – in opposition to the arrangement– of databases[37].

Consequently, the Frankfurt Higher Regional Court concluded that competitors "could not simply be prohibited from developing freely and independently a brick structure that is similarly based on a breakdown by district, urban district and post-code district and for that

[33] Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs, *O.J.*, L 122/42, article 1.
[34] Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, *O.J.*, L 77/20, articles 3 and 7. We note that according to article 1, 'database' means "a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means". The broadness of the terms used make us consider that even TV listings would fall within the scope of the Directive.
[35] R. CLARK, "*Sui generis* database protection: a new start for the UK and Ireland?", *Journal of Intellectual Property Law & Practice*, 2007, p. 97.
[36] E. AREZZO, "Competition policy and IPRs: an open debate over an ever-green issue", *Il Diritto d'Autore,* No. 3, 2004, p. 6 (available at: www.ssrn.com).
[37] D. GITTER, "Strong Medicine for Competition Ills: the Judgment of the European Court of Justice in the IMS Health Action and its Implications for Microsoft Corporation", *Duke J. of Comp. & Int'l L.*, vol. 15, 2005, pp. 160-161 (available at: http://www.law.duke.edu/shell/cite.pl?15+Duke+J.+Comp.+&+Int'l+L.+153).

reason comprises more or less the same number of bricks"[38]. This judgment led to the Commission withdrawing the interim measures ordering IMS Health to license the 1,860 brick structure[39].

Initiatives have been taken at the EU level to increase on specific points the requirements for copyright protection. As the *Magill* and *IMS Health* cases show, had these reforms been made earlier, the issuing of compulsory licenses would have been prevented. Therefore, global harmonization strengthening the conditions for copyright protection would be welcomed in order to diffuse the need for compulsory licensing in undue cases.

B. PATENT LAW

1. Innovative Step

The European patent system is subject to many strains: increasing demand for patent protection, adoption of defensive and assertive patenting strategies and constitution of patent thickets, introduction of newly patentable subject matters, etc. All these factors are known and contribute to an increase of the workload at the European Patent Office (EPO). We shall not here make a comprehensive analysis of all these trends; each of them plays a role in the worsening of the patent system. We shall focus on their global result, the deterioration of patent quality, and on possible remedies.

To prevent the granting of trivial patents (i.e. patents for insignificant inventions), the simplest answer would be to require a rise of standards for the inventive step requirement. Fewer patents would then be granted and many inventions that today are protected would risk being copied. Consequently, it is argued that such a reform would deter innovation. Most academics and patent practitioners, however, support the opposite view. Higher patentability requirements would provide incentives to finance research and development programs of significant scale, which could lead to enhanced standards; conversely, too weak a patent system might deprive potential inventors of the necessary incentives. It is indeed worth noting that nowadays more and more companies are spending time and effort on patenting and trading rights, therefore diverting resources from actual innovation[40] [41].

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[38] Nonetheless, the cease and desist order to use the 1860 brick structure was sustained against Pharma Intranet (later subsidiary of NDC) under the German Unfair Competition Act. See Oberlandesgericht Frankfurt am Main, 17 Sept. 2002, Pharma Intranet Information AG v. IMS Health GmbH & Co., 11 U 67/2000, 2/3 0 283/00, in *Computer und Recht*, 2003, p.50 (references quoted in E. AREZZO, *op. cit.*, p. 6).

[39] Commission Decision of 13 August 2003 relating to a proceeding under Article 82 of the EC Treaty (Case COMP D3/38.044 — NDC Health/IMS Health: Interim measures), *O.J.*, L 268/69, para. 10 and 17.

[40] European Parliament, Scientific Technology Options Assessment (STOA), *Policy options for the improvement of the European patent system* (IP/A/STOA/FWC/2005-28/SC16), project managed by B. BEDSTER, 2007, pp. 29 and 32. See also, supporting the view that patentability requirements should be kept high and strictly applied, D. ENCAOUA, D. GUELLEC, and C. MARTÍNEZ, *The economics of patents: from natural rights to policy instruments*, EPIP Conference "New Challenges to the Patent System", Munich, EPO, 24/25 April 2003, p. 19 (available at: www.ssrn.com).

[41] We note that the trend is to strengthen the patentability requirements. The US patent system suffers from similar weaknesses than the European patent system, even worsened by a non-obviousness test looser than its European equivalent. Voices have pleaded in favor of a raise of the standards for obtaining a patent (See J. BARTON, "Reforming the Patent System", *Science*, Number 5460, 17 March 2000, p. 1933 ; Federal Trade Commission (FTC), *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy*, Ex. sum., oct. 2003, p. 4 (http://www.ftc.gov/os/2003/10/innovationrpt.pdf)). Consequently, the US Supreme

The implementation of higher patentability standards is not only a matter of legal policy. It is also a matter of financial means. Indeed, a modification of the practice of the EPO would require an adaptation period and training sessions for the examiners. Second, as the granting of a patent does not have to be motivated whereas the reasons for refusing applications have to be properly justified to the applicants, it is generally more difficult and time consuming from the perspective of the EPO to reject an application than to grant a patent[42]. Under these circumstances, the opportunity to reform the patent system would depend on the global interest of the modifications. Only if the harm (market foreclosure, and avoidable judicial costs) caused by the granting of undue patents exceeds the costs of improvement of the patent system should the reform be achieved.

2. Institutional Issues

Let us remember that the European patent system is governed by the European patent Convention (EPC)[43], a multilateral treaty originally drafted in the context of the Council of Europe. The EPC institutes the European Patent Office (EPO), which is distinct from the European Union. The EPO has 35 members, including all the EU-members States.

Amending the EPC is a difficult and cumbersome process. Any modification of the treaty is subject to the provision of Article 172, according to which the Convention can only be revised by a Conference representing at least three-quarters of the Contracting States. To adopt the revised text requires a majority of three-quarters of the Contracting States represented and voting at the Conference.

However, it seems that the reform needed does not require a modification of the Convention, but that mere changes in the implementation of the treaty by the services of the EPO would suffice. This could be done by modifying the Guidelines for Examination in the European Patent Office. Pursuant to Article 10 EPC, the President of the EPO is competent to take all necessary steps to ensure the functioning of the Office, including the adoption of internal administrative instructions. Therefore, modifying the Guidelines and the internal rules depends on the President, who is accountable for EPO activities to the Administrative Council.

Practically, pressure could be exercised through the Administrative Council to obtain the adoption of the above-mentioned measures on the strengthening of the patentability requirement. Along this line, various steps could be taken to coordinate the action of the EU-members in the EPO Administrative Council. For example, a standing committee could be established within the European Parliament to improve patent awareness among parliamentarians[44].

Court recently set a higher standard for establishing non-obviousness. See KSR International Co. v. Teleflex Inc. et al, 550 U.S. 398 (2007).

[42] European Parliament, STOA, *Policy options for the improvement of the European patent system*, *op. cit*, p. 37. The question of the resources is particularly relevant. Indeed, the incomes of the EPO depend on the number of patents granted, and so there are strong incentives for the EPO to grant as many patents as possible. Thus, a discussion on the quality of the patents should also include the question of the financing of the granting body. R. LALLEMENT, « Politique des brevets : l’enjeu central de la qualité face à l’évolution des pratiques », *Horizons stratégiques*, 2008, p. 107.

[43] Convention on the Grant of European Patents, signed in Munich on 5 October 1973.

[44] European Parliament, STOA, *Policy options for the improvement of the European patent system*, *op. cit*, p. 34.

It appears, then, that much still needs to be done to reduce the probability of seeing patents of poor innovative value unduly restricting competition.

IV. COMPULSORY LICENSE

Two main *ex post* remedies are available for abuse of refusal to license: the granting of compulsory licenses and structural remedies. Because of the many shortcomings of the injunction to divest[45], the order to grant a license is in most cases preferred to the structural remedy. Therefore, the following lines will focus on the various issues raised by the grant of compulsory licenses.

In the few cases where an abuse for refusal to license intellectual property rights was acknowledged, the holder of the right was ordered to license its right on “reasonable and non-discriminatory conditions”, which includes a reward for the licensor. The definition of such licensing conditions raises many difficult issues. It is indeed “a trite statement that the IPR contribution to a product can vary from 0 to 100% (eg software). To make the case that any particular royalty level is reasonable for any particular product would require at the very least an extensive empirical analysis”[46].

Facing such difficulties, in several cases the European Commission favored a solution according to which it was up to the concerned parties to negotiate an agreement on the terms of the license (*Magill*[47], *NDC Health/IMS Health*[48], *Newscorp/Telepiù*[49]). Only in the event the parties were not able to reach a compromise was the price to be determined on the basis of an analysis of the research costs of the IPR holder or, more frequently, on the basis of the market valuation of the asset. Recently, in *Microsoft*, the Commission adopted a novel strategy that ultimately led it to determine itself the proper remuneration due for the licensing of the technology at stake. In our opinion, such an outcome should be avoided. Instead, public authorities should accept to rely on the negotiations between the parties to determine the licensing conditions.

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[45] In a divesture remedy hypothesis, the basic idea is to split the company in two entities, so the entity which holds the indispensable asset is no longer active on the downstream market and is induced to license the indispensable technology. However, such an answer does not seem suitable: “As a matter of fact, structural remedies are unlikely to be appropriate in high-tech markets, where innovation can derive from synergies between complementary markets, and neat boundaries between markets are not easy to draw. Conversely, such remedies may have the effect of limiting research and development to a single product or within a sole market” (M. MONTAGNANI, “Remedies to Exclusionary Innovation in the High-Tech Sector: Is there a lesson from the Microsoft Saga ?”, *World Comp.*, 2007, p. 635). In other words, the inefficiencies resulting from the division of the company would certainly outweigh the mere advantage of providing a proper evaluation of the IP right at stake. In consequence, the divesture remedy must be rejected in refusal to supply cases. See also R. CRANDALL, *The Failure of Structural Remedies in Sherman Act Monopolization Cases*, AEI-Brookings Joint Center Working Paper No. 01-05, 2001, 89 p.

[46] D. GERARDIN, M. RATO, “FRAND commitments and EC competition law: a reply to Philippe Chappatte”, *European Competition Journal*, April 2010, p. 138.

[47] Commission Decision of 3 July 2001 relating to a proceeding pursuant to Article 82 of the EC Treaty (Case COMP D3/38.044 — NDC Health/IMS Health: Interim measures), *O.J.*, L 59/18.

[48] Commission Decision of 21 December 1988 relating to a proceeding under Article 86 of the EEC Treaty (IV/31.851 - Magill TV Guide/ITP, BBC and RTE), *O.J.*, L 78/43.

[49] Commission Decision of 2 April 2003, declaring a concentration to be compatible with the common market and the EEA Agreement (Case No COMP/M. 2876 Newscorp / Telepiù) [hereinafter ‘*NewsCorp/Telepiù* Decision’].

A. REASONABLE AND NON-DISCRIMINATORY TERMS

The order to supply will remain vain if the IP owner is able to impose conditions that no commercial partner is able to afford. This situation has been well understood by the Commission, as is clear from its *Microsoft* decision:

> "Microsoft must not be allowed to render the order to supply ineffective by imposing unreasonable conditions with respect to the access to, or the use of, the information to be disclosed.[50]"

Therefore, the Commission held that the terms of the license had to be "reasonable and non-discriminatory".

Reference to the "reasonable and non-discriminatory" character of the terms of compulsory licenses, however, is not new. In its prior case law, the Commission had already highlighted the importance of the conditions to which the agreement was subordinated. In the *IBM* case, in *Magill*, *IMS Health* and *Newscorp/Telepiù*, in all these cases[51], the Commission clearly stipulated that the license had to be granted on reasonable and non-discriminatory terms.

The central character of these notions requires that we examine their real consistency.

It is assuredly difficult not to make any link between the "reasonable and non-discriminatory" (RAND) requirements of the case law and the provisions of article 102 TFEU that states that an abuse of dominant position may consist of :

> "(a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions; (…)
> (c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage ;"

These provisions lie at the very basis of two theories: the prohibition of discrimination, of course, and the theory of excessive pricing. We shall return to these issues later. For the moment, let us just say that these two theories are among the most debated and the most criticized in competition law for the difficulties of implementation they cause and the uncertainty they create[52].

It is common knowledge that RAND requirements are not invoked in essential facilities cases only. A systematic analysis commands that we inquire how the reasonable and non-discriminatory requirements are dealt with in other fields of law.

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[50] Commission Decision of 24 March 2004 relating to a proceeding under Article 82 of the EC Treaty (Case COMP/C-3/37.792 Microsoft) [hereinafter '*Microsoft* (2004) Decision'], para. 1005.

[51] To be precise, in *NewsCorp/Telepiù*, the Commission did not make reference to reasonable terms, but to "fair, transparent (…) and non-discriminatory prices". *NewsCorp/Telepiù* Decision, Annex, Part II, para. 11.6.

[52] On excessive pricing, see D. EVANS and A. PADILLA, "Excessive Prices : Using Economics to Define Administrable Legal Rules", *J. Comp. Law & Econ.*, 2005, p.19: "There is no price-cost or profitability benchmarking rule that implements Article 82(a) (or its counterparts in the Member States) in a manner that satisfies the following two conditions: (a) objectivity and (b) efficiency". On non-discrimination, see D. GÉRARD, *Price Discrimination under Article 82 (2) (C) EC : Clearing up the Ambiguities*, 2005, p. 2 (available at: www.ssrn.com): "At last, an issue on which lawyers and economists seem to agree: price discrimination is an ambiguous concept. Its welfare effects on consumers are generally uncertain; the contours of its legality are unclear."

1. Reasonable and Non-Discriminatory Terms in a Standard-Setting Context

RAND terms are often referred to in the framework of standard-setting organizations (SSOs). However, in order to fully understand how licensing conditions are dealt with in SSOs, let's first take a step back and set the scene.

When different technologies compete, it is likely that one of them rises above the others and finally exclude them from the market. Indeed, high-tech markets are characterized by strong network effects known to make the market "tip" in favor of the competitor that has been able to reach a prevailing position, thereby transforming competition within the market into competition for the market[53].

A winning technology can emerge from two different processes. The choice between rival technologies can be the result of the normal functioning of the market where firms vigorously compete to establish their own technology as the *de facto* standard; in such a case, the preferences of the consumers determine the outcome of the competition. However, according to their own choices and opportunities, competing businesses can also chose to collaborate by working through Standard Setting Organizations (SSO) in order to develop a standard that all firms, regardless of whether they participate in the process or not, can use in making products.[54] Then, the different technologies susceptible of being incorporated in the standard compete within the SSO, prior to any introduction on the market, and are chosen by the concerned actors in the sector through negotiations and cooperation[55].

The elaboration of standards within the framework of SSOs can produce substantial benefits: "by agreeing on an industry standard, firms may be able to avoid many of the costs and delays of a standards war, thus substantially reducing transaction costs to both consumers and firms"[56]. In the IT sector, more particularly, standards present the advantage of fostering the availability of interoperable products (i.e. interoperable chips or cell-phones).

But SSOs can also be the scene of patent ambushes: where the implementers of a standardized technology are unaware, prior to adoption of a standard, of the existence of potentially blocking patents, they may invest in implementing a standard that infringes hidden patents and then be faced with an *ex post* assertion of claims by the holder of the submarine patents[57]. The later is then able to extract extra rates from those manufacturers who have incurred sunk costs to adapt their manufacturing capacities, and therefore are locked-in the standard.

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[53] See J. SCHUMPETER, *Capitalism, Socialism and Democracy*, New-York, HarperCollins Publishers, 1984 ed., 1942, p. 84.

[54] US Department of Justice & Federal Trade Commission, *Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition*, 2007, p. 33. (available at: www.usdoj.gov/atr/public/hearings/ip/222655.pdf)

[55] Interoperabilty standards for wireless LAN communication protocols provide a good example of standard established within the framework of an SSO. Conversely, a well-known illustration of standard established through fierce competition is the standard for Video Cassette Recorder. The standard battle was eventually won by Matsushita's VHS format to the detriment of Sony's Betamax technology.

[56] US Departement of Justice & Federal Trade Commission, *op. cit.*, p. 34.

[57] G. OHANA, M. HANSEN, and O. SHAH, "Disclosure and Negotiation of Licensing Terms Prior to Adoption of Industry Standards: Preventing Another Patent Ambush?", *E.C.L.R.*, 2003, p. 645.

In order to prevent participants who hold rights on the different components of the technology from taking control of the standard or imposing undue conditions, the policy of SSOs usually requires IP owners to disclose their rights and to later enter into negotiations with any willing actors, so as to license their rights on "reasonable and non discriminatory" terms[58]. Sadly, this kind of practice will not be much help to us in defining what RAND means, since the SSOs themselves find it hard to determine the obligations of their members. Many deplore this situation: "Unfortunately, these terms [RAND and FRAND] are not well defined. Ambiguity in the definition of 'FRAND' is, in our opinion, one of the core problem in the licensing of rights to patents essential for implementation of a written technical standard"[59]. Likewise, it has also been stated that "The typical SSO patent policy mandating that a royalty be 'fair, reasonable and non-discriminatory' gives little guidance for royalty determination because 'reasonable' can mean different things to a technology owner and a technology buyer"[60].

The experience gained from the functioning of the SSOs is certainly valuable. However, no clear-cut rule can be retained to help us define the meaning of RAND, as the licensing policies of the best-known standardization organizations cautiously avoid providing any definition of the notion[61].

2. Remuneration Guidelines

Straightforward rules for reasonable and non-discriminatory licenses are nonetheless available. Indeed, compulsory licensing is not applied in competition law cases only. Mandatory licenses are also granted in other fields, as for public health purposes.

For instance, it has been stated in Article 31 of the WTO TRIPS Agreement[62] that under specific circumstances governments can authorize non-voluntary use of patents as long as the patent holder is given "adequate remuneration" for such use.

Various tools have been put in place to determine how the conditions of the remuneration should be determined in such cases: for example, the United Nations and the World Health Organization have issued royalties guidelines[63]. These guidelines set simple rules recommending the use of a base royalty rate of the price of the final product that can be adapted upward or downward depending upon simple factors[64]. If the benefits of such an

[58] J. FARRELL, J. HAYES, C. SHAPIRO, and T. SULLIVAN, "Standard Setting, Patents, and Holp-up", *Antitrust Law Journal*, 2007, p. 624 (available at**:** http://faculty.haas.berkeley.edu/shapiro/standards2007.pdf).

[59] L. GOLDSTEIN and B. KEARSY, *Technology Patent Licensing: An International Reference on 21st Century Patent Licensing, Patent Pools and Patent Platforms,* Boston, Aspatore Books, 2004.

[60] R. RAPP, and L. STIROH, "Standard Setting and Market Power", comments submitted before the Joint Hearings of the US Department of Justice and Federal Trade Commission on Competition and Intellectual Property and Policy in the Knowledge-Based Economy, 18 April 2002. p. 9 (available at: http://www.ftc.gov/opp/intellect/020418rappstiroh.pdf).

[61] M. VÄLIMÄKI, "A Flexible Approach to RAND Licensing", *E.C.L.R.*, 2008, p. 687.

[62] Agreement on Trade-Related Aspects of Intellectual Property Rights. The TRIPS Agreement is Annex 1C of the Marrakesh Agreement Establishing the World Trade Organization, signed in Marrakesh, Morocco on 15 April 1994.

[63] But other –national– authorities such as Canada and Japan have also issued their own pricing guidelines.

[64] According to the Guidelines developed in the 2001 UNDP Human Development Report (HDR), the basic rate of 4% can be increased or decreased by 2% if the medicine is particularly innovative or according to the origin of the R&D funds. See in general, the report written for the WHO by J. LOVE, *Remuneration Guidelines for non-voluntary use of a patent on medical technologies*, Health Economics and Drugs TCM Series, No. 18, 2005, 104 p. (available at: http://www.who.int/hiv/amds/WHOTCM2005.1_OMS.pdf). According to EU law, a similar solution (rate of 4% of the total price to be paid by the importing country) is used as a basis for the

approach are obvious (simplicity, predictability, ease of administration, …), we doubt whether a similar pricing method should be adopted for the calculation of RAND terms when the grant of the compulsory license is required under competition law.

Indeed, these guidelines are purposefully tailored to ensure that the level of the royalty is low enough not to constitute a barrier for access to medicines. More broadly, the safeguard of public health can justify some shortcuts in the calculation of the royalties that are not justified in competition law cases: public health requires the prevalence of allocative efficiency, so the vital needs of a maximum of customers are fulfilled, while competition law commands to balance allocative efficiency with the long-term objectives of dynamic efficiency and the rewarding of research and development efforts. As Advocate General Jacobs put it in the *Bronner* case: "In the long term it is generally pro-competitive and in the interest of consumers to allow a company to retain for its own use facilities which it has developed for the purpose of its business. For example, if access to a production, purchasing or distribution facility were allowed too easily, there would be no incentive for a competitor to develop competing facilities. Thus, while competition was increased in the short term it would be reduced in the long term. Moreover, the incentive for a dominant undertaking to invest in efficient facilities would be reduced if its competitors were, upon request, able to share the benefits"[65]. Thus, particular attention must be paid to the fact that ordering compulsory licenses rewarded with low or insufficient royalties is very likely to send a negative message to innovators and reduce the *ex ante* incentives to engage in research programs.

3. Reasonable Royalties in Patent Infringement Cases

The concept of reasonable royalty is also often used in patent infringement cases. In particular, US case law refers to the notion of reasonable award when it attempts, by means of a suppositious meeting between the parties, to calculate what the parties would have agreed to as a fair licensing price at the time that the misappropriation occurred. The reasonable royalty is then defined as the amount "which a person, desiring to use a patented article, as a business proposition, would be willing to pay as a royalty and yet be able to use the patented article at a reasonable profit"[66]. A bracket of prices would thus correspond to the notion of reasonable royalty.

To help determine the amount of the reasonable royalty, US case law listed fifteen factors that could be taken in consideration for the evaluation of the payment that would compensate for a patent infringement. However, the utility of these so-called Georgia-Pacific factors[67] in

payment of adequate remuneration to the rights-holder, when compulsory licenses are issued to permit the manufacture in Europe of products exported to face national emergency or other circumstances of extreme urgency: see Article 9 of Regulation No 816/2006 of the European Parliament and of the Council of 17 May 2006 on compulsory licensing of patents relating to the manufacture of pharmaceutical products for export to countries with public health problems, *O.J.*, L 157/1.

[65] Opinion of Mr. Advocate General Jacobs delivered on 28 May 1998, C-7/97, Oscar Bronner, *ECR*, 1998 p. I-07791, para. 57 (available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:61997C0007:EN:HTML).

[66] *Faulkner v. Gibbs*, 199 F.2d 635, 639 (9th Cir.1952). See also *Vermont Microsystems Inc. V. Autodesk, Inc.*, 138 F.3d 449 (2nd Cir. 1998).

[67] *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1121 (S.D.N.Y. 1970). For a complete listing of these factors, see Annex A.

compulsory licensing cases is dubious[68]. There is no weighting of importance and no guidance is provided concerning the priority that should be given to any one of these factors. Neither do they prescribe any method for quantifying the appropriate remedy.

4. The Contribution of Economic Theory

More accurate tools are needed to calculate what reasonable and non-discriminatory terms and rewards could be. Economic theory has been asked to provide answers to this question and offers a number of mathematical formulae and equations that can shed light on the concept of RAND royalty.

For example, it has been said that a license should be established mainly on the basis of the superior degree of innovation that the technology at stake has revealed.

According to this idea, the royalty = $c + (V_1 - V_2)\, p$

> where the variable c is the incremental costs of licensing (comprising the transaction costs and any fee for related services), $(V_1 - V_2)$ measures the gains for users who choose the best technology over the second-best, and the variable p represents the probability of the patent being valid.

If we assess that c is negligible and that the patent is valid, the reasonable royalty will be equal to the difference in the value of the technologies for users. According to its supporters, this formula defines the reasonable royalty as non-deterrent: "users will only be willing to adopt the best technology if the amount of the royalty does not exceed the gain it offers over the alternative, second-best technology"[69].

However, we can seriously question whether this theory is of any use to calculate a RAND royalty. First, the formula is based on the difference of value between two competing technologies, when compulsory licensing requires the asset under consideration to be indispensable, i.e. non replaceable by any other asset[70]. But what is most striking in our view

[68] "It would be an affectation of research to cite the countless cases which simply reiterate the Georgia-Pacific factors to be considered in determining a reasonable royalty…To set out those fifteen factors would also needlessly burden this decision". Judge GLASSER in *Gasser Chair Company, Inc. v. Infanti Chair Manufacturing Corp.*, 943 F. Supp. 201 (1996), quoted in A. SAHA and R. WEINSTEIN, *Beyond Georgia-Pacific: The Use of Industry Norms as a Starting Point for Calculating Reasonable Royalties,* Unpublished, (available at: http://www.micronomics.com/articles/intellectualproperty_x.pdf).

[69] "This royalty amount enables the owner of the superior technology to reap the entire gain of its innovation for users. This is the role of patents as an incentive to innovate: the temporary monopoly enables the owner to extract most of the wealth generated by its invention for society. In other words, a reasonable royalty amounts precisely to the market power authorized by the patent". F. LÉVÊQUE and Y. MÉNIÈRE, "Technology Standards, Patents, and Antitrust", *Competition and Regulation in Network Industries,* Vol. 9, N° 1, March 2008, p. 41 (available at: http://brunnen.shh.fi/portals/studymaterial/2007-2008/helsingfors/handelsratt/3741/material/handouts/ leveque.pdf).

[70] However, some commentators seem to consider that the opinion of the Commission has evolved in the Microsoft case to shift from an essential facilities doctrine to a new convenient facilities doctrine (access could be obtained to an asset without which rivals would need to offer customers a better product in order to overcome the advantages of the incumbent). D. RIDYARD, "Compulsory Access Under EC Competition Law – A New Doctrine of 'Convenient Facilities' and the Case for Price Regulation", *E.C.L.R.*, 2004, p. 670.

is that no clue is given as to how we should appreciate the value gap that exists between two competing technologies. This means the theory is of little help and of little value[71].

To determine reasonable royalties, economic analysis offers many different answers. What we have discussed is one of the most useful ones. Other reasoning, other formulae, one more clever than the other[72], have also been imagined. However, we shall not review them all here. In fact, all these abstract models share a common flaw: they do not help define RAND terms when it comes to concrete issues.

One last point needs to be stressed, though. Interestingly, economic theory arrives at a similar conclusion as the US case law on infringement. When it comes to define the meaning of RAND terms, economic analysis, like the case law, does not point to an unique answer, but also refers to the notion of reasonable royalty as a "range of acceptable values rather than a unique number"[73].

In consequence, the next lines will be devoted to reviewing the few practical tools that could help us determine the amount of RAND royalty comprised within this acceptable bracket of prices.

B. HOW TO CALCULATE RAND ROYALTIES ?

1. The Cost-Based Approach

(a) Marginal Costs

Typically, the price that has to be paid for the use of a good is calculated on the basis of the marginal cost (or incremental cost) of production. Based on historical cost accounting, this method usually provides a welcomed certainty in the assessment of the value of the assets. However, it is acknowledged that such an approach has many shortcomings, which are especially exacerbated when intellectual property rights are at stake. Indeed, innovation and research programs generate very high fixed costs, while the marginal costs of granting a

[71] Beyond its unworkable character the suggested formula is theoretically flawed. *See* D. GERADIN, M. RATO, "Can Standard-setting Lead to Exploitative Abuse? A Dissonant View on Patent Hold-up, Royalty-stacking and the Meaning of FRAND", *European Competition Journal*, 2007, Vol. 4, p. 132.

[72] See for example : D. SALANT, " Formulas for fair, reasonable and non-discriminatory royalty determination", *MPRA Paper*, No. 8569, 2007, 9 p. (available at: http://www.iprstrust.org/document/formulas-fair-reasonable-and-non-discriminatory-royalty-determination) reviewing four different solution concepts to fairly share the "surplus value" resulting from IPR. See also M. I. KAMIEN, "Patent Licensing", in R. AUMANN and S. HART, (ed.), *Handbook of Game Theory with Economic Applications*, Amsterdam, Elsevier, 1992, pp. 331-354.

[73] "In bilateral negotiations between a buyer and a seller, there is usually an interval of values that come to an agreement. The lower value is the minimal amount that the seller is willing to accept and the higher value is the maximal amount that the buyer is willing to offer." According to the author, if the parties have not been able to reach an agreement, it is because the lower boundary was set at a too high level, as the IPR holder includes in its expected reward the undue benefit resulting from the abuse of dominance. The reasonable fee would then be comprised within the range of values whose lower boundary would be the minimal amount that an hypothetical IPR holder that does not abuse of its dominant position would be willing to pay. F. LÉVÊQUE, « Quel est le prix raisonnable d'une licence obligatoire ? », *Concurrences*, 2004, p. 17.

single license are equal or close to zero[74]. Thus, relying on marginal costs for the pricing of the license would not make much sense as it would not allow the innovative firm to recoup its investments in any way[75].

(b) Fixed Costs

The normal reaction would then be to focus on the fixed costs to determine what the correct reward should be. The requirement to license on reasonable terms would then result in the payment of the incremental costs and a reasonable contribution to the fixed costs. However, such an approach rapidly betrays its limits. First, no clear rule would permit to determine which R&D costs should be taken into account. Beyond the costs of the projects that have led to the successful technology, the costs of failed projects should probably also be considered, as innovative firms usually have to engage in multiple research programs to develop one positive result. Moreover, if the innovative firm also intervenes on a downstream manufacturing market, it is likely that many costs will be common to the two activities. Hence, while only part of these costs should be allocated to licensing activities, "finding the adequate allocation key between manufacturing and licensing activities may prove insuperable"[76].

More fundamentally, the amount spent in the development is rarely equal to the value of the property. "Cost does not equal value"[77].

Lastly, we would like to stress one important point. A pricing method based on historical fixed costs may be contemplated only if sufficient information is available. However, since accounting rules require no sufficient desegregation of the costs, the identification of the relevant information is not always feasible[78]. Actually, it seems that the undertakings themselves are not always able to say what their own costs are[79]. Under such conditions, the use of a cost-oriented approach seems to be definitely compromised.

(c) The Efficient Component Pricing Rule

Another theory that is widely discussed in the literature is the Efficient Component Pricing Rule (ECPR). Guided by the consideration that "the supplier of a product component should not be forced by government intervention to receive for it less than the price that makes that supplier indifferent as to whether the other components of the final product are provided by

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[74] D. GÉRADIN, *Abusive pricing in an IP licensing context : An EC competition law analysis*, 12th EU Competition Law and Policy Workshop : A Reformed Approach to Article 82 EC, European University Institute, Florence, 8-9 June 2007, p. 14 (available at: www.ssrn.com).
[75] J. F. DUFFY, "The Marginal Cost Controversy in Intellectual Property", *University of Chicago Law Review*, 2004, p. 38.
[76] D. GÉRADIN, *Abusive pricing in an IP licensing context : An EC competition law analysis*, *op. cit.*, p. 15.
[77] For example, "The millions of dollars spent in the 1950s researching nuclear powered aircraft yielded the US Government intellectual property with zero value. Similarly, thousands of dollars could be spent building sand castles along the beach." R. PARR, "Royalty Rate Economics", *EIPR*, 1990, p. 133.
[78] « [A]ccounting guidelines and corporate disclosure rules do not require firms to break out IPR-related revenues from other source of income » S. KAMIYAMA, J. SHEEHAN, and C. MARTINEZ, "Statistical Analysis of Science, Technology and Industry", in OECD, *Valuation and Exploitation of Intellectual Property*, STI Working Paper 2006/5, p. 13 (available at: http://www.oecd.org/dataoecd/62/52/37031481.pdf).
[79] M. MARTINEZ, *Some Views on Pricing and EC Competition Policy*, p. 6 (available at: http://ec.europa.eu/competition/speeches/text/sp1998_060_en.pdf).

itself or others"[80], the ECPR suggests that the RAND terms be those that the firm that is active on both the innovative and the manufacturing markets charges itself internally for the use of the bottleneck input. However, the price the patent holder really charges itself for the use of the invention is far from clear so that the price must be tracked through another proxy[81].

To make sure the incumbent has no economic reason for refusing to license the intangible input, the ECPR requires the implementation of a pricing rule that "compensates the IP owner both for the incremental costs of licensing IP and the opportunity cost of licensing the technology"[82-83].

Such an approach apparently produces some very interesting advantages. First, as the coverage of the opportunity costs makes sure that every sale lost by the IPR holder is compensated, the licensing price preserves the profits of the incumbent and does not deter innovation. Second, as the potential competitors will only be able to make profits once they have paid the opportunity costs of the licensor, the ECPR ensures that only operators more efficient than the incumbent enter the market[84].

However, the drawbacks of the ECPR pricing method are not negligible. If the intellectual property right owner earns excess profits in the final product market, the ECPR will not correct the situation: it is only if the licensee is more efficient than the incumbent and passes efficiency gains to the consumers that the prices will be reduced for the consumers. More fundamentally, the assumption that each call handled by the new entrant is traffic diverted from the incumbent could have an undesirable effect on the calculation of the license fee. Indeed, the quality of the goods and services supplied by the new entrant may expand the number of calls. In these circumstances, "calculating the ECPR as the incumbent's retail price minus the so-called avoided costs would overstate the incumbent's compensation"[85].

Despite the difficulties that raises the use of the ECPR, we note that this pricing method has been considered to be sufficiently reliable to be applied in telecommunication interconnection pricing cases[86].

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[80] M. DOLMANS, *Standards for Standards*, ABA, Section of Antitrust law, Spring meeting 2002, Session on Trade Associations, Washington DC, p.32 (available at: http://www.ftc.gov/opp/intellect/020522dolmans.pdf).

[81] Indeed, "A price may be specified in the firm's accounting records, but that is generally an artificial and arbitrary number that tells us nothing about what the owner really gives up financially (that is, what the firm really pays) when it supplies that invention input to itself." D. SWANSON and W. BAUMOL, "Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection and Control of Market Power", *Antitrust Law Journal*, 2005, p 30.

[82] A. LAYNE-FARRAR, A. JORGE PADILLA and R. SCHMALENSEE, *Pricing Patents for Licensing in Standard Setting Organisations: Making Sense of FRAND Commitments*, 2006, p. 16 (available at: www.ssrn.com).

[83] In other words, the ECPR "links the access price to monopoly infrastructure (e.g. railway line, local loop) to the end price of the services that use it (e.g., train tickets, telephone calls). The ECPR thus sets an access price that is equal to the operator's end price minus the incremental cost of all the inputs other than the access consumed by the operator. This amounts to allowing the integrated operator to price access at the operating cost, i.e. the financial loss from losing customers to the new entrant)". F. LÉVÊQUE and Y. MÉNIÈRE, *op. cit.*, p. 44.

[84] D. GÉRADIN and M. KERF, *Controlling Market Power in Telecommunications. Antitrust vs Sector-Specific Regulation*, Oxford, Oxford University Press, 2003, p. 39

[85] *Ibid.*, pp. 40-41. As a final point, it should be added that the ECPR is a complex regulatory process requiring "constant monitoring of the incumbent's costs and profits, and the revisions of the (interconnection) price when changes occur".

[86] Privy Council, 1995, Clear v. New Zealand Telecom, 1 *NZLR* 385.

2. The Market-Based Approach

A market based method relies on the use of a benchmark to determine the rate of the reasonable royalty. Typically, when the price of a good must be defined for any market transaction, the price is determined in comparison with the value of similar goods. For example, in public expropriation cases, the compensation paid by the public authority is set by a real-estate expert considering the prices at which comparable buildings have been sold in the same area, their size, etc. Possibly, if the expert cannot rely on recent data, he will consider the evolution of the market in time, and consequently adapt the prices.

Regarding the licensing of intellectual property rights, the situation is far more complex. Indeed, IPR is by definition unique so that the finding of a relevant point of comparison is fairly improbable[87].

(a) The "Rule of Thumb"

These difficulties have led certain practitioners to favor the use of a "rule of thumb". A royalty rate is then adopted on an arbitrary basis as a shortcut to avoid a more thorough analysis of what should be paid. Two different rules can be relied on: the "25% rule" grants the licensor one-quarter of the licensee's pre-tax profit derived from the sale of the goods integrating the IPR; the "5% rule" allocates five percent of the sales price of the final-good to the innovator.

These rules of thumb have been appropriately criticized as being unrefined and often not related to the real value of the innovation. The resulting royalty is then either too large or too small; similar results could have been obtained by relying on royalty guidelines such as those put in place to reward the innovator in the case of a license being issued for public health reasons. Moreover, further analysis reveals that the 25% rule and the 5% rule are not mutually compatible. They only yield equivalent results when the licensee's profit margin is 20%[88-89].

(b) Sectorial Databases :

The appropriate royalty can also be defined by comparison with what is practised in the industrial or scientific sector concerned. Some organizations[90] constitute royalty databases. These are derived from previous licenses negotiated for comparable products. They result in

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[87] G. LEONARD, and L. STIROH, "Economic Approaches to Intellectual Property Policy, Litigation, and Management", *PLI/Pat*, 2008, p. 456.

[88] J. EPSTEIN and A. MARCUS, "Economic Analysis of the Reasonable Royalty : Simplification and Extension of the Georgia-Pacific Factors", *Journal of the Patent and Trademark Office Society*, 2003, p. 574 (available at: http://www.royepstein.com/epstein-marcus_jptos.pdf).

[89] We note that in certain cases the rule of thumb has been applied in Courts and nuanced by an application of the Georgia-Pacific factors. See G. NEWMAN, R. GERING AND J. PRESS, "How Reasonable Is Your Royalty?", *Journal of Accountancy*, September 2008, (available at: http://www.journalofaccountancy.com/Issues/2008/Sep/How%20Reasonable%20Is%20Your%20Royalty).

[90] See the lists of royalty rates published by the Association of Technology Managers (AUTM) (http://www.autm.net/AM/Template.cfm?Section=Surveys) and the Licensing Executives Society (LES) (http://www.lesi.org/Article/Home.html).

statistical analyses that reflect the profitability of particular industry segments which could be used to determine the royalty rate.

However, even if a royalty database can provide more reliable results than rules of thumb, it is still not really appropriate: "Often, such royalty guides provide some range of royalty rates for certain technologies, e.g., a rate of 4%-12% for technologies related to therapeutical products. Even so, what does this tell you about *your* therapeutical product ? Should the rate that is applied be 12% ? Or should it be no more than 4%? Or should you go halfways and fix it at 8% ?"[91]

This method provides too broad results and so a more specific benchmark must be found.

(c) Case-by-Case Benchmarking :

A solution might be to review royalties realized by other firms in competitive markets conditions for the few IPR that share sufficient comparable features with the intangible good at stake. However, even if such a similar IPR could be found (which appears to be unlikely in a compulsory licensing case), many additional factors could still undermine the comparability of a given license to measure the stand-alone value of the technology at stake: cross-licensing, licensing of portfolios of patents, or contribution of know-how and product support could confuse the analysis[92].

The best option seems to be to examine the licensing conditions agreed upon earlier by the innovative firm. Indeed, a comparison with the terms of a license concerning the same technology must surely be more relevant. However, conclusions should not be drawn too hastily. Even if an expired license agreement for a similar technology could be found, and even if the contractual difficulties already exposed in the prior paragraph could be circumvented, the evolution of the market must still be taken into account. In a number of dynamic industries, IP holders interested in fostering the take up of their technology may initially opt for a low-royalty policy, before increasing their royalty rates when the technology is well implanted. The consequences of such a strategy, termed "penetration pricing" must also be taken into consideration[93].

A similar problem occurs if we rely on a geographical benchmark: even if the same technology has been licensed in another territory, the royalty agreed upon will be relevant only if the markets are comparable and if the price on the market of comparison is not in itself excessive[94].

Though the different pricing techniques of the market-based approach provide some concrete answers to the question of how to define the royalty, they all suffer from approximations. Thus, good data and data projections are critical to limit these weaknesses as much as possible.

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[91] S. ALBAINY-JENEI, "What's A Reasonable Royalty Rate ?", *Patent Baristas*, 17 nov. 2005, http://www.patentbaristas.com/archives/2005/11/17/whats-a-reasonable-royalty-rate/ (1 May 2009).

[92] J. EPSTEIN and A. MARCUS, *op. cit.*, p. 573.

[93] D. GÉRADIN, *Abusive pricing in an IP licensing context : An EC competition law analysis*, *op. cit.*, p. 16.

[94] D. GÉRADIN, *The necessary limits to the control of "excessive" prices by competition authorities – A view from Europe*, 2007, p. 12 (available at: www.ssrn.com). The author adds that the identification of distinct geographic markets is unlikely in an IP context as technology markets are often EU-wide or worldwide.

3. The Income-Based Approach

A third method is sometimes referred to: the profit-based approach. According to this last approach, the royalty should be determined depending on the estimated revenues the technology is susceptible to produce.

It requires a valid initial estimate of the net value of projected cash flows of the patent, including all the costs yet to be incurred to file, maintain and enforce the patent up to possible opposition and litigation. Estimating future cash flow is the major difficulty. “If not readily available from real or forecasted cash flow directly associated with the patent, such estimates can only be based on industry averages of royalties paid by licensees for similar IP rights. But this would lead to the same shortcomings as the market-based approach. Therefore, while the theoretical and consistency of income-based patent valuation methods are superior to others for they focus on future earnings, they still require subjective allocations”[95].

This approach, necessitating strong economic analysis power and intense speculations, should in consequence be avoided[96].

4. The Stock Market-Based Approach

This alternative method consists in “deducting the value of the patented product of a firm from the market value of the firm subtracted of the book value of all known asset”. If this approach can give an interesting approximate value of the intangible asset at stake, it betrays rapidly its limits[97].

Indeed, if the firm holds various intellectual property rights whose value is unknown –what is quite likely regarding the current proclivity of firms to fraction the patent applications made for what could be regarded as one and only invention– , a necessarily questionable allocation key will have to be applied. In addition, this method rely on the arguable assumption that the stock market has perfect information and methods to value the company’s IP assets.

5. The Auction

Finally, we would like to mention a specific tool. During the US proceedings of the *Microsoft* case, a proposal was made to let the market reveal the price of the license: the idea was to allow an auction mechanism to set the price of the license via the competitors’ bidding game[98]. Unfortunately, the opportunity to rely on such a mechanism was not explored further ahead. The following lines will question the possibility to determine the price of an IP right through the use of the auction.

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[95] D. GUELLEC and B. VAN POTTELSBERGHE de la POTTERIE, *The Economics of the European Patent System*, New York, Oxford University Press, 2007, p. 109.
[96] M. DOLMANS, *op. cit.*, p. 31.
[97] Method developed described by R. PARR, “Fair Rates of Return”, *Patent World*, 1988, pp. 36-41, referred to by D. GUELLEC and B. VAN POTTELSBERGHE de la POTTERIE, *op. cit.*, p. 108.
[98] H. HOVENKAMP, *The Antitrust Enterprise. Principle and Execution*, Cambridge MA, Harvard University Press, 2005, p. 301.

There are many different types of auctions[99]. Each of them presents different properties that have to be taken into account to determine what would be the most efficient allocation mechanism[100]. Indeed, “the allocation procedure is *not* an isolated event. By determining what is allocated and to whom to allocate, the government fixes important ingredients that shape the aftermarket. Hence, it may attempt to design the allocation mechanism in such a way that the market after the players are selected operates efficiently.” [101] Therefore, the structure of the auction has to be carefully tailored according to the different objectives pursued by the competition authority.

(a) Features of the Auction

What are the goals of the public authority in abuse for refusal to license cases ? The goals are, on the one hand, to open the foreclosed market, and on the other hand to use the auction to force the competitors to reveal their reservation price[102]. These goals will be better achieved through the setting of a sealed bid auction procedure rewarding multiple bidders.

Generally speaking, auctions are organized on a “winner takes all” basis: the asset is a scarce resource –a tangible and indivisible good, or an intangible but limited resource, such as radiofrequencies–, and allocative efficiency commands that the asset be granted to the bidder who values it the most, i.e. the operator that makes the highest bid. But this constraint does not exist with IP rights. Potentially, any operator willing to acquire the technology at stake can be served. However, the objective to license the technology to as many applicants as possible in order to open the market and create fierce competition on it is at odds with the competition process inherent to any auction mechanism. Only if the bidders face the risk not to be served will they be induced to compete effectively. Therefore, a new type of auction has to be organized, one rewarding a plurality of bidders but still excluding a significant percentage of them. Thus, the first difficulty of the competition authority will be to determine a percentage of bidders to exclude that will not be rewarded with the licensing of the IP right. If the percentage is too high, many potential competitors will be excluded in vain. If the percentage is too low, the poor risk to be excluded will not induce the bidders to bid effectively. Each bidder would pay its own price, except those who made too low bids and constitute the quota of bidders to exclude[103].

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[99] The most common and basic kinds of auction are unquestionably the ascending bid auction, the descending bid auction and the sealed bid auction. In ascending auction, the price is successively raised until one bidder remains that wins the object at the final price. In descending auction, the auctioneer starts at a very high price and lowers the price continuously until one bidder stops the clock and calls out it accepts the current price. In sealed bid auction, each bidder independently submits a single bid, without seeing other’s bids, and the object is sold to the bidder who makes the highest bid. P. KLEMPERER, *Auction Theory : A Guide to the Literature*, pp. 4-5 (available at: http://www.gqq10.dial.pipex.com/).

[100] See T. BÖRGERS and E. VAN DAMME, « Auction Theory for auction design », in M. JANSSEN (ed.), *Auctioning Public Assets. Analysis and Alternatives*, Cambridge, Cambridge University Press, 2004, pp. 19-63.

[101] M. JANSSEN, “Introduction”, in M. JANSSEN (ed.), *Auctioning Public Assets. Analysis and Alternatives*, Cambridge, Cambridge University Press, 2004, p. 3.

[102] “A –properly implemented– bidding process ensures less predictability, meaning that the undertakings can never be certain about the offers of competitors, so they have to design their offers accordingly and ensure that they hand in the best offer they can or are willing to do.” P. SZILGÁYI, “Bidding Markets and Competition Law in the European Union and the United Kingdom – Part I”, *E.C.L.R.*, 2008, p. 17.

[103] Obviously, the auction cannot permit to define a royalty, as it would not make any sense to compare percentages of the price of different final products. The reward would have to consist in a lump sum.

In our view, the appropriate auction would be a sealed bid auction. So, the confidentiality of the bids would compel each bidder to make its own assumption of the value of the asset at stake instead of relying upon the evaluation made by its competitors, whereas public bids or series of rounds of bids would prevent the normal running of the auction and allow the participants to stop raising their offers as soon as it is known that the quota of unlucky bidders has been fulfilled.

(b) Issues related to the Auctioning of IP Rights

Rely upon an auction mechanism raises still many supplementary issues. If many of them can be circumvented or weakened, the organization of the auction would force the public authority to make several difficult policy choices.

First, the auction mechanism depicted above (a sealed bid auction mechanism with a quota of excluded bidders) would have the disadvantage of preventing some applicants at least from accessing the input. Depending on the kind of structure the competition authority wants to promote for the market at stake, such an instrument would not always be suited. For instance, the competition authority should not rely on auctioning if it considers that the number of competitors active on the downstream market should not be limited, as could be the case in software markets, where even small and medium firms can enter and innovate. On the contrary, oligopolistic markets –such as the telecommunications market– could be considered more suitable for auction procedures, except where the too small number of applicants does not allow for one of them to be excluded from accessing to the IPR.

Second, a sealed bid auction tailored for the revelation of the reservation price of the different bidders would also inexorably lead to the payment of different royalties. This could be deemed inacceptable since the Commission invariably requires the terms of the compulsory license to be non-discriminatory[104-105]. However, some changes could be made to the pattern proposed to solve this issue and weaken the criticisms according to which the auction would distort competition on the downstream market: the offers made by the selected bidders could be averaged to set a common licensing price; unfortunate bidders could be offered the possibility to access to the asset and enter the market after some delay[106].

Third, another important issue would be to determine the scope of the asset auctioned. New technologies often results from various industrial improvements which are individually protected under IP law. The public authority would have to determine whether these different rights –multiple patents, for example– are auctioned altogether or whether different auctions should be organized for each of them. Experience demonstrates that the needs of the operators willing to access to a specific market may vary according to various factors, such as the technology they already possess or the final product they intend to design. In light of these facts, sequential auctions would present the advantage of allowing the operators to bid for the only patents they need, what would permit them to reduce their costs and, hence, their prices, instead of paying for an "all in" package comprising useless licenses. However, sequential

[104] M. MONTAGNANI, *op. cit.*, p. 648.
[105] The inopportunity to condemn discriminatory prices will be addressed in details *infra*. See part IV, E, 2.
[106] Of course, such a solution would reduce the number of applicants awarded with the indispensable technology: firms that have made a bid corresponding to their reservation price and that are not able to match the price resulting from the averaging of the various bids will not have access to the indispensable asset. This is the price to pay for formal equality.

auction is complex and resource consuming for the public authority. In addition, economic theory teaches us that sequential auctions get even more complicated if the different goods auctioned are complements (as it is the case when a bidder needs to win patent B in order to generate value from patent A it already owns): the bidder may need to bid very aggressively to be sure to win access to the last items, what could discourage competitors to take part to the auction, or, on the contrary, considering that the risk not to be able to gather all the patents it needs is too high, it may decide not to participate to the auction in the first place. As a consequence, sequential auctions for complement items are usually not seen as a good allocation mechanism[107]. However, the drawbacks characterizing traditional sequential auctions are weakened if a plurality of bidders are awarded, as we suggest it. Therefore, the competition authority should seriously assess the opportunity to organize such auctions for the licensing of IP rights.

Fourth, because of differences in market power and financial strength, the starting positions of the different bidders are not the same; the playing field is not level. The application of the auction mechanism we suggest could result in a situation in which the major competitors would be freed from competitive pressure as soon as they bid above the probable price of the most modest bidders whose participation would guarantee to the former the fulfillment of the quota. Under these circumstances, as ordinary auction in which all firms are treated symmetrically may not do very well in creating a competitive environment, the competition authority may wish to intervene to introduce asymmetries in the auction design[108]. This intervention could take different forms, but each of them would imply heavy intrusion in the market and contradict the non-discrimination principle. (For instance, certain bidders could be favoured by giving them bidding credits. "A bidding credit of *x* per cent means that if a disadvantaged bidder should win a license, he has to pay only (100 – *x*) per cent of his bid"[109]. Another efficient solution may be to sort the bidders according to their annual turnover (or any other criteria reflecting their financial standing), and organize auctions among bidders of similar size and economic power[110].) Once again, the decisions to be taken require the competition authority to embark on regulatory engineering.

"In auction design, the devil is in the details"[111] Auctioning assets presents the considerable advantage of providing a concrete answer to the pricing issue. However, it is only if the competition authority is ready to make multiple and difficult policy choices related to the structure of the market it wants to see emerge that any auction mechanism should be considered.

C. WHO SHOULD DETERMINE THE ROYALTY ?

[107] T. BÖRGERS and E. VAN DAMME, *op. cit.*, p. 44.
[108] E. MAASLAND, Y. MONTANGIE, and R. van den BERG, "Levelling the playing field in auctions and the prohibition of state aid", in M. JANSSEN (ed.), *Auctioning Public Assets. Analysis and Alternatives*, Cambridge, Cambridge University Press, 2004, p.108.
[109] *Ibid*., p.110. "This form of asymmetry was used, for instance, in the United States, where Congress commissioned the Federal Communications Commission (FCC) to ensure that businesses owned by members of minority groups and women were given the opportunity to participate in the mobile telecommunications auctions"
[110] State aid issues, that appear when advantageous conditions are granted to a specific category of firms, are not likely to cause any difficulties here. If the advantage is conferred by the Commission or on its behalf, and not by a Member State, there is simply no room for State aid litigations.
[111] P. KLEMPERER, *Collusion and Predation in Auction Markets*, 2001, p. 26 (available at: www.ssrn.com).

In the previous paragraphs, we reviewed the different methods for calculating the amount of a reasonable royalty. We shall now turn to another difficult issue and draw a list of the various players that could be called upon to concretely determine what the licensing conditions should be. In the meantime, we shall address the question of how the decision should be monitored, since there is always a risk that the IPR holder will use the difficulties associated with implementing the order to license as a pretext not to comply.

As we have already explained, to define what constitutes 'reasonable and nondiscriminatory' licensing conditions is a daunting task. It requires a deep knowledge of the relevant market and a thorough understanding of the relevant technology. Good IP law knowledge and the economic skills needed to anticipate the future evolution of the market are also required. Under these circumstances, it seems unlikely that the Commission will always have the human resources needed – in house agents sufficiently skilled in the different fields at stake.

1. The role of Experts / Trustees after *Microsoft*

To face these challenges, the Commission could be tempted to rely on the expertise of external specialists. This however could raise a number of institutional questions.

In the *Microsoft* case, for example, the Commission required the appointment of an independent monitoring trustee to assist in monitoring Microsoft's compliance with the Commission's decision. A trustee was thus appointed[112] by the Commission after Microsoft had submitted a list of candidates[113]. All the costs associated with the appointment of the monitoring trustee, including the trustee's remuneration, had to be borne by the firm.

The primary responsibility of the trustee was to issue opinions on whether Microsoft complied with the decision (including the obligations to implement the remedies correctly and to authorize the use of the interoperability specification under reasonable and non-discriminatory terms). Moreover, the Commission insisted on the trustee playing a proactive role[114].

Microsoft contested the decision of the Commission, which was partly annulled by the General Court. The GC considered that if the Commission could be allowed to obtain the assistance of an external expert to report or to provide advice when it investigated the implementation of the remedies, it could not compel Microsoft to grant powers which the Commission itself is not authorized to confer to a monitoring trustee – independent not only of Microsoft, but also of the Commission itself in so far as he was required to act on personal initiative and upon application by third parties. In other words, the delegation to an independent monitoring trustee of powers of investigation which the Commission alone can exercise is without legal basis[115].

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[112] Press Release, "Competition: Commission appoints Trustee to advise on Microsoft's compliance with 2004 Decision", IP/05/1215, 5 Oct 2005, (available at: http://europa.eu/rapid/pressReleasesAction.do?reference=IP/05/1215&format=HTML&aged=1&language=EN&guiLanguage=en).

[113] The trustee had to be independent from Microsoft and had to show the necessary qualifications to carry out his mandate. The trustee had to be free to hire experts to second him. Provisions had to be established in order to guarantee that the monitoring trustee had 'access to Microsoft's assistance, information, documents, premises and employees to the extent that he may reasonably require such access in carrying out his mandate'. *Microsoft* (2004) Decision, para. 1048.

[114] *Microsoft* (2004) Decision, footnote 1317.

[115] GC, 17 September 2007, T-201/04, Microsoft v. Commission, *E.C.R.*, 2007, p. II-03601, para. 1268-1271.

This ruling does not depart from the prior case law of the CJUE that early dismissed the possibility of delegating wide discretionary powers. Indeed, according to the landmark *Meroni* case, Article 7 of the EC Treaty (now Article 13 of the Treaty on the European Union) that lists the institutions empowered to carry out the tasks entrusted to the EU embodies a principle of "institutional balance" of fundamental importance. Thus, according to the case law, delegations of powers are subject to strict limitations: first, a delegating authority cannot confer upon the authority receiving the delegation, powers different from those which it has itself received under the treaty; second, it is not possible to delegate powers involving a wide margin of discretion, as such delegation would replace the choices of the delegator by the choices of the delegate, and would bring about an actual transfer of responsibility[116]. The delegation is limited to "clearly defined executive powers the exercise of which can, therefore, be subject to strict review in the light of criteria determined by the delegating authority"[117], and cannot involve discretionary power whose delegation would render ineffective the guarantees resulting from the institutional structure of the European Union[118]. Issued under the former institutional regime, these principles are not challenged by the Lisbon treaty[119]. Consequently, the legality of the appointment of external experts by the Commission depends on the tasks attributed to them. If their mission is limited to reporting, giving advice on the implementation of the remedies, and providing technical support, the Commission will be authorized to rely on their assistance[120], but no investigation or enforcement power can be delegated to them: only the Commission may require an undertaking to bring an end to infringement of Article 102 TFUE; only the Commission has investigative powers, and EU law does not authorize any delegation of these prerogatives[121].

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[116] ECJ, 13 June 1958, C-9/56, Meroni v. High Authority, *E.C.R.*, 1957/1958, pp. 150 and 152.

[117] *Ibid.*

[118] The *Meroni* doctrine stands for 50 years now and continues to be applied in current jurisprudence (see the analysis of P. CRAIG, *EU Administrative Law*, Oxford, Oxford University Press, 2007, pp. 161 and 162), despite the fact that the requirements of the modern welfare state lead to a general withdrawal of the legislature in favour of the administration (E. VOS, *European Administrative Reform and Agencies*, Florence, European University Institute, 2000, p. 9). Taking note of the US practice, many legal observers plead for a flexible application of the principles of delegation. The idea defended is that delegation of powers lightens the EU Institutions workload and may improve the quality of the decision-making process. See D. GERADIN and N. PETIT, *The Development of Agencies at EU National Levels : Conceptual Analysis and Proposal for Reform*, p. 14 (available at: www.ssrn.com) : "The transfer of technical issues to experts may thus improve the institution's capability to respect their original Treaty mandate and allow them to focus on their traditional tasks. The institutional balance would thus be well respected and eventually improved with delegation".

[119] Articles 290 TFEU establishes the conditions under which the Parliament and the Council may delegate power to the Commission. The new rules are essentially in line with the case law: the essential elements of an area shall not be subject to delegation and the delegating bodies retain control over the exercise of the delegated powers.

[120] The assistance of external experts, even limited to advice and technical guidance is still highly valuable for the Commission that relied on it till recently. Indeed, the Commission modified the monitoring of the *Microsoft* decision a few months ago and did not exclude to rely on the ad hoc support of technical consultants in the future. Press release, "Antitrust: Commission adapts nature of monitoring of 2004 Microsoft Decision", 4 March 2009, IP/09/349 (available at: http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/349&format=HTML&aged=0&language=EN&guiLanguage=en).

[121] At the time of adoption the contested decision, the power of investigation and enforcement of the Commission where mainly its power under Articles 3(1), 11, 14 and 16 of Council Regulation 17/62, First Regulation implementing Articles 85 and 86 of the Treaty, *O.J.*, P 13/204. Regulation 1/2003 does not seem to be more flexible and reserves these powers to the Commission only (see Articles 4, 7 and 17 to 21 of Council Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty, *O.J.*, L 1/1).

Practically, if the Commission does not have in-house specialists sufficiently skilled to investigate and monitor compliance with its decisions, the limitation set by the GC can have two different outcomes.

In the first hypothesis, the Commission shows particular diligence in organizing its work. In this case, every time the Commission considers ordering the granting of a license it should take care to open a hiring process in the running of the proceedings against the dominant undertaking, and to integrate in advance the needed expert as an agent. The second outcome, less legitimate, more liable to lead to contestation before the GC, but one that could be used in emergencies cases, could be for the Commission to adopt a borderline behavior. In such a hypothesis, the Commission would appoint an external expert to "give advice on the remedies", but who would in fact lead the monitoring efforts, taking great care that any act, any decision, is formally taken by the Commission itself.

In any case, following the GC decision not to allow the costs and trustee remuneration to be charged to the dominant firm, the Commission will not be able to avoid distracting these amounts from other budget headings[122].

It seems that in order to allow the delegation of powers to an independent trustee, the sole solution for the Council is to adopt formal amendments to Regulation 1/2003[123].

2. Merger Cases and Commitments

The solution opted for by the Commission in the *Microsoft* case was directly inspired by its practice in merger cases in which the appointment of an independent trustee is common practice[124]. Under these circumstances, the Commission makes it clear that the clearance decision is subordinated to the submission of appropriate commitments, among which the undertaking that the enforcement of these commitments will be monitored by an independent trustee[125].

The difficulties related to the appointment of an independent monitoring trustee could thus be circumvented by integrating the appointment in a Commission decision formalizing the dominant firm's own "voluntary" commitment[126]. In the future, the Commission could then try to enter into negotiations with the innovative firm in order to obtain acceptance of the monitoring mechanism. However, as the result of this kind of negotiations greatly depends on

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[122] F. ZIVY, " Un mandataire indépendant peut assister la Commission, mais pas assurer à sa place le suivi de l'exécution d'un remède", *Concurrences*, 2007, p. 124.

[123] C. DUVERNOY and S. VÖLCKER, *Nothing New under the Sun ? A Slightly Contrarian Reading of the CFI's Microsoft Judgment*, 24 September 2007, http://www.wilmerhale.com/publications/whPubsDetail.aspx?publication=8025) (1 May 2009).

[124] "The Commission may attach to its decision conditions and obligations intended to ensure that the undertakings concerned comply with the commitments they have entered into vis à vis the Commission with a view to rendering the concentration compatible with the common market" (Article 6(2) and 8(2) of Council Regulation No 139/2004 of 20 January 2004 on the control of concentrations between undertakings, *OJ*, L 24/1).

[125] A. RENSHAW, *Trustees: who, why and what?*, XIIth GCLC lunch talk, 31 May 2005, p. 6, http://www.coleurop.be/template.asp?pagename=gclclunchtalkarchive&sub=20050531.

[126] Article 9 of Regulation 1/2003 expressly refers the acceptance of commitments that are made bindings by decision of the Commission. Companies that have offered commitments involving a monitoring trustee are then unlikely to challenge the trustee requirement in court. See C. DUVERNOY and S. VÖLCKER, *op. cit*.

the pressure the Commission can exercise as a result of the clearance decision, such a favorable outcome seems to be reserved for merger cases.

In the *Newscorp/Telepiù* case, for instance, the observance of the firms' obligations was monitored by a monitoring trustee. In the meantime, it was established that disputes related to the licensing terms of the tangible and intangible assets, which could not have been resolved though negotiations between the interested parties, had to be submitted for settlement to a regulatory body[127], the Italian Communications Authority (ICA)[128].

3. A Regulatory Authority :

This gives us the opportunity to question whether the intervention of an external expert, who acts on a temporary basis, is the best conceivable solution. Indeed, some commentators argue that mere individuals, even if they have technical skills and a good understanding of the market at stake, could not efficiently address all the challenges of pricing: "It is doubtful whether one or a limited number of experts will be able to analyze all the data required to adopt a pricing decision (…) For instance, rate cases in regulated industries typically involve dozens of experts and several months (or years) of evaluation"[129]. Moreover, as the choice of a pricing method will often requires policy choices, and as in many cases, prices should be reset depending on the evolution of the market, it is deemed that only dedicated regulators would be able to handle such price revisions[130].

We think that this criticism should be moderated. Indeed, it seems that nothing prevents the Commission from appointing a sufficient number of external experts to provide the technical support needed; furthermore, the Commission seems to have more legitimacy than any other regulatory body to determine which pricing policy should be chosen to reward the innovator and open the market. Nonetheless, we agree with the idea that pricing decisions should best be taken by a regulatory authority. Beyond the obvious practical benefits that would result from the intervention of a regulatory body (no appointment process would have to be organized for each novel decision), a permanent institution would gain experience in time and accumulate relevant market data, two advantages particularly valuable to help face the difficulties of pricing intangible goods.

Unfortunately, it seems that no regulatory solution will emerge in the near future. We note that the recent proposal[131] to establish the first EU regulatory authority misses the opportunity to temper the principles set in Regulation 1/2003 that reserves the monitoring power of its

[127] *NewsCorp/Telepiù* Decision, Part II, para. 15 (a).
[128] Italian Communication Authority, or *Autorita per le Garanzie nelle Comunicaxioni*, established by Law n. 249 of 31 July 1997 (www.agcom.it/eng/eng_intro.htm).
[129] D. GÉRADIN, "Limiting the Scope of Article 82 EC : What can the EU Learn from the US Supreme Court's Judgment in *Trinko* in the Wake of *Microsoft*, *IMS*, and *Deutsche Telekom* ?", *CML Rev.*, 2004, p.1544.
[130] *Ibid.*, p. 1544-1545. Justice Scalia in *Trinko* (540 U.S. 398 (2004)), made the same observation : "Effective remediation of violations of regulatory sharing requirements will ordinarily require continuing supervision of a highly detailed decree. We think that Professor Areeda got it exactly right: "No court should impose a duty to deal that it cannot explain or adequately and reasonably supervise. The problem should be deemed irremedia[ble] by antitrust law when compulsory access requires the court to assume the day-to-day controls characteristic of a regulatory agency (…) An antitrust court is unlikely to be an effective day-to-day enforcer of these detailed sharing obligations."
[131] Proposal for a Regulation of the European Parliament and of the Council establishing the European Electronic Communication Market Authority, COM(2007) 699 rev 2 (available at: http://ec.europa.eu/information_society/policy/ecomm/doc/library/proposals/reg_eecma_en.pdf).

decisions to the Commission. On pricing issues, the intervention of the European Electronic Communication Market Authority seems to be limited to the provision of advices[132] .

4. Negotiations between the Parties

Finally, we must also seriously consider a final possibility. We must ask ourselves whether the amount of royalty should not best be determined by the parties themselves through negotiations. Many arguments can be invoked in favor of this thesis.

We have already assessed how important the knowledge of relevant market data is to infer the value of intangible assets. In this view, the interested parties, active on the relevant or on the directly adjacent markets, are naturally well placed to determine what should be the licensing price while, by comparison, the public authorities suffer from an asymmetry of information that leads them to spend a great amount of efforts and resources simply to collect only a part – necessarily incomplete– of this information.

The main shortcoming of such a method is of course that the parties are not likely to reach a compromise[133]. The IP owner will certainly try to limit or delay the effects of an order to license that has been decided against his will, while the potential licensee will invoke the decision that establishes that the IP holder has taken advantage of its dominant position, in order to gain access to the essential facility under very favorable conditions.

However, these issues should not be overstated. Indeed, it is common for parties, in the heat of ongoing negotiations, to try to obtain “more for less”, or to obtain the best conditions possible. Moreover, allowing parties to negotiate to reach an agreement, while the mere principle of concluding a contract was initially excluded, is a solution that is often retained in IPR infringement cases. The Courts then choose to promote negotiations between the conflicting parties to set the level of royalties, before endorsing the agreed solution[134].

The decision to rely on the negotiations of the parties is a choice that has often been made in compulsory license case law. However, case law has also known some jolts, as is illustrated by the recent decision of the Commission in the *Microsoft* case. Consequently, we shall now systematically review which indications have been given as to how the licensing conditions have to be calculated in the rare cases where the obligation to license on “reasonable and nondiscriminatory terms” is not the unique requirement.

D. CASE LAW ON REMEDY

[132] The broadness of the terms of Article 3 of the Proposal is certainly sufficient to legally justify the intervention of the Authority to provide to the Commission such advice on pricing.

[133] “Free negotiations cannot be expected to provide a satisfactory solution. If the essential facility is indeed a monopoly, the outcome of free negotiation between a monopoly asset owner and a competitive complainant must also be unsatisfactory. Indeed, refusal to supply or deal is itself equivalent to the asset owner setting an access price that is prohibitively high, and any asset owner subject to free negotiation will be able to replicate this outcome by quoting a sufficiently high price”. D. RIDYARD, « Essential Facilities and the Obligation to Supply Competitors under UK and EC Competition Law », *E.C.L.R.*, 1996, p. 450.

[134] See for example the case law of the UK Copyright Tribunal. Among many: Copyright Tribunal, 27 Dec. 1991, CT 6/90, British Hotels, Restaurants and Caterers’ Association v. Performing Right Society Limited, Unpublished.

Not many decisions on remedies for abuse of refusal to license have been issued. As stated[135], the few decisions providing hints as to how to determine the conditions of a compulsory license mainly favored the negotiation of the parties (*Magill*[136], *NDC Health/IMS Health*[137], *Newscorp/Telepiù*[138]). However, two rulings recently delivered have opted for a market-based approach to determine the value of IP rights. The following lines will be devoted to the discussion of these two cases.

1. In the matter of Rambus Inc., Opinion of the FTC on Remedy

(a) The Opinion on Remedy :

The *Rambus* case is a typical case of patent ambush in standard-setting context[139].

The Federal Trade Commission ("FTC") found that Rambus had engaged in unlawful monopolization by concealing the patents it owned to the JEDEC standard setting organization in order to impose royalty obligations of its own choosing once the SSO members had no other choice but to pay for the license or face important costs to switch to another standard[140].

The FTC issued an opinion on the way this act of deception had to be remedied[141] and ordered the grant of RAND patent licenses[142].

To determine which royalty rates would probably have resulted from *ex ante* negotiations, the Commission decided to look at "real-world examples of negotiations involving similar

[135] See footnotes 47 and following.

[136] The Commission opted for a decision that allowed the IPR owners to take the initiative to determine what had to be the proper reasonable royalty; the Commission exercised a controlling power through a right of approval. Commission Decision of 21 December 1988 relating to a proceeding under Article 86 of the EEC Treaty (IV/31.851 - Magill TV Guide/ITP, BBC and RTE), *O.J.*, L 78/43, para. 27.

[137] The Commission opted for a mixture of measures. At first, it was up to the parties to reach an agreement on the license terms. To do so, logically, the Commission did not narrow down the parties' freedom of negotiations by imposing guidelines to determine the level of the royalty. In the event the parties could not reach an agreement, it was provided that experts would intervene to set the price under the supervision of the Commission. However, it seems that if the parties had reached an agreement alone, the result of the negotiations would not have been reviewed by the competition authority. Commission Decision of 3 July 2001 relating to a proceeding pursuant to Article 82 of the EC Treaty (Case COMP D3/38.044 — NDC Health/IMS Health: Interim measures), *O.J.*, L 59/18, para. 215.

[138] The Commission favored a solution where the concerned parties had the opportunity to settle on price. However, the negotiating process was affected by a provision requiring the adoption of the lowest of the prices resulting from a cost-based approach and a market-based approach. Commission Decision of 2 April 2003, declaring a concentration to be compatible with the common market and the EEA Agreement (Case No COMP/M. 2876 Newscorp / Telepiù), Annex, part II, para. 11.5 and 11.6.

[139] On SSO's, see part IV.A.1.

[140] FTC, Opinion of the Commission, In the Matter of Rambus, Inc., Docket No. 9302, Aug. 2, 2006, p. 118 (available at: http://www.ftc.gov/os/adjpro/d9302/index.shtm). In order to exercise its remedial powers in the most responsible manner, the FTC asked the parties to address as much information as possible on means for the Commission to determine reasonable royalty rates for licensing the relevant technologies covered by Rambus patents.

[141] FTC, Opinion of the Commission On Remedy, In the Matter of Rambus, Inc., Docket No. 9302, Feb. 5, 2007 (available at: http://www.ftc.gov/os/adjpro/d9302/index.shtm) [hereinafter '*Rambus* Remedy Opinion'].

[142] We consider that some lessons can be drawn from the Opinion on Remedy on how to determine the amount of a reasonable reward, despite the fact that the D.C. Circuit court overturned the FTC's findings on liability (*Rambus, Inc. v. Federal Trade Commission*, 522 F.3d 456, 464 (D.C. Cir. 2008)).

technologies", a methodology that we have criticized, since the use of outwardly "similar" agreements can lead to misguided conclusions. However, the Commission, aware of these risks, took great care to analyze any condition relevant for the reenactment of the reasonable price.

Interestingly, the Commission first pointed to the weaknesses and the negotiation power of the parties at stake, noting that Rambus was desperate to have its technology incorporated into the standard, while, on the other hand, that JEDEC had a well-known preference for open, patent-free standards, and that its members were highly cost-sensitive[143].

The Opinion then focused on the terms of the licenses concluded by Rambus for its RDRAM technology, a parent technology comparable to the SDRAM and DDR SDRAM technologies at stake. The RDRAM royalty rates being the product of "individual, arm's length negotiations between Rambus and manufacturers of DRAM chips and DRAM-compatible components", these licensing agreements were considered as the best available evidence on which to base the estimate of the reasonable royalty.

The examination of various licensing documents led the Commission to hold in a first time a 1-2% average royalty rate for use in DRAM chips. Several factors pointed to an even lower royalty rate. So, the Commission stressed the fact that the "RDRAM licenses covered substantially more technologies than those relevant here". Second, the Commission took into consideration the reaction of the market to the RDRAM royalties: according to the FTC if the RDRAM technology failed to ever achieve a major presence in the market, it was because market participants perceived the asking price as too high. Third, as DRAM royalty rates typically declined substantially for high volumes and with the passage of time (in certain cases, all the way to zero)), SDRAM and DDR SDRAM royalty rates had to follow a similar inflection. And fourth, Rambus's own unlawful conduct being at the origin of all uncertainty, the Commission stated that plausible doubts had to be resolved against Rambus.

On the other hand, the FTC did not forget to include the fact that RDRAM technologies had been rewarded with royalties, but also with up-front, lump-sum payments of licensing fees. The matter had to be taken in consideration: "We deem appropriate to trade off compensation payable up-front and compensation based on future usage, with an increase in one compensating for a decrease in the other"[144].

These factors put together led the Commission to judge that the proper rate had to be set at a level substantially below the 1-2% RDRAM range. All in all, it concluded: "Thus, starting at 1% – (…) the lower end of the RDRAM licensing range – and accounting for the factors presented above, we find that a maximum royalty rate of .5% for DDR SDRAM, for three years from the date the Commission's Order is issued and then going to zero, is reasonable and appropriate".[145,146]

[143] *Rambus* Remedy Opinion, pp. 13 and 18.
[144] *Rambus* Remedy Opinion, p. 21-22.
[145] The rate for SDRAM is justified by a similar rhetoric, based on the choice of royalty made for DDR SDRAM: "We also find that a corresponding .25% maximum rate for SDRAM is appropriate. Halving the DDR SDRAM rate reflects the fact that SDRAM utilizes only two of the relevant Rambus technologies, whereas DDR SDRAM uses four". *Rambus* Remedy Opinion, pp. 22-23 and footnote 130.
[146] Despite the fact that the compensation for the license is defined by the FTC, the Final Order required the designation of a compliance officer to implement and monitor the remedy. The compliance officer had to be employed and paid by Rambus; his appointment being subject to the approval of the Commission. The compliance officer had the mission to communicate existing and potential patent rights related to any standard

(b) Comments :

From the considerations above, we can make a few observations.

To determine what should be a reasonable reward for a mandatory license, the FTC opted for an approach based on the search for a relevant benchmark. However, the chosen benchmark could not as such be used to determine the appropriate reasonable royalty – how could it ? The rates taken into consideration were rates related to another, neighboring and out-of-date technology, so the rates had to be adapted.

To adapt the benchmark, the Commission examined different factors that could influence its average rate and determined the global direction towards which it had to curb the benchmark. There being more arguments in favor of lowering rather than raising the rate, the Commission decided to reduce it.

Unfortunately, on some occasions the Commission based its reasoning on poor rhetorical arguments. For example, when it considered that "RDRAM licenses covered substantially more technologies than those relevant here" to support the argument that RDRAM royalties provided too high an estimate for the technologies at stake, the Commission seemed to count the *number of patents* protecting Rambus technology[147], even though it is widely acknowledged that the number of patents is not a relevant criteria to assess the value of a technology as two patents can have two very different values (depending on their wording, the scope of the claims, etc.)[148].

We also note that the Commission stated that any doubts on the pricing of the mandatory license had to be resolved against Rambus as the litigation originated from its unlawful conduct. It seems to us that the relevance of this kind of consideration to determine what would have been the result of *ex ante* negotiations is questionable. *A fortiori*, it is dubious that such considerations should be regarded by a competition authority in abuses for refusal to supply cases. Indeed, if the bad faith that usually characterizes patent ambushes could justify that any doubt on pricing should be resolved against whoever has acted in breach of the policy of an SSO, no similar circumstance exists when an IPR holder merely exercises its right to exclusively exploit its own invention. This is especially true when the "exceptional circumstances" that command the grant of a compulsory license are so difficult to assess. At most, the consequences of the unlawful conduct could be considered for the calculation of the royalty in some clear-cut cases in which the "exceptional circumstances" are more obviously met, as in termination of an existing supply relationship cases.

The opinion issued by the Commission is globally characterized by its approximations, and its motivation is often flawed by shortcuts in the reasoning. Such an opinion can only leave the Commission exposed to criticism for involving itself in inappropriate speculative price

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under consideration by an SSO in which Rambus could take part and to verify and supplement the contents of Rambus' periodic reports to the Commission on compliance with the Order. We can thus observe that the FTC, like the Commission in the *Microsoft* case, felt the need to rely on external assistance, opting here for a remedy quite intrusive of the freedom of Rambus. FTC, Final Order, In the Matter of Rambus, Inc., Docket No. 9302, Feb. 5, 2007 (available at: http://www.ftc.gov/os/adjpro/d9302/index.shtm).

[147] See footnote 145.

[148] See for example, D. MARTIN and C. DE MEYER, *Patent Counting, A Misleading Index Of Patent Value : A Critique of Goodman & Myers and its Uses*, 2006, 26 p. (available at: www.ssrn.com).

administration[149]. However, the FTC showed its willingness to grasp the value of the technologies at stake. Having invited the parties to produce every document that could be relevant to ground its decision, it then systematically screened the data available and tried to understand the idiosyncrasies of the market and the evolution of the value of the licensed technology in time. All these efforts allowed the Commission to perceive the global trend that had to guide its opinion on pricing.

In the end, in the words of the Commission, the sole question that matters is whether the methodology that was applied has allowed a reward to be determined within the range of values that could constitute a reasonable royalty: "It is true that we cannot calculate to the penny the downward adjustment from 1%. Yet these royalties certainly are within the range of reasonableness in approximating the result drawn from what we know of the *ex ante* negotiating positions of Rambus and the other JEDEC members."[150]

2. Microsoft, Decisions of the European Commission of March 24, 2004 and February 27, 2008

(a) The Decisions :

In *Microsoft*, the European Commission was careful once again to specify that the dominant undertaking was not allowed "to render the order to supply ineffective by imposing unreasonable conditions" for the use of interoperability information. Besides, this information had to be disclosed on a non-discriminatory basis to prevent the introduction of any new distortion of competition[151].

Beyond the generic requirements to license on RAND terms, the 2004 Commission decision also listed additional requirements which the terms of the licenses had to meet. So, the Commission made clear that regarding the remuneration Microsoft might charge to supply the interoperability information, "such a remuneration should not reflect the 'strategic value' stemming from Microsoft's market power in the client PC operating system market or in the work group server operating system market"[152].

The early *Magill* case illustrates a similar issue. After the judgment of the CJEU, the question of appropriate compensation for the compulsory license was carried before the UK Copyright Tribunal. There, the copyright owners claimed that the licensing rates had to be set such as to compensate them for the anticipated loss of profits they could suffer from the admission of licensees as competitors in the downstream market of TV listings magazines. The prospective licensees, on the other hand, argued that the value of these IPR was due precisely to the monopoly the right holders enjoyed in their respective listing magazines, and that "this value

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[149] Statement of Commissioner J. Thomas Rosch, Concurring in Part and Dissenting in Part, In the Matter of Rambus, Inc., Docket No. 9302, Feb. 5, 2007, p. 10 (available at: http://www.ftc.gov/os/adjpro/d9302/index.shtm).
[150] *Rambus* Remedy Opinion, p. 23
[151] *Microsoft* (2004) Decision, para. 1005-1006.
[152] *Microsoft* (2004) Decision, para. 1008.

would disappear as soon as the market was served by a number of competing listings publications"[153].

This case provides an almost textbook example of the necessity of rejecting any valuation of the strategic value. The IPR holders were determined to take advantage of their strategic position, despite the widely acknowledged fact that the poor innovative value of TV listings should not result in the payment of any substantial licensing fee. The Copyright Tribunal resolved the dispute in favor of the licensees.

As was pointed out by the GC, the Interoperability Information, which is indispensable to viably compete with Microsoft in the work group server operating system, is necessarily of great value to the competitors who wish access to it[154]. Thus, the risks are high that the IPR holder will use this advantage to leverage its market power. To prevent such an outcome, the Commission stated that the remuneration charged by Microsoft for the interoperability information had to be justified by showing that the competitors could viably compete with Microsoft's work group server operating system and that the charge represented a fair compensation for the value of the technology transferred, beyond the mere ability to interoperate[155].

Following several discussions and exchanges of view, the Commission services obtained from Microsoft the adoption of the Work Group Server Protocol Program (WSPP) Agreement, which granted development and distribution rights and included principles to price the Interoperability Information disclosed by Microsoft. These WSPP Pricing Principles[156] establish that, should Microsoft and a potential licensee be unable to achieve agreement on pricing after good faith efforts, Microsoft will agree to submit the matter for review by a Trustee. In this hypothesis, the Trustee will take care that the remuneration (i) enables implementation of the protocols by a licensee in a commercially feasible manner, and (ii) reflects value conferred upon the licensee to the exclusion of the strategic value stemming from Microsoft's market power. In order to determine appropriate pricing, the Trustee should then, in particular, consider:

> "- whether the protocols described in the specifications are Microsoft's own creations (…);
> - whether these creations by Microsoft constitute innovation;
> - and, a market valuation of technologies deemed comparable, excluding the strategic value that stems from the dominance of any such technologies."

In parallel to this undertaking, Microsoft continued to make various proposals concerning what it considered to be reasonable terms for the licenses. On numerous occasions, Microsoft reduced the compensation rate of its proposals; every time, the proposals were rejected. Faced with the issue of a Statement of Objections for non compliance, Microsoft explicitly asked the Commission itself to prescribe the exact remuneration rates. The Commission refused, considering that is was "not for the Commission to prescribe the precise remuneration rates

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[153] Judgment of the Copyright Tribunal in the *Magill* case, as reported by D. RIDYARD in "Competition Access Under EC Competition Law – A New Doctrine of 'Convenient Facilities' and the Case for Price Regulation", *op. cit.*, p. 672.
[154] GC, 17 September 2007, T-201/04, Microsoft v. Commission, *E.C.R.*, 2007, p. II-03601, para. 694.
[155] Commission Decision of 27 February 2008 fixing the definitive amount of the periodic penalty payment imposed on Microsoft Corporation by Decision C(2005)4420 final (Case COMP/C-3/ 34.792 – Microsoft) [hereinafter 'Microsoft (2008) Decision'], para. 107.
[156] See Annex B for the full text of the WSPP Pricing Principles.

for Microsoft's own protocol technology". Rather, the Commission's obligation was to ensure that any remuneration rate set by Microsoft at its own discretion was reasonable and non discriminatory[157].

The discipline imposed on Microsoft through the rebuttal of its various proposals and the use of the penalty stick led to the adoption of new remuneration schemes for the WSPP licenses. The schemes provide for a No Patent Agreement for a one-time payment of EUR 10,000 and a Patent Agreement licensing the parts of the Interoperability Information that Microsoft claimed to be covered by patents for a rate of the licensee's net revenues[158].

The previous proposals of Microsoft had been rejected as Microsoft persisted in demanding royalty rates for the disclosure of information that were not covered by patents, while the Commission maintained that no royalty could be demanded for this information. The competition authority, in line with the WSPP Pricing Principles, argued that this non patented information had to be licensed royalty-free on the basis that it was non innovative or that comparable protocol technology was provided royalty-free[159].

To assess the price of the No Patent license, Microsoft provided an analysis of the market value of comparable technology. The analysis was fulfilled by PricewaterhouseCoopers (PwC) for Microsoft. The methodology that was followed is exposed in the decision of the Commission: "Based on a variety of database search methods, PwC initially identifies potentially comparable transactions. It then carries out what it calls an 'economic qualification' of these transactions, which reduces the number of potentially comparable transactions. According to PwC this "economic qualification" qualifies as potentially comparable only those transactions with a running royalty rate, which are a technology license between unrelated parties, free of other considerations that obscure the actual royalty rate and executed outside of litigation". Then, in a second stage, PwC carried out a "technical qualification" on the remaining transactions to screen out transactions that covered technology not comparable with Microsoft's protocol technology so as to ultimately reduce the outcomes to four results, deemed relevant[160].

The methodology adopted seems sound: the comparable agreements were systematically reviewed, and the licenses whose compensation was affected by other factors than the sole licensing (e.g.: cross-licensing) were set aside. However, the Commission considered that the results obtained by this approach were biased. The scope of one of the alleged best comparable licenses was deemed to be substantially different from the No Patent Agreement, while the other licenses were Microsoft Communications Protocol Program (MCPP) licenses, made available under a settlement between the US government and Microsoft, on the terms

[157] *Microsoft* (2008) Decision, para. 75.

[158] The Patent Agreement was available either "worldwide for royalties of 0,4% of the licensee's net revenues, or for a split price providing for royalties of 0,25% in the EEA and 3,87% elsewhere in the world". Microsoft (2008) Decision, para. 102.

[159] The Commission's position was formulated in its Decision of 11 November 2005. Paragraph 105 reads: "The second condition for Microsoft to receive non-nominal remuneration is therefore that Microsoft's protocols must be innovative." Paragraph 106 reads: "The third condition to evaluate whether any remuneration required is reasonable is whether this remuneration is in line with a market valuation for technologies deemed comparable to any innovations identified by Microsoft." Commission Decision of 10 November 2005 imposing a periodic penalty payment pursuant to Article 24(1) of Regulation No 1/2003 on Microsoft Corporation (Case COMP/C-3/37.792 Microsoft), para. 105 (available at: http://ec.europa.eu/competition/antitrust/cases/index/by_nr_75.html#i37_792).

[160] *Microsoft* (2008) Decision, para. 238-241.

and on the rates Microsoft had elaborated in cooperation with the US government, and could thus not be considered as comparable under a market evaluation.

Moreover, the Commission noted that PwC had excluded from its market-based evaluation of the interoperability information comparable licenses granted in the context of standard setting bodies.

Microsoft later argued that this approach was justified as the licenses concluded in the framework of SSOs could not be regarded as comparable to other the licenses, “because they confer significant non-royalty benefits” to their licensor that Microsoft could not receive under the WSPP.

So, according to Microsoft, firms that give licenses in the framework of an SSO benefit from cross licenses from other participants. Second, they benefit from services offered by the SSO, such as certification services. Third, they benefit from an enhanced competitive position for their products, royalty-free licensing being in this regard a means often used to broaden the market of a firm, while Microsoft, for its part, had no incentives to submit protocol specifications regarding work group computing to an SSO to improve its competitive position.

The Commission, on the contrary, judged that Microsoft’s incentives to take part in an SSO should not be considered, the appropriate yardstick to determine whether licenses submitted to SSOs are comparable to the WSPP being “how Microsoft would or other industry players do act if their protocol technologies were or are not the *de facto* industry standard”[161].

Consequently, the Commission included in its market-based evaluation comparable SSOs licensing agreements provided by Microsoft itself in the past, or by other firms, and arrived at the conclusion that the No Patent Agreement had to be licensed royalty-free.

Finally, we also wish to report another interesting discussion on the elements that have to be taken into consideration to determine what should be reasonable remuneration.

Microsoft argued that the fact that various companies had entered into WSPP license agreements constituted conclusive evidence that the agreed license rates were appropriate. The giant from Redmond defended the idea that: “the best indicator of what is reasonable in relation to royalty rates is the results of arm’s length negotiations between a licensor and prospective licensees who have a genuine interest in making use of the technology at issue”[162].

In return, the Commission argued that if in theory the outcome of arm’s length negotiations between companies with similar negotiation power can be of some help as to the reasonableness of agreed royalties, in this case the negotiation power of Microsoft was far from equal to that of prospective licensees under the WSPP. According to the Commission “the licensees were therefore faced with the choice of either accepting royalty rates proposed by Microsoft (…) or to be marginalised in the work group server operating system market. (…) For example, a licensee may still be better off taking a license at unreasonable prices if the alternative is that it risks losing market share due to Microsoft’s interoperability advantage”[163].

[161] *Ibid.*, para. 262-272.
[162] *Ibid.*, para. 273.
[163] *Ibid.*, para. 275-278.

(b) Comments :

Our first comments on the *Microsoft* decisions will be devoted to some specific points we will not discuss later. A general comment, including a discussion of the main issues raised by these cases will be given further.

As a matter of principle, it seems appropriate to only reward information that is innovative. A different choice would allow the dominant firm to charge royalties, not for the intrinsic value of the asset, but for access to the market. In other words, the IPR holder would be able to leverage the market power that stems from its position in the upstream market, which is to be avoided[164].

As we have seen, Microsoft argued that the licenses concluded in the framework of an SSO should not be taken into consideration in a market-based assessment of the value of the indispensable asset, because such licensing agreements are rewarded with additional non-royalty benefits –like enhanced competitive position for the products of the licensor– whereas Microsoft, holder of the *de facto* standard technology, could not benefit from these compensations in the context of WSPP licensing.

To this argument, the Commission answered that, to avoid to the pricing of the strategic value stemming from the dominant position of the IPR holder, the comparability of two licensing agreements had to be determined from the point of view of a licensor whose technology is not the *de facto* industry standard.

Moreover we consider that Microsoft's argument is flawed. The IP holder who licenses its technology in the context of an SSO does not benefit from an enhanced competitive position for its products, but licenses its technology (possibly at a lower price) in the *hope* it will benefit from an enhanced competitive position. Let us take the example of a technology licensed by a small inventor to be integrated in the next generation of the leading product of an undertaking dominant on its market. The licensor, expecting to benefit from an enhanced competitive position, is eager to license its invention for a lower price. Unfortunately, the market rejects the new product. Assessing the value of a comparable technology, should we take into consideration the rate agreed upon or should we balance it with what the small inventor had in mind when he concluded the license ? In our view the former solution must be preferred, the latter being almost impossible to implement. Pursuing this line of thought, we should remember that a standard is not bound to be successful for the sole reason that it has been enacted by an SSO. For instance, a competing standard, enacted by a competing SSO[165],

[164] A crucial question is then to determine under which conditions an intangible asset has to be regarded as innovative. Heated debates took place on this subject in the *Microsoft* case (See Microsoft (2008) Decision, para. 169-219). If it seems obvious that patented technologies would fulfill this requirement, the question is more complex for know-how and non protected technologies. However, as interesting as this issue is, we will not discuss it here. We will just content ourselves with mentioning that in our opinion, it is wrong to consider automatically that know-how and trade secrets cannot be innovative. Indeed, inventions and information that are regarded as non-patentable under the European patent system can be considered innovative under other bodies of law (under the US patent system, or even under a utility model legislation where the level of inventiveness required for protection is lower).

[165] Even if it is not the norm, "Certainly some standards do face competition from other cooperative efforts centered on different technological solutions for the same or largely similar issues". D. GÉRADIN, A. LAYNE-FARRAR, and A. JORGE PADILLA, *The Ex Ante Auction Model for the Control of Market Power in Standard Setting Organizations*, 2007, p.13 (available at: www.ssrn.com).

can gain the market to the detriment of the expectations of the various licensors that had managed to put their technology in the defeated standard. Microsoft's argument requires a subjective assessment of every possible benchmark, which would lead to insuperable uncertainty in the use of a market-based approach. Consequently, it should be rejected.

The argument that IPR in SSOs are licensed for lower prices because these organizations provide additional services like certification must also be set aside as every SSOs does not provide such services[166]. Possibly, these services can be appraised and their value taken into account to properly assess the amount of the reasonable royalty for the indispensable asset.

Lastly, the alleged difficulty resulting from the inclusion of cross-licenses in the licensing agreement of a comparable technology is common to any agreement that includes compensations other than a fixed royalty rate and is not peculiar to licenses negotiated within SSOs.

Therefore, we endorse the view of the Commission. There is no valid reason to exclude any license from a market-based evaluation of the essential technology on the sole basis that it was concluded in the context of a standard-setting organization.

E. GENERAL COMMENTS

As the reading of case law shows, no clear solution has been retained by the Commission as to how to determine the amount of a RAND royalty. It is even difficult to determine a trend. For example, in a first wave of decisions the Commission allowed the parties to determine the appropriate terms for the compulsory licenses, the intervention of an external authority being only a backup plan in case the negotiations failed. However, the Commission recently decided to change its approach and play a more active role, closely scrutinizing the different steps undertaken by Microsoft to comply with its obligation to make proposals to license on RAND terms[167].

In our opinion, the approach taken by the Commission in *Microsoft* does not make much sense. Indeed, the Commission intervened repeatedly to "guide" Microsoft towards what the Commission considered to be a reasonable royalty, even after having obtained from the dominant undertaking the adoption of WSPP Pricing Principles stating that if the parties were not able to reach an agreement on the licensing terms, the matter would be submitted for review by a Trustee.

First, we doubt whether such an approach is really coherent. Once the Commission has stated, after comprehensive motivation, that the final proposal of Microsoft complied with its obligation to license on RAND terms, we cannot imagine that the Trustee could still play a relevant role and impose a lower (or a higher) price than the one held by the Commission.

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[166] For example, certification is not a requirement of any of ISO's management system standards. See International Organization for Standardization, "Certification", http://www.iso.org/iso/iso_catalogue/management_standards/certification.htm (1 May 2009).

[167] We note that this wavering is not peculiar to the Commission. The case law of many member States show similar indecisiveness as to who has to intervene to set the licensing price. See for Belgium, E. DERCLAYE, *Belgian Report*, LIDC Congress, 2007, pp. 9-10. On a comparison of the law of various member States on the question, see T. WOODGATE, *Rapport pour le Congrès*, LIDC Congress, 2007, 22p. (available at: http://www.ligue.org/fr/homepage/workshops/nat._reports_2007_fr).

Second, if the Commission intended to determine the amount of the reward due for the licensing of the interoperability information before any negotiation *inter partes*, then it should have taken the responsibility to overtly impose its views on the matter, instead of requiring the presentation of proposals that were systematically rebutted. The proceedings on remedy have taken more than three years, during which period the distortion of competition has persisted in favor of Microsoft. A direct determination of the remedy would have provided the same outcome as the decision issued, but would have saved time and resources, for Microsoft as well as for the Commission.

Regarding the method adopted to calculate the royalty rate for a license, we note that preference is given to a market-based approach over a cost-based approach (disregarded in case law, except in the *Telepiù* case[168]). However, the benchmarking approach rapidly betrays its limits. As we have seen in *Microsoft*, the mere choice of an agreement as benchmark in place of another is liable to give rise to major controversies. In a second step the benchmark needs to be adapted to the particular situation of the case, which can only be done through rough approximation[169].

Under these circumstances, it does not seem irrelevant to question whether the licensing terms would not be better defined by the parties themselves. While the intervention of the authority would require tremendous efforts, time and resources analyzing market data to finally lead to speculative, improper results, the negotiation of the parties could provide a feasible method to solve the problem. Compulsory negotiations between two litigating parties is a remedy commonly used in patent infringement cases, and which is in conformity with the first case law of the Commission.

Essentially, we believe that the value of things is the value which is given to them. Therefore, we believe that after the issuing of a clear order to license, the parties should be given a last chance to settle on the price of the license. Only if the parties are not able to reach an agreement should the public authority step in and define the licensing conditions. Serious criticism can be leveled at this thesis, though, and need to be discussed.

1. On Arm's Length Negotiations

According to the Commission, even if the parties were able to reach an agreement on the conditions of the license, the outcome would be biased: the negotiations would not result in the determination of a "reasonable" royalty as the potential licensee, desperately in need of access to the asset, would accept undue conditions.

[168] See *NewsCorp/Telepiù* Decision, Annex, part II, para. 11.5 and 11.6: in this case, the merger commitments stated that access had to be offered to the application program interface (API) of the pay-TV enterprise resulting from the merger at "fair, transparent, cost-oriented and non-discriminatory prices". More precisely, access price had to be determined on the basis of "the lowest of the prices obtained applying the following principles:

(i) cost-oriented basis adopting where appropriate a long-run incremental costs approach and including a fair and reasonable contribution to the investment costs of set-top box roll-out and related infrastructure plus a reasonable return.

(ii) relevant market values (where they exist) for comparable services."

[169] We cannot help but quoting once again the FTC in Rambus, that deemed appropriate to trade off compensation payable up-front and compensation based on future usage "with an increase in one compensating for a decrease in the other".

In our view, this opinion should be moderated. Indeed, if the decision ordering the grant of a compulsory license establishes the possibility for the parties, after good faith efforts, to submit the matter for review to a third authority, the negotiation power of the dominant undertaking would be balanced by the threat of a referring by the potential licensee to this impartial third party. The mere risk of seeing an external authority taking the matter in hand would discourage the dominant firm from imposing unacceptable conditions. In the event this risk would not suffice to preclude any stringency, the potential licensee would still be able to effectively refer the matter to the third authority.

2. On the Requirement to Non-Discriminate

The negotiation of the terms between the parties would also raise another important issue: i.e. the compliance with requirement of non-discrimination. If the parties are free to conclude the agreement of their choice, it is likely that the outcome will be the conclusion of a plurality of conventions, contracted on different terms with the different licensees, depending on the proceeding of the negotiations.

According to the Commission such a solution, contrary to the non-discriminatory requirement, would distort competition on the downstream market and is thus inacceptable[170]. On the opposite, we think that the opportunity to require non-discriminatory licensing conditions should be questioned as economic theory constantly underlines the benefits of price discrimination (allocative efficiency, consumer welfare, etc.)[171]. In addition, we doubt whether it is really coherent for the Commission to adamantly require non-discriminatory licensing conditions at the remedy stage in refusal to deal cases, while renouncing to prosecute price discrimination abuses[172].

It is true that price discrimination in inputs can put some firms at a competitive disadvantage. If two buyers of a relevant input compete with each other, a difference of treatment can distort competition between them and can force the one who pays the higher price to exit the market, even if he has better products or if he is more efficient. However, it is argued that this kind of conduct should not be condemned *prima facie*, price discrimination being liable to raise competitive issues only if it creates an effect on *competition overall* (as opposed to competition between the two buyers). To evaluate the effect of the discrimination would then

[170] Recently, Rambus reached a tentative settlement with the European Commission. Earlier, the European Commission had adopted a Statement of Objections against the US firm for having engaged in intentional deceptive conduct in the context of a standard-setting process. In order to meet the Commission's competition concerns Rambus offered commitments to put a cap on its royalty rates for a five year duration. We observe that the Commission obtained compliance with its non-discrimination mantra as the cap includes a "Most-Favoured-Customer" clause which ensures that any future rate reduction will benefit the whole market. Press Release, "Antitrust: Commission market tests commitments proposed by Rambus concerning memory chips", MEMO /09/273, 12 June 2009 (available at: http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/09/273&format=HTML&aged=0&language=EN&guiLanguage=en).

[171] See for example M. LORENZ, M. LÜBBIG, and A. RUSSELL, "Price Discrimination, a Tender Story", *E.C.L.R.*, 2005, p. 355-358. In the same vein, the non-discrimination requirement may be turned on its head: one may for instance argue that the obligation to license at a uniform-but-median price will preclude several operators from accessing to the indispensable asset and discriminate between them and those who are able to pay the unique fee.

[172] Let us remind that abuses for price discrimination are not listed among the enforcement priorities of the Commission. See Guidance on the Commission's Enforcement Priorities in Applying Article 82 ECT, *op. cit.*

require a rigorous assessment: "the exit or marginalization of one firm on a downstream market is irrelevant if there is a sufficient number of other sellers"[173].

The problem is more acute when –as in compulsory license cases– the licensors are vertically-integrated operators and have "strong incentives to charge a lower (implicit) price to their own downstream operation than to the operation of their competitors"[174]. As already stated, the risk is high that a licensor exercising bottleneck market power that "discriminates in licensing in order to handicap its competitors and favor its own downstream sales can create or enhance market power in downstream markets"[175].

The question is not of trivial importance. However, as has already been noted, the determination of the price implicitly charged by the producer for the internal use of the indispensable input is an inextricable issue. The violation of a prohibition to discriminate can only be invoked when dissimilar prices are applied to equivalent transactions. If the evaluation of the equivalence of two transactions is always extremely difficult as countless factors can justify differences between two transactions, the ante is upped even more when one of the two terms of the comparison has to be intellectually reconstructed.

Beyond the difficulties that an assessment of the compliance with the "non-discriminatory" requirement would raise, a categorical rejection of any discrimination would wrongfully prohibit many efficient contractual agreements.

First of all, we would like to remind that IP licensing is fundamentally at odds with non discrimination: "Intellectual property licensing in competitive situations is in practice little more than an exercise in price discrimination, since typical license structures such as user, or royalty, related fees are set so as to reflect demand-side considerations of the value of the intellectual property to the licensee, and bear no relationship to the costs incurred by the licensor"[176].

Second, while a decision ordering the grant of a compulsory license may be susceptible to send a negative signal to the market and to deter future R&D investments[177], price discrimination can undermine the deterrence effect. In many "new economy" industries, where marginal costs are very low, but research and development costs are high, it makes sense for innovative companies to charge different prices to their different customers, although the cost of supplying them is not necessarily different. This strategy allow innovative firms to recover some fixed costs from those who are willing to pay more, and to

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[173] R. O'DONOGHUE and A. PADILLA, *The law and economics of article 82 EC*, Oxford, Hart Publishing, 2006, p. 560.

[174] D. GÉRADIN, *Pricing abuses by essential patent holders in a standard-setting context : A view from Europe*, Paper prepared for the "Remedies for Dominant Firm Misconduct" Conference, University of Virginia, 2008, p. 10 (available at: www.ssrn.com).

[175] D. SWANSON and W. BAUMOL, *op. cit.*, p. 26.

[176] D. RIDYARD, « Compulsory Access Under EC Competition Law – A New Doctrine of 'Convenient Facilities' and the Case for Price Regulation », *op. cit.*, pp. 671-672.

[177] The deterrence effect of compulsory licensing on innovation, stressed by so many authors, should not be overstated, though. Behavioral economics indicates it is unlikely that the few Article 102 TFEU cases ordering a duty to deal will ever deter firms to innovate. Only if compulsory licensing had to become common matter would this threat become real. See N. PETIT and N. NEYRINCK,, "Behavioral Economics and Abuse of Dominance: A Proposed Alternative Reading of the Article 102 TFEU Case-Law", *GCLC Working Paper 02/10*, p.14 (available at: www.ssrn.com).

price down towards marginal costs to secure –even limited– margins that they would not otherwise achieve from those who can only afford to pay less[178].

Third, economic theory teaches us that the uniqueness of the IP right, and the absence of any real market for the technological asset makes the value of the intellectual right much more dependent on the features of the firm exploiting the asset, and is thus closely related to the specific identity of the contractors[179].

Fourth, relying on the negotiation of the parties would provide the flexibility needed to implement the remedy in time. Indeed, should the parties be able to reach an agreement, we can be fairly confident that they would also be able to adapt the terms of the license on their own, if the evolution of the market commands an adjustment of the reward[180], while a regulation of the price would require unceasing intervention by the authority.

Lastly, the negotiation between the parties would also provide some welcome flexibility in the determination of the other conditions of the license. All prior developments centered on the pricing of compulsory agreements should not make us forget that there are important elements of consideration other than royalties[181]. Actually, many additional variables (such as scope and duration of the license) play a direct role in the determination of the reward.

In *Microsoft* for instance, the complexity of the interoperability information at stake and the various needs of the different licensees required an accurate, case-by-case tailoring of the scope of each license, despite the availability of different sets of information prepared at the insistence of the Commission[182]. In our view, the variability of the content of the different licenses should logically lead to the acceptance of different licensing fees negotiated according to the specific content of the agreement.

3. Duration of the Remedy

The question of the duration of the remedy in time led the Commission to order that the obligation of Microsoft to license on RAND terms should apply "on a forward-looking basis to the disclosures that will take place for successor products or updates of present

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[178] D. GÉRARD, *op. cit*, p. 7 (available at: www.ssrn.com) ; A. JONES and B. SUFRIN, *EC Competition law EC competition Law : text, cases and materials*, Oxford, Oxford University Press, 3rd ed., 2007, p. 441**.**

[179] If the value of a technological asset cannot be stated in the abstract, but must be stated in a particular place, at a particular time and in a particular circumstance, the features of the firm exploiting the asset can affect its value. So, production, marketing, distribution and after sale service capabilities of the buyer determine the profitability of the IPR, its worth, and its value in the accounting books. V. CHIESA, F. FRATTINI, E. GILARDONI, R. MANZINI, and E. PIZZURNO, "Searching for factors influencing technological asset value", *European Journal of Innovation Management*, 2007, pp. 477-478.

[180] Along this line, the parties should take care to include a sunset provision, or at least a mechanism for reconsidering the license as market conditions change. M. DELRAHIM, *Forcing Firms to Share the Sandbox: Compulsory Licensing of Intellectual Property Rights and Antitrus*t, Presentation at the British Institute of International and Comparative Law London, 10 May 2004, p. 15 (available at: www.usdoj.gov/atr/public/speeches/203627.htm).

[181] D. GÉRADIN, "Standardization and Technological Innovation: Some Reflections on Ex-Ante Licensing, FRAND, and the Proper Means to Reward Innovators", *World Comp.*, 2006, p.519.

[182] It is relevant to note that concerning the licensing of interoperability information to an open-source developer (Samba), weeks of negotiations were needed only to determine the exact protocol information that would be included in the license. See A. TRIDGELL, *The PFIF Agreement*, 20th December 2007 (available at: http://www.samba.org/samba/PFIF/PFIF_agreement.html) (1 May 2009).

products"[183]. Regarding the ability of Microsoft to make its customers switch from one version of its operating system to another, the measure is not inappropriate.

Indeed, it seems rational that the remedy should remain available as long as the access for the market remains dependent on the goodwill of the IPR holder[184]. However, this raises a new question: what would happen if, after the issuing of the remedy, the market changed and another IPR holder appeared, balancing the dominance of the former innovator and reducing the indispensable character of the technological asset ? Should the former innovator be authorized to recover his full rights and ban those who had benefited from a compulsory license till then from using his invention? We do not think so. First, this would entail major social losses. The investments and the follow-on innovations made by the licensees on the protected technology would be lost, unused, except if the licensees should decide to overtly infringe on the IPR. Second, it seems dubious that the negative signal that was sent to the market when the compulsory license was ordered would be compensated by the recovering of the right to exclude, possibly many years after its birth, when competing technologies are finally available. All in all, we consider that the licensees should be authorized to continue to use the IP right for the licensing fee.

4. On the Transaction Costs

Another important shortcoming of an approach based on the negotiation of the parties to determine the terms of a mandatory license is that negotiations of intellectual rights generates particularly high transaction costs[185]. The complexity of the matter requires the involvement of technical and legal experts and consumes great amounts of time and resources[186]. Moreover, these costs could be even heavier if the parties fail to find a compromise and have to engage in a new round of discussions before the third authority.

If these shortcomings are real and must be acknowledged, some measures could be taken to reduce their effects. First, if a party shows gross bad faith during the negotiation, it should be fined. Second, to be sure that the price is negotiated at arm's length and that the potential licensee will not accept unreasonable terms because it cannot afford to refer to the third party if needed, the judicial costs should be shared between the parties. Thirdly, a time cap should be defined for the negotiations to take place, possibly prorogated if the parties make a common request. Additionally, the third authority could require the dominant undertaking to provide any information needed to assess the value of the IP right, from the very beginning of the negotiation process, so as to be ready for the debates in the event the negotiations should fail.

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[183] *Microsoft* (2004) Decision, para. 1007.

[184] In *Rambus*, the FTC stated that the Order to license will sunset 20 years later and specified that respondent may seek to modify or set aside the Order, "if at any time prior to the expiration of 20 years it is no longer in the public interest". *Rambus* Opinion Remedy p. 29.

[185] R. A. POSNER, "Transaction Costs and Antitrust Concerns in the Licensing of Intellectual Property", *Marshall Rev. Intell. Prop. L.*, 2005, pp. 325-335 (available at: http://www.jmripl.com/Publications/Vol4/Issue3/posner.pdf).

[186] For example, it is common in the US for parties to spend more than $1 million to litigate a patent dispute (including *inter alia* negotiation costs). See J. LOVE, *Implementing TRIPS safeguards with particular attention to administrative models for compulsory licensing of patents*, WHO meeting in Harare, Zimbabwe, August 21, 2001 (available at: http://www.cptech.org/ip/health/cl/harare-aug2001.html).

5. Effects on the Negotiations of the Decisions taken by the Review Authority

In *Microsoft* the Commission stated that the "remuneration should not reflect the 'strategic value' stemming from Microsoft's market power". Later, it specified that in order to determine the appropriate price for the licensing of interoperability information, one had to consider whether the creations by Microsoft constitute innovation. In *Newscorp/Telepiù* the Commission had established earlier that the price of the license had to be determined by the lowest of the prices obtained by applying a cost-oriented approach and a market-based approach.

We can question what can be the impact of such requirements when the price is discussed between the parties. Indeed, it is quite unlikely that the parties, in order to assess the value of an IPR, will ever opt for a systematic review of the market value of every comparable technology or organize a comprehensive assessment of the costs of the licensor in the same way as would a public authority. These elements can be taken into account, of course, but it seems that in the negotiations they will be included in an hotchpotch of considerations embracing the probable evolution of the market, the business plans of the parties, their respective financial situation, etc. And this is precisely what we expect from *inter partes* negotiations: an assessment of the value of the intangible asset according to the criteria the parties deem to be the most relevant.

As was once put by a pragmatic patent attorney:

> "A reasonable royalty rate is often based on economic sense by utilizing a financial model which relates the investment required to develop a (…) technology to the income generated by such technology. What does that mean? It means you have to have a good business plan in place before you can talk turkey on royalty rates. And I don't mean those wildly inflated fluffy business plans that companies create showing revenue in colorful logarithmic growth charts to impress potential investors. No, I mean a real, down-to-earth, cold shower type of business plan that takes into account all of the pain and suffering that could be encountered along the way." [187]

Therefore, should we conclude that the indications of the Commission are without any effect on the negotiations between the parties ? We do not think so. If only, because they would be taken into consideration by the review authority.

As we have already seen, in the current state of the law, only the Commission can monitor the remedy. Possibly, the dominant undertaking can decide to refer the matter to a trustee if the negotiations between the parties fail. In both cases, if one of these authorities has to review the matter, it will integrate the above-mentioned requirements in its analysis of the reasonable price. This is not without consequence.

Let us take an obvious example. If it is considered that any doubt in the determination of the licensing terms should be resolved against the licensor (*Rambus*), or that the proper royalty should always be the lowest admissible price (*Newscorp/Telepiù*), it is likely that the licensee

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[187] S. ALBAINY-JENEI, "What's A Reasonable Royalty Rate ?", *Patent Baristas*, 17 Nov. 2005, http://www.patentbaristas.com/archives/2005/11/17/whats-a-reasonable-royalty-rate/ (3 Sept. 2009).

will take advantage of this inclination to claim favorable licensing conditions during the negotiations with the IPR holder. Thus, even if their precise effect is difficult to assess, we think that the possible biases of the review authority are susceptible to affect the outcome of the negotiations between the parties[188].

6. The Choice of a Pricing Method is a Policy Decision

As we have seen, several pricing methods exist. The benchmarking approach is the most used, but other methods, such as the cost-based approach (*NewsCorp/Telepiù*), or the ECPR (*Clear v. New Zealand Telecom*), have also been relied on. Thus, if the price is not determined by the parties through negotiations, the third authority will have to make a choice between the different tools available.

It has been argued that "the terms of access may vary from case to case, such that there is no single, correct methodology. Each methodology has certain drawbacks and the precise nature of these disadvantages will vary depending on whether the interests of the requesting party, the dominant firm, or the process of competition (or some combination of all three) take priority"[189]. The dilemma is well-known: if it is important not to appropriate the dominant firm's return on its invention to not deter innovation, low prices for access to the indispensable technology are susceptible to induce more firms to enter the market. The choice of the appropriate pricing method is a policy choice.

In these circumstances, we can question whether it is appropriate that an external third authority, devoid of any legitimacy, be entitled to determine the licensing price; even if appointed by the parties.

Therefore, it seems sound that the Commission accept the commitment to submit the matter for review to a third authority only if the method to determine the licensing fee is also set in the undertakings, so that the review authority does not take any policy decision[190].

7. Is the Case Susceptible of being Reopened for Excessive Pricing ?

Finally, we must consider one last issue. Should the parties reach an agreement on the terms of the compulsory license, would it be possible for the licensee to later claim that the dominant undertaking has imposed undue conditions? This hypothesis is particularly conceivable in the situation where an agreement has been concluded between two parties, but where negotiations have failed with another licensee that decided to submit the matter for

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[188] A similar reasoning was held in the regulatory framework context: see K. BINMORE and D. HARBORD, *Bargaining Over Fixed-to-Mobile Termination Rates in the Shadow of the Regulator*, GCLC Working Paper 05/05, 19 p. (available at: http://www.coleurope.eu/content/gclc/documents/GCLC%20WP%2005-05.pdf). The authors argue that when a Fixed Phone Network Operator is under the obligation to interconnect with any mobile phone operator willing to enter on the market, the parties tend to reach an agreement and the contracting conditions agreed upon align with the conditions the parties expect the regulatory authority would impose if a dispute was referred to it for adjudication..

[189] R. O'DONOGHUE and J. PADILLA, *op. cit.*, p. 726.

[190] It should not prevent the third authority to apply different pricing techniques in order to match up the results and try to find conformity among the conclusions (X., "Untangling FRAND: what price intellectual property ?", *Oxera Agenda*, Feb. 2008, p.4 (available at: www.oxera.com)). For example, a review authority bound to determine the licensing price on the basis of a market-based approach could use a benchmarking method, and check for further adjustments the results provided by sectorial databases, or by a stock market-based approach.

review by the competent authority. In such a case, if the third authority sets the reasonable rate for the technology at stake at a level substantially lower than the fee initially accepted by the first licensee, it is likely that this licensee will try to challenge – possibly for excessive pricing – the validity of the agreement he concluded.

If in theory there is nothing to prevent a licensee from challenging for excessive pricing the conditions of an agreement it has accepted, in practice the efficiency of such an action will be limited. First, as has already been noted, it seems that we can deduce from the wording of the prior case law of the Commission (*IMS Health*)[191] that the competition authority would be reluctant to reexamine the opportunity of conditions consented to. In the same vein, the Commission is particularly uncomfortable with excessive pricing issues, and any attempt to reopen the case under an allegation of excessive price would be particularly uncertain, as is illustrated by the scarcity of case law on the topic[192]. In addition, as a matter of principle, it could always be argued that the rate held by the review authority is only one possible answer within the range of acceptable royalties and that other fees, possibly higher, could also be deemed reasonable.

What strikes us is that whichever test is used[193], the pricing practice must be demonstrably excessive to come within Article 102 (a) prohibition.

It has been argued that it is essential to distinguish between the issue of excessive pricing under Article 102(a) TFEU and the formula of reasonable and non-discriminatory pricing in the case of compulsory access. "In the case of Article [102(a)], it is necessary to avoid pricing which is so extremely high, and can be shown to be so, that it is outside the range of permissible pricing even in a free market context. (...) The important point is that Article [102(a)] is not meant to put the courts or Commission in the position of being an industrial regulator. It presupposes a wide range of 'fair' prices and is meant to step in only in the extreme case when a price is set which no fair dominant undertaking would set. (…) In contrast, to set fee levels under the formula of reasonable and non-discriminatory pricing of compulsory access (…) requires the courts and Commission to attempt to approximate a regulator's task"[194].

In the end, it is unlikely that a price substantially but not excessively above the market price will be condemned under Article 102(a), while the price imposed to the licensor on the basis

[191] See footnote 137.

[192] This is especially true regarding IP issues as it seems that demanding excessive royalties has been sanctioned in even less cases, where the behavior of the dominant firm was stained with a certain measure of bad faith. For instance, in *Eurofix-Bauco v. Hilti* (1988, *O.J.*, L 6/19) the Commission considered that the sole purpose of demanding 'excessive' royalties was to block or unreasonably delay a license of right which was available under UK patent law. See R. WHISH, *Competition Law*, Oxford, Oxford University Press, 6th ed., 2008, p. 794. According to certain authors, lawsuits introduced by dominant undertakings to be paid IPR royalties could also be linked to the *ITT Promedia* case law: See J. KILLICK and P. BERGHE "Rambus: An overview of the issues in the case and future lessons for SSO's when designing IPR policies", *Concurrences Tendances*, n° 2-2010, p. 10.

[193] Let us remind that the test for excessive pricing established in *United Brands*, (ECJ, 14 Feb. 1978, C-27/76, *E.C.R.*, 1978, p. 207, para. 252) requires to determine "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". Obviously, this test is not suited for cases involving IPRs. Here again, we are confronted with the difficulties of defining the relevant fixed costs (IV.B.1.(b)), or with benchmarking issues (IV.B.2.(b)).

[194] S. ANDERMAN, *EC Competition Law and Intellectual Property Rights. The Regulation of Innovation*, New York, Oxford University Press, 1988, p. 215.

of the “reasonable and non-discriminatory” requirement will be set to stick with the market price[195].

In our view, this discrepancy can possibly be explained by the fact that in foursquare refusals to deal cases, the Commission is able dissociate the liability issue from the question of the implementation of the remedy. On the opposite, Article 102(a) cases oblige the competition authority to face the pricing issue from the beginning, this resulting in a greater reluctance to intervene[196].

This situation lead to the disconcerting outcome that dominant undertakings have now incentives to impose unfair or unreasonable conditions or ask excessive prices rather than refuse outright to grant access to their property[197].

V. CONCLUSIONS :

1 - The issuing of compulsory licenses raises many difficulties. In order to circumvent these difficulties and reduce the risks of market foreclosure, a strengthening of the conditions to which the grant of intellectual property rights is subjected seems appropriate. Several measures have been taken for copyrights these last few years; much can still be done to reform the patent system.

2 - The complexity of the issues arisen by compulsory licensing pleads for a limitation of the cases and of the circumstances under which compulsory licenses are ordered[198].

3 - On several occasions, the European Commission has expressed its reluctance to regulate the prices and set the licensing fee.

In our view, it should always be incumbent upon the parties concerned to try and agree terms on a voluntary basis[199]. It would be consistent with the fundamental principles of a free market economy, where the value of things is the value which is given to them, and would provide a simple, practical answer to the pricing issue.

The greatest risk of such an approach is that the holder of the right leverages market power or renders the order to supply ineffective by imposing unreasonable conditions with respect to intangible asset access. However, we believe that the possibility offered to potential licensees to threaten to submit the matter of pricing to review by an external authority is liable to discourage the licensor from imposing undue licensing conditions. Moreover, *inter partes* negotiations can provide expedient flexibility and allow the innovator to recoup his investments, therefore undermining the allegations that compulsory licensing deters innovation. Consequently, for policy reasons, the Commission should renounce applying the requirement of non-discrimination.

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[195] At least if the authority which set the licensing price relies on a market-based approach.

[196] Policy reasons can also justify such discrepancy. Of two evils (total market foreclosure in refusal to deal cases, and leveraging of market power in the case of excessive pricing), the worst would be more drastically redressed.

[197] E. DERCLAYE, *op. cit.*, p. 11

[198] C. VILMART (coord.), *L’accès obligatoire à la propriété intellectuelle et aux facilités de réseau,* LIDC Congress, 2007, p. 40 (available at: http://www.ligue.org/fr/homepage/workshops/nat._reports_2007_fr).

[199] R. O’DONOGHUE and A. PADILLA, *op. cit.,* p. 726.

4 - Should an external authority assess whether licensing conditions are reasonable, we have identified different methods that can be used. Among these methods the market-based approach seems to be the most popular, despite its many flaws.

The uniqueness of the intangible asset at stake and the absence of any real market are at the origin of the difficulties to evaluate the value of an intellectual right.

To properly make this assessment, the authority should take great care to collect all relevant data and to carry out a comprehensive analysis of the question. Possibly, a pragmatic approach that applies the alternative techniques available and finds conformity among their conclusions should be adopted.

5 - It seems that in the absence of any commitment given by the dominant undertaking, only the Commission is entitled to monitor the compliance with a remedy for infringement of Article 102 TFEU. In our view, the appraisal of licensing conditions would certainly be better carried out by an EU-wide regulatory body, which would accumulate market knowledge and gain appropriate experience.