Refusal to License Intellectual Property Rights under Article 82 EC in light of Standardization Context

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Abstract

This paper examines whether the current EU competition law regarding refusal to license intellectual property rights can effectively deal with access to industry common standards that may embrace proprietary intellectual property rights. It finds even though intellectual property rights as such do not confer dominant position to their owners in the market, industry standards that embrace technologies covered by IPRs may add substantial value to these IPRs. The combination of industry standards and IPRs may create a dominant position in the market. The paper suggests that the approach based on the complementary interaction between intellectual property law and competition law be introduced to address the refusal to license IPRs problems in terms of industry standards, especially the over-exploiting intellectual property should be taken into account when to determine the existence of abuse of dominant position.

1. Introduction

Technical standards [1] have been generally applied to secure quality, safety or interoperability of products or services in the modern industry. The implementation of industry common standards may however raise concerns for licensing of intellectual property rights (IPRs) because technical standards as a kind of technological specification may cover some claims of others' patents and some codes of others' software. This has resulted in insuperable problems especially in the information and communication technology (ICT) industry. In the ICT industry, on the one hand, technologies have been generally standardized in order to secure compatibility and interoperability between different networks and many components; on the other hands, technologies are fragmented into many separate exclusive areas by owning patents or other IPRs by many different firms, this phenomenon is called "patent thicket" or

[1] According to the International Standard Organization (ISO) definition, standards are documented agreements containing technical specifications or other precise criteria to be used consistently as rules, guidelines, or definitions of characteristics, to ensure that materials, products, processes and services are fit for their purpose. (ISO 2002)
Quality and safety standards define the design or performance characteristics that products must have either to be sold in the market or to obtain "approval," "certification," or "listing" by a standard-setting body. Interoperability standards specify whether and how one type of product will be able to fit or communicate with other products. See James J. Anton and Dennis A. Yao, "Standard-Setting Consortia, Antitrust, and High-Technology Industries," *Antitrust L J* 64 (1995), 247, 248, 262-63.

"patent minefield"[2]. Obviously it is very unlikely for a ICT standard to avoid including any proprietary technologies. As a result, when a firm attempts to develop a product or service pursuant to an industry standard, it inevitably infringes IPRs of others that are essential to the standard. To spare the standard implementers from infringement, license of using these IPRs is needed. Nevertheless, owners of these IPRs may refuse to grant a license, thereby blocking the access to a standard so as to exclude their competitors from entering the market, specifically leading to "patent hold-up" problems. Since such behaviors may distort or prevent competition in the Common market, there are openings to apply competition rules to refusal to license IPRs.

This paper attempts to examine how European competition law, specifically the Article 82 of EC Treaty can effectively address the refusal to license IPRs in ICT standardization context. The first part of this article discusses how technical standards may add substantial value to an intellectual property thereby creating a market power. The second looks into how the European courts have dealt with issues regarding refusal to license IPRs. The third part demonstrates the inefficiency of applying the current European case law to refusal to license IPRs in ICT standardization context. Finally, a solution to such inefficiency in light of the complementary interaction between intellectual property law and competition law will close the analysis.

2. Technical standards and market power

2.1. Intellectual property rights itself do not confer market power

Market power offers a helpful preliminary filter to identify the sources of competition problems.[3] As a kind of statutory monopoly for limited period granted by national law, however, IPRs cannot automatically be regarded as owning market power under Article 82 EC. Whether or not an IPR holder would have market power in terms of the IPR depends not on the exclusive rights *pe se*, but on the existence of a substitute for the technology covered by the IPRs, because a technology, which is protected by IPR, despite novel and valuable, may have a corresponding substitute. Hence, the European Court of Justice (ECJ) has consistently held that the ownership of

[2] Carl Shapiro, "Navigating the Patent Thicket: Cross Licensing, Patent Pools, and Standard Setting," in *Innovation Policy and the Economy (Adam Jaffe et al., eds., Nat'l Bureau of Econ. Research, 2001)*, 2001.
[3] Giorgio Monti, *EC Competition Law* (Cambridge: Cambridge University Press, 2007), 124.

intellectual property did not necessarily mean that the owner had a dominant position.[4]

2.2. Standard setting may add value to a technology

A *de facto* standard arises from uncoordinated processes in the competitive marketplace, therefore it usually has been commonly accepted by the market. A *de jure* standard usually is developed by a standards-setting consortium, participants of which might have a bigger market share individually or totally. Since standard-setting activities often involve testing, broad discussion and comparative evaluation of competing technologies, the technology that has been chosen to incorporate into a standard may gain credibility and it is likely to convey favorable information to the market about the quality and compatibility of the technology chosen, resulting in a competitive advantage over alternative technologies.[5] Therefore it is more likely to be widely accepted than alternative technologies.

Furthermore, many benefits strongly attract market players to implement standardized technologies. First, implementing a standardized technology can reduce the risk of being incompatible and inoperable with other systems; second, implementers can take advantage of plentiful complementary products and services that have already existed in the market. Moreover, when a technology with close substitutes wins in a standard-setting competition, it becomes distinguished from its formerly equivalent substitutes, and other close substitutes accordingly become inferior. This situation may increase the royalty rate a technology can command. [6] Consequently standardization may significantly enhance the value of a technology that has been embraced in a standard.

2.3. The combination of intellectual property rights and industry standards may create dominance

[4] *Case 238/87 AB Volvo v. Erik Veng (UK) Ltd [1988] ECR 6211* [1988] ECR 6211; *Case 53/87 CICCRA Maxicar v. Renault [1988] ECR 6039* [1988] ECR 6039; *Cases 241 & 242/91 RTE & ITP v. Commission [1995] ECR 743* [1995] ECR I-743; *Case 418/01 IMS Health v. NDC, [2004] ECR I-5039* [2004]ECR 5039.

[5] Daniel G. Swanson and William J. Baumol, "Reasonable and Nondiscriminatory (Rand) Royalties, Standards Selection, and Control of Market Power," *Antitrust Law Journal* 73 (2005-2006), 8.

[6] Gregory K. Leonard; Lauren J. Stiroh, *Economic Approaches to Intellectual Property Policy, Litigation, and Management* (NERA Economic Consulting, 2005), 223.

Although none should infer market power from the existence of intellectual property or standard-setting alone, the ECJ held, in *United Brands* and *Hoffmann-La Roche*, that a dominant position may derive from a combination of several factors which, taken separately, were not necessarily determinative.[7] Accordingly, the combination of IPRs with a technical standard does not imply abuse, but may establish dominance under certain environment where none might otherwise exist alone.

To ascertain whether or not a substitute to a prevalent standardized technology exists, it is necessary to look at both supply and demand side issues because despite existence of competing technologies, users, for example, be locked into a standardized technology and they are impossible to switch to a competing technology.[8] When a technical standard has been adopted by mainstream firms, thereby becoming prevalent in the market, on the one hand, the network effect[9] will attract more latecomers into adopting the same standard; on the other hand, the network effect may cause high switching costs for standard implementers and consumers. During the standard implementing, an implementer incur investment costs that finally become a switching cost because most of equipments, software etc. that it has invested on to implement a standard, are unable to operate with any other technologies that are incompatible with the current standard. If it were to switch to an incompatible technology, most of its early investment would become sink costs. When such costs are substantial, switching to an alternative technology becomes virtually impossible. Moreover, not only does an implemented standard lock in the current implementers, but also it can determine the future evolution of a technology because subsequent technologies have to be compatible with the current prevalent technology.[10] From the supply aspect of market structure, the lock-in effect of standards may considerably strengthen the position of owners of technology embraced in an industry standard in the market: any alternative technology, even superior is not able to be viable in the market. In addition, before an

[7] *Case C-27/76, United Brands v. Commission of the European Communities, [1978] ECR 207,* para. 66; *Case 85/76, Hoffmann-La Roche v. Commission, [1979] ECR 541*, para. 39.
[8] *Case C-322/81, Nederlandsche Banden-lndustrie Michelin NV v. Commission [1983] ECR 3461*, para. 37; *Case C-333/94 P, Tetra Pak International SA v. Commission [1996] ECRI- 5951*, para. 13.
[9] Direct network effects are present when the demand for a good depends on how many other people purchase it. Indirect network effects work through complementary products: the level of overall consumption of the product in question affects the availability of complementary products. See Hemphill and Vonortas, *U.S. Antitrust Policy, Interface Compatibility Standards, and Information Technology*, 133.
[10] As Tassey indicated, technology standards affect further technological change and innovation. See Gregory Tassey, "Standardization in Technology-Based Markets," *Research Policy* 29 (2000), 597.

industry standard is chosen, a variety of alternative technologies could be available. Once industry participants choose a technology as a standard and take steps to implement it, alternative technologies become less attractive, and may even disappear.[11] Therefore when an IPR is essential to a standard, to which a product or service much relies on being compliant to remain viable in the market, owners of such IPRs are able to control the access to standard, thereby attaining a dominant position in the market.

2.4. The dominant position might be abused

The ICT are progressing very quickly and innovation in the ICT usually occurs as a process of "creative destruction"[12], in which new technologies evolve on the ruins of their technological predecessors. Thus, it is substantial for the incumbents who hold the essential IPRs in prevalent standards to steer the innovation and evolution of technologies, partly by innovating faster itself (positive effect) but also partly by trying to thwart innovation by others to protect the dominant position (negative effect).[13] The usual way to do so is to ambush competitors with IPRs or refuse license of IPRs. Without obtaining the license of using essential IPRs, competitor's product or service, despite having superior technological features, are not possible to be compliant with industry standard, therefore will be excluded from the market.

In the case of IPR ambush, when a firm has made irreversible investments in implementing a standard without realizing the existence of IPRs, the proprietor of those IPRs which are essential to the standard could demand a high royalty well beyond the intellectual property's intrinsic value. The implementer would be willing to pay this high rate if it allowed it to avoid the cost of switching to another technology—at least up to the point where the royalty equal the cost of moving to the next best alternative.[14]

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[11] See Joseph Farrell and others, "Standard Setting, Patents, and Hold-Up," *Antitrust Law Journal* 74 (2007), 603-607; Damien Geradin and Anne Layne-Farrar, "The Logic and Limits of Ex Ante Competition in a Standard-Setting Environment," *Competition Policy International* 3 (2007), 81, 82.

[12] Joseph A. Schumpeter, *Capitalism, Socialism, and Democracy*, 3rd ed. (Harper Perennial, 1962), 81-85.

[13] Thomas A. Hemphill and Nicholas S. Vonortas, "U.S. Antitrust Policy, Interface Compatibility Standards, and Information Technology," *Knowledge, Technology & Policy* 18 (2005): 134.

14 Geradin and Layne-Farrar, *The Logic and Limits of Ex Ante Competition in a Standard-Setting Environment*, 79-106.

In dealing with the IPR hold-up and ambush problems, some standard-setting organizations have introduced their IPR policies that request members to disclose their essential IPRs and to grant the license on fair and reasonable and nondiscriminatory terms. However, not every standard-setting organization has made such policy; *de facto* standards are not subject to such restrictions since they are not made by a standard-setting organization; and in the recent Rambus decision[15] the U.S court shows reluctance to enforce such a standard-setting organization's IPR policy. Thus, in this circumstance, in tackling IPR hold-up and ambush problems, competition law still have to be relied on.

3. The EU approach dealing with refusal to license IPRs

Article 82 of the EC Treaty prohibits the abuse by one or more firms of a dominant position within the Common Market or a substantial part of it to the extent that it may affect trade between the Member States. In standardization context, as discussed above, refusal to license essential IPRs may unreasonably distort competition and stifle innovation in the market. Therefore, there are openings for competition law to apply.

3.1. Overview of European court cases concerning refusal to license IPRs

The European courts have developed an approach to clarify in what circumstances and under what conditions refusal to license technology may constitute abuse within the meaning of Article 82.

3.1.1. AB Volvo and CICCRA case

In *AB Volvo v. Erik Veng* and *CICCRA v. Renault*,[16] the car manufactures owned design rights covering car body panels. They refused to license independent parts producers to imitate and trade products incorporating the protected design. In its judgment, the ECJ held that a refusal to license was not an abuse *per se*, but might become so in certain circumstances. The Court firstly affirmed that the right of a proprietor of a protected design to prevent third parties from manufacturing and selling or importing, without his consent, products incorporating the design

[15] *Rambus Inc. v. F.T.C. 522 F.3d 456 C.A.D.C., 2008*.
[16] *Case 238/87 AB Volvo v. Erik Veng (UK) Ltd [1988] ECR 6211*; *Case 53/87 CICCRA Maxicar v. Renault [1988] ECR 6039*.

constitutes the very subject-matter of his exclusive right. Then the Court added that "an obligation imposed upon the proprietor of a protected design to grant to third parties, even in return for a reasonable royalty, a licence 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 licence cannot in itself constitute an abuse of a dominant position".[17] The Court noted, however, that the refusal to licence IPR in this case may be prohibited by Article 82 EC "if it involves on the part of an undertaking holding a dominant position, certain abusive conduct …… provided that such conduct is liable to affect trade between Member States".[18]

3.1.2. Magill case

In *Magill*,[19] the programs of three television companies—RTE, ITV and BBC—covered the most households in Ireland and 30% to 40% of the households in Northern Ireland. However, no comprehensive weekly television guide for these programs was available in Ireland and Northern Ireland market. Magill attempted to publish a comprehensive weekly television guide but was prevented from doing so by the RTE, ITP (ITV's affiliate) and BBC, because under Irish and United Kingdom legislation, TV program listings are protected by copyright. The ECJ firstly affirmed the "refusal to license not *per se* an abuse" principle stated in *AB Volvo*.[20] Nevertheless, the Court held that the exercise of an exclusive right by the proprietor might, in exceptional circumstances, involve abusive conduct.[21] Then, the Court identified the following *exceptional circumstances* in the decision: the listing information was indispensable to Magill to publish a TV guide covering all channels; the refusal prevented the appearance of a new product, namely a comprehensive TV guide, for which there was a potential consumer demand; [22]the dominant firm reserved to themselves the secondary market of weekly TV guides by excluding all

[17] *Case 238/87 AB Volvo v. Erik Veng (UK) Ltd [1988] ECR 6211*, para. 8.
[18] Ibid., para. 9.
[19]*Cases 241 & 242/91 RTE & ITP v. Commission [1995] ECR 743*.
[20] Ibid., para. 46-49.
[21] Ibid., para. 50.
[22] Ibid., para. 54.

competition on that market; [23] and finally, there was no objective justification for such refusal. [24]

3.1.3. Oscar Bronner case

In subsequent *Oscar Bronner,*[25] Mediaprint held a very large share of the daily newspaper market in Austria and operated the only nationwide newspaper home-delivery scheme in Austria. Its competitor, Oscar Bronner, wanted Mediaprint to include its newspaper in the delivery scheme in return for reasonable remuneration, but Mediaprint refused to do so. Oscar Bronner asserted that considering its small circulation it was unable either alone or in cooperation with other publishers to set up and operate its own home-delivery scheme in economically reasonable conditions.

This case does not involve licensing intellectual property right, but the decision reaffirmed and clarified the principles in *Magill* [26] and defined the meaning of "indispensable". The Court held that there would be an abuse where: 1) the refusal is likely to eliminate all competition in the daily newspaper market on the part of the person requesting the service; 2) the service in itself should be indispensable in carrying on that person's business, inasmuch as there is no actual or potential substitute in existence for the home-delivery scheme, and 3) such refusal should be incapable of being objectively justified.[27]

3.1.4. IMS Health case

In *IMS Health,*[28] IMS Health collected and provided data on the regional sales of pharmaceutical products in Germany to pharmaceutical companies and practitioners. IMS Health had developed a data analysis structure for pharmaceutical sales in Germany, the so-called "1860 brick structure". IMS Health distributed its brick structures free of charge to pharmacies and doctors' surgeries, and this practice helped the IMS 1860 brick structure becoming a *de facto* industry standard for pharmaceutical data presentation in Germany. Its competitor, NDC, engaged in marketing regional data of pharmaceutical products in Germany formatted on the

[23] Ibid., para. 56.
[24] Ibid., para. 57.
[25] *Case 7/97, Oscar Bronner v. Mediaprint [1998] ECR 1-7791.*
[26] Ibid., para. 40.
[27] Ibid., para. 41.
[28] *Case 418/01 IMS Health v. NDC, [2004] ECR I-5039.*

basis of brick structure that is very similar to the IMS 1860 brick structure. However, IMS Health attempted to prohibit NDC from using these structures because the 1860 brick structure was allegedly protected by copyright.

The ECJ, based on *Magill* and *Oscar Bronner*, identified a four-prong test to determine the existence of abuse regarding the refusal to license IPRs: 1)the product and service covered by IPRs was indispensable for carrying on a particular business [operating on a secondary market]; 2)the refusal was preventing the emergence of a new product for which there was a potential consumer demand; 3)the refusal could not be objectively justified; 4)the refusal was of such a kind as to exclude any/all effective competition on a secondary market. [29]

3.1.5. Microsoft case

In recent *Microsoft* case[30], the Court of First Instance ("CFI") clarified how the exceptional circumstances identified in *Magill* and *IMS Health* should be examined.

Microsoft had over 90% market shares in the PC operating system market, and its PC operating system had become a *de facto* industry standard. Sun Microsystems was competing with Microsoft in the workgroup server operating systems market. Since workgroup server operating systems and PC operating systems working in a network have to interoperate with each other, consumers to buy workgroup server operating systems naturally want them being compatible with the prevalent PC operating systems: namely Microsoft Windows PC operating systems and its other application products. To secure interoperability of its workgroup server operating systems with Microsoft PC operating systems, Sun Microsystems requested Microsoft to provide "interoperability information" and to authorize the use of that information for the purpose of developing and distributing products competing with Microsoft's own products on the workgroup server operating systems market, but Microsoft refused. Sun Microsoft lodged a complaint with the European Commission, and the Commission held that Microsoft had abused its dominant position on the PC operating systems market. Microsoft appealed to the CFI.

[29] Ibid., para. 38,52..
[30] *Case T-201/04, Microsoft v. Commission, September 17, 2007*.

Microsoft argued that the circumstances in reference to abusive conduct must be assessed in the light of the criteria recognised in *Magill*, and reiterated in *IMS Health*,[31] and claimed that none of the four criteria of *IMS Health*, and, consequently, none of the three criteria of *Bronner*, was satisfied in this case.[32] The Commission claimed that *IMS Health* did not establish an exhaustive list of exceptional circumstances,[33] therefore, in order to determine whether such a refusal was abusive, it had to take into account all the particular circumstances surrounding that refusal, which needed not necessarily be the same as those identified in *Magill* and *IMS Health*.[34] The Court ruled that it was appropriate, first of all, to decide whether the circumstances identified in *Magill* and *IMS Health* were also present in this case; only if it found that one or more of those circumstances were absent, would the Court proceed to assess the particular circumstances invoked by the Commission.[35]

Microsoft asserted that the interoperability information required by the competitors was not indispensable to the activity of suppliers of workgroup server operating systems.[36] However, the Court upheld the Commission's finding that non-Microsoft workgroup server operating systems must be capable of interoperating with the Windows client PCs as the same compatibility as Windows workgroup server operating systems if they were to be viably stay on the market, [37] and none of Microsoft recommended other methods or solutions made it possible to achieve such degree of interoperability.[38] Thus, the Court confirmed the finding of the Commission that the interoperability information was indispensable.[39]

Microsoft argued that the refusal at issue was not such as to exclude all competition on a secondary market (the workgroup server operating systems market).[40] The CFI clarified that Article 82 EC did not apply only from the time when there was no more, or practically no more, competition on the market,[41] indeed what matters was that the

[31] Ibid., para. 291.
[32] Ibid., para. 300.
[33] Ibid., para. 303.
[34] Ibid., para. 316.
[35] Ibid., para. 336.
[36] Ibid., para. 337.
[37] Ibid., para. 421.
[38] Ibid., para. 435.
[39] Ibid., para. 436.
[40] Ibid., para. 437.
[41] Ibid., para. 561.

refusal at issue was liable to, or was likely to, eliminate all effective competition on the market, moreover the fact that the competitors of the dominant firm retained a marginal presence in certain niches on the market could not suffice to substantiate the existence of such competition.[42] The Court therefore concluded that the circumstance that the refusal at issue entailed the risk of elimination of competition was present in this case.[43]

Microsoft cited the paragraphs 48 and 49 of *IMS Health*, and maintained that its refusal did not prevent the appearance of a new product for which there was unsatisfied consumer demand, because its competitors just wanted to make their products behave in exactly the same way as Windows server operating systems, and the interoperability information would be used by its competitors to create server operating systems that competed directly with its products by imitating their functionality. [44] In addressing this question, the Court referred to Article 82(b) EC, which prohibits abusive practices that include "limiting production, markets or technical developments to the …prejudice of consumers".[45] Then the Court indicated that "the circumstance relating to the appearance of a new product, as envisaged in *Magill* and *IMS Health* cannot be the only parameter which determines whether a refusal to license an intellectual property right is capable of causing prejudice to consumers within the meaning of Article 82(b) EC. As that provision states, such prejudice may arise where there is a limitation not only of production or markets, but also of technical development".[46] Then the Court upheld the Commission's finding that the Microsoft's refusal limited technical development to the prejudice of consumers within the meaning of Article 82(b) EC.[47]

In addition, Microsoft provided justifications for the refusal that the technology concerned was covered by IPRs for which it has made significant investment, and if it was required to grant third parties access to the technology, this would eliminate future incentives to invest in the creation of more intellectual property.[48] The Court responded that the technology being covered by IPRs could not itself constitute

[42] Ibid., para. 563..
[43] Ibid., para. 620..
[44] Ibid., para. 623..
[45] Ibid., para. 643.
[46] Ibid., para. 647.
[47] Ibid., para. 648-665.
[48] Ibid., para. 666-689.

objective justification within the meaning of *Magill* and *IMS Health*,[49] and Microsoft did not demonstrate that the future incentive to invest in innovation would be eliminated.[50]

Finally, the Court confirmed that the exceptional circumstances identified in *Magill* and *IMS Health* were also present in this case.[51]

3.2. Brief remarks

The ECJ frequently emphasized that refusal to grant license of IPRs cannot in itself constitute an abuse of dominant position, and it only can be found in exceptional circumstances. The Court referred to Article 82 (b) EC, and formulating a cumulative four prong test based on consumer interest to figure out the existence of the exceptional circumstances. However, this test derives from a very special case, namely the *Magill*, which involved an extremely narrow intellectual property right, namely the copyright of TV-listing, which also involved leveraging of sole source information. When the Court tried to generalize this test and applied it to various refusal to license cases, it inevitably caused some problems.

4. Applying the current approach to refusal to license IPRs in standardization context: problems and solutions

4.1. The requirement of distinguishing secondary market

This section finds that the requirement of distinguishing two markets in most cases is either unnecessary or inappropriate to solve the refusal to license IPRs, especially in standardization context.

In *IMS Health,* in order to assess whether the refusal to grant access to a product or a service indispensable for carrying on a particular business activity was an abuse, the ECJ distinguished an upstream market and a downstream (secondary) market.[52] The Court held it was determinative that two different stages of production may be identified and they were interconnected, inasmuch as the upstream product was

[49] Ibid., para. 690.
[50] Ibid., para. 701.
[51] Ibid., para. 712.
[52] *Case 418/01 IMS Health v. NDC, [2004] ECR I-5039,* para. 42.

indispensable for the supply of the downstream product,[53] and it was sufficient if a "potential market or even hypothetical" market could be identified.[54] In other words, it is not necessary for there to have been prior supply of the IPR in question on an open market; potential supply and potential demand would be sufficient.[55] As a result, any IPRs as such, despite the fact that they solely have been designed to improve a product or service and are not for independently marketing, may be identified as in a upstream market, because a product that embodies an IPR may be considered as in a downstream market and the IPR in a secondary. Consequently, for example, in terms of any patents, two markets always can be identified: the patent licensing market and the market of providing the product that embodies the patent. As a result, any such finding would make it difficult for the IPR owner not to have a dominant position.[56] In *Philips v. Ingman*—an English case, Philips owned patents on compact disc technology and asserted them in an infringement action in UK court against Ingman, a CD manufacturer who had declined to accept Philips standard licensing terms, offered by Philips pursuant to its obligations under a Philips/Sony patent pooling arrangement. The judge criticized that, "it can be said that the defendants' pleading does not assert directly that the plaintiff's patents give rise to a *per se* dominant position. Instead it alleges that the plaintiff owns a dominant position in the market for licensing the patented technology. But it seems to me that this is a matter of semantics only. Whenever an IPR exists there is a correlative potential market in licenses to exploit it. It is the ability to grant or refuse such licenses which constitutes the right in the first place. This is only an alternative way of saying that the proprietor owns exclusive rights which he can exploit, if he wishes, by licensing." [57]

The requirement of distinguishing secondary market in refusal to license IPR cases originated from *Magill*, which referred to *Commercial Solvents v. Commission* that involves refusal to supply tangible goods thereby to leverage a dominant position into a downstream market.[58] Nonetheless, in terms of distinguishing upstream market, there is a significant difference between intellectual property and tangible goods.

[53] Ibid., para. 45.
[54] Ibid., para. 44.
[55] Jonathan Faull and Ali Nikpay, *The EC Law of Competition*, 2nd ed. (Oxford University Press, USA, 2007), 1094.
[56] Guy Tritton, *Intellectual Property in Europe*, 3rd ed. (Sweet & Maxwell, 2007), 1017.
[57] *Phillips Electronics v. Ingman Ltd [1999] FSR 112,[1998] 2 C.M.L.R. 839*, para. 53.
[58] *Cases 241 & 242/91 RTE & ITP v. Commission [1995] ECR 743*, para. 56, 57; *Cases 6/73 and 7/73, ICI and Commercial Solvents v. Commission, [1974] ECR 223, [1974] 1 CMLR 309.*

Manufacturers of tangible goods naturally would like to sell goods as much as they can to maximize profit. If one refuses to sell its goods, it would sound suspicious why one in business to make money refuses to sell its product to someone who is willing to pay for it. However, in terms of IPRs, the situation may be different. The owner of intellectual property may just invent technology to develop and improve its tangible products, which will be added some competitive advantage over its competitors' by the technology. The technology may not be invented for the purpose to sell or license to others. Artificially identifying intellectual property *pe se* as an input for the downstream market could result in that a firm's important competitive advantage has to be shared with a number of competitors, therefore leave little scope for competition in added value.[59] Clearly, the scenarios of distinguishing downstream market for intellectual property and for tangible goods are completely different.

Moreover, the refusal to license IPR cases have involved different scenarios. In *Volvo* the court did not distinguish a secondary market to affirm abuse; in *Magill* and *IMS Health*, the court identified the IP licensing market as an upstream market, and the market that the IP is commercialized as the secondary market. In *Microsoft*, indeed it involves three markets: the IP licensing market, the PC operating system market, the workgroup server operating system market. Obviously, these are different situations. This shows that the distinguishing upstream and downstream market in refusal to license IPR cases is not always consistent.

Commentators even pointed out that the two market requirement is not useful in determining compulsory license IPR case from systematical analysis.[60] According to them, Article 82 (b) EC rather intends to focus on consumer prejudice in the main market where the IPR is excised. Systematically, while a consumer prejudice should not be a necessary condition of an abuse in the leveraging case—such as *Bronner* or *Commercial Solvents*—where two markets are concerned, where to address leveraging between two markets, the existence of two markets is absolutely necessary for this kind of case. However, the condition of "preventing the emergence of a new

[59] John Temple Lang, "Compulsory Licensing of Intellectual Property in European Community Antitrust Law," http://www.ftc.gov/opp/intellect/020522langdoc.pdf (accessed May, 2008).
[60] Matthias Leistner, "Intellectual Property and Competition Law: The European Development from Magill to IMS Health compared to recent German and US Case Law," *ZWeR*, no. 2 (2005): 150-151; Andreas Heinemann, "Compulsory Licences and Product Integration in European Competition Law--Assessment of the European Commission's Microsoft Decision," *IIC* 36 (2005): 73.

product" might be one indicator for another kind of abuse, which focuses on the harm to consumers. To require both of these criteria cumulatively, such as in *IMS Health*, means to mix up two entirely different strands of reasoning. [61]

Since almost all IPRs can fulfill this requirement, the artificially distinguishing intellectual property licensing market as an upstream market does not do any help to solve the problem. Therefore other conditions have to be relied on to determine the existence of abuse concerning refusal to license IPRs.

4.2. Indispensability assess and lock-in effect

Oscar Bronner established the criterion for testing the indispensability, namely, the input in itself should be indispensable in carrying on that person's business, inasmuch as there is no actual or potential substitute in existence for it, and there are no any technical, legal or even economic obstacles capable of making it impossible, or even unreasonably difficult.[62] In *Microsoft*, the court confirmed the Commission's finding that Microsoft's interoperability information was indispensible. The Commission examined firstly what degree of interoperability with the Windows domain architecture non-Microsoft workgroup server operating systems must achieve in order for its competitors to be able to remain viably on the market and, then, it appraised whether the interoperability information that Microsoft refused to disclose was indispensable to the attainment of that degree of interoperability.[63] The Court found that the absence of such interoperability with the Microsoft Windows domain architecture had the effect of reinforcing Microsoft's competitive position on the workgroup server operating systems market, particularly because it induced consumers to use Microsoft workgroup server operating system in preference to its competitors', although these competitors' offer features to which consumers attach great importance.[64] Clearly, in *Microsoft*, the lock-in effect is a major obstacle that prevents potential consumers from switching to a substitute technology despite having superior technical features.

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[61] Leistner, "Intellectual Property and Competition Law: The European Development from Magill to IMS Health compared to recent German and US Case Law," 150-151; Heinemann, "Compulsory Licences and Product Integration in European Competition Law--Assessment of the European Commission's Microsoft Decision," 73.
[62] *Case 7/97, Oscar Bronner v. Mediaprint [1998] ECR 1-7791*, para. 44.
[63] *Case T-201/04, Microsoft v. Commission, September 17, 2007*, para. 369.
[64] Ibid., para. 422.

In terms of accessing to a standardized technology, the IPR at issue may not be technically indispensable; rather it can be economic indispensable for competitors to remaining viable in the market since even though an alternative technology is available as a substitute to the IPR at issue, it is not accepted by the market due to lock-in effect and high switching cost, as has been demonstrated in Section 2. The "economic obstacles" may become the major elements that make IPR indispensable for competitors to being viable in the market.

The newly published the Commission's *guidance on the Commission's enforcement priorities in applying Article 82 of the EC to abusive exclusionary conduct by dominant firms* states that in assessing the indispensability "the Commission will normally make an assessment of whether competitors could effectively duplicate the input produced by the dominant undertaking in the foreseeable future. The notion of duplication means the creation of an alternative source of efficient supply that is capable of allowing competitors to exert a competitive constraint on the dominant undertaking in the downstream market." [65] Based on the previous analysis, in assessing competitors' ability to create "alternative source of efficient supply" in the cases involving access to a technical standard, standard lock-in effect and high switching cost excluding alternative technology have to be taken into consideration.

4.3. Prevention of the appearance of a new product

4.3.1. New product requirement and essential facilities doctrine

The *Magill, IMS Health* seems to create a limited obligation on a proprietor of IPR to grant licenses of that IPR, where a licensee needs IPR to create a new product for which there is potential demand. If not for this additional requirement (the new product), *IMS Health* would be considered an application of essential facilities doctrine, which has been applied to physical facilities.[66] The central idea of "essential facility" is that a dominant firm in control of a facility that is essential to other competitors must provide reasonable access to that facility if it is feasible to do so,[67]

[65] The Commission, "Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings," February 9, 2009, para. 83.
[66] Tritton, *Intellectual Property in Europe*, 1059; Heinemann, "Compulsory Licences and Product Integration in European Competition Law--Assessment of the European Commission's Microsoft Decision," 71.
[67] Lipsky, Jr. Abbott B. and J. Gregory Sidak, "Essential Facilities," *Stanford Law Review* 51 (1999), 1190-1191.

—traditionally, the essential facility doctrine has applied to harbors, airports, computerized airline ticket systems, and telecommunications networks etc.[68] Some commentators have suggested applying the essential facilities doctrine to intellectual property.[69] However, simply applying the doctrine which has been applied to tangible facilities to intellectual property could cause more problems that it intends to solve. These cases discussed in section 3 have shown that the EU legal practice has not simply applied essential facilities doctrine to intellectual property; it rather applied essential facility doctrine plus the new product/technical development requirement to compulsory access to intellectual property cases. The CFI also noted that such a new product requirement was found only in the case-law on the exercise of an intellectual property right.[70] Hence the new product requirement has played a significant role to restrain the application of compulsory license to be in accord with the *AB Volvo* decision, which restricted compulsory licensing IPR only in exceptional circumstances. However, the new product requirement does not solve refusal to license IPR problem completely.

In standardization context, consumers may not need a new product, but instead a comparable product. In *IMS Health*, the IMS 1860 brick structure has become a *de facto* industry standard. It is of absolute necessity to use the same common language by all stakeholders. Consumers are "locked in" and cannot switch to a competitor even if it provides superior technology. As a commentator pointed out, the interest of consumers in *IMS Health* did not consist in getting a new product, but in having a larger number of competing suppliers in the market who offer comparable service using the same brick structure. [71] In standardization context, competition on the market depends on the ability of firm to offer the standardized product, moreover the access to the product market largely depend on having access to the IPRs that overlap

[68] Temple Lang, *Compulsory Licensing of Intellectual Property in European Community Antitrust Law*, 6.
[69] Kung-Chung Liu, "Rationalising the Regime of Compulsory Patent Licensing by the Essential Facilities Doctrine," *IIC* 39 (2008): 757; Harry First, "Microsoft and the Evolution of the Intellectual Property Concept," *Wisconsin Law Review* 2006 (2006): 1397.
[70] *Case T-201/04, Microsoft v. Commission, September 17, 2007*, para. 334.
[71] Josef Drexl, "Intellectual Property and Antitrust Law-IMS Health and Trinko-Antitrust Placebo for Consumers Instead of Sound Economics in Refusal-to-Deal Cases," *IIC* (2004): 801.

with standard.[72] It has to be admitted that the new product requirement is inappropriate to address the problem of access to a standard.

4.3.2. Dynamic efficiency consideration

From protecting consumer interest perspective, most of anti-competition conduct could raise the price and/or limit the output, therefore prejudice consumer interests in the end. Granting a compulsory license of IPRs may produce an instant result—more competitors enter the market, the output increases, and the price goes down. However, such consumer-benefit results due to the fact that those new entrants did not bear the R&D risk and costs. It would harm the incentive for the dominant firm and its competitors to invest in innovation thereby impairing dynamic efficiency in the long run. Thus, in assessing the effect of anti-competition conducts, the test has to focus on long-term effect and its impact on innovation, which is intellectual property regime aims to promote. Most importantly, *inter alia*, the test should also rely on complementary interaction between intellectual property law and competition law.

The goal of both intellectual property and competition law is to maximize allocative efficiency (making product cheaper and with the fewest recourses) and dynamic efficiency (making superior products). Intellectual property law generates incentive for innovation, to promote the development of superior products and services by *inter alia* forcing the right holder's competitors to offer substitute products.[73] Competition law aims at maintaining competition in the market and ensures that firms feel pressure to innovate.[74] They are complementary efforts to promote an efficient marketplace and long-run dynamic competition through innovation.[75] The dynamic competition can also be referred to as competition by substitution.[76] In German *Standard-spundfass* case, any drums that were not in compliance with the VCI standard were impossible to sell in German market. However, to manufacture the drums to meet

[72] Conde Gallego Beatriz, "Unilateral refusal to license indispensable intellectual property rights – US and EU approaches," in *Research Handbook on Intellectual Property and Competition Law*, ed. Josef Drexl (Edward Elgar, 2008), 229.
[73] Ibid., 228.
[74] Ibid., 235.
[75] Mark A Lemley, "A New Balance between IP and Antitrust," *Southwestern Journal of Law and Trade in the Americas* 13 (2006): 248.
[76] Mark-Oliver Mackenrodt, "Assessing the effects of intellectual property rights in network standards," in *Research Handbook on Intellectual Property and Competition Law*, ed. Josef Drexl (Edward Elgar, 2008), 82.

VCI standards, it was necessary to infringe on the disputed patent. In its judgment, German Federal Supreme Court clearly states the complementary interaction between intellectual property law and competition law. It notated that "the effect of an intellectual property right lies precisely in the power of the proprietor to exclude others from the use of the protected subject-matter. This exclusivity is not an exemption from competition, but an instrument of it that compels the proprietor's competitors to compete by substitution as opposed to imitation."[77]

On this ground, scholars proposed a new approach in dealing with the refusal to license IPR problem: whenever competition by substitution is excluded as a matter of the market conditions, imitation may be allowed; based on the application of Article 82 EC, the exceptional circumstances stated in *AB Volvo* might exist even if a competitor would not offer a new product to consumers, [78] —actually in standardization context usually it is impossible to offer a new product.

The competition by substitution approach correctly reflects the complementary interaction between the IPR regime and competition law. It can effectively address the dilemma that the new product requirement has confronted in standardization context. Nevertheless, in applying this approach, IPR owners' legitimate interests have to be considered sufficiently, as is demonstrated in the following section.

4.3.3. Legitimate exercising IPR consideration

Were IPRs exercised in normal way, it should not cause that competition by substitution is obstructed; or even though obstructing takes place, it could be tolerated in a limited period since IPRs are limited in scope, duration, and effect, which have been designed to balance the side effect of the exercising of IPRs. However, the exercising of IPRs has a tendency to exceed the boundary that the intellectual property regime aims to protect, thereof distort or reduce competition in the market. In that case, competition law can be activated to response because competition law is "concerned not with the legitimate exercise of an IP right granted by the government, but with efforts to expand the scope of that right, either to new products, or

[77] *German Federal Supreme Court, Standard Tight-Head Drum (Standard-Spundfass), KZR 40/02,* IIC, 746 (2005).
[78] Drexl, "Intellectual Property and Antitrust Law-IMS Health and Trinko-Antitrust Placebo for Consumers Instead of Sound Economics in Refusal-to-Deal Cases," 806.

temporally, or by conditioning access to the right on restrictions of competition".[79] As discussed in section 2, combined with a technical standard, an intellectual property may get extra value that is well in excess of the technology's intrinsic value. When the exercising of IPR exceed its reasonable scope, therefore distort competition in the market, a restraint should take place to restore the market order. Competition law is such an effective tool to confine the exercise of IPR to a reasonable level.

There is a view that IPR do not serve the goal of guaranteeing profit for investment in innovation, therefore, once the competition by substitution is blocked, the compulsory license (the competition by imitation) should take place. It is true that IPR do not serve the goal of guaranteeing profit for investment in innovation. However, what firms who have invested heavily on innovation expected was, when they made such investment, that their creative works, patentable inventions shall receive intellectual property protection once they are successful. IPR regime does not guarantee recouping the investment, but at least it should guarantee IPR owners legitimate exercising IPRs—whether such exercising activities can make enough profit to recoup their investment however is irrelevant. Therefore, only the fact that competition by substitution is blocked by a refusal to license IPR is not sufficient to trigger compulsory licensing IPR because it can damage legal certainty and the reasonable expectation of technology developers and IPR holders. Without assessing the underlying reason that results in competition by substitution blocked, a technology may end up in a situation where more innovative it is, more likely it is to be granted a compulsory license because it would be *technically* indispensable for competitors to carry on their businesses.

In justifying compulsory license of an IPR, that competition by substitution is blocked must have involved over-exploiting IPR, in other words, the exercising of IPR has exceeded the scope that the intellectual property regime aimed to protect, in which the competition law is needed to intervene. The facts in these cases concerning refusal to license IPRs in EU strongly support this point, for example, in *Magill*, the IP is sole-source copyright which was hold-up thereby block using information (the content rather than the expression); in *IMS Health*, the copyrights were combined with a dominant industry standard, thereby excluding any competition in the market; in

[79] Lemley, "A New Balance between IP and Antitrust," 250.

Microsoft, the interoperability information of PC operating system was leveraged into adjacent market (workgroup server operating system market), thereby excluding competitors; in *Standard-spundfass*, the patent was combined with a dominant industry standard, also it involved discrimination. Since the scope of exercising IPRs is not static rather it is dynamic, the IPR regime itself—for example the fair use, the exception to intellectual property, exhaustion and the term of protection etc.—sometimes fails to confine a reasonable scope for the exercising of IPR, in that case, competition law can serve to define the scope of legitimate exercising IPRs. Therefore, over-exploiting IPRs which give rise to anti-competition effect has to be taken into account when determining the existence of abuse. If technological superior is the only reason why competitors cannot compete with IPR owner, the abuse should not be found. In term of standardization, the combination of intellectual property with a dominant industry standard, by which private property and common goods overlap and interact, may raise the potential for IPR owners to leverage industry standard through IPR hold-up or IPR ambush, thereby overexploiting IPRs.[80]

Another advantage of taking into account the over-exploiting IPRs is that it can provide a chance to assess cases based on analyzing concrete IPRs individually. As Judge Laddie indicated in *Philip v Ingman*, "not all intellectual property rights are equal. Some are more equal than others. It is convenient and conventional to treat copyright, designs, topography rights, moral rights, confidential information, patents and trademarks as a group. But there are substantial differences between them. They last for different periods in respect of different types of subject-matter. They are infringed by different types of activity. They are subject to different types of defences or exceptions. For example, the fair use defences in copyright law have no equivalent in patent law and the compulsory licence provisions in patent law have no equivalent in copyright law. In *Magill* what was being considered was the rights in a subspecies of copyright. It does not follow inevitably that *Magill* can be applied by analogy to a patent case."[81]

4.4. No objective justification

[80] Henry E. Smith, "Semicommon Property Rights and Scattering in the Open Fields," *Journal of Legal Studies* 29 (2000): 131.
[81] *Phillips Electronics v. Ingman Ltd [1999] FSR 112,[1998] 2 C.M.L.R. 839*, para. 66.

Assessing whether objective justification exits is a useful instrument that enables courts to re-assess the balance of static efficiency and dynamic efficiency in terms of granting compulsory license of IPR.

The Commission's Guidance states that it will consider the dominant firm's investment to determine efficiency as a ground of objective justification.[82] However, because the compulsory license does not have to be a free license,[83] the dominant firm still have chance to get revenue from compulsory license to recoup its investment on the intellectual property. Considering this, the investment of the dominant firm does not have to be a major factor to decide whether the exceptional circumstances exist; instead, it may be considered for determining the royalty level rather than determining the existence of the exceptional circumstances. The objective justification should focus on the assessment of static efficiency and dynamic efficiency in the long run, thereby creating an exception to the exceptional circumstances.

5. Conclusion

This article has examined the newly development of legal practice concerning refusal to license IPRs under Article 82 EC in light of standardization context, and finds current approach mainly formulated in *Magill* and *IMS Health* is insufficient to address refusal to license IPRs thereby blocking access to a industry common standard. The reason consists in its mixture of refusal to license IPRs and refusal to supply tangible goods without considering the intrinsic characteristic of intellectual property regime.

Intellectual property regime was created to induce incentive to innovation, which differs from the characteristic of tangible goods. Therefore, the approach to address refusal to license IPR does not have to follow the precedents concerning refusal to supply tangible goods. An economic approach that focuses on the intrinsic characteristics of intellectual property and the complementary interaction between the intellectual property regime and competition law may deal with the problem in right

[82] The Commission, "Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings," para. 89.
[83] Article 31 of TRIPs Agreement defines the requirements and procedure to grant compulsory license, which especially requires the right holder to be paid adequate remuneration in the circumstances of each case, taking into account the economic value of the authorization.

direction. In the meantime, to protect IPR proprietors' reasonable expectation—getting legitimate protection for their intellectual achievements rather than "guaranteeing profit for investment in innovation", the exercising IPRs in reasonable scope should be respected.

In *Microsoft*, the CFI endorsed the Commission's finding that the circumstances identified in *Magill* and *IMS Health* did not establish an exhaustive list of exceptional circumstances.[84] The Court referred to Article 82(b) EC, and noted that the limitation of technical development may constitute a parameter insofar as to prejudice consumers. Clearly the "exceptional circumstances" test has wider parameters than the "new product" rule as set out in *Magill* and *IMS health*. Once the "new product" approach is regarded as only one example of the exceptional circumstances, there are opening to adopt other conditions, to determine the existence of abuse.

In view of the complex patent situation in the ICT industry, namely the intensive patenting and considerable potential of patent ambush and patent hold-up, a stringent abusive scrutiny which focus on the intrinsic characteristics of intellectual property and the complementary interaction between intellectual property regime and competition law may not only promote the dynamic efficiency, but also can facilitate the dissemination of technology, as dominant firms may be much readily to negotiate licensing with others considering the deterrence of abusive scrutiny. All stakeholders in the industry may somehow benefit from this, especially nowadays the ICT have already penetrated in every industry.[85]

[84] *Case T-201/04, Microsoft v. Commission, September 17, 2007*, para. 336.
[85] Nicoletta Corrocher, Franco Malerba, and Fabio Montobbio, "Schumpeterian patterns of innovative activity in the ICT field," *Research Policy* 36 (2007): 420.