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THE COMPETITION LAW REVIEW

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Editorial

*Imelda Maher**

EC competition law and intellectual property law are two legal regimes that can and do conflict. In the EC context that conflict has historically been compounded by the multilevel governance of the EC with intellectual property a matter for national law and competition law an area of shared competence but where in practice national competition law regimes remained largely under-developed. In recent years, this governance landscape has changed with change largely prompted by the re-invigoration of market integration through the single market program. EC legislation has harmonised many aspects of intellectual property rights notably copyright and the development of a Community trademark.[1] The emergence of an EC patent has continued to prove elusive mainly because of the extent and scope of language requirements.[2] On the competition law side, the European-wide trend towards the voluntary adoption of competition regimes based largely on Articles 81 and 82 EC was part of a process culminating in Regulation 1/2003[3] with its decentralisation of enforcement of the EC rules and a more explicit articulation of the relationship between the EC and national regimes. The changing governance picture is echoed in the historical development of legal doctrine with the bald no-interference rule for property law systems in Article 295 EC decisively curtailed in a steady flow of judgments in relations to free movement of goods and competition law where both sets of rules are tools of market integration in a world where IPRs divided markets on national lines. Intellectual property rights became subject to the competition rules and have to co-exist with those rules. As Steve Anderman argues, competition law imposes public law limits on the exercise of private rights including intellectual property rights. He suggests that patents and copyright are more akin to carefully defined leasehold interests or licences rather than constituting an absolute form of property right. Haracoglou sees the creation of a market for information goods that would not otherwise be established, as the raison d'être for the IPRs. On this basis, IPRs are not so much exemptions from competition law as a sub-system of law that depends on well-functioning competition. IPRs in her view are not so much protection *from* competition as protection *for* competition in the market of intangibles. Thus intellectual property rights can be seen as located in competition law – just as they are located in other public laws. While a hierarchical relationship between these two legal sub-systems

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1 Directive 2001/29 on the harmonisation of copyright and related rights, OJ 2001, L167/10, Regulation 40/94 on the Community Trademark, OJ 1994, L11/1.

2 Commission Proposal for a Community Patent, COM(2000) 412 final.

3 OJ 2003, L1/1.

is apparent in *IMS*[4] and *Microsoft*[5] - the two cases that are the focus of the articles in this issue - it is clear that this relationship is complex with the European Courts continuing to develop tests to establish the boundaries between the two systems which share the common objective of promoting innovation. The exact location of these boundaries will continue to be disputed and negotiated especially where – as Haracoglou discusses - the rate of innovation in high tech industries like biopharm is dynamic.

Compulsory licensing which is required by Article 82 EC where refusal would constitute an abuse of market dominance is analysed in the quite different disputes of *IMS* and *Microsoft*. The former concerns a (questionable) copyright and the latter concerns information some of which was IP protected but all of which represents considerable R&D by Microsoft. The non- or dis-application of the 'exceptional circumstances' test and the issue of access to what has become an industry standard are the main concerns of the authors. There are four articles. First, Steve Anderman in a conceptual piece grounded in doctrine, discusses the extent to which the two cases represent two different paradigms in the area of compulsory licensing, with the *IMS* judgment largely following and refining the exceptional circumstances test while the Commission decision in *Microsoft* represents a new paradigm more in the line of the refusal to supply cases starting with *Commercial Solvents*.[6] James Killick in a rigorous doctrinal analysis argues that the Commission decisions in *IMS* and *Microsoft* fail to follow the four-stage exceptional circumstances test set out in *Magill*. Hence, he concludes that neither can pass muster when viewed in the light of the EC judgment in *IMS*. The last two articles have a wider focus with Carsten Reimann exploring the scope of R&D investment protection in the light of competition law in general and in the light of *IMS* and *Microsoft* in particular while Irina Haracoglou addresses concerns for innovation in the field of biotech arguing that competition law has a role to play – complimenting that of patent law.

The purpose of Steve Anderman's article is to examine *Microsoft* in the light of existing case law to consider the scope for the Commission to order a compulsory licence under Article 82. At the outset, Anderman notes that the granting of IPR is protected from the competition rules, as is their normal exercise although what constitutes normal exercise is unclear – especially in relation to the question of refusal to licence and when this constitutes an abuse under Article 82. In *Magill,*[7] the European Court of Justice indicated that only in exceptional circumstances will a copyright holder be required to licence but the boundaries of this safe haven are unclear – hence the current spate of litigation. Anderman's argument is that while *IMS* seems to confirm the *Magill* paradigm, the Commission decision in *Microsoft* seems to require a new and different paradigm. Where an IP product becomes the industry standard, there is still no obligation to supply *per se* but where there is a dependent secondary market then the IPR holder cannot use those rights to exclude competitors from the aftermarket. Under *Magill* (as refined in *IMS*) the cumulative test is that compulsory licensing is only

[4] Case C-418/01, [2004] 4 CMLR 2.

[5] C(2004) 900 final, 24 March 2004.

[6] Cases 6 & 7/73 *ICI and Commercial Solvents v Commission* [1974] ECR 223.

[7] Cases C-241 & 242/91P *RTE and ITV v Commission* [1995] ECR I-743.

required where the IP-protected product is indispensable in the secondary market, there is a new product with potential consumer demand, there is no objective justification for refusal and the refusal eliminates all competition on the secondary market. The test is sufficient but not necessary hence Anderman argues that the Commission missed the chance to view *Microsoft* as a new paradigm that could be fitted into the (non-exhaustive) exceptional circumstances test. Thus where a producer has been providing a product in an aftermarket and enters that market itself, it must continue to supply its now-competitor unless it can provide an objective justification for its refusal. Microsoft had argued that it was objectively justified in refusing access, as it would stifle its incentive to innovate. The Commission rejected the argument by balancing the negative effect on Microsoft against the positive impact on the level of innovation in the entire industry. Anderman notes that in granting a remedy, the Commission's focus is on ensuring interoperability; i.e. the question of remedy is paramount with IP protection viewed almost as incidental to the provision of information. This he sees as a legacy from the 1980s IBM settlement. These issues of the balancing exercise and the scope of the remedy are further explored by James Killick.

Killick in his analysis of the *IMS* judgment notes that while the Court provided some clarification of the exceptional circumstances test it was unfortunate that it left it to the national court in this case to decide whether or not there was such a market in this case. This is because it will be difficult to draw the line between primary and secondary markets if a hypothetical market for the IP itself is accepted by the Court. Killick suggests the secondary market criteria would become meaningless in those circumstances, as it would be met in almost all cases.

Killick enriches the discussion of *IMS* by revisiting the controversial decision of the Commission granting interim relief by way of compulsory licence where the Commission did not consider the new product requirement and the need for elimination of competition on the secondary market in its decision. He suggests that the case should not have been approached from an essential facilities/exceptional circumstances perspective but instead on the basis that the IP-protected system was originally an open industry standard. Given it was originally open, the IMS refusal to supply would be abusive as it prevented competitors from using the standard (which has been devised with IMS customers). In other words, the case can be seen as the appropriation of an open standard by a dominant undertaking. Such appropriation would then constitute an exceptional circumstance under *Magill*. This approach would then see both *IMS* and *Microsoft* as refusal to supply access to formerly open industry standards by dominant undertakings and hence both within the new paradigm suggested by Anderman. Killick is critical of the nature of the remedy in *IMS* insofar as the Commission delegates almost entirely a part of the decision-making powers (setting the terms of the licence) to an expert. On *Microsoft* he is critical of the uncertainty of the loose application of the exceptional circumstances test where a lower threshold for elimination of competition and for indispensability was set; and of the balancing test applied in finding there was no objective justification for the refusal to supply. His concern is that the decision will have a chilling effect on innovation in the longer term. The lack of an identifiable new product in *Microsoft* also differs from *IMS* – something welcomed by Haracoglou but not Killick. Critical of the scope of the remedy in

Microsoft he notes that it is not so much a compulsory licence as compulsory standardisation and once again there is major delegation by the Commission of its monitoring role to a trustee.

Carsten Reimann while adopting the wider lens of R&D investment in high-tech industries echoes Killick's concerns about innovation chill after *Microsoft*. Before reaching his succinct discussion of *IMS* and *Microsoft*, he provides a taxonomy for EC competition law in relation to R&D – noting that there is no 'law of R&D'. He outlines the competition law norms governing early R&D: state aid, Article 81 and the relevant block exemptions and joint ventures. He briefly outlines how R&D is treated in merger cases and the horizontal merger guidelines before turning to the final market stage of investment where recoupment is sought and it is here that *IMS* and *Microsoft* become relevant. He notes AG Jacobs in *Bronner*[8] and his suggestion that the nature of the IPR in a compulsory licence case be assessed. On Microsoft's argument that it was objectively justified in not granting access because disclosure would breach the essential function of its IPR and reduce incentives to innovate, Reimann, like Killick, is critical of the 'free-style' balancing test. He sees the approach as something akin to the application of the essential facilities test (which applies to tangible property and in EC case law where the term has never been used, is a similar test to that found in *IMS* but for the new product requirement) where interoperability is seen as an essential facility – this would in part explain the scope of the remedy – but warns that the boundary between needing a facility in order to compete and needing it to make life easier is difficult to draw. In relation to innovation, he suggests that it should be an objective justification to show that the IPR holder has not yet amortised its up front costs in relation to the IP product and second, that the obligation to share would have diminished its initial incentive to invest. In other words, regard has to be had to the past rather than the future. Unless this test is adopted, there is a risk that the IPR holder will not secure adequate return for disclosing interface information.

Finally, Haracoglou locates her discussion of the relationship between competition and IP law in the biopharm industry. With a focus on patents, she explores the debate surrounding the use of patents to restrict access to upstream markets concluding that the evidence is ambivalent as to effect but nonetheless industry participants perceive there to be a problem. Patent law itself she suggests while offering some means of ensuring access, addresses only to a limited degree the issue of upstream/downstream dependency. This issue can be resolved through compulsory licensing where there are anticompetitive practices that in effect moves the issue to the interface of IP law and competition. She sees IPR as just another type of property at least in the context of competition law. Both IP law and competition law address the common dilemma of balancing monopoly privilege – albeit in different ways. Thus even IP law itself, e.g. in TRIPS and the draft Community Patent, recognise a role for competition law. She sees the essential facilities doctrine as an important legal tool in resolving the issue of dependent downstream markets in the biopharm sector welcoming what were the more controversial elements of the test for Killick. Thus the fact hypothetical markets are enough to meet the secondary market requirement would allow, for example, a research

[8] Case C-7/97 *Bronner v Mediaprint* [1998] ECR I-817.

tool to be seen as upstream of the downstream product. Second, the Court in *IMS* refers to the intention to produce a new product – the emphasis on intention would be important where access to a research tool was required to see if its use were likely to lead to new products; i.e. potential innovation might be enough. This interpretation might seem very wide and loose especially in the light of the criticisms of *Microsoft* offered by Carstein and Killick but Haracoglou queries the importance of patents in ensuring returns pointing to other factors such as lead time, reputational advantage and costly copying. In other words, having debunked the innovation monopoly argument, a wide interpretation of 'new product' is unproblematic for her. In essence she advocates a more explicit consideration of follow-on innovation in the application of competition law analysis through what in the US is called the innovation markets approach in the field of mergers.

What emerges from this discussion is that the judgment in *Microsoft* is needed to clarify the scope of the exceptional circumstances test and whether the vague balancing test used to determine whether protection of IPR and innovation is appropriate when determining if there is an objective justification for refusal to supply. These doctrinal questions are linked to the broader issue of protection of innovation as a common denominator for both sub-systems of law with one advocating a temporary monopoly to ensure returns for investment and the other seeing competitiveness as the spur for innovation. The dynamics of what Haracoglou calls this inter-dependent and inter-determinate relationship means that competition law and IP law can and should compliment each other in the search for the most appropriate route to innovation.

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Does the *Microsoft* Case offer a New Paradigm for the 'Exceptional Circumstances' Test and Compulsory Copyright Licenses under EC Competition Law?

Steven Anderman[*]

This article examines the *Microsoft* case in the light of existing judicial authority to consider the scope for a remedy of a compulsory licence under Article 82 of the Treaty. Both the *IMS* and *Microsoft* cases turn on a competition law theory of abusive 'leverage' by a dominant IP owner in a dependent 'aftermarket', indicating that an 'aftermarket' scenario figures prominently in the 'exceptional cases' in which competition law under the Treaty is prepared to limit the exercise of copyright. However, whereas the treatment of the Commission's decision in *IMS* by the Community Courts tends to confirm the importance of key elements of the paradigm created by the *Magill* judgment for the 'exceptional circumstances' test under Article 82, the *Microsoft* case seems to require a new paradigm for that category. The article argues that the *Microsoft* facts include a circumstance, not present in *Magill*, which could significantly change the calculus in the 'exceptional circumstances' test and expand it to a new category. Following *Commercial Solvents*, and subsequent ECJ decisions, if a dominant firm with a monopoly product who has been dealing with a contractor in an aftermarket suddenly chooses to vertically integrate its operations and introduce its own product on that market, it may have an obligation to continue to 'supply', i.e. license or inform its existing customers (now competitors) in the downstream market, unless it can offer an objective justification for that refusal. A similar obligation may therefore be applied to an IP protected product under Article 82.

INTRODUCTION

Under EC law it has been left largely to EC competition law to strike a balance between the prohibitions of Article 82 and the exercise of intellectual property rights (IPRs) at points of conflict. IP owners with extensive market power have not had much success with the argument that even where their conduct amounts to an abuse of a dominant position, they may freely refuse to licence interface information to competitors simply because that right is conferred upon them by copyright law.[1] In the case law of the European Court of Justice it seems clear that EC competition law gives a full immunity

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[1] See Case C-241 & 242/91P *RTE and Others v Commission* [1995] ECR I-743; See too, Anderman, S, 'EC Competition Law and Intellectual Property Rights in the New Economy' (2002) Antitrust Bulletin, Summer-Fall, 285; Korah, V, 'The Interface between Intellectual Property and Antitrust: the European Experience' (2002) 69 Antitrust Law Journal 801

only to the determination of the conditions and procedures of the *grant* of the IPR by the Member states of the EU.[2] When it comes to the dividing line between permitted and prohibited *exercise* of IPRs by their owners, the ECJ has tended to give rather equivocal reassurances to IPR owners. Thus the Court of Justice has stated that the Treaty rules will not interfere with the 'normal exercise' of IPR rights including actions to enforce an exclusive right to make or sell an IP protected product[3] or refusing to grant a licence, even if it is the act of an undertaking holding a dominant position.[4] To be abusive, some 'additional factor' is required in addition to the elimination of competition from other manufacturers in respect of the protected product since that corresponds to the substance of the protected right.[5]

Yet these statements by the Court do not provide a basis for asserting that the 'normal rights' to exercise IPRs are defined by reference to a core of irreducible minimum rights based on the function or subject matter of the IPR irrespective of the prohibitions in Articles 81 and 82.[6] For it has also been held by the Court that the exercise of an exclusive IP right will be regarded as unlawful when it is linked in some way to a commercial practice which is itself unlawful under Articles 81 and 82 or is used as an 'instrument of abuse' of a dominant position. In such a case it cannot be saved by the fact that it is lawful under IP law.[7]

In the landmark case of *Magill,*[8] the Court of Justice offered a new formulation of the 'safe haven' for the exercise of IPRs within the concept of abuse in Article 82; it stated that it was only in 'exceptional circumstances' that a refusal to licence copyright information could be held to be contrary to Article 82 of the Treaty and its owners be subject to a remedy of a compulsory licence.[9] As we shall see, the 'exceptional circumstances' test as articulated in the *Magill* case creates a paradigm that gives considerable recognition to the special qualities of IPRs as regulated by their own legislation and as promoters of innovation.

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2 Case 241 & 242/91P *RTE and Others v Commission* [1995] ECR I-743, para 49

3 Thus, in *Maxicar*, the Court stated that "the mere fact of securing the benefit of an exclusive right granted by law, the effect of which is to enable the manufacture and sale of protected products by unauthorised third parties to be prevented, cannot be regarded as an abusive method of eliminating competition", Case 53/87 *CICRA et Maxicar v Renault* [1988] ECR 6039.

4 Thus, in its recent *IMS* judgment, the ECJ stated:
"According to settled case-law, the exclusive right of reproduction forms part of the owner's rights, so that the refusal to grant a licence, even if it is the act of an undertaking holding a dominant position, cannot in itself constitute an abuse of a dominant position … ", Case C-418/01 *IMS Health GmbH & Co OHG v NDC Health GmbH & Co KG* [2004] 4 CMLR 28.

5 Case 238/87 *Volvo v Veng (UK) Ltd* [1988] ECR 6211, para 15.

6 See eg Govaere, I, *The Use and abuse of Intellectual Property Rights in EC Law,* London, Sweet & Maxwell, London, 1996, at p 104.

7 Case 85/76 *Hoffman-La Roche* [1979] ECR 461

8 Cases C-241 & 242/91P *RTE, BBC and ITV v Commission* [1995] ECR I-743

9 See eg Anderman, S*, EC Competition Law and Intellectual Property Rights: The Regulation of Innovation*, 1998, Clarendon Press, Oxford; Schmidt, H, 'Article 82's "Exceptional Circumstances" that Restrict Intellectual Property Rights' [2002] ECLR 210.

However, the precise boundaries of this 'exceptional circumstances' test seem far from well established as evidenced by the recent cases of the European Commission against *IMS*[10] and *Microsoft*.[11] Both cases turn on a competition law theory of abusive 'leverage' by a dominant IP owner in a dependent 'aftermarket',[12] indicating that an 'aftermarket' scenario figures prominently in the 'exceptional cases' in which competition law under the Treaty is prepared to limit the exercise of copyright. However, whereas the treatment of the Commission's decision in *IMS* by the Community Courts tends to confirm the importance of key elements of the paradigm created by the *Magill* judgment for the 'exceptional circumstances' test under Article 82, the *Microsoft* case seems to require a new paradigm for that category. The purpose of this paper is to examine the *Microsoft* case in the light of the existing judicial authority to consider the scope for the European Commission to order a remedy of a compulsory licence under Article 82 of the Treaty.

THE 'EXCEPTIONAL CIRCUMSTANCES' TEST IN CONTEXT

As mentioned, the "exceptional circumstances" test of competition "abuse" allows extensive scope for the legitimate exercise of IPRs by their owner, carefully circumscribing the occasions when the owner of IPRs enjoying a real economic monopoly can be charged with abuse by judicial authority In the first place, the test presupposes that the IP owner possesses a considerable degree of market power, one where the IP protected product virtually amounts to a de facto monopoly. Where an owner of an IPR operates in a market which has a number of competitors, it is not in the frame for a compulsory licence under Article 82.

Secondly, even when an IP protected product reaches the status of a de facto monopoly and falls within the scope of Article 82, the mere achievement of that status is not itself viewed as abusive under EU law. A firm that has achieved a de facto monopoly by virtue of its investment in R&D and IP protection is normally entitled to continue to compete by exercising its exclusionary rights even in 'aftermarkets'. To find a refusal to supply or licence abusive, something more must be shown by the competition authorities to allow the imputation of an abusive motive to the IP owner's conduct other than a refusal to supply or licence as such.

On the other hand, the possession of extensive market power does raise a possibility of abuse. Under Article 82 therefore a dominant firm is deemed to have a 'special responsibility' not to prevent or erode the already weak levels of competition on markets by conduct which is abusive because it is not 'competition on the merits'.[13] The existing case law indicates that the special responsibilities of a dominant firm do not normally include a duty to licence an IPR. An early source of judicial authority for

[10] Case COMP D/338.044 *NDC Health/IMS Health:* Interim Measures. July 3, 2001

[11] Case COMP/C-3/37.792 *Microsoft,* C(2004)900 final

[12] For an insightful comparison of the European *Microsoft* decision with the US *Microsoft* cases, see Peritz, R, 'Re-Thinking *US v Microsoft* in Light of the EC Case', New York Law School Centre for Information Technology, 2004.

[13] See Case 322/81 *Michelin v Commission* [1983] ECR 3461 at 3511; see too Case 85/76 *Hoffman La Roche v Commission* [1979] ECR 461 at 541.

this proposition is the judgment of the ECJ in *Volvo (UK) Ltd v Veng AB,*[14] a case involving an infringement action by Volvo against a dealer who attempted to import panels for Volvo cars which infringed Volvo's design right. On appeal on the question of the competition defence to such an infringement action, the Court of Justice emphatically supported the exclusive right of Volvo to manufacture and sell its design protected panels because the exclusive right and the refusal to licence another to make or sell was the substance of the design right.[15] However, the Court went on to add that in an 'aftermarket' dependent on Volvo's monopoly over the IP protected panels, in this case the maintenance market for Volvo vehicles, Volvo had [under Article 82 of the Treaty] certain positive obligations to continue to supply parties operating in that market alongside Volvo's own maintenance operation, including independent maintenance firms who serviced Volvo cars.[16]

In other words, the owner of a de facto monopoly continues to enjoy its rights to protect its IPR from copying and from being compelled to licence another firm to reproduce the monopoly product *itself*. In a dependent 'secondary market'; however, the IPR holder does not have as complete a dominion over the exercise of its IPRs. In fact, owing to its status as a de facto monopoly in the primary market, and its indispensability as an input in the secondary market, Article 82 may limit the autonomy of the dominant firm to use its IPR to exclude competitors from that 'aftermarket', even if it is not dominant on that aftermarket. *Volvo* implied that the fact the dominant product is IP protected *by itself* does not provide a justification for refusing to *supply* a product, such as spare parts, to competitors in 'aftermarkets'.

This was later confirmed in the *Magill* case.[17] An Irish publisher named Magill was a publisher of a comprehensive weekly TV guide combining the contents of the three individual weekly TV guides sold separately by the respective TV companies. After losing a copyright infringement action at the national level, it successfully made a complaint to the Commission on the grounds that the TV companies' refusal to licence the program listings was abusive conduct under Article 82 and won an order for a compulsory licence of the listings material from the TV companies to produce the guide. The case, a *cause celebre*,[18] went to the Court of First Instance which affirmed the Commission's order. On further appeal to the ECJ, the TV companies were supported in their arguments by the IPO representing software makers internationally. The appeal resulted in a lengthy opinion by the Advocate General recommending reversal. The

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[14] Case 238/87, [1988] ECR 6211.

[15] Para 8.

[16] Para 9.

[17] Cases C-241 & 242/91P, [1995] ECR I-743.

[18] See, eg, Greaves, R, '*Magill* Est Arrive … *RTE and ITP v Commission of the European Communities*' [1995] ECLR 244; Reindl, A, 'The Magic of *Magill*: TV Program Guides as a Limit of Copyright Law' [1993] IIC 60; Schmidt, H, 'Article 82's "Exceptional Circumstances" that Restrict Intellectual Property Rights' [2002] ECLR 210; Strothers, C, 'Refusal to supply as Abuse of a Dominant Position: Essential Facilities in the European Union' [2001] ECLR 256; Vinge, T, 'The Final Word on *Magill*' [1995] 6 EIPR 297; Anderman, S, *EC Competition Law and Intellectual Property Rights: The Regulation of Innovation*, Clarenden Press, Oxford, 1998; and, Temple Lang, J, 'Defining Legitimate Competition: Companies Duties to Supply Competitors and Access to Essential Facilities' [1994] Fordham Corp Law Inst 245.

ECJ however decided that the order for a compulsory licence should stand. The Court held that four main circumstances of the case offered an example of the 'exceptional circumstances' in which a refusal to licence may be an abuse:

> First, that the owner of a copyright protected product was the owner of a *de facto monopoly* which was also an *indispensable input* to an "after market," thus placing him or her in a position to prevent effective competition in that market. In *Magill*, the TV companies had a de facto monopoly over the TV programme listings by virtue of their scheduling of TV programmes and where a license of the listings was an indispensable input for the comprehensive TV guide.[19]

Secondly, that the firm seeking a licence was offering a *new product* for which there was demonstrable and *unsatisfied consumer demand*. In *Magill*, the Commission was able to show that the comprehensive TV guide was new and different in kind from the individual guides offered by each of the TV companies and that there was evidence of 'specific, constant and regular demand' for that product.[20]

Thirdly, where the owners of the IP protected product were not themselves supplying such a product to consumers[21] and by their conduct were using their monopoly in one market to reserve that second market for themselves by excluding competition on that market.[22]

Fourthly, that the owner of the IPR had no objective justification for its refusal to licence. In *Magill,* the litigation strategy of the IPO seemed to mandate an argument that the exclusivity provided by the copyright was itself the objective justification for the refusal to licence but this was rejected by the ECJ.[23]

In such circumstances, an IP owner's insistence on reserving the 'aftermarket' for itself could amount to an abuse even where the owner of the IP protected product had no previous contractual dealing with the new entrant. The Court in *Magill* cited as authority for its judgment Article 82(b) which declares it to be an abuse by dominant firms to limit 'production, markets or *technical development* to the prejudice of consumers'.[24] It also looked to *Commercial Solvents* for authority.

Like many attempts to draw a line between two conflicting claims, the exceptional circumstances test in *Magill* proved to be highly controversial but it was also seen as somewhat opaque in its reasoning by both competition lawyers and IP specialists. For example, how important was it that the IP in question was in information that was

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19 Cases C-241 & 242/91P, [1995] ECR I-743 para 47

20 *Ibid,* paras 53 & 54. This requirement was later summed up by Advocate General Jacobs in the *Oscar Bronner* case as 'the exercise of the copyright prevented a *much needed new product* from coming on to the market' (para 63) He also commented on the fact that the existing guides provided by the TV companies were inadequate, particularly when compared with the guides available to viewers in other countries (para 63).

21 [1995] ECR I-743, para. 54.

22 *Ibid* para 56.

23 *Ibid* para 55.

24 Emphasis added.

copyright only in the UK and Ireland? Were the conditions cumulative or not? What were possible objective justifications for refusal to supply?

In the subsequent case law, the ECJ seemed to make it a point to reiterate that a refusal to license by a dominant firm would only be abusive in the strict conditions of the 'exceptional circumstances' test as articulated in *Magill*. Thus, in *Oscar Bronner v Mediapoint*[25] the ECJ emphasised the importance of a proper test of dominance, stressing the need for it to incorporate the further characteristics that the dominant product was both a monopoly and *indispensable* to competition in the 'aftermarket'.[26]

In its decision on *IMS*,[27] the Commission seemed to misread the essential requirements of the 'exceptional circumstances' test in the *Magill* paradigm by assuming that if an IP protected product was an industrial standard and its owner refused to offer access to competitors in a dependent product market, those circumstances by themselves were sufficient to justify an order of a compulsory license. On appeal,[28] the President of the Court of First Instance emphasized that the Commission had mistakenly proceeded on the supposition that 'the prevention of the emergence of a new product for which there is potential consumer demand is not an indispensable condition of the "exceptional circumstances" developed by the Court of Justice in *Magill*'.[29] The failure of the Commission could be viewed as a mistakenly crude application of essential facilities reasoning to IPRs.

During the period that the Court of First Instance was giving its interim decisions, the Frankfurt Regional Court dealing with the *IMS* case, separately referred a series of questions to the European Court of Justice.[30] The Court of Justice held that the three main conditions of *Magill* 'exceptional circumstances' test were cumulative, ie in order for a refusal to licence new entrants to a market dependent upon an

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25 Case C-7/97 *Oscar Bronner GMbH & Co KG v Mediaprint* [1998] ECR I-7791. In *Oscar Bronner* the ECJ held that where a newspaper proprietor asked for access to another proprietor's home delivery service, a finding of abusive refusal of access using *Magill* as a precedent for the limits to the exercise of any property right, including an intellectual property right, could not be made unless (i) the refusal of the service in the home delivery market would be likely to eliminate all competition in that market on the part of the person requesting the service (ii) there was no objective justification for the refusal and (iii) that there was the service in itself was indispensable to carrying on that person's business, inasmuch as there is no actual or potential substitute in existence for the home delivery scheme The lack of substitutes had to be strictly proved and the test of indispensability was not be confused with mere economic non-viability owing to the small size of the competitor. Cf Forester, I, 'Compulsory licensing of intellectual property rights in Europe: A rare case of aberrant intellectual property rights', Paper presented FTC/DOJ Hearings on Competition and Intellectual Property Law and Policy in the Knowledge Based Economy: Comparative Law Topics, May 22 2002, 15; See also Bergman, M, 'The *Bronner* case – A Turning Point for the Essential Facilities doctrine?' [2000] ECLR 59.

26 See paras 41 & 45.

27 Commission Decision 2003/174/EC, Case COMP D/338.044 *NDC Health/IMS Health,* OJ 2003, L268/69.

28 Interim order of the CFI: Case T-184/01R *IMS Health v Commission* [2001] ECR II-2349; Final Order of the CFI; Case T-184/01R *IMS Health v Commission* [2001] ECR II-3193. The appeal against the suspension of the Commission's compulsory licence was dismissed by the President of the ECJ on 11 April 2002.

29 Para 91

30 Case C-418/01 *IMS Health GmbH & Co OHG v NDC Health GmbH & Co KG* [2004] 4 CMLR 28.

indispensable IP protected input, to be abusive, the refusal must meet three conditions:

(i) the undertaking which requests the licence intends to offer, on the market for the supply of data in question, new products or services not offered by the copyright owner and for which there is potential consumer demand;

(ii) the refusal is not justified by objective considerations;

(iii) the refusal is such as to reserve to the copyright owner the market for the supply of data on sales of pharmaceutical products in the Member State concerned by eliminating all competition on that market.

This interpretation of the 'exceptional circumstances' test based on *Volvo* and *Magill* offers one type of reconciliation between competition law and intellectual property rights based on their mutual interest in innovation by stressing that the 'exceptional circumstances' for a compulsory licence for new entrants to a market include cases of new products with potential consumer demand but not 'clones' or 'me too' products. This test still leaves a number of issues to be resolved in future litigation: how different must a new product be from the one offered by the owner of the industrial standard? Must there be a showing that the new product was developed by the new entrant to the point that it simply requires the indispensable component supplied by the IPR owner? How strong must the potential unmet demand be to qualify a new entrant to a compulsory license? Furthermore, how important is the extent of the investment by the IP owner? What weight should be given to the fact that the incumbent IP owner claims that they intend quite soon to offer a similar product themselves. This could not be a blanket justification for a refusal to licence since that may result in a deterrent to new innovation. A careful reading of the exceptional circumstances test for *new entrants* to a market suggests that even the new product requirement alone implies a balancing test that can shift with different circumstances as long as certain essential preconditions are met.

In *IMS*, however, the Court of Justice also seemed to make it a point to indicate that although the *Magill* conditions were cumulative, they did not offer an exhaustive definition of the test of 'exceptional circumstances'; it carefully referred to *Magill* as a case in which the Court held that 'such exceptional circumstances were present in the case … '.[31] The Court also held 'that it is clear from the case law … that "it is sufficient" (rather than "it is necessary") to satisfy the three *Magill* criteria in order to show an abusive refusal to license'.[32] That proposition would seem to follow from the purpose of Article 82(b) which is to prohibit as abusive conduct by dominant firms where such conduct limits *technical development of markets* to the detriment of consumers. Limiting technical development is a wider concept than the particular factual circumstances and conditions of the *Magill* case. Hence, both the language of Article

31 Para 36. See analysis by Kallaugher, J, 'Recent Developments under Article 82', talk given to IBC Conference London 30 April 2004

32 Para 38.

82(b) and the ECJ judgment in *IMS* offer good grounds for concluding that other types of abuse can also fall within the category of 'exceptional circumstances'.

THE EUROPEAN *MICROSOFT* CASE AND 'EXCEPTIONAL CIRCUMSTANCES'

The facts of the Commission's decision in *Microsoft*[33] offer an example of other types of conduct by an IP owner that can qualify as abusive under the 'exceptional circumstances' test. How should Article 82 apply to cases of exclusionary conduct by a dominant firm when it uses its control over interface information to disrupt its supply of such information or uses its copyright to refuse to license an *existing* contractor/competitor in the secondary market with whom it has been dealing in respect of earlier versions of its product with a view to evicting them from the market? What relevance is it to Article 82 and the 'exceptional circumstances' test that the existing competitor is itself an innovator in the product market, such as Sun Microsystems and its Solaris server in the low end workgroup server operating system market? What relevance is it to Article 82 and the 'exceptional circumstances' test that Microsoft was found to have encouraged interoperability by providing open interface information as a business strategy to grow to dominance only to move to a commercial strategy of closing up systems once dominance was achieved. Finally, what justifications has Microsoft offered for its actions?

In 2000 and 2001, the European Commission[34] investigated Microsoft after a complaint by Sun Microsystems, one of Microsoft's most important competitors in the work group server market. Sun complained that Microsoft was leveraging its Windows 2000 and Microsoft's Office Suite monopoly to obtain a further monopoly for Microsoft's workgroup server operating system in the workgroup OS market. Sun stated that Microsoft provided inadequate information about interface codes for Sun to equip its servers to interoperate smoothly with Microsoft's 'integrated' package of Windows 2000, Office Suite and workgroup server operating system because it refused to disclose how the integration between Windows and Office Suite and its server operating system worked. This refusal had the effect of preventing Sun from offering certain services to Windows based users of its non-Microsoft workgroup server. The Commission in a decision, issued on 24 March 2004, found that Microsoft had abused its near monopoly in the Windows operating system by deliberately restricting interoperability between the Windows OS and non-Microsoft work group servers such as those operated by Sun Microsystems.[35]

The remedy imposed by the Commission for the refusal to supply interface information was to require Microsoft to divulge all necessary interface information to allow non-MS workgroup server OS to achieve full interoperability with Windows PCs and MS workgroup servers within 120 days. This was to enable rival vendors to compete on a

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[33] Case T-201/04R *Microsoft v Commission*, Order of the President of the Court of First Instance 26 July 2004.

[34] Case COMP/C-3/37.792. The Statement of Objections also alleged that Microsoft may have acted illegally by incorporating its new Multi Media Utility Media Player into its Windows PC operating system. See Anderman, S, 'Microsoft in Europe' in Hansen, H, *International Intellectual Property Law and Policy*, Yonkers, NY, Juris Publications, 2002.

[35] See Press Release Conclusion of Microsoft investigation, IP/04/38224, March 2004.

level playing field in the work group server operating system market. Insofar as this information is copyright protected, the Commission indicated that it would require a compulsory copyright licence to be given to competitors in the workgroup server market, but Microsoft would be entitled to reasonable remuneration. The Commission also required Microsoft to update the disclosed information each time it brings to the market new versions of its relevant products. The Commission also indicated that it planned to appoint a Monitoring Trustee to oversee that Microsoft's interface disclosure are complete and accurate.[36] It was noteworthy that the remedy was not restricted to the complainant.

The Refusal to Continue to Supply Full Interface Information

The Commission's finding that Microsoft had abused its near monopoly in the Windows operating system by deliberately restricting interoperability between the Windows OS and Sun Microsystems work group server operating systems began by correctly concluding that the case law suggested that there was no exhaustive checklist of exceptional circumstances and they were entitled to take into account 'other circumstances of exceptional character when assessing a refusal to supply'.[37] It then went to conclude that it was necessary to analyse the 'entirety of the circumstances' and take a 'decision based on the results of a comprehensive investigation'.[38] In choosing to adopt a formula labelled at one point 'entirety' and at another 'the totality of the circumstances' to describe its test and thus not confronting the task of fitting these within the four corners of the 'exceptional circumstances' test, it may have underestimated the arguments in favour of a conclusion that the factual nexus of the *Microsoft* case offered a new paradigm which could and should be fitted into an 'exceptional circumstances' framework. The purpose of this paper is to explore the nature of that new paradigm.

There was little doubt that Microsoft met the threshold test of a monopoly which was an indispensable input to a secondary product.[39] There was little doubt as well that Sun Microsystems was offering an innovative product for which there was substantial and demonstrable demand. The Sun Solaris work group server OS was not a clone of the Microsoft server; it actually preceded it in the market. The Commission could therefore legitimately impute to Microsoft the exclusionary motive of using its control over the PCOS market to evict an *innovating* competitor, ie conduct which amounted to an abuse of 'technological' leveraging of its dominance.[40] If a dominant firm with a monopoly of a IP protected product which is an indispensable input, chose to 'compete on the merits', it would have to continue to licence the relevant interface information to its innovating competitors and compete in that secondary market. For a dominant firm

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[36] *Id.*

[37] *Microsoft,* para 555.

[38] *Ibid*, para 558.

[39] Judging from the statement of objections and the recent Press Release, the Commission revealed its acceptance of the network effects analysis of barriers to entry in high technology markets that had influenced the US Justice Department and Federal Trade Commission in the US Microsoft case

[40] Cf Peritz, *op cit*, n 8

with a de facto monopoly which is an indispensable input to other products to be allowed to use its power in any other way would have a 'chilling effect' on innovation by competitors in the dependent aftermarket and limit technical development in that market, conduct which is characterised as an abuse by Article 82(b). Without access to interface information, competitors in the work group server market would be gradually deprived of their opportunity to develop servers with new or added functionality that Microsoft does not offer to the consumer.[41]

Yet it is important to see that embedded in the *Microsoft* facts is a further circumstance, not present in *Magill*, which could significantly change the calculus in the 'exceptional circumstances' test. Following the authority of the reasoning of *Commercial Solvents*, and subsequent ECJ decisions,[42] if a dominant firm with a *de facto* monopoly of a product has been engaged in a course of dealing with a contractor in an aftermarket and suddenly chooses directly to compete with it by vertically integrating its operations and introducing its own product on that market, it has an obligation to continue to 'supply', ie license or inform its existing customers (now competitors) in the downstream market, unless it can offer an objective justification for that refusal. To fail to do so would mean that the dominant firm was not 'competing on the merits' in an already weakened market. By initially opting for an 'open' system as a strategy to grow and achieve dominance, the owner of an IP protected industrial standard has created expectations and under EC competition law would have difficulties refusing to continue to supply downstream contractors under Article 82(b) and possibly 82(c) for discriminating between its own subsidiary and competitors, particularly where there are no capacity restraints. In such a case, an owner of an industrial standard can be found to be acting abusively by refusing to continue to supply information or to license a firm with which it has been dealing where its motive is self evidently one of using its dominance to *evicting* that competitor from the market.

In other words, the 'exceptional circumstances' in which a compulsory copyright licence can be awarded by a competition authority should include refusals to supply interface code information or license *existing* innovative downstream operators with predatory intent. In such cases, the Commission would be relying on the authority of Article 82(b) but with a theory that in the IT sector, Article 82(b) can be infringed when a company such as Microsoft with an industrial standard, limits technical development by refusing to continue to share interface information and thereby prevents competitors on related markets from developing their interoperable systems. If Microsoft had opted for a closed system in the way say of Apple Mac initially, the circumstances may be different because the company would have achieved its dominance on the basis of originally integrated products and it would normally have been entitled to continue to compete on that basis. In such a situation, they might have had a defence of objective justification for refusing to supply interface information.

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[41] See Dolmans, M, and Levy, N, 'EC Commission v Microsoft: Win, Lose or Tie?' Brussels, Cleary, Gottlieb, Steen & Hamilton.

[42] See, for example, Case 311/84 *Centre Belge d'Etudes de Marche (CBEM) v Telemarketing* [1985] ECR 3261.

However, having built up its dominant position on the basis of interoperating with downstream applications makers, it seems arguable that Microsoft cannot freely resort to a policy of 'closing up' interoperability by withholding interface information once it establishes its Windows OS as an industrial standard. That type of commercial strategy would be viewed as predatory under Article 82 rather than 'competition on the merits' and even if the interface information were copyright protected, the Commission would be entitled to order a resumption of the supply of such information. The compulsory licence of the possibly copyright protected interface information would be essentially to ensure the resumption of that supply.

THE RELATION BETWEEN THE CONCEPT OF ABUSE AND REMEDIES

Once the Commission finds that there has been an infringement of Article 82, it has the power, in addition to levying a fine up to 10% of the worldwide turnover of the undertaking committing the abuse, to require that undertaking to bring that infringement to an end.[43] In *Magill* the remedy chosen by the Commission was a compulsory licence on terms which were 'reasonable and non-discriminatory'. Its choice of this remedy was compelled by the need to remedy the abuse. An order to supply the information in the TV programme listings by itself would not have allowed its lawful use and therefore would not have ended the infringement. The only way the Commission could ensure that *Magill* could publish the new product in the guide market thus ending the infringement was to require a license to publish along with the supply of the listings.

In the *Microsoft* case the resumption of supply of interface information may require compulsory licensing but this too is simply as a means to the end of resumption of supply of the interface information and ending the infringement of Article 82. In the information technology field the attitude to remedies has been strongly influenced by the imperative of interoperability. In the *IBM* settlement in 1984, the Commission insisted on undertakings by IBM to provide full interface information to all applications makers comparable to that provided to its own subsidiary operating in a downstream market. The purpose of that settlement was to ensure that the dominant firm, particularly where it operated in a downstream market, adhered to the principle of fair and non-discriminatory treatment of competitors in that market. In the later *Microsoft* cases the issues of shaping a competition law remedy to ensure inter-operability became more controversial.

The European Commission's view of remedies in the Microsoft case is that an obligation to bring the infringement of Article 82(b) to an end will require Microsoft to disclose all the interface information necessary to enable Sun and other competitors with work group server operating systems to interoperate with Microsoft operating systems, with Microsoft middleware, and with other Microsoft client and server operating systems. This information must be comparable to that disclosed by Microsoft to its own employees or contractors charged with developing Microsoft's own work group server.

[43] Article 3 of Council Regulation 17/62.

The required information may take two forms: IP protected information and non-protected information. It may thus include non-copyright information such as Application Program Interfaces and Communications Protocols. It may also extend to copyright protected interface information such as object code, trade secrets and possibly a patent. However, as the Commission indicated, it will not extend to source code information. The attitude of the Commission seems to be that the IP protection is incidental to the remedy as long as there is no obligation upon Microsoft to reveal its source code. Much as in *Magill*, if there is IP protection and an abuse is committed, the IP must not get in the way of an effective remedy. If the information is not covered by copyright than a simple order to disclose combined with a confidentiality obligation would be a sufficient remedy. If the information is protected by copyright, or possibly other intellectual property rights, that itself will not operate to deny the remedy under EC law. If the abuse is committed and the remedy of supply, in this case resumption of supply, can only be accomplished by a compulsory licence, then these are the 'exceptional circumstances' in which judicial authority suggests that a compulsory licence can be ordered. The Commission has stated that it is concerned solely with restoring interoperability by opening up interface information and that it has no desire to use a remedy to force disclosure of source codes to the Windows operating system. Presumably, it will be open to Microsoft to refuse to supply interface codes which reveal source codes.

SOME ADDITIONAL THOUGHTS

In its *IMS* decision, the Commission misinterpreted the *Magill* test of 'exceptional circumstances' in part by treating IPRs as if they were the same as tangible property such as ports or train tracks. It seems likely that the experience at the hands of the Court of First Instance and the European Court of Justice will cause the Commission to be far more cautious when confronted by complaints of refusal to licence IP protected industrial standards by new entrants to a market with similar products to those offered by the IP owner of an 'indispensable' input.

In the *Microsoft* case however, the Commission seems to be on much firmer ground in terms of its conclusions of abusive leverage by an IP owner although its resort to a looser concept of 'totality of the circumstances' shied away from the task of fitting the facts more carefully into the 'exceptional circumstances' test endorsed by the Court of Justice. Presumably, a more robust argument can be made on appeal whether it relies on an innovation limitation theory of Article 82(b) following *Magill* or a theory based on the view of obligations of a dominant firm to existing contractors in a dependent market based on *Commercial Solvents*.

One point that makes its appearance at the margins of the Microsoft case is the argument suggested by Microsoft that Sun's right to reverse engineer through decompilation in Article 6 of the EC Computer Program Directive was relevant to the Article 82(b) complaint. Article 82(b) of the Treaty and Article 6 of the Computer Program Directive are separate and independent laws even if their reach to certain types of conduct may overlap. The EC Computer Program Directive does not only promote interoperability in the form of a limited decompilation right in Article 6 and a

reminder of the idea/expression dichotomy in Article 1; Recital 26 of the Directive also states that:

> Whereas the provisions of this Directive are without prejudice to the application of the competition rules under Article 85 (now 81) and 86 (now 82) if a dominant supplier refuses to make information available which is necessary for interoperability as defined in this directive

In the *Microsoft* case, Sun seems to have given evidence to make it plain that the decompilation option was not adequate to meet the need for full interoperabilty in the circumstances, if for no other reason than the reverse engineering process was so complex that it handicapped them in their efforts to provide software compatible with a new version of Windows in sufficient time for the new version of Windows OS. The Commission's view, which is a legitimate interpretation of Article 82, is that Article 82 offers a source of authority which may exist alongside but applies independently of Article 6 of the Computer Programme Directive. It is worth noting, however, that if IP law were to take a form offering a more extensive guarantee of interoperability of interface information for software, then the effect would be that Article 82 would be called upon even more rarely to adjudicate cases of non-supply of interface information.

A second point raised by the *Microsoft* case is why does competition law have the authority to override IPR protections in the EU? Why are firms like Microsoft not justified objectively in refusing to disclose or licence interface information.

In the *Magill* case the Court of Justice established that the mere ownership of an IPR as a property right would not as such offer either an immunity or a defence of justification for a refusal to licence in secondary markets.[44] The Court first observed:

> With regard to the issue of abuse, the arguments of the appellants and IPO wrongly suppose that where the conduct of an undertaking in a dominant position consists of the exercise of a right classified by national law as "copyright", such conduct can never be reviewed in relation to Article [82] of the Treaty.[45]

It later added:

> There was no objective justification for the refusal of the TV companies to licence Magill, either in the activity of television broadcasting or in that of publishing television magazines.[46]

A similar argument for unlimited intellectual property rights was put forward by the Microsoft Corporation in the antitrust case brought against its licensing practices in relation to Windows 98 and web browsers. The US government alleged that Microsoft had engaged in anticompetitive licensing restrictions. Microsoft argued that the

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[44] Cases C-241 & 242/91P *RTE & ITP v Commission* [1995] ECR I-743, para 55.

[45] *Ibid*, para 51.

[46] *Ibid*, para 55.

licensing restrictions were legally justified because it was simply 'exercising the rights of valid copyrights':

> If intellectual property rights have been lawfully acquired, their subsequent exercise cannot give rise to antitrust liability.[47]

The Federal Circuit rejected the argument as bordering upon the frivolous. It quoted precedent to the effect that 'intellectual property rights do not confer a privilege to violate the antitrust laws'.[48]

In the European *Microsoft* case, the Microsoft Corporation produced a variation on the theme that their refusal to supply interface information to Sun was objectively justified owing to their property rights in the information requested. They argued firstly that they were justified in refusing to supply on the grounds that it would eliminate their incentives to innovate.[49] They also complained that providing the interface information to Sun 'would make it relatively easy for competitors to clone new features in the Windows family of operating systems'.[50]

The Commission refuted both contentions on the facts and went on to introduce a balancing test to justification. It started by reminding that it was necessary to take into account the effect on the market if Microsoft's anti-competitive behaviour was allowed to remain unfettered.[51] There was a risk that Microsoft would succeed in eliminating all effective competition in the work group server operating systems market.[52] The Commission then concluded that *on balance* the possible negative impact of the order to supply on Microsoft's incentives to innovate is outweighed by its positive impact on the level of innovation of the whole industry (including Microsoft).[53]

The Commission could legitimately treat the justification test as a balancing exercise under Article 82(b) but it could equally legitimately raise the barriers to justification to a high level because of the serious anti-competitive effect of the conduct. As the Commission put it the refusal to supply would 'have the consequence of stifling innovation in the impacted market and of diminishing consumer's choices by locking them into a homogeneous Microsoft solution. As such it is particularly inconsistent with the provisions of article 82(b) of the Treaty'.[54]

This was effectively an endorsement of a view of innovation which suggests that technical development in the IT industry is best promoted by a number of different firms innovating rather than one. It is consistent with the philosophy underlying the interoperability provisions of the Computer Software Directive.

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47 *Ibid*, para 55.

48 See *United States v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001) 62-63.

49 *Microsoft,* para 709.

50 *Ibid*, para 713.

51 *Ibid,* para 724.

52 *Ibid*, para 725.

53 *Ibid*, para 763

54 *Ibid*, para 782.

Finally, it is useful to ask why the judges on the Court of Justice consider it legitimate for EC competition law to restrict the conduct of the owners of IPRs where their market power equates to that of an industrial standard or a de facto monopoly which is an indispensable input to a secondary market? There are two main reasons for this hierarchical relationship between these two legal regimes in the EC. The first is that competition law has been given a central role in the EC Treaty while intellectual property legislation in the EC has been based mainly on national law.[55] The second is the fact that competition laws are viewed as public law norms whereas the exercise of an intellectual property right is viewed as an exercise of a private property right.

The general view of competition law is that the exercise of any property right, whether one related to intellectual property or tangible property, must be circumscribed to allow the public interest in effective competition on markets to be maintained. Modern competition policy, having arisen as a reaction to the excesses of use of the freedom of contract by large organisations systematically creating monopolies and cartels in unregulated markets, has been designed to impose public law limits on the freedom of contract and the autonomy of private property owners in order to maintain effective competition on, and access to, markets.[56]

Competition law offers only one example of the responsibilities which public law places on private ownership. In general private property is dependent for its existence upon legal institutions and may be seen as a bundle of legally created responsibilities as well as rights.[57] Intellectual property is also a legally created mix of rights and responsibilities with its rights to exploitation dependent upon legal institutions. An owner of tangible private property cannot do entirely as she wills with it where the exercise can cause harm to others. The owner of a Ferrari sports car, despite her property right and the purpose for which she acquired it, cannot lawfully drive it above 20 miles an hour on a road in front of a school entrance if that is the speed limit for that stretch of road.

In the case of intellectual property rights, the claim of intellectual property owners to an untrammelled autonomy to exploit their property is more specifically at odds with the laws that create them. Patents and copyright, with their balance of time limited rights, exceptions and array of responsibilities *inter alia* to disclose information, are more akin to carefully defined leaseholds or licenses as opposed to absolute property rights. IPRs have been explicitly created for utilitarian purposes by legislators in the form of limited exclusive rights and to argue otherwise is to distort the foundations for their creation.[58] In Europe, most if not all patent laws view patents as conferring temporary market exclusivity in return for the commercial investment in the R&D leading to the

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[55] Anderman, S, *EC Competition Law and Intellectual Property Rights: The Regulation of Innovation*, Clarendon Press, Oxford, 1998.

[56] The modern phase of competition law beginning with the US Sherman Act in the 1890s has to be seen as a reaction to the experience in the USA with widespread trusts creating monopolies and cartel and market sharing arrangements in the decades after the Civil War. See, Peritz, R, Competition Policy in the US, Oxford, OUP, 1998.

[57] See, for example, Harris, J, *Property and Justice*, Oxford, Clarendon, 1996; and Rahnasto, I, *Intellectual Property Rights, External Effects and Anti-trust Law*, Oxford, OUP, 2002.

[58] See, for example, the language of Article 1 Clause 8 of the US Constitution.

invention and making publicly available the knowledge on which it is based. It is true that some Continental systems of copyright protection, and indeed Article 6bis of the Berne Convention, stress the moral rights to copyright and this on occasion been portrayed as a natural right but this classification does not remove copyright from the rights/responsibilities balance. In any case, moral rights are more concerned with protecting the author's rights to identification as the originator of the work[59] and the right to object to derogatory treatment of the work,[60] rather than making a bid for IPRs to be viewed as absolute rights when they enter the economic arena.

IPRs are more appropriately viewed as a form of 'licence' or leasehold conferred by the state to innovators for a limited period to pursue the ends dictated by the legislation that give them their protected status. This licence has certain checks and balances within it but those exercising the licence are still bound by regulatory legislation such as environmental laws, health and safety laws, product liability and drug safety laws that restrict the free exercise of intellectual property rights in the public interest.[61] It is true that there is an important public interest in the incentive effects of IPRs but this must be reconciled with, and cannot automatically trump, these other public interest concerns. The inherent weakness of the property rights theoreticians in this area of law is that private property is always subject to public law norms. Moreover, their analysis offers little help in the essential task of striking an appropriate balance between the protection of limited exclusive rights to pioneer innovators and the rights of access of information and ideas of follow on innovators,[62] particularly where that task is performed by competition policy.

One implication of this analysis is that when the point is reached that IPR laws are comprehensively EC wide in their grant, EC competition law may well remain a default 'regulator' of the exercise of IPRs.

[59] The right of paternity. See, for example, CDPA s. 77.

[60] The right of integrity. See, for example, CDPA s. 80.

[61] See, for example, Directive 98/44/EC on the Legal Protection of Biotechnological Inventions, OJ 1998, L213/13, Recital 14.

[62] Cf the excellent discussion in: Rahnasto, I, *Intellectual Property Rights, External Effects and Anti-trust Law,* Oxford, OUP, 2002, 49-62.

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IMS and *Microsoft* Judged in the Cold Light of *IMS*

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This article analyses the three major recent cases dealing with the boundary between EC competition law and intellectual property rights: the Commission's interim measures decision in the *IMS* case, the European Court of Justice's later judgment in *IMS* and, finally, the Commission's decision in the *Microsoft* case. The article starts by analysing the key legal and factual elements in each of these three precedents. It then examines whether the Commission's approach in its *IMS* and *Microsoft* decisions is consistent with that of the European Court of Justice in its *IMS* judgment. The analysis shows that the Commission's approach in both Decisions differs from that laid down by the Court. In particular, the Commission has adopted a less demanding standard as regards the conditions under which compulsory licensing of intellectual property may be ordered. The article explores a number of other topics in passing, such as the role of the trustee in giving effect to the compulsory licensing ordered by the Commission in the *IMS* and *Microsoft* decisions and the relevance of standardisation in both cases. The article also examines the approach taken in relation to objective justification in the *Microsoft* Decision and concludes that it raises serious questions as regards predictability and legal certainty.

A. INTRODUCTION

In July 2001 the Commission adopted an interim measures decision ordering IMS to grant a compulsory licence of its intellectual property (the '*IMS* Decision'). It is easy to forget three years later how controversial that decision was at that time. Indeed, given the inevitable focus on the European Court of Justice's recent decision in *IMS* on a preliminary reference (the '*IMS* Judgment') it would be all too easy to forget the *IMS* Decision altogether.

This article will examine the Commission's approach in its *IMS* Decision in the light of the ECJ's *IMS* Judgment. It will explore the relevance of standardisation in both *IMS* cases. It will then turn to Microsoft and examine this Decision in the light of the *IMS* Judgment, and conclude with some observations on parallels and differences between the Commission's approaches in its *IMS* Decision and its *Microsoft* decision.

The analysis will show that the Commission's approach in both Decisions differs from that laid down by the Court in its *IMS* Judgment. In particular, the Commission has

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adopted a less demanding standard when it comes to the conditions under which compulsory licensing of intellectual property may be ordered.

B. THE FACTS OF *IMS*

IMS is the world leader in data collection on deliveries by wholesalers of pharmaceuticals and prescription sales. On the German market a geographic format for presenting this data had been jointly developed by IMS and its customers (the pharmaceutical companies) which had become the *de facto* industry standard. This structure consists in a division of Germany into 1860 zones (or so-called 'bricks') according to postcodes. When competitors (NDC and, latterly, AyzX) appeared on the German market, IMS relied on copyright to prevent them using the industry standard 1860 brick structure.

The starting point for both the *IMS* Decision and the *IMS* Judgment was an interlocutory order by the Landgericht in Frankfurt in late 2000 which prohibited NDC from using the 3000 brick structure that it was then using or any other brick structure derived from the 1860 brick structure. This order was granted on the basis that the 1860 brick structure was a protected database, which might be protected by copyright. This order had the effect of preventing NDC from competing on the German market.

NDC responded in two ways.

- First, it asked IMS for a licence and when such request was refused it made a complaint to the Commission claiming that the refusal to license was an abuse of IMS' dominant position. The Commission conducted an urgent inquiry and on 3rd July 2001 issued an interim measures decision ordering IMS to license its brick structure (the '*IMS* Decision').[1]

- Second, it continued its legal battle with IMS in the German courts, where several copyright infringement proceedings and appeals took place. The Frankfurt Landgericht made a reference to the ECJ in July 2001, which led to the judgment of 29 April 2004 in Case C-418/01 (the '*IMS* Judgment').

For completeness, it should be noted that the Commission withdrew the *IMS* Decision in August 2003[2] based on the fact that a German appeal court had held that NDC could not be barred from developing a rival brick structure based on administrative divisions (postcode boundaries) in Germany even if it might be similar to the 1860 brick structure and might be deemed to be derived from it. NDC was therefore able to market data reported using a brick structure that would meet customers' needs.[3]

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1 Commission Decision 2002/165/EC, Case COMP D3/38.044, *NDC Health/IMS Health*, OJ 2002, L59/18. IMS subsequently appealed to the Court of First Instance in CaseT-184/01R and the Commission's interim measures decision was suspended by the President of the CFI on 26 October 2001 (whose order was upheld on appeal by the President of the ECJ on 11 April 2002 in Case C-481/01 P(R)).

2 The Decision was at that time still suspended by the order of the President of the Court of First Instance of 26 October 2001 in Case T-184/01R, the appeal to the President of the ECJ having been rejected.

3 Commission Decision 2003/741/EC, OJ 2003, L268/69. AxyZ, the other competitor, had by then left the market.

C. THE *IMS* JUDGMENT

The European Court of Justice ruled on the preliminary reference case on April 29 this year. While the judgment clarifies the applicable legal standard for compulsory licensing, it does leave one key question unanswered, which is left to the referring German court to resolve.

After examining the case law (*Volvo v Veng*[4] and *Magill*[5]) dealing with whether refusal to grant a licence was an abuse under Article 82, and reiterating the way the Court in *Bronner*[6] summarised *Magill*, the Court set out the legal standard as follows:

> in order for the refusal by an undertaking which owns a copyright to give access to a product or service indispensable for carrying on a particular business to be treated as abusive, it is sufficient that three cumulative conditions be satisfied, namely, that that refusal is preventing the emergence of a new product for which there is a potential consumers demand, that it is unjustified and such as to exclude any competition on a secondary market.[7]

The Court thereby defines a four-part test for when a refusal to license is an abuse:

1. The product or service protected by copyright must be *indispensable* for carrying on a particular business.
2. The refusal *prevents the emergence of a new product for which there is potential consumer demand.*
3. The refusal is *not objectively justified.*
4. The refusal is such as to *exclude all competition on the secondary market.*

The Court then gives further guidance on 3 of the 4 criteria.

1. Indispensability

On indispensability, the Court restated its *Bronner* judgment and confirmed that the test is whether there are:

> products or services which constitute alternative solutions, even if they are less advantageous, and whether there are technical, legal or economic obstacles capable of making it impossible or at least unreasonably difficult for any undertaking

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[4] Case 238/87 *Volvo v Veng* [1988] ECR 6211.

[5] Case C-241/91 *RTE and ITP v Commission* [1995] ECR I-743.

[6] Case C-7/97 *Bronner* [1998] ECR I-7791. The *Bronner* Court summarised *Magill* at paragraph 40 as follows: "In *Magill*, the Court found such exceptional circumstances in the fact that the refusal in question concerned a product (information on the weekly schedules of certain television channels) the supply of which was indispensable for carrying on the business in question (the publishing of a general television guide), in that, without that information, the person wishing to produce such a guide would find it impossible to publish it and offer it for sale (paragraph 53), the fact that such refusal prevented the appearance of a new product for which there was a potential consumer demand (paragraph 54), the fact that it was not justified by objective considerations (paragraph 55), and that it was likely to exclude all competition in the secondary market of television guides (paragraph 56)."

[7] Case C-418/01 *IMS Health GmbH & Co OHG v NDC Health GmbH & Co KG* [2004] 4 CMLR 28, para 38.

> seeking to operate in the market to create, possibly in cooperation with other operators, the alternative products or services.[8]

The test is not fulfilled if there are "alternative solutions, even if they are less advantageous". Nor would it be fulfilled unless there are obstacles making it "impossible or at least unreasonably difficult" for others to create alternatives. The Court also clarifies that when assessing indispensability:

> it must be established, at the very least, that the creation of those products or services is not economically viable for production on a scale comparable to that of the undertaking which controls the existing product or service.[9]

2. Preventing the emergence of a new product for which there is potential consumer demand

On emergence of a new product, the Court is clear that duplication (ie offering the same product or "cloning") of the rightholder's product is not enough to satisfy this criterion. The party requesting the licence must intend to produce new goods or services not offered by the owner of the right:

> in the balancing of the interest in protection of copyright and the economic freedom of its owner, against the interest in protection of free competition the latter can prevail only where refusal to grant a licence prevents the development of the secondary market to the detriment of consumers.
>
> Therefore, the refusal by an undertaking in a dominant position to allow access to a product protected by copyright, where that product is indispensable for operating on a secondary market, may be regarded as abusive only where the undertaking which requested the licence 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.[10]

This Court's approach confirms that this criterion, previously identified in *Magill*, but not emphasised in *Bronner*[11], is an essential element of the test.

It is also important not to forget that there must be "unmet consumer demand" for the new product. In *Magill* it was clear that consumers wanted a comprehensive weekly TV

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[8] Para 28.

[9] Para 28.

[10] Paras 48-49.

[11] Indeed, this criterion is not mentioned in para 41 of *Bronner*, which reads as follows: "Therefore, even if that case-law on the exercise of an intellectual property right were applicable to the exercise of any property right whatever, it would still be necessary, for the *Magill* judgment to be effectively relied upon in order to plead the existence of an abuse within the meaning of Article 86 of the Treaty in a situation such as that which forms the subject-matter of the first question, not only that the refusal of the service comprised in home delivery be likely to eliminate all competition in the daily newspaper market on the part of the person requesting the service and that such refusal be incapable of being objectively justified, but also that the service in itself be indispensable to carrying on that person's business, inasmuch as there is no actual or potential substitute in existence for that home-delivery scheme."

guide – which was available in most other Member States – rather than having to buy separate guides from the BBC, ITV and RTE.

The Court did not give any guidance to the national court on how it should answer the question of whether there was a new product in this case as a matter of fact. It was probably not in a position to do so as the parties submitted mutually contradictory factual assertions to the Court. While both IMS and NDC provide the same underlying service – pharmaceutical sales data – NDC argued that its product was of a different quality and nature to that offered by IMS because *inter alia* of its advanced features.

3. Objective Justification

The Court does not add anything on objective justification, save to say that this is for the national Court to decide.[12]

4. Exclusion of all competition on a secondary market

Finally, as regards the criterion of excluding all competition on a secondary market, the Court limits itself to considering whether there need be two separate products being marketed. The Court finds that it is not necessary that the upstream product is itself being marketed. It was sufficient:

> that a potential market or even a hypothetical market can be identified. Such is the case where the products or services are indispensable in order to carry on a particular business and whether there is an actual demand for them on the part of the undertakings which seek to carry on the business for which they are indispensable.[13]

The Court holds that it is "determinative" that "two different stages of production may be identified and that they are interconnected, the upstream product is indispensable in as much as for supply of the downstream product." [14] The Court also confirms that the test is whether the refusal to licence is "such as to exclude any competition on a secondary market".[15]

The Court does not actually give any guidance as to whether there is a secondary market in this case. This question is left to the national court, which must consider whether "the 1860 brick structure constitutes, upstream, an indispensable factor in the downstream supply of German regional sales data for pharmaceutical markets" and the refusal to license is capable of excluding all competition.[16]

The absence of clear guidance from the European Court on the secondary market issue is unfortunate as the Court was in possession of all the facts necessary to answer the question. Particularly as there is a difficult line to be drawn here – if the Court accepts a hypothetical market for the intellectual property itself, then the criterion of a secondary

[12] Para 51.

[13] Para 44.

[14] Para 45.

[15] Para 38.

[16] Para 47.

market would become meaningless, as it would be met in all or almost all cases. The secondary market would simply be the hypothetical one for the licensing of the intellectual property right that is the subject of the compulsory licence.

D. THE *IMS* DECISION

Jumping back to 2001, we revisit the Commission's interim measures decision. The legal analysis applied in that Decision is considered first, followed by a comparison with the ECJ's *IMS* Judgment. Finally, there is a discussion about the policy reasons that led the Commission to intervene in the case as well as the relevance of industry standards.

1. The legal analysis in the *IMS* Decision

The Commission's legal analysis[17] is grounded in the language of essential facilities. After citing *Commercial Solvents*[18], *Volvo v Veng* and *Magill*, the Commission then relies on paragraph 131 of *Ladbroke*[19] to state that:

> a refusal to license may constitute an abuse not only when this refusal prevents the introduction of a new product but also when the product or service in question is essential for the exercise of the activity in question.

After citing *Bronner* regarding whether access to a product or service is essential, the Commission concludes that the applicable test is whether:

- the refusal to access the facility is likely to eliminate all competition in the relevant market;
- such refusal is not capable of being objectively justified; and
- the facility itself is indispensable to carrying on business, inasmuch as there is no actual or potential substitute in existence for that facility.[20]

On the facts, the Commission found that there was no real or practical possibility for companies wishing to offer pharmaceutical sales data in Germany to employ another structure. The Commission therefore considered that the refusal of access was likely to eliminate all competition. The structure was indispensable for the competitors to carry on their business, as there were no actual or potential substitutes.

Much of the Commission's conclusion on this point was founded on the fact that the German courts were (at that stage) preventing NDC from using any other brick structure based on postcodes because such structures constituted a derivative work. This prevented NDC from offering its services to the customers in the industry standard format that they both desired and required (at least in the immediate term).

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[17] Paras 63-73.

[18] Cases 6/73 & 7/73 *ICI & Commercial Solvents v Commission* [1974] ECR 223.

[19] In *Ladbroke*, the Court gave reasons why the plaintiff did not need access to the facility. The corollary of this finding was mistakenly deemed to be that whenever access would be necessary to do business then a compulsory licence should follow.

[20] Para 70.

The Commission considered the impact on intellectual property rights more generally. It concluded that its Decision was compatible with TRIPS as the compulsory licence was "a special case, which is clearly defined and narrow in scope".[21] It responded to IMS' claims that innovation would suffer by noting the particular facts of the case:

> A dominant company has negotiated over a long period with its customer industry, which are now dependent on it, so as to produce a structure which it subsequently claims is its intellectual property, and refuses to license this structure to competitors so that no competing products based on this product can be produced. These circumstances, which give rise to an abuse of Article 82, are extremely specific.[22]

The Commission's interim measures decision required IMS to embark on the process of negotiating a fee-generating license over the copyright on its brick structure. If the negotiations failed, an expert was to determine the terms and conditions of the licence.

2. The legal analysis of the *IMS* Decision judged in the light of the *IMS* Judgment

The legal theories in the *IMS* Decision are quite different from the legal standard laid down by the ECJ on April 29.[23] The Commission's decision omits to consider two of the four criteria laid down in the ECJ's *IMS* Judgment, namely;

- the need for the refusal to prevent the emergence of a new product for which there is unmet consumer demand; and
- the need for the refusal to license to eliminate competition on a secondary market.

However, while the Commission's Decision may not have analysed all the criteria in the applicable legal standard, there may have been evidence to support findings that these criteria would have been fulfilled. In particular, given the way in which the *IMS* judgment interpreted the need for a secondary market, the brick structure may constitute upstream an indispensable factor in the downstream supply of pharmaceutical sales data. This is something that will become clear when the German litigation reaches its conclusion.

3. General remarks on the Commission's approach in the *IMS* Decision

(a) The case was one that the Commission had to take seriously

The facts of the case had many similarities with *Magill*. The conduct of IMS, seeking to retain its absolute monopoly on the provision of the services in question, was not particularly attractive from a competition policy perspective. This was a case where the Commission had good grounds to consider intervening.

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[21] Paras 206-209.

[22] Para 211

[23] A fact noted by the President of the Court of First Instance in the *IMS* interim measures judgment, who voiced doubts about the Commission's non-cumulative interpretation of the conditions regarded as constituting "exceptional circumstances" in *Magill* - Order of 26 October 2001 in Case T-184/01R at paras 100-106.

- The brick structure had largely been created by IMS' customers, the pharmaceutical companies, which were heavily involved in drawing up the relevant map.
- IMS gave the rights to the 1860 structure away to other companies with which it was not in competition (as did the broadcasters in *Magill*).
- IMS brought its copyright infringement action to block a new entrant to the market, like the broadcasters in *Magill.*
- Similarly to the TV listings in *Magill*, the subject matter of the right, namely a grouping of German postcodes, is somewhat "difficult to justify in terms of rewarding or providing an incentive for creative effort" (in the words of Advocate General Jacobs in *Bronner*[24]).
- Finally, IMS was unpopular with its customers – the pharmaceutical industry – for its high prices and old-fashioned means of delivery for its services. Members of the industry were critical of IMS' behaviour in their replies to Commission requests for information.

Given the number of policy reasons for the Commission to intervene, the further question worth considering is whether it approached the case from the wrong perspective.

(b) The relevance of industry standards in *IMS*

Did the Commission approach this case from the wrong direction? Rather than looking at the case from the perspective of essential facilities, would it not have been better to start the analysis from the basis that the brick structure was originally an open industry standard and argue that IMS was claiming intellectual property rights over that standard for the abusive purpose of excluding competition by preventing its competitors from using the standard?

It is submitted the real core of the case was really about IMS' appropriation of what was until then thought to be an open standard (agreed between IMS and the industry and based on postal codes) than about a refusal to license. The refusal to license only occurred late on in the day as NDC asked for a licence only after it was on the receiving end of IMS' court action. The real problem was IMS' use of intellectual property to prevent NDC making use of the industry standard brick structure (or any derivative structure) and thereby preventing NDC from competing.

The Commission gives a tantalising glimpse of what the case might have looked like had it approached the facts from this angle. At paragraph 211 of the Decision, where the Commission describes why the compulsory licence would not have a negative effect on innovation and deter investment in intellectual property, the Commission outlines an alternative theory of the case:

> The Commission fully recognises the essential role played by intellectual property rights in promoting innovation and competition. Nevertheless, as IMS admits and

[24] Para 63 of his Opinion.

> as the Court established in the *Magill* judgment (paragraph 50), read in conjunction with the *Ladbroke* and *Bronner* cases, Community law can apply to the exercise of that right in 'exceptional circumstances'. Such exceptional circumstances exist in this case. A dominant company has negotiated over a long period with its customer industry, which are now dependent on it, so as to produce a structure which it subsequently claims is its intellectual property, and refuses to license this structure to competitors so that no competing products based on this product can be produced.[25]

The alternative theory would have been that the appropriation of open standards constituted an exceptional circumstance under *Magill*. Unfortunately the Commission never expanded on this point and it did not base the compulsory licence on this line of reasoning. Standardisation is only mentioned as an afterthought when the Commission justifies why the Decision would not have an adverse effect on intellectual property protection in general.

From a policy perspective, there are good reasons why Article 82 should have a role to play in standard-setting cases, where a company claims copyright over a structure jointly developed with the client industry, which has become the *de facto* industry standard and upon which customers depend. Obviously, there would have to be circumstances showing abusive conduct. This could be the case where the standard was initially open, not protected by intellectual property rights, but where subsequently intellectual property rights were invoked by one of the companies that developed the standard in circumstances that were deemed abusive. In such a case, Article 81 might not be applicable to the initial discussions, because the standard created is open and available to all. So it is therefore important that Article 82 could be applicable if an individual company seeks to rely on an intellectual property right to close the standard and exclude all competitors.

This sort of approach can be seen in the Commission's approach to the *ETSI Interim IPR Policy*.[26] This case concerned ETSI's rules which aimed at preventing a particular company from hijacking a standard. They provided that ETSI members were obliged to inform ETSI in a timely manner of intellectual property rights they become aware of in a given standard being developed. If the member was unwilling to grant a licence, ETSI would seek a viable alternative technology that was not blocked by that intellectual property right, and if no viable technology is found, work on that standard would cease. Members were required to explain in writing the reasons for refusing to license the intellectual property right in question, and this explanation would be sent *inter alia* to the Commission. The Commission approved ETSI's Interim licensing policy on the basis that there was no restriction of competition. It approved ETSI's efforts to prevent one company from hijacking a standard.

The US FTC adopted a similar approach to standard setting in the *Dell* case[27], which concerned VESA, a voluntary standard setting organisation composed of major

[25] At para 211.

[26] OJ 1995, C76/5, 25th Report on Competition Policy (1995), pp131-132.

[27] *Dell Computer Co,* C-3658 (20 May 1996) (consent order) (Commissioner Azcuenaga dissenting).

computer software and hardware manufacturers. Agreement on a particular standard was founded on representations by the participants that no firm held intellectual property rights that might block others from developing towards the standard, or that any rights that might impinge on the standard would be licensed at a reasonable rate. With these representations, the VESA participants came up with a new product that was commercially successful. However, Dell then alleged that the new standard infringed on one of its patents. Dell made its claim only after the standard began to achieve success, and its claim for royalties gave it effective control of the standard.

The Federal Trade Commission investigated the matter and charged Dell with unfair competition in violation of section 5 of the Federal Trade Commission Act. Dell's belated assertion of patent ownership in this case enabled it to exercise market power with anti-competitive effect. The FTC specifically alleged that industry acceptance of the new standard was delayed, and that uncertainty about the acceptance of the design standard raised the cost of implementing the new design. Dell entered into a consent order, which required that it refrain from enforcing its patent against any computer manufacturer using the new design in its products. In addition, Dell was prohibited from comparable behaviour in its future standard setting involvements.

In *Dell*, many competitors had come together to agree a standard, which they all expected to be able to use freely. At the time everyone contributed his expertise, it was expected that everyone would be able to use the standard without restriction. The standard would be an open one. Dell's subsequent invocation of its patent effectively gave it control of the standard, despite the fact that Dell was only one of many participants in the standard setting and had not contributed the crucial know-how to the process.

This is not dissimilar to the situation in *IMS*. It is the sort of conduct that ought to be able to be covered by Article 82 if the facts are clear enough. It is submitted that the Commission missed an opportunity by not developing this line of argument further in *IMS*.

(c) The role of the expert

Finally, a few words on the role of the expert: the *IMS* Decision gives the expert the task of determining the licence fee and conditions, yet gives no guidance on how that task is to be accomplished, except to say that "the expert will make a determination on the basis of transparent and objective criteria". This is quite remarkable - the Commission orders a compulsory licence of the intellectual property rights, yet fails to give any guidance on the terms of that license. In essence, the Commission hands over a crucial part its decision making power to a third party.

E. THE COMMISSION DECISION IN *MICROSOFT*

1. Description of Decision and legal standard applied

The Commission adopted a Decision on 24 March 2004[28] in which found Microsoft guilty of abusing its dominant position in the market for client PC operating systems by failing to supply "interoperability information" to Sun Microsystems. "Interoperability information" is defined in the Decision as:

> the complete and accurate specifications for all Protocols implemented in Windows Work Group Server Operating Systems and that are used by Windows Work Group Servers to deliver file and print services and group and user administration services … to Windows Work Group Networks.[29]

The Commission ordered that Microsoft should create the necessary specifications, "make them available to any undertaking having an interest in developing and distributing work group server operating systems" and "allow the use of the interoperability information by such undertakings".[30]

(a) This is a compulsory licence case

While some parts of the Decision doubt the existence of intellectual property rights, the Decision expressly imposes a compulsory licence. Article 5(a) of the Decision forces Microsoft to "allow the use" of the specifications. This would not have been necessary if there were no intellectual property rights at stake. Indeed the Decision expressly states that a compulsory licence is contemplated:

> to the extent that this Decision might require Microsoft to refrain from fully enforcing any of its intellectual property rights, this would be justified by the need to put an end to the abuse.[31]

The specifications that Microsoft is ordered to create, make available and allow the use of will be long, complex documents. They are akin to a blueprint of a chemical plant – very valuable even if the competitor still has work to do to actually build its competing chemical plant. Microsoft's stated position is that the Decision involves a compulsory licence of its patent, copyright and trade secret rights.

While it therefore appears clear that the Decision follows on from *Magill* and *IMS* in imposing a compulsory licence of intellectual property rights, there is a difference between Microsoft and those two cases – the value of the information that the Commission has ordered to be disclosed. The specifications that to be disclosed will represent the fruit of much more significant intellectual effort by Microsoft than the map of Germany in *IMS* or the TV listings in *Magill*. There is a further difference with *IMS*: the value of the intellectual property IMS refused to license is largely the fact that

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[28] Commission Decision relating to a proceeding under Article 82 of the EC Treaty (Case COMP/C-3/37.792 *Microsoft*), C(2004)900 final.

[29] Art 1(1).

[30] Art 5.

[31] Para 1004.

it locks in customers rather than its inherent innovation; while Microsoft's intellectual property, which results from extensive R&D, is valuable because it solves complex technical challenges.

(b) The legal test applied for the compulsory licence

Unlike the *IMS* Decision, the *Microsoft* decision nowhere clearly states the legal standard being applied. For this reason, a close analysis of what the Decision says is necessary.[32]

The Commission's legal analysis starts by quoting *Commercial Solvents* and *Telemarketing*:[33]

> In *Commercial Solvents*, the Court of Justice found that ICI (a subsidiary of Commercial Solvents Corp.) had engaged in a refusal to supply contrary to Article 82 of the Treaty. The Court concluded that "an undertaking which has a dominant position in the market in raw materials and which, with the object of reserving such raw material for manufacturing its own derivatives, refuses to supply a customer, which is itself a manufacturer of these derivatives, and therefore risks eliminating all competition on the part of this customer, is abusing its dominant position within the meaning of Article 86 [now Article 82]".
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> In *Télémarketing*, the judgment in Commercial Solvents was held to also apply "to the case of an undertaking holding a dominant position on the market in a *service* which is indispensable for the activities of another undertaking on another market." The Court of Justice stated that "an abuse within the meaning of Article 86 [now Article 82] is committed where, without any objective necessity, an undertaking holding a dominant position on a particular market reserves to itself […] an ancillary activity which might be carried out by another undertaking as part of its activities on a neighbouring but separate market, with the possibility of eliminating all competition from such undertaking."[34]

The Decision then turns to *Magill* to support the proposition that "intellectual property rights are not in a different category to property rights as such".

> The Court of Justice stated that "the refusal by the owner of an exclusive right [copyright] to grant a licence, even if it is the act of an undertaking holding a dominant position, cannot *in itself* constitute abuse of a dominant position." It pointed out, however, that "the exercise of an exclusive right by the proprietor may, *in exceptional circumstances*, involve abusive conduct" thereby clarifying that intellectual property rights are not in a different category to property rights as such.[35]

The Commission goes on to identify three sets of exceptional circumstances in *Magill*:

> First, the Court of Justice underlined that the dominant undertakings' refusal prevented the appearance of a new product which the dominant undertakings did

[32] Paras 548-558.

[33] Case 311/84, *Télémarketing*, [1985] ECR 3261.

[34] Paras 548-49

[35] Para 550.

> not offer and for which there was a potential consumer demand. As such, the refusal was inconsistent in particular with Article 82(b) of the Treaty, which provides that abuse as prohibited by Article 82 of the Treaty may consist in "limiting production, markets or technical development to the prejudice of consumers". Second, along the lines of *Commercial Solvents*, the Court of Justice pointed out that the conduct in question enabled the dominant undertakings to reserve "to themselves the secondary market of weekly television guides by excluding all competition on that market". Third, the refusal was not objectively justified.[36]

It then quotes *Ladbroke* on essential facilities:

> In *Tiercé Ladbroke*, the Court of First Instance stated that the refusal to supply could fall within the prohibition laid down in Article 82 of the Treaty where it "concerned a product or service which was either essential for the exercise of the activity in question, in that there was no real or potential substitute, or was a new product whose introduction might be prevented, despite specific, constant and regular potential demand on the part of consumers".[37]

Then this line of analysis then somewhat unexpectedly stops. The Commission summarises the outcome of *Bronner*, notes Microsoft's interpretation of *Bronner*, but never says what the Commission itself thinks *Bronner* means.

> In *Bronner*, a preliminary ruling on the basis of Article 234 of the Treaty, access to a nation-wide home-delivery scheme for newspapers was at stake. The Court of Justice concluded that there was in that specific case no obligation to deal pursuant to Article 82 of the Treaty, finding that access to the scheme was not indispensable for Bronner to stay in the newspaper market.
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> Microsoft interprets *Bronner* as requiring the Commission to show that (i) supply of the information is essential to carry on business; (ii) the refusal is likely to eliminate all competition; and (iii) the refusal is not objectively justified. Microsoft argues that the Commission cannot prove any of these three elements. Contrary to what Microsoft asserts, it will be established below that this Decision is consistent with Bronner.[38]

The Decision's failure to address *Bronner* is a significant omission since this was the most recent case on point when the Decision was adopted. The closest the Decision comes to analysing it is in footnote 670[39] (at the end of the paragraph 554, quoted above); but this merely responds to Microsoft's arguments without actually saying what the applicable test is.

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[36] Para 551.

[37] Para 552.

[38] Paras 553-554.

[39] "Indeed, disclosure of interface information by Microsoft is indispensable for competitors in the work group server operating system market to carry on business. Microsoft's behaviour of progressively diminishing such disclosures risks eliminating competition in the market and cannot be objectively justified."

The Commission then changes tack. It ends the analysis of the *Magill* line of caselaw and states that:

> On a general note, there is no persuasiveness to an approach that would advocate the existence of an exhaustive checklist of exceptional circumstances and would have the Commission disregard *a limine* other circumstances of exceptional character that may deserve to be taken into account when assessing a refusal to supply.[40]

In other words, the Commission does not consider that there is one single test based on the *Magill* judgment that determines whether a failure to license intellectual property rights is abusive. It proposes a looser test: the refusal to license can be an abuse whenever there are "exceptional circumstances". The Commission then examines others cases as giving further examples of exceptional circumstances.

It notes that a disruption of previous supply was found abusive in *Commercial Solvents* and *Telemarketing* and says:

> While not a necessary condition for finding an abuse of a dominant position - there had been no previous supply relationships in *Magill* or *Bronner* - the disruption of previous levels of supply is therefore of interest when assessing instances of refusal to supply.[41]

The Commission also quotes from *Volvo v Veng* to give a further example of exceptional circumstances capable of constituting an abuse:

> the exercise of a holder's exclusive right might be prohibited by Article 82 of the Treaty if it involves "certain abusive conduct such as the arbitrary refusal to supply spare parts to independent repairers, the fixing of prices for spare parts at an unfair level or a decision no longer to produce spare parts for a particular model even though many cars of that model are still in circulation."[42]

The Commission's conclusion on the applicable legal standard is:

> The case-law of the European Courts therefore suggests that the Commission must analyse the entirety of the circumstances surrounding a specific instance of a refusal to supply and must take its decision based on the results of such a comprehensive examination.[43]

On one level this is nothing more than common sense and a statement with which no one could object to – the Commission must consider all the circumstances of the case and take its decision based on such a comprehensive analysis.

However, on another level it is troubling: the Commission puts forward no test by which dominant companies can judge their actions and decide whether they are obliged to license their intellectual property rights. The lack of clarity is made worse by the way

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[40] Para 555.

[41] Para 556.

[42] Para 557.

[43] Para 558.

the Commission's legal analysis peters out after its discussion of *Ladbroke*. This is far from the clear four-stage test set out in *Magill* and in the *IMS* Judgment.

The Commission's summary of the facts contains reference to three exceptional circumstances:[44] (a) "Microsoft's refusal to supply risks eliminating competition in the relevant market for work group server operating systems"; (b) "that this is due to the fact that the refused input is indispensable to carry on business in that market"; and (c) "Microsoft's refusal has a negative impact on technical development to the prejudice of consumers". In addition the Commission refers to Microsoft's "disruption of previous levels of supply".[45]

So while the Commission does analyse some of the criteria set by *Magill*, the Commission does not base its Decision directly on the four-stage *Magill/IMS* test. Its approach is a looser and less predictable one.

(c) Intellectual property and objective justification

There is one other part of the Commission's decision that deserves scrutiny – its approach to objective justification and intellectual property rights.

The Commission makes the general statement that:

> The central function of intellectual property rights is to protect the moral rights in a right-holder's work and ensure a reward for the creative effort. But it is also an essential objective of intellectual property law that creativity should be stimulated for the general public good. A refusal by an undertaking to grant a licence may, under exceptional circumstances, be contrary to the general public good by constituting an abuse of a dominant position with harmful effects on innovation and on consumers.[46]

The Commission finds that in view of the exceptional circumstances, Microsoft's refusal to supply cannot be objectively justified merely by the fact that it is a refusal to licence intellectual property.[47] The Commission then applies a balancing test initially described as balancing Microsoft's incentives to innovate against these exceptional circumstances:

> It is therefore necessary to assess whether Microsoft's arguments regarding its incentives to innovate outweigh these exceptional circumstances.[48]

However, the Commission actually balances the negative impact of an order to supply on Microsoft's incentives to innovate against the positive impact of such an order on

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[44] Para 712, which summarises the findings in section 5.3.1.2.

[45] Decision, Section 5.3.1.1.3.2, paras 578-584.

[46] Para 711.

[47] Para 712. The exceptional circumstances are identified as: (a) "Microsoft's refusal to supply risks eliminating competition in the relevant market for work group server operating systems" (b) "that this is due to the fact that the refused input is indispensable to carry on business in that market"; and (c) "that Microsoft's refusal has a negative impact on technical development to the prejudice of consumers."

[48] Para 712.

the level of innovation of the whole industry. The Commission equates this second test with the initial test:

> a detailed examination of the scope of the disclosure at stake leads to the conclusion that, on balance, the possible negative impact of an order to supply on Microsoft's incentives to innovate is outweighed by its positive impact on the level of innovation of the whole industry (including Microsoft). As such, the need to protect Microsoft's incentives to innovate cannot constitute an objective justification that would offset the exceptional circumstances identified.[49]

As will be noted below, this is not a test whose outcome is easily predictable in advance.

2. Microsoft judged in the light of the *IMS* Judgment

The Microsoft decision is inconsistent with the test laid down by the ECJ in *IMS* in a number of respects.

- The most obvious difference is the failure of the Commission to address whether the refusal to license prevented the emergence of a new product for which there is unmet consumer demand. The *Microsoft* Decision does have a short section discussing whether the refusal to supply "limits technical development to the prejudice of consumers".[50] However, the approach taken by the Commission is unclear. It would be impossible to predict how this approach would be applied in a future case.

- The Commission's approach to whether the refusal to supply would eliminate competition is different to the test applied in the *IMS* Judgment. The Decision uses the test of "risk of elimination of competition" (at some point in the future) instead of whether the refusal to license was "likely to eliminate all competition" (more imminently).

- On the facts, the Commission appears to have applied a lower standard for indispensability than in the *IMS* Judgment (or *Bronner*).

These will be explored in more detail below, together with a discussion of the Commission's position on objective justification.

(a) Risk of Elimination of Competition

The Commission applies the test of "risk of elimination of competition" based on quotes from the original judgments in *Commercial Solvents* and *Telemarketing*.

> 5.3.1.2 Risk of elimination of competition
>
> In *Magill*, *Commercial Solvents* and *Télémarketing*, one of the constituent elements of the abuse finding was that the dominant undertakings' behaviour risked eliminating competition. In *Bronner*, the Court of Justice clarified that, for the judgment in

[49] Para 783.

[50] Decision, Section 5.3.1.3.1, paras 693-701.

> *Magill* to be relied upon, it was necessary to show that supply is indispensable to carry on business in the market, which means that there is no realistic actual or potential substitute to it.[51]

While the Court in *Commercial Solvents* and *Telemarketing* did refer to a risk of elimination of competition, in fact it applied a more stringent test. In both cases, there was more than just a *risk* of elimination of competition; in each, the refusal would have eliminated the complainant, as there was no substitute supplier.

Commercial Solvents was the only supplier of the raw material in Europe (and was endeavouring to eliminate its former customer following the failure of takeover talks) and RTL was the sole commercial (francophone) TV station in Belgium. Refusal by Commercial Solvents and RTL was therefore likely to eliminate *all* competition in the respective markets. In practical terms, the Court applies in these two cases the same test as in *Bronner*, *Ladbroke* and *Magill*. Indeed, in *Bronner*, the Court expressly confirms that the refusal to supply in *Commercial Solvents* and *Telemarketing* was *likely* to eliminate *all* competition. This is a more stringent test than "a risk of eliminating competition".[52]

In the *IMS* Judgment, the Court makes clear that the test is "elimination of all competition" and not "risk of elimination of competition".[53] The test used in the operative part of the *IMS* Judgment of "reserving the market to [itself] by eliminating all competition" is a more stringent test than the "risk of elimination of competition" used in the *Microsoft* decision.

While this may appear like a question of semantics, the difference is one of substance. It becomes clear when one looks at the facts constituting the abuse. In *Magill*, the refusal to license prevented Magill from printing the second issue of its TV guide – in other words, this weekly publication died after one edition. All competition was instantly (within a matter of days) eliminated by the refusal to license. In *IMS*, the refusal to license coupled with the injunction obtained by IMS (in the early stages of the German court battle) prevented NDC from providing data in the format that the customers needed. NDC was prevented from competing. Again, the refusal to license had near-instant effects once the Court injunction was in force. In contrast, the refusal

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[51] Para 585.

[52] *Bronner*, [1998] ECR I-7791, para 38: "Although in *Commercial Solvents* and *Télémarketing*, the Court of Justice held the refusal by an undertaking holding a dominant position in a given market to supply an undertaking with which it was in competition in a neighbouring market with raw materials (*Commercial Solvents*, paragraph 25) and services (*Télémarketing*, paragraph 26) respectively, which were indispensable to carrying on the rival's business, to constitute an abuse, it should be noted that the Court did so to the extent that the conduct in question was likely to eliminate all competition on the part of that undertaking").

[53] The Court states various formulations of this test: it recites *Bronner* at para 37: "likely to exclude all competition in the secondary market"; its own test at para 38 is slightly different "such as to exclude any competition on a secondary market"; the heading between paras 39 and 40 says "The third condition, relating to the likelihood of excluding all competition on a secondary market"; para 47 speaks of "capable of excluding all competition", while the operative part of the judgment says "reserve to the copyright owner the market … by eliminating all competition on that market".

to license[54] in Microsoft's case did not have such an immediate effect. Microsoft continues to face significant competition more than 5 years after the day the Commission found the refusal took place. Indeed, Linux entered the market after the refusal and has grown its market share significantly. These facts indicate that the *Microsoft* decision uses a lower test than the one proposed *Magill* and confirmed by *IMS*.

Moreover, in the *Microsoft* Decision, the Commission presents "strong competitive disadvantage" almost as equivalent to "risk of elimination of competition".[55]

> In the following recitals … it will be established that Microsoft's refusal puts Microsoft's competitors at a strong competitive disadvantage in the work group server operating system market, to an extent where there is a risk of elimination of competition.

Being put at a strong competitive disadvantage is a lower threshold than *Magill* and *IMS*, where the refusal to supply had the immediate effect of forcing Magill and NDC off the market. The difference is also clear in the footnote accompanying that recital:

> The present Decision does not purport to establish that competition is already eliminated in the market for work group server operating systems, or that it would be impossible to achieve even some partial interoperability with Windows client PC and work group server operating system (some partial interoperability is possible, not least due to previous disclosures made by Microsoft and due to the fact that Microsoft's products are backward-compatible). However, it will be demonstrated that the degree of interoperability that can be achieved on the basis of Microsoft's disclosures is insufficient to enable competitors to viably stay in the market.[56]

In sum, the Decision's adopts a different and less strict approach than the *IMS* Judgment and *Magill*. It is based on the finding that the refusal to license leads to a competitive disadvantage to the extent there is a risk of elimination of competition. This is a long-term process likely to extend over the course of a decade or more (even on the Commission's analysis of the facts, which Microsoft contests); it is much less immediate or direct than in *Magill* (or in *IMS*), where the refusal put the competitors off the market in a matter of days.

(b) Indispensability

The Commission's analysis links indispensability with the question of whether competition would be eliminated. It applies the test of whether there are no "realistic actual or potential substitutes" to the requested information.

> In *Bronner*, the Court of Justice clarified that, for the judgment in *Magill* to be relied upon, it was necessary to show that supply is indispensable to carry on business in

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[54] Microsoft contests that it ever refused to license Sun since Sun never asked for the information the Commission now orders Microsoft to license – see the Official Journal Notice summarising Microsoft's appeal at OJ 2004, C179/36.

[55] Para 589.

[56] Footnote 712.

> the market, which means that there is no realistic actual or potential substitute to it.[57]

The Commission assesses indispensability by evaluating the level of interoperability that exists in the market. It admits that it would be possible to achieve some interoperability without the compulsory licence; however, the Commission argues that the degree of interoperability that can be achieved on the basis of Microsoft's current disclosures "is insufficient to enable competitors to viably stay in the market."[58]

The Commission's test is different from that applied by the ECJ in the *IMS* Judgment, where the Court confirmed the test set out in *Bronner* – namely that European law does not require that optimal access to the market be granted; "actual and potential alternatives" include those facilities that exist and are used by competitors even though they may be less advantageous.[59] The *IMS* Judgment confirmed that it is necessary to examine whether there are "alternative solutions, even if they are less advantageous".[60] In *Microsoft*, the Commission admits that such alternatives exist but argues that they are so disadvantageous as to not in reality constitute alternatives.

The underlying question about the Commission's analysis is therefore whether it has based its analysis on the correct level of interoperability. The Commission rejects as alternatives open industry standards, add-ons and reverse engineering. It rejects Microsoft's argument that different server OS interoperate perfectly well in practice today in many customers' computer networks. The Commission's approach requires a near-perfect, "native" level of interoperability,[61] even though it admits that interoperability is a matter of degree and recognises that a lower level of interoperability exists.

Overall, the fact that competing server products are able today to interoperate with Microsoft products, and in particular the fact that some of them have increased their market share since the refusal to supply, indicates that the Commission appears to have

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[57] Para 585.

[58] Commission Decision, footnote 712: "The present Decision does not purport to establish that competition is already eliminated in the market for work group server operating systems, or that it would be impossible to achieve even some partial interoperability with Windows client PC and work group server operating system (some partial interoperability is possible, not least due to previous disclosures made by Microsoft and due to the fact that Microsoft's products are backward-compatible). However, it will be demonstrated that the degree of interoperability that can be achieved on the basis of Microsoft's disclosures is insufficient to enable competitors to viably stay in the market"

[59] *Bronner*, [1998] ECR I-7791, para 43. In the *Ladbroke* case, Ladbroke argued when challenging the Commission's refusal to act on its complaints about PMU's refusal to give access to live footage that it was not possible to run a betting shop without live pictures. The Court rejected this argument finding that live video pictures were not indispensable, and that their absence would not prevent bookmakers from pursuing their business. In particular, the Court noted that Ladbroke was present on the market and had a significant market position as regards bets on French races. Case T-504/93, [1997] ECR II-923, para 132.

[60] *IMS* judgment, para 28.

[61] Para 1003: "The objective of this Decision is to ensure that Microsoft's competitors can develop products that interoperate with the Windows domain architecture natively supported in the dominant Windows client PC operating system and hence viably compete with Microsoft's work group server operating system."

applied a higher standard of interoperability and, correspondingly, a lower standard for indispensability than was applied in *IMS* (and *Bronner*).

There are compelling policy arguments which point against granting too easy access to a dominant company's resources. If access is granted too easily, there may be a short-term benefit in terms of an increase in competition. In the long term, however, there would be a decrease in competition as there would be no incentive for a competitor to develop competing facilities[62] and a chilling effect on investment in R&D and innovation by the dominant undertaking as well.[63]

(c) Emergence of a new product for which there is unmet customer demand

In *IMS*, the ECJ makes it clear that a rightholder's refusal to license is only an abuse when the undertaking reserves the secondary market to itself, thereby preventing the emergence of a new product. The Court is clear that "duplicating" existing products or services sold by the rightholder is not sufficient; a company that wishes to receive a licence must "intend to offer new goods or services not offered by the owner of the right and for which there is potential consumer demand".[64] As noted above,[65] the court in *Bronner* did not expressly mention this condition when setting out the test it considered was applicable;[66] *IMS* restates the full test set out in *Magill*.

The *Microsoft* Decision does not address this point. The Commission does not demonstrate that, once its request[67] had been acceded to, Sun would have offered a new product or service for which there was unmet consumer demand. Nor does it show that Sun ever informed Microsoft that it wanted the licence to be able to offer a new product.[68] To the contrary, the Commission seems to indicate that competing producers of server operating systems need the interface information to compete directly with Microsoft.[69] In other words, they would offer the same products as currently offered by Microsoft.

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62 AG Opinion in *Bronner*, [1998] ECR I-7791, para 57.

63 *See* J Temple Lang, 'The Principle of Essential Facilities in EC Competition Law – the Position since Bronner', (2000) 1 J. of Network Inds. 375.

64 *IMS* Judgment, para 49.

65 See n 11 *supra*.

66 As with *Ladbroke*, the Court in *Bronner* gave reasons why the plaintiff did not need access to the facility. It is submitted that it was a mistake to assume that the Court's rejection of three criteria could be read as setting a narrower three-point test as to when a compulsory licence should be granted.

67 To the extent that Sun's request actually overlaps with the Commission's remedy.

68 There is an important question of legal certainty here. Dominant companies need to understand what their obligations are at the moment they are asked for a licence for particular technology. The Decision never finds that Sun told Microsoft when it asked for the licence that it was going to use the technology to create new products. Microsoft had no reason not to assume that Sun was going to use the technology to offer only a directly competing product. Would the outcome in *Magill* have been different if the request to license had been made without the BBC and RTE knowing that *Magill* wanted to offer a unified weekly guide?

69 Decision, para 1003: "The objective of this Decision is to ensure that Microsoft's competitors can develop products that interoperate with the Windows domain architecture natively supported in the dominant Windows client PC operating system and hence viably compete with Microsoft's work group server operating system."

Instead of looking to products for which there is unmet customer demand, the Commission bases its analysis on the fact that the refusal to supply would limit technical development to the prejudice of consumers.

> Article 82(b) of the Treaty provides that abuse as prohibited by that Article may consist in limiting technical development to the prejudice of consumers.
>
> Due to the lack of interoperability that competing work group server operating system products can achieve with the Windows domain architecture, an increasing number of consumers are locked into a homogeneous Windows solution at the level of work group server operating systems. This impairs the ability of such customers to benefit from innovative work group server operating system features brought to the market by Microsoft's competitors. In addition, this limits the prospect for such competitors to successfully market their innovation and thereby discourages them from developing new products.
>
> If Microsoft's competitors had access to the interoperability information that Microsoft refuses to supply, they could use the disclosures to make the advanced features of their own products available in the framework of the web of interoperability relationships that underpin the Windows domain architecture.[70]

In *Magill* the new product – the multi-channel TV guide – was known and even appeared for one issue and it was obvious there was unmet consumer demand because such guides were sold in many other Member States. In *Microsoft*, the Commission never identifies any new product, nor does it identify unmet consumer demand. The closest it gets is when it says that competing producers need the interface information to bring "innovative work group server operating system features" to the market[71] and that competitors were being "discouraged from developing new products".[72] The Commission does not show they would bring new products to the market, merely that they might be able to improve their existing products. That is a test that would be satisfied in almost every case when valuable intellectual property was disclosed to competitors – there are few instances when the competitors would be unable to use the information to improve their own products.

(d) Conclusion on *Microsoft* and *IMS*

The *Microsoft* decision applies a legal standard on when a compulsory licence should be ordered that differs significantly from the test set out in *Magill* and *IMS*. If upheld on appeal, the Decision would represent a considerable loosening of the circumstances when a compulsory licence will be ordered. This loose test would also introduce a considerable degree of legal uncertainty.

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[70] Paras 693-695.

[71] Decision, paras 694-5.

[72] Decision, para 694.

3. Objective justification and intellectual property rights

This is an area where neither the Court nor the Commission has given guidance in the past. The *IMS* Judgment simply states that the refusal should not be capable of being justified. The only case in which this was even considered was the *IMS* Decision, where the objective justifications offered by IMS were rejected relatively briefly.

The Commission's approach in *Microsoft* breaks new ground. It balances the negative impact of an order to supply on Microsoft's incentives to innovate against the positive impact of such an order on the level of innovation of the whole industry:

> a detailed examination of the scope of the disclosure at stake leads to the conclusion that, on balance, the possible negative impact of an order to supply on Microsoft's incentives to innovate is outweighed by its positive impact on the level of innovation of the whole industry (including Microsoft). As such, the need to protect Microsoft's incentives to innovate cannot constitute an objective justification that would offset the exceptional circumstances identified.[73]

Neither formulation of the balancing test is based on any Court precedent, nor any previous Commission decision. There are two reasons why this test is wrong as a matter of principle.

First, it will dramatically reduce legal certainty, a fundamental principle of EC law.[74] The balancing test is almost impossible for any company to apply it *ex ante*. The Commission gives no guidance on how a company is to assess whether its incentives to innovate outweigh the positive impact of a compulsory licence would have on the market. Even the most creative of economists would struggle to come up with any sensible method of balancing incentives for innovation. The absence of legal certainty is particularly troublesome given the risk of a colossal fine if the company – or its advisers – get this balancing exercise wrong.

Second, intellectual property rights already involve a short- and long-term balancing of incentives to innovate. Intellectual property rights such as patents give a period of exclusivity to encourage and reward the author's inventiveness. They represent a trade off between the short-term disadvantage of exclusivity and the long-term advantage of creativity. They aim to create incentives to innovate and generate long-term benefit for society. The Decision approach appears to second-guess this careful balancing exercise, in particular when it states:

> The central function of intellectual property rights is to protect the moral rights in a right-holder's work and ensure a reward for the creative effort. But it is also an essential objective of intellectual property law that creativity should be stimulated

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[73] Decision, para 783.

[74] Case C-233/96 *Denmark v Commission* [1998] ECR I-5759, para 38; see also Case 98/78 *Racke* [1979] ECR 69, para 15: "A fundamental principle in the Community legal order requires that a measure adopted by the public authorities shall not be applicable to those concerned before they have the opportunity to make themselves acquainted with it." and Case 70/83 *Kloppenberg* [1984] ECR 1075, para 11: "In that regard, it is necessary to emphasize, as the court has already done on several occasions, that Community legislation must be unequivocal and its application must be predictable for those who are subject to it".

> for the general public good. A refusal by an undertaking to grant a licence may, under exceptional circumstances, be contrary to the general public good by constituting an abuse of a dominant position with harmful effects on innovation and on consumers.[75]

This statement – that an abstract notion of "the general public good" should be allowed to override intellectual property rights – raises further issues of legal certainty. Judging if something may be contrary to the "general public good" is even more difficult than balancing incentives to innovate.

4. Further Observations on the *Microsoft* Decision

(a) The standardisation inherent in the remedy

The Decision orders Microsoft to create specifications, to make them available to third parties and allow their use by any interested third parties. The Decision is therefore unlike the two previous compulsory licensing cases – *Magill* and *IMS* – where the only intended beneficiaries of the remedy were the parties which had requested, but been refused, the licence. Here any interested party can benefit from the remedy – including those competitors that never asked for a licence.

This means that the remedy is not so much a compulsory licence; rather it is a form of compulsory standardisation. Microsoft is required to produce detailed specifications explaining how its communications protocols work inside its product to all interested parties. These third parties will use these specifications to ensure that their products can interact in native mode.[76] What was previously private technology, which Microsoft could change, becomes public technology that Microsoft is obliged to maintain so as to ensure compatibility with its competitors' products. In other words, Microsoft is forced to set industry standards.

This provides an interesting contrast from the *IMS* Decision. In *IMS*, open standards were created by IMS in conjunction with its clients – the pharmaceutical industry – and intellectual property rights were only invoked by IMS to prevent a competitor that wanted to enter the market from using those industry standards. IMS tried to close an open standard; the Commission's Decision ordered IMS to reopen the standard. In contrast, Microsoft created its own technology, which the Decision orders to be disclosed to create open industry standards. The critical difference is that the technology to be disclosed in the specifications Microsoft must draw up was created by Microsoft through its own R&D; whereas in IMS the brick structure was created by IMS in conjunction with the client industry in the anticipation that it would become the industry standard and without the expectation that intellectual property rights would be claimed.

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[75] Para 711.

[76] Para 1003: "The objective of this Decision is to ensure that Microsoft's competitors can develop products that interoperate with the Windows domain architecture natively supported in the dominant Windows client PC operating system and hence viably compete with Microsoft's work group server operating system. Microsoft should thus allow the use of the disclosed specifications for implementation in work group server operating system products."

(b) The role of the trustee

It is interesting that in both the *Microsoft* and *IMS* Decisions the Commission gives considerable responsibilities to private parties. In the *IMS* Decision, the expert was given a wide discretion to set the applicable terms and conditions for the compulsory licence, including the level of royalty. In *Microsoft*, the trustee's powers go far beyond just determining the level of royalty.

The *Microsoft* Decision gives very wide powers to the Monitoring Trustee. While its primary responsibility is to issue opinions on Microsoft's compliance with the Decision, the Trustee has the power to investigate the actions taken by Microsoft to comply with the Decision in order to issue such opinions.

> The primary responsibility of the Monitoring Trustee should be to issue opinions, upon application by a third party or by the Commission or *sua sponte*, on whether Microsoft has, in a specific instance, failed to comply with this Decision, or on any issue that may be of interest with respect to the effective enforcement of this Decision.[77]

Footnote 1317 goes further and states that: "the Monitoring Trustee should not only be reactive, but should play a proactive role in the monitoring of Microsoft's compliance".

The Decision gives the trustee unprecedented powers. The wording of the Decision (and in particular footnote 1317) seems in effect to be subcontracting the Commission's enforcement powers to a private party. The Trustee is not merely rendering expert guidance to the Commission, but rather is established as an independent source of investigatory and enforcement action. This is unprecedented. It does not appear to be contemplated in the existing procedural Regulations such as Regulation 1/2003.

F. CONCLUSION: THE *MICROSOFT* AND *IMS* DECISIONS JUDGED IN THE COLD LIGHT OF THE *IMS* JUDGMENT

The foregoing analysis has shown that neither the *IMS* Decision nor the *Microsoft* Decision expressly follows the four-stage legal standard laid down by the ECJ in the *IMS* Judgment, in which it confirmed its earlier judgment in *Magill*.

The *IMS* Decision sets forth clearly the test that was being applied, making it obvious that two of the four criteria were not considered – namely the need for the refusal to prevent the emergence of a new product for which there was unmet consumer demand and the need for the refusal to eliminate all competition on the secondary market.

In *Microsoft*, the Commission's analysis is more difficult to pin down. The Decision nowhere states the precise legal test that is being applied. However a detailed examination of the Decision reveals that it applies a lower legal standard than that set out in the *IMS* Judgment in relation to elimination of competition and in relation to new product. It is interesting that these are the same criteria that were not considered in the *IMS* Decision. The *Microsoft* Decision also appears to apply a lower level of

[77] Para 1045.

indispensability than the *IMS* Judgment. It also gives to considerable problems of legal uncertainty – in particular regarding the test applied to determine whether the refusal was objectively justified.

The analysis has revealed a number of common themes in the *IMS* Decision and the *Microsoft* Decision: both have significant roles for the trustee appointed pursuant to the Decision and both raise interesting (but opposite) issues around industry standardisation. However, the most important area of commonality is in relation to the legal standards that the Commission applied – in this respect both decisions fail to pass muster when viewed in the cold light of the *IMS* Judgment.

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Essential Function vs Essential Facility: Defining the amount of R&D protection in high-tech industries after *IMS* and *Microsoft*

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This paper examines the "law of R&D protection" from three different perspectives: (1) Article 81 EC, (2) merger situations, and (3) Article 82 EC. By way of background, the author looks at what legal options are available for companies to protect their R&D investments in highly innovative industries. As a general framework, he distinguishes early, medium and market stages of research and development activity. The main section of the paper then deals with various competition law issues which arise at each of these three stages, including "R&D aid" and Block Exemption Regulations such as the Technology Transfer Regulation. EC merger decisions and other relevant case law are also discussed, in particular the *IMS* and *Microsoft* cases. Key issues are illustrated by examples from the pharmaceutical and the printer industry. The paper concludes with comparing to what extent R&D investments are protected under EC competition law at the horizontal - Article 81 & merger control - and vertical - Article 82 - level.

1. INTRODUCTION

The position of a company investing in research and development (R&D) is complex and developing. This paper examines the way in which EC competition law and practice deal with such R&D efforts within high-tech industries like computer hardware and software, printers, telecommunications & media and biotechnology. In particular, it considers: the extent to which Article 81 influences the terms and conditions that companies may include in any agreement on shared R&D (joint ventures, technology licensing); the assessment of R&D in merger control cases; when Article 82 obliges a company to share its innovation, on the grounds that a refusal to license amounts to an abuse of the R&D investor's dominant position.

2. R&D INVESTMENTS: BUSINESS STRATEGIES AND LEGAL OPTIONS

Innovation based on research and development is a key factor in markets where companies compete for selling the most technically advanced product rather than only standard products at the lowest price. Therefore, in order to be successful in such markets, a company needs to find a strategy of how to introduce innovative products and how to keep doing so. By way of introduction, the following section looks at what

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makes high-tech markets special. It also discusses various options available for companies in order to gain or maintain an innovative advantage.

2.1. High-Tech Markets

There are a number of features characterising markets for sophisticated products the manufacture of which requires substantial technological equipment and/or know-how.[1] Unlike ordinary commodity markets, high-tech markets come and go at great speed. Following major inventions, consumers' preferences quickly shift from one type of product to the next. In the media sector, for example, within half a consumer's lifetime, records and audio tapes have been replaced with CDs, while mp3 technology is on the way. Playing and burning DVDs will soon have taken over from traditional home video. In the periods between such major breakthroughs, there are usually several generations of products belonging to the same class, each generation excelling its predecessor with better specs.

It has been said that in high-tech industries there is competition *for* the markets rather than competition *on* the markets.[2] Innovation may be more important than prices.[3] This picture is probably too simple in many cases but its key message is correct. Certainly the company first realising the commercial importance of a new technology and being able to develop corresponding products until market stage before anybody else, will have a "first mover" or "early leader" advantage.[4] Once a new product market has been established, however, usually other companies will challenge the innovative leader. Competition will then be on price as well. Within each new technology, products usually come in several generations or platforms. Supplying out-dated generations at best price does not promise to be profitable, as no one wants to buy these products any more. Therefore, competition *for* the markets actually means that successful companies manage to have at least one latest generation product at market stage.

This is illustrated by an example from the printer industry. In inkjet technology, printer performance has doubled every 18 months for almost 20 years now.[5] As consumers

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1 John Temple Lang, 'European Community antitrust law: innovation markets and high technology industries' (1996-1997) 20 Fordham Int LJ 717, 718-722, has identified a list of 13 features. Probably the 5 most important are: (1) R&D investment: important, considerable amount required up-front, high risk of sunk costs; (2) innovation: short life cycles of products, rapid change of technology platforms/product families; (3) market shares: less important for the assessment of market power; (4) IP rights: important in order to "harvest" the fruits of R&D efforts; (5) information-based industries: value of products is often affected by number of companies/individuals participating (network/system effect) - need for standards or interface definitions.

2 Richard Schmalensee, 'Antitrust Issues in Schumpeterian Industries' (2000) 90 American Econ Rev (Papers and Proceedings) 192, 193; see also Evans & Schmalensee, 'Some economic aspects of antitrust analysis in dynamically competitive industries' NBER Working Paper No w8268, May 2001.

3 Temple Lang, n 1 *supra*, p 720. It is arguable that even in the absence of competition, companies would nonetheless innovate: see summary of the economic literature provided by Lowe & Peeperkorn, 'Singing in tune with competition and innovation', paper presented at the 31st Annual Conference on International Antitrust Law & Policy, Fordham University School of Law, 7/8 October 2004, p 8-15.

4 Temple Lang, n 1 *supra*, p 718; Kairo & Paulweber, 'High technology industries, private restraints on innovation and EU antitrust law: the European approach to market analysis of R&D competition' RTkom 1/2001, p 21, RTKom 2/2001, p 68.

5 Performance is mainly measured by velocity (drops per second) and by resolution (dots per inch).

base their purchase decision on a combination of both performance and price of a printer, companies must constantly improve their models so as not to fall behind competitors. Assuming that there is undistorted competition on the market, such continuous up-grading requires a stream of creative ideas and inventions. Research and development is the source from which creative streams flow. Accordingly, a company's success on high-tech markets depends largely on its R&D potential.

2.2. R&D Potential

A company's innovative potential can be assessed against the following background: investments in basic research are the starting point. A company will either invest in its own scientific unit or establish contractual relationships with an external think tank or university. Technology at this early stage will then lead to certain prototypes which need further testing until they finally reach market stage. The duration of each of these three stages – early, medium and market stage – varies from industry to industry.[6]

With regard to pharmaceutical products, the European Commission further subdivides the medium stage.[7] R&D projects undergo three different phases of clinical testing: Phase I marks the start of clinical testing on humans, some eight to ten years before a product is marketed. Phase II, some four to five years before the product is marketed, involves working out the proper dose for the patient and defining the areas of application. Phase III, starting three years before the product is marketed, involves establishing the product's effectiveness on larger groups of patients.

Taking into account such long preparatory periods and the great risks involved, companies will have already spent considerable costs on every new product before it actually reaches market stage. In practice, only companies which can generate enough cash-flow from existing IP portfolios to finance ongoing research projects for future products will have sustainable R&D potential.[8]

3. COMPETITION LAW PERSPECTIVE

There is no single "law of R&D". Instead, EC competition law looks at research and development activities from different angles. On the one hand, co-ordination between companies in joint R&D agreements, strategic alliances and joint ventures are assessed from a horizontal perspective (Article 81, block exemptions, horizontal guidelines). The same applies for merger control, where various recent cases involving companies' R&D clarify the Commission's approach. On the other hand, once dominance is found at the horizontal level, certain vertical issues arise. In particular, Article 82 requires deciding whether a company is obliged to grant licences for know-how or provide interface data because the requested information – even if protected by IP rights – is an essential facility. As noted above, three main stages – early, medium and market – can be

6 See BusinessWeek, 75th Anniversary Issue, 11 October 2004, p 58, which gives an overview of key product areas within the highly innovative sectors information technology, health care and business & finance, also mentioning the sectors transportation, energy and materials & manufactured products where change has been slower.

7 For case references and more details see Section 3.2.2.

8 Kairo & Paulweber, n 4 *supra*, p 20.

distinguished as a general framework for judging research and development activities.[9] A company's priorities and investment strategies will depend on the fact in which of these stages its core R&D focus lies.

3.1. Early Stage: sharing resources and risk

At the early stage, research is so basic that its ultimate commercial value is not always readily apparent. The road to potentially profitable products is long, costly and risky. In the light of vague success and high failure rate, companies will aim at minimising own involvement by either using public resources or sharing resources and risk. The success of the first strategy is determined by state aid law in the field of research and development, while the second depends on how joint venture agreements are assessed under Article 81.

3.1.1. "R&D Aid"

There is a regulatory framework in place which aims at encouraging basic research beneficial for a larger public.[10] The 6th Framework Protocol has been up-dated with regard to small and medium enterprises (SMEs).[11] In sum, these provisions confirm that state aid granted for companies carrying out R&D generally contributes to improving the competitiveness of Community industry. However, the law differentiates according to the exact stage of the R&D project. The closer the R&D is to the market, the more significant may be the distorting effect of the state aid and the less public funding should be given.

In order to determine the degree of proximity to the market, the Commission distinguishes between fundamental research, industrial research and pre-competitive activity, thereby further subdividing the early and medium stages outlined in this paper. While fundamental research[12] may be awarded at a gross aid intensity of up to 100%, industrial research[13] can only get 60% of the eligible costs of the project as state aid. Pre-competitive development activities[14] which are closest to the market can be aided at

[9] There are more complex models trying to understand and describe the mechanisms of innovation. The key stages of innovation include product conceptualisation, technical feasability, product development, commercial validation and pre-production preparations, as well as distribution and marketing strategies. For detailed references see Kairo & Paulweber, n 4 *supra*, p 13, 17, n 31.

[10] See Community framework for state aid for research and development, OJ 1996, C45/5.

[11] Commission Regulation 364/2004/EC, OJ 2004, L63/22.

[12] Fundamental research is defined as activity designed to broaden scientific and technical knowledge not linked to industrial or commercial objectives (see former Annex I, new Article 2b(h)).

[13] "Planned research of critical investigation aimed at the acquisition of new knowledge, the objective being that such knowledge may be useful in developing new products, processes or services or in bringing about a significant improvement in existing products, processes or services" (see former Annex I, new Article 2b(i)).

[14] "The shaping of the results of industrial research into a plan, arrangement of design for new, altered or improved products, processes or services, whether they are intended to be sold or used, including the creation of an initial prototype which could not be used commercially" (see former Annex I, new Article 2b(i)).

35% maximum. These ceilings may in certain cases be increased to 75% for industrial research and 50% for pre-competitive development.[15]

3.1.2. Joint Ventures

Under Article 81, the Commission monitors research and development joint ventures that fall outside the EC merger control regime. Co-ordinated efforts resulting in "joint" research can be exemptable under the Research and Development Block Exemption (R&D BER).[16] Similar joint ventures may consist of technology transfer agreements or licensing agreements for patents and/or know-how.

(a) R&D BER

Regulation 2659/2000 covers agreements whereby companies agree to jointly carry out research and development and to jointly exploit the results. "Jointly" means that the work involved is either carried out by a joint team, jointly entrusted to a third party or allocated between the parties by way of specialisation in research, development, production and distribution.[17]

Co-operation in research and development and/or in the exploitation of the results may have positive effects for a market economy and consumers. This is because it promotes technical progress by avoiding duplication of research and development work by stimulating new advances through the exchange of complementary know-how and by rationalising the manufacture of the products.[18] On the other hand, such benefits from new products or the reduction of prices brought about by improved processes are unlikely if the co-operation enables the partners to eliminate competition in respect of a substantive part of the products or services in question.

Therefore, the key question is where to draw the line indicating that R&D co-operation is likely to impede rather than to drive innovation. Following the tradition of the Verticals BER, the R&D BER mainly relies on market shares: the block exemption ceases to apply if the parties' combined share of the market for the products arising out of the joint research and development becomes too great (exceeding 25% when the parties are competitors).[19] However, the Regulation contains some general language which may be read in the context of high-tech markets:

> The exemption should continue to apply, irrespective of the parties' market shares, for a certain period after the commencement of joint exploitation, so as to await

[15] Eg, research with potential multi-sectoral application focussing on a multidisciplinary approach, cross-border research projects or projects between companies and universities, see Article 5a(4) for details.

[16] Commission Regulation 2659/2000/EC on the application of Article 81(3) to categories of research and development agreements, OJ 2000, L304/7.

[17] R&D BER, Article 2(11).

[18] R&D BER, para 10; see also Guidelines on the applicability of Article 81 to horizontal cooperation agreements (Horizontal Cooperation Guidelines), OJ 2001, C3/2, para 40.

[19] R&D BER, para 16, Article 4(2).

stabilisation of their market shares, particularly after the introduction of an entirely new product, and *to guarantee a minimum period of return on the investments involved.*[20]

(b) Relationship with other BERs

TTBER

The R&D BER is *lex specialis*, while the Technology Transfer Block Exemption (TTBER)[21] has a broader scope. There are, however, some borderline areas where both regulations apply in one project. The R&D BER also covers licensing between the parties (and by the parties to a JV) in the context of a joint research and development agreement which may set out the conditions for licensing its fruits to third parties. However, the individual license agreements concluded with third parties go beyond the scope of the R&D BER and have to be assessed under the TTBER.[22]

Specialisation BER

The second *lex specialis* is Regulation 2658/2000 on specialisation agreements which covers, *inter alia*, joint production agreements.[23] It extends to provisions concerning the assignment of use of IP rights provided that these rights are ancillary to such agreements. In summary, the relationship between the three BERs can be characterised as follows. The TTBER applies to the licensing of technology in all three stages of R&D activities, while the R&D BER covers special joint activities at the early and medium stage and the specialisation BER block exempts certain joint activities at the market stage.

(c) Cases

In a number of cases, R&D joint ventures were assessed under the ECMR.[24] For example, Shell and BASF formed a full function joint venture in the chemicals industry focusing on polypropylene (PP) technology.[25] Shell would endow this JV with its world-wide PP technology business, including IP rights and R&D resources. BASF was to contribute the IP rights relating to its development of certain PP catalysts. In its assessment, the Commission found that this combination would give the JV dominant technology and possession of a suite of patents that effectively blocked any other parties' attempts to develop metallocene technology.[26] Therefore, the concentration was only cleared with commitments to divest BASF's PP technology business including

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[20] R&D BER, para 16 (emphasis added).

[21] Commission Regulation 772/2004/EC on the application of Article 81(3) to categories of technology transfer agreements, OJ 2004, L123/11.

[22] Guidelines on the application of Article 81 to technology transfer agreements, OJ 2004, C101/2, para 60.

[23] Commission Regulation 2658/2000/EC on the application of Article 81(3) to categories of specialisation agreements, OJ 2000, L304/3, Article 1(1c); see also TTBER-Guidelines, para 57; Horizontal Cooperation Guidelines, n 18 *supra*, paras 78-118.

[24] For a discussion of joint ventures involving R&D outside the ECMR see Steve Anderman, 'EC competition law and intellectual property rights in the new economy', [2002] Antitrust Bulletin 285, 302.

[25] *Shell/BASF/JV-Project Nicole*, Case COMP/M.1751.

[26] *Shell/BASF/JV-Project Nicole*, n 25 *supra*, para 51.

all patented and unpatented know-how and R&D activities and to license BASF's metallocene patent rights on undiscriminating terms and conditions to all interested parties.

In *Thomson/Lucas*, the parties set up a joint venture which should produce and sell on world-wide level a new product to the automotive industry.[27] This joint venture should supervise and control all R&D work. The parties also granted the joint venture the necessary licenses for it to operate in its field of activity. Looking at the effects of this research and development joint venture, the Commission saw no competition concerns because the technology necessary to manufacture the product was currently being developed by several players on the market and because none of the JV's parent companies was active in neighbouring markets.[28] Thus, the common R&D effort was genuinely found to be pro-competitive.

3.1.3. Conclusion

EC competition law allows joint research and development. The more remote such activity is from the market, the more it is encouraged. JVs close to the market are permitted provided that they create no bottleneck by establishing a dominant technology which impedes alternative R&D activities in the area in question.

3.2. Medium Stage: "Going half way"

As soon as R&D lines can be made out showing prototypes of new products or product classes, companies will generally choose a different strategy. Joint ventures or strategic alliances now have more the character of shopping for missing "ingredients". These may be know-how that would be too expensive to develop alone or particular inventions required in the current research project but protected by other companies' IP rights. An appropriate legal instrument is licensing. If a great number of such "ingredients" is needed in order to complete a certain project or portfolio of innovative products, a company may decide to acquire entire businesses including their R&D lines.

3.2.1. Licensing - TTBER

It is well known that the new regime of the TTBER applies to most forms of licensing agreements in high-tech industries. In particular, it covers licensing of patents, know-how and software copyright as well as so-called mixed agreements including these IPRs and also provisions which relate to the sale and purchase of products, unless these "close to market" elements constitute the primary object of the agreement and are directly related to the production of the contract products.[29]

Like the R&D BER, the TTBER takes a market share based approach (competitors' combined market share must usually be below 20% on the relevant technology and product market), assuming that Article 81(1) prohibits restrictions of both inter-technology competition (ie competition between companies using competing

[27] *Thomson/Lucas*, Case IV/M.1332.

[28] *Thomson/Lucas*, n 27 *supra*, para 15.

[29] TTBER, Article 1(b).

technologies) and intra-technology competition (ie competition between companies using the same technology).[30] However, a second safe harbour applies if there are more than four independently controlled technologies (on top of those of the parties) on the market.[31]

Discussing further details of the TTBER would exceed the scope of the present paper and has been brilliantly done elsewhere.[32] However, it should be mentioned that the Regulation well acknowledges the issue of protecting R&D investments:

> In the assessment of licence agreements under Article 81 it must be kept in mind that the creation of intellectual property rights often entails substantial investment and that it is often a risky endeavour. In order not to reduce dynamic competition and to maintain the incentive to innovate, the innovator must not be unduly restricted in the exploitation of intellectual property rights that turn out to be valuable. For these reasons *the innovator should normally be free to seek compensation for successful projects that is sufficient to maintain investment incentives, taking failed projects into account*.[33]

Most intriguingly, the risk and the sunk investment involved are said to lead to the agreement falling outside Article 81(1) or fulfilling the conditions of Article 81(3), as the case may be, for the period of time required to recoup the investment.[34] In practice, this period of time can, if at all, only be determined on the basis of numerous (and sensitive) economic data. Substantial legal uncertainty therefore remains.

3.2.2. M & A

The Commission has examined many merger cases in high-tech markets. Assessing the post-merger situation, it always took into account the R&D potential of the parties. On balance, each different industry requires to consider special circumstances of its own. A consistent and rather advanced analytical framework can be found in the pharmaceuticals sector which has been examined most often.

(a) Cases

The following examples illustrate how the Commission has been evaluating R&D activities in the context of merger control.[35]

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30 TTBER-Guidelines, para 12.

31 TTBER-Guidelines, para 131; similar to the innovation market concept used in the US, this "safe harbour" is based on the idea that an agreement is only likely to harm competition if it diminishes the number of "technology poles"/"R&D poles" considerably; see Kairo & Paulweber, n 4 *supra*, p 25; see also Horizontal Cooperation Guidelines, n 18 *supra*, paras 50-77.

32 See Dolmans & Piilola, 'The new technology transfer block exemption', (2004) 27(3) World Comp 351; Hansen & Shah, 'The new EU technology transfer regime' [2004] ECLR 465; David Mamane, 'Reform der EU-Wettbewerbsregeln für Technologietransfer-Verträge', [2004] sic! 616.

33 TTBER-Guidelines, para 8 (emphasis added).

34 TTBER-Guidelines, para 8.

35 In addition to the selection of cases discussed below, leading cases include *DMS/Roche Vitamins*, COMP/M.2972; *Bayer/Aventis Crop Science*, Case COMP/M.2547; *Bayer/Lyondell*, Case COMP/ M.1796; *Hoechst/Rhône-Poulenc (Aventis)*, Case IV/M.1378; and *Hoffmann La Roche/Boehringer Mannheim*, Case IV/M.950.

Glaxo Wellcome

In *Glaxo Wellcome/Smith Kline Beecham*, the Commission examined products which were not yet on the market but which were at an advanced stage of development.[36] The potential for these so-called pipeline products to enter into competition with other products which were either in the pipeline themselves or already on the market was analysed by reference to their characteristics and intended therapeutic use. The Commission argued that R&D potential should be considered in terms of its importance for existing markets, but also for future market situations. Regarding future developments, relevant product markets can obviously only be defined in a less clear-cut manner than in the case of existing markets. However, by reference to the "Anatomical Therapeutic Chemical" (ATC) classification, the Commission found a framework which allows market definition based primarily on the characteristics of future products as well as on the indications to which they are to be applied. With regard to the geographical dimension, the Commission stated that because R&D is normally global, the consideration of future pharmaceutical markets should therefore at least focus on the territory of the EU, and, possibly, on world-wide markets.[37]

Given the fact that the parties pursued different lines of R&D, the Commission considered that the operation was unlikely to lead to an elimination of the existing R&D currently being conducted by the merging entities. While it was believed that the parties would "streamline their R&D efforts in the future", given the large number of current pipeline products and the resources of competitors on the market, the Commission did not find that this would lead to the elimination of the overall R&D potential.[38] Based on overlaps in the pipeline products for the treatment of COPD (Chronic Obstructive Pulmonary Disease), however, the Commission was concerned about a future strong market position of the merged entity. It accepted a conditional undertaking according to which one party's pipeline product in this sector would be sublicensed but only in the event that third parties' competing phase III pipeline compounds failed. In assessing this remedy, the Commission took into account the fact that "a certain degree of uncertainty prevails in pipeline products".

Abbott/BASF

Abbott, a global healthcare company with manufacturing, distribution and R&D facilities in more than 130 countries, notified to the European Commission its acquisition of the world-wide pharmaceutical business of BASF.[39] The Commission found that in the pharmaceuticals industry, a full assessment of the competitive situation required examination of the products which are not yet on the market but which are at an advanced stage of development (after large sums of money have been invested). It took into account the R&D potential of the parties by looking at possible overlaps in the development of future products.

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[36] *Glaxo Wellcome/SmithKline Beecham*, Case COMP/M.1846.

[37] *Glaxo Wellcome/SmithKline Beecham*, n 36 *supra*, para 75.

[38] *Glaxo Wellcome/SmithKline Beecham*, n 36 *supra*, para 188.

[39] *Abbott/BASF*, Case COMP/M.2312.

Here, again, market definition was based either on the existing ATC classes or primarily on the characteristics of future products as well as on the indications to which these were to be applied.[40] The Commission considered that Abbot and BASF had overlapping pipeline products in two areas, in one of which there was already an existing product. At a closer look, however, it turned out that in one area actually two separate "future product markets" had to be identified. The Commission's market investigation confirmed that it would be very difficult to trial the products in question for the same indication – such "switching" of R&D lines would take between 5 and 10 years and would cost around €50 million.[41] The investigation also confirmed that there were more than 10 known alternative future products being developed by Abbot's main competitors.[42] In the light of these facts the Commission concluded that post-merger effective competition would not be significantly impeded in any market in future pharmaceutical products.

Monsanto/Pharmacia

Monsanto/Pharmacia & Upjohn was another case where two companies with, *inter alia*, heavy investments in pharmaceutical products merged.[43] With regard to future products, the Commission found overlap in pipeline products. In its assessment the Commission took into account a global move to consolidation within the pharmaceuticals industry. Observing a rapidly changing business environment characterised by increasing R&D costs etc, it then argued economics of scale, concluding that after the merger, the new entity would on a world-wide basis remain subject to strong competition from numerous multinational companies. Size allowed firms to leverage increasing R&D costs across a broader range of products and to spread the risk involved in every new research project over a larger capital base. Therefore, greater resources of the merged entity could be used to fund additional R&D projects, to devote more resources to long term projects and to increase spending on already advanced projects to accelerate the development process.[44]

Pfizer/Warner Lambert

In *Pfizer/Warner Lambert*, both parties had pipeline products in different stages of development in the field of oncology.[45] The Commission concluded that the merged entity's activities would not result in adverse competition effects. Firstly, as Pfizner's and Warner Lambert's pipeline products had different mechanisms of action, it remained dubious if their discoveries – although both in the broad primary research area oncology – actually overlapped. Secondly, even if they did, there was said to be vigorous competition from third parties with a number of competing compounds under development in (the more advanced) phases III and II.

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[40] *Abbot/BASF*, n 39 *supra*, para 19.

[41] *Abbot/BASF*, n 39 *supra*, para 43.

[42] *Abbot/BASF*, n 39 *supra*, para 44.

[43] *Monsanto/Pharmacia & Upjohn*, Case COMP/M.1835.

[44] *Monsanto/Pharmacia & Upjohn*, n 43 *supra*, para 48.

[45] *Pfizner/Warner-Lambert*, Case COMP/M.1878.

(b) Horizontal Merger Guidelines

The above cases are in line with the Commission's Horizontal Merger Guidelines which were recently released.[46] Effective competition is seen as a key driver of innovation. At the same time, innovation as such is regarded as a benefit to consumers like low prices, high quality products and a wide selection of goods and services.[47] With regard to high-tech markets, the Commission acknowledges the limited significance of market shares which should be interpreted in the light of the special conditions of such markets.[48] The Horizontal Merger Guidelines do not mention the innovation market concept coming from the US, although the Commission tacitly applies this concept in *Monsanto/Pharmacia*. There is, however, some language which gives the Commission wide discretion in how to assess high-tech mergers.

> In most cases the competitive conditions existing at the time of the merger constitute the relevant comparison for evaluating the effects of a merger. However, in some circumstances, the Commission may take into account future changes to the market that can *reasonably be predicted*.[49]

This covers imminent competition from potential rivals who are about to enter a market but also allows a preview of the future market situation as a result of current R&D potential.

3.2.3. Conclusion

In the context of merger control, the Commission considers whether overlapping R&D activities may result in eliminating competition in future product markets. At the same time, it takes into account the number of alternative "R&D poles" post merger. This approach is consistent with the so-called second safe harbour test set out in the TTBER.

3.3. Market Stage: Recouping investments

The final stage is where new products are actually marketed. This enjoys much attention in the debate on the limits of IP rights which has been revived by the recent cases *IMS* and *Microsoft*. In the present context, the following section looks at the vertical questions to what extent a company can rely on IP rights as R&D protection rights and when Article 82 obliges a company to share its innovation or part if it with competitors. The horizontal dimension of the market stage has already been discussed above.[50]

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[46] Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, OJ 2004, C31/5.

[47] Horizontal Merger Guidelines, n 46 *supra*, para 8.

[48] Horizontal Merger Guidelines, n 46 *supra*, para 15.

[49] Horizontal Merger Guidelines, n 46 *supra*, para 9 (emphasis added).

[50] See Section 3.1.2(b) on the Specialisation BER and Section 3.2.2. on M&A.

3.3.1. Compulsory licensing of IP rights – *Magill* and *IMS*

In *Magill*[51] the Commission held that TV broadcasters, which had relied on copyright conferred by national legislation over TV listings, abused their dominant position by refusing to grant a licence to *Magill* to copy this material, thereby preventing *Magill* from using the information to publish a weekly TV guide containing comprehensive listings for the week ahead. On appeal the ECJ found that a refusal to grant a licence by a company holding a dominant position could in "exceptional circumstances" infringe Article 82. The broadcasters had, contrary to the principle set out in *Commercial Solvents,*[52] reserved themselves the secondary market of weekly television guides by excluding all competition on that market since they denied access to the basic information which was the raw material indispensable for the compilation of such a guide. This so-called *Magill*-test – foreclosure of a new secondary market by refusing access to an essential facility ("indispensable raw material") – has been further elaborated in *Tiercé Ladbroke,*[53] *Oscar Bronner*[54] and finally in the *IMS* case.[55]

IMS had created a brick structure which had effectively become the industry standard for the presentation of regional data services in the pharmaceutical sector. Although this structure was created with limited creativity, IMS had successfully asserted national copyright. It had then excluded competition from the market by refusing, without objective justification, to licence this structure to its competitors. The ECJ assumed exceptional circumstances for abuse under Article 82 based on the following criteria:

- The company asking for the licence intends to offer new products on the downstream market which the dominant company does not offer and for which there is potential consumer demand;
- The refusal to licence is not objectively justified;
- The refusal to licence eliminates all competition in the relevant downstream market;
- The licence itself is indispensable to carrying out business inasmuch as it is not economically viable for a company in a similar position as the dominant firm to create the facility to which it requests access.[56]

Commentators have described the *Magill* and *IMS* cases as remedies to aberrations in the application of national copyright laws.[57] In both cases the right-holder enjoyed

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51 Cases C-241&2/91P *RTE & ITP v Commission* [1995] ECR I-743.

52 Cases 6&7/73 *Commercial Solvents v Commission* [1973] ECR 223.

53 Case T-504/93 *Tiercé Ladbroke v Commission* [1997] ECR II-923.

54 Case C-7/97 *Oscar Bronner GmbH & Co. KG v Mediaprint Zeitungs- und Zeitschriftenverlag GmbH & Co. KG, Mediaprint Zeitungsvertriebsgesellschaft mbH & Co. KG and Mediaprint Anzeigengesellschaft mbH & Co. KG.* [1998] ECR I-7791.

55 Case C-418/01 *IMS Health GmbH & Co. OHG v NDC Health GmbH & Co. KG*, [2004] 4 CMLR 28.

56 *IMS Health*, n 55 *supra*, paras 38, 45-49.

57 Ian Forrester, 'Competition and intellectual property law and policy in the knowledge-based economy', paper of 21 June 2002 presented at the Department of Justice/Federal Trade Commission Hearings (unpublished), p 24. Even with regard to the *Microsoft* case it can be argued that Article 82 did not have to be called upon if IP law had taken a form offering a more extensive guarantee of interoperability of interface information for

rather large economic advantages flowing from the exercise of rights acquired with rather little own creative effort. Therefore, it remains dubious if the exceptional circumstances found in these cases can be applied where the rights in question are patents or know-how which are the result of years of expensive R&D in a technology-driven industry. On the contrary, in high-tech industries one must also ask whether the IP rights requested are well-deserved or not. Or, as AG Jacobs has already pointed out in *Bronner*, the obligation to licence strongly depends on whether the IP right protection is easy or "difficult to justify in terms of *rewarding or providing an incentive or creative effort*".[58] Along the same lines, the following questions should be asked:[59]

- Was the work of trivial value or of significance? What was the investment by the dominant company? How much up-front R&D was needed in order to create the IP protected invention?[60] Are there any "sunk costs" for related research which failed but was preparatory for the work in question?
- Is the market dynamic? If so, will it take care of distortions flowing from the refusal to licence? If not, is compulsory licensing the only plausible means of creating some movement in the marketplace?
- What will be the impact on future innovation and R&D activities if the use of the IP right were to be challenged in this case? What signal will the competition enforcer give to the marketplace if it compels a licence?

3.3.2. Compulsory innovation sharing? - *Microsoft*

In the *Microsoft* case, the Commission goes one step further. Not only does it oblige a dominant company to grant a compulsory licence in return for royalties. It also imposes a duty on Microsoft to disclose interface codes which will allow competitors' products to talk to Microsoft's own products.[61] Although this was heavily debated in the case, the Commission emphasised that Microsoft was under no obligation to disclose its so-called source codes which would have allowed competitors to duplicate features from Microsoft's windows family of operating systems.[62]

software than under Article 6 of the EC Computer Programme Directive. I owe this point to Professor Steve Anderman.

58 Opinion of AG Jacobs, Case C-7/97, [1998] ECR I-7794, at para 63 (emphasis added).

59 See also *Forrester*, n 57 *supra*, p 23.

60 See BusinessWeek, 75th Anniversary Issue, October 11, 2004, p 143-145, with a detailed index examining corporate R&D and capital spending of "the most future-oriented companies".

61 *Microsoft*, Case COMP/C-3/37.792, C(2004)900 final, p 299, Article 5. It is understood that making the interoperability information available "on reasonable and non-discriminatory terms" may not actually amount to an adequate return for the up-front investments, so basically Microsoft is obliged to share its interface codes for free.

62 *Microsoft*, n 61 *supra*, paras 713-721.

The R&D defence

As a justification for its refusal to disclose the interface, Microsoft invokes its R&D costs the protection of which it said was the essential function of its IP rights over the information requested:

> " … those rights are meant to protect the outcome of billions of dollars of R&D investments in software features, functions and technologies … Disclosure would negate that protection and eliminate future incentives to invest in the creation of more intellectual property".[63]

The Commission dismissed this R&D defence on two grounds. First, the central function of IP rights was seen as twofold. On the one hand, such rights were to protect the moral rights in a right-holder's work and ensure a reward for the creative effort. On the other hand, an essential objective of IP law was, "that creativity should be stimulated for the general public good." Under exceptional circumstances, a refusal by a dominant company to grant a licence might be contrary to the general public good with harmful effects on innovation and on consumers.[64]

Secondly, Microsoft's argument regarding its incentive to innovate was accepted as a legitimate defence against exceptional circumstances for a duty to licence but rebutted on the facts. On the basis of the available evidence, the Commission doubted whether an order to supply would have any negative impact on Microsoft's incentives to innovate. Even if Microsoft had anticipated such a decision of the Commission years ago, it would have nonetheless developed its products as a whole including the design of its products' interfaces simply because Microsoft sold client PC and work group server operating systems and these products need to interoperate with one another.[65]

Besides, it was held that an order to supply would actually have a positive impact on Microsoft's *future* incentive to innovate. This was believed because without intervention Microsoft was seen to be likely to succeed in eliminating all effective competition in the workgroup server operating system market. Microsoft's R&D efforts, so the Commission's argument, were spurred by the innovative steps the company's competitors take. Supplying them with the requested interface information would end the lock-in effect that drove consumers towards a homogeneous Microsoft solution. This would happen because consumers could now also buy other companies' implementation properly working in the Microsoft environment. Such competitive pressure, argued the Commission, would then increase Microsoft's own initiative to innovate.[66]

Obviously, by reserving the discretion to decide each individual case solely based on balancing its facts,[67] the Commission cannot be said to apply or amend an existing

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[63] *Microsoft*, n 61 *supra*, para 191.

[64] *Microsoft*, n 61 *supra*, para 711.

[65] *Microsoft*, n 61 *supra*, para 727.

[66] *Microsoft*, n 61 *supra*, para 725.

[67] See *Microsoft*, n 61 *supra*, paras 555 and 558: "There is no persuasiveness to an approach that would advocate the existence of an exhaustive checklist of exceptional circumstances"; "the Commission must analyse the entirety of the circumstances surrounding the specific instance of a refusal to supply and must take its decision based on the results of such a comprehensive examination."

exceptional circumstances test under Article 82. Instead, it refuted Microsoft's submission on the facts and went on to introduce a "freestyle" balancing approach to justification. This was structured around two key arguments: the essential facility test and the "initiative to innovate"-test.

The essential facility test

Without explicitly referring to it, the Commission actually observed that the essential function of an IP right finds its limits where the information protected by this right is an essential facility. The doctrine of essential facility has been developed in the context of physical assets where access was mandated to ports, bridges etc.[68] Basically, a facility is essential when the following conditions are fulfilled:

- It is impossible to replicate the asset;
- There are no alternative means of entering the relevant market;
- There is lack of effective competition in the foreclosed markets; and
- The owner of the asset competes in the foreclosed markets.

Therefore, the key question is whether access to specifications of a proprietary *de facto standard* has to be treated in the same way as access to a physical asset. Further, one may ask if such equal treatment shall apply generally or only in the presence of network effects making the dominant company's products the "must have" solution. It seems that such network effects can lead to a *de facto standard* resulting in path-dependency, ie consumers would face considerable switching costs (IT training, time to adapt etc) rather than advantages when becoming pioneer users of an alternative technology.

Balancing individual reward for creative effort against the general public good of innovation in a market economy is a difficult task. Above all, it is hard to determine under which circumstances interoperability shall be regarded as an essential facility.[69] Apart from particular economic evidence in each individual case, there are a number of general issues to be considered: Do all firms need to possess the same qualities and attributes for there to be effective competition? In other words, would a level playing field be essential for competition? Arguably, there is a fine line to be drawn between "essential to compete" and "it would make my life easier". How much interoperability is essential? For example, under the assumption of dominance, would a printer manufacturer have to ensure 100% compatibility between his products and independent refillers' cartridges? Or could he reserve certain enhanced features (eg printer displaying the amount of ink left in the cartridge) to himself?

[68] For a detailed discussion of early case law see John Temple Lang, 'Defining legitimate competition: companies' duties to supply and access to essential facilities', (1994-1995) 18 Fordham Int LJ 437.

[69] The basic idea is that a firm should not be able to control access to a bottleneck input, ie an input required to compete in a downstream or upstream market. From an economic perspective; Henry Ergas, 'Regulation and essential facilities', paper of 19 April 2002 (unpublished).

The "initiative to innovate"-test

The Commission's argument regarding Microsoft's *future* incentive to innovate appears to be circular indeed. Certainly, any decision obliging a company to share with its rivals information that provides a competitive advantage will reduce its head-start. Thus being forced to let competitors catch up, the company will not surprisingly have to perform better so as to regain its former position. In high-tech markets, this means that the company must innovate even more in order to make up for its rivals' free riding. Therefore, the question whether an order to supply would have (had) any negative impact on a dominant company's incentives to innovate can meaningfully be asked only with regard to a hypothetical *past* situation.

3.3.3. Conclusion

Once having established dominance under Article 82, the regulator may further find a proprietary *de facto standard* which he regards as an essential facility that should rather belong to the public. A company should then be allowed to defend its R&D investments by showing that (a) the up-front costs have not yet been amortised by marketing the final product and (b) the obligation to share the interface information would have diminished its initial incentive to invest.

4. CONCLUSION

This paper clearly establishes that R&D investments are in many ways affected by competition law. At the horizontal level, joint R&D activity is permitted unless it amounts to a dominant technology impeding alternative R&D endeavours in the same area. Similarly, mergers involving R&D are cleared provided that they do not result in foreclosing future product markets. A company that holds a dominant position on a high-tech market may find, at the vertical level, that it is obliged to licence use of certain IP rights to others in return for the payment of a reasonably royalty. When having established a proprietary *de facto standard*, the company may even be obliged to provide certain information for free, provided that this information ensures the interoperability between the dominant company's product and applications made by others. In the first case, it can recoup its R&D costs from royalties instead of from direct product sales. In the second case, however, there is a risk that the company which established the *de facto* standard will get no adequate return for disclosing the interface information.

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Competition Law as a Patent 'Safety Net' in the Biopharmaceutical Industry

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The present paper examines the relation and interaction of competition and patent law as tools for innovation in the biopharmaceutical industry. The paper starts by positing the concern that has been raised in the biotech industry relating to restricted access to essential tools for innovation due to the increase in patenting of essential upstream research. While the implications of such a trend are not clear, the need to ensure the presence of adequate 'safety nets' is seen as paramount. In view of that, the paper proceeds to examine certain patent law provisions to address such concerns. It is argued that patent law does not provide a remedy in all such cases and that hence a remedy needs to be sought outside the patent system. Competition law then is examined as a complement to the patent system in the innovation 'balance'. The relation between the two bodies of law is examined both from a competition law and a patent law perspective. Adopting the view that there is no reason to treat IP differently from other property, the paper concludes by suggesting the viewing of the essential facilities doctrine as a potential safety net to address the concern of access to essential upstream technology.

> We often talk about how important patent are to promote innovation, because without patents, people don't appropriate the returns to their innovation activity, and I certainly very strongly subscribe to that … On the other hand, some people jump from that to the conclusion that the broader the patent rights are, the better it is for innovation, and that isn't always correct, because we have an innovation system in which one innovation builds on another. If you get monopoly rights down at the bottom you may stifle competition that uses those patents later on, and so … the breadth and utilization of patent rights can be used not only to stifle competition, but also [can] have adverse effects in the long run in innovation. We have to strike a balance.[1]

Innovation has assumed a particularly important role in our society, especially in industries such as the biopharmaceutical. Competition law and patent law are two of the main propellers and determinants of innovation, but the relation between the two bodies of law as applied to strike the innovation 'balance' has been a highly contentious issue.

[*] European University Institute.

[1] J Stiglitz, in http://www.ftc.gov/speeches/other/dvisraelin.htm

The present paper examines the relation and interaction of competition and patent law as tools for innovation in the biopharmaceutical industry. The paper starts by positing the concern that has been raised in the biotech industry relating to restricted access to essential tools for innovation due to the increase in patenting of essential upstream research. While the implications of such a trend are not clear, the need to ensure the presence of adequate 'safety nets' is seen as paramount. In view of that, the paper proceeds to examine certain patent law provisions to address such concerns. It is argued that patent law does not provide a remedy in all such cases and that hence a remedy needs to be sought outside the patent system. Competition law then is examined as a complement to the patent system in the innovation 'balance'. The relation between the two bodies of law is examined both from a competition law and a patent law perspective. Adopting the view that there is no reason to treat IP differently from other property, the paper concludes by suggesting the viewing of the essential facilities doctrine as a potential safety net to address the concern of access to essential upstream technology.

ACCESS TO ESSENTIAL UPSTREAM RESEARCH IN THE BIOPHARMA INDUSTRY

Pharmaceutical Industry R&D: The increased importance of cumulative innovation and the concern

Recent changes in the nature of research in the pharmaceutical industry have given rise to new concerns regarding innovation. Particularly in the US, the industry has been fragmented into a two-tier system where small biotech firms conduct all the innovative research that the large pharmaceutical companies then produce, prepare and market. Much of the research conducted by small biotech firms involves upstream innovative research that is fundamental to the development of downstream research on products and processes. Hence, research has increasingly become dependent on access to other fundamental research. While this in the 1980s was mainly government-sponsored research, with the increased privatization this came in the hands of private firms who were found with the right to exclude others from their findings. As more stages, actors and inter-connectiveness, complemented the drug development process patenting made commercial sense where before there was nothing to patent. This led to an increase in patenting and in the patentable subject-matter.[2] Research became more cumulative and guided by prior scientific findings[3], and Acts such as the Bayh Dole Act in the US simplifying patenting and containing provisions allowing universities to patent their inventions where before they were open to the public, led to the grant of even more patents.[4]

These two trends immediately raised fears that patents would deter innovation. In an article published in Science magazine, Heller and Eisenberg postulated a theory

[2] See for example the debate on the patenting of genes.

[3] J Walsh & J Cohen, 'Research Tool Patenting and Licensing and Biomedical Innovation', Forthcoming in Cohen & S Merill (eds) *Patents in the Knowledge-Based Society*, Washington DC, National Academies Press, p 5.

[4] *Ibid.*

whereby too many patents on upstream innovation could lead to two eventualities.[5] Firstly, the grant of too many fragmented patents may lead to a situation identified as the tragedy of the anti-commons, whereby too many people have the right to exclude and no-one has an effective right to use, so that one impedes the other from using his technology but is also precluded from using the technology himself as he is impeded by the rights of exclusion of others. This concern is not the direct object of this paper.

The second eventuality postulated is that the grant of patents in fundamental upstream research may lead to a situation whereby patent owners stack licenses on top of future discoveries of downstream users, and/or impede the creation of downstream dependent inventions.

Heller & Eisenberg presented no scientific data to support their theory. The degree to which research is fragmented and dependent on too many other patents depends on many other factors including the breadth of the grant of the patent, the nature of the research and the extent to which it is cumulative or discrete, and the bargaining power of the players. Yet no evidence was given in that respect. Walsh & Cohen[6] attempted to test these hypotheses against more scientific data.

The conclusions of Walsh and Cohen on the issue of restricted access to upstream discoveries and its effects on innovation were ambiguous. They found that access to foundational discoveries can be restricted, and that patents over targets may limit access in certain cases.[7] Depending on the breadth of the interpretation and the capacity of a firm to market in timely fashion, lack of access might lead to less innovation. Particularly in the case of targets this might be a problem depending on the breadth and degree of restriction compared to the incentive necessary to invest in the first place. The effect of control upon such discoveries will depend on firstly, how essential it is for subsequent innovation, and secondly, the degree of rivalness in use of the first and subsequent products as that will in turn determine the motive to refuse access or not.[8]

The problem is that although such concerns have arisen, there is not much scientific evidence to support one finding or another. Does the existence of many patents hinder the development of products related to health care, and do upstream patents deter further innovation?

An empirical study of the German inventions and patent law concluded that there is a proliferation of DNA patents and unduly broad patents causing a situation of dependency of patents on earlier inventions, that may lead to a reluctance to enter fields in which genes have already been patented and that royalty stacking and higher transaction costs are present leading to an explosion of legal disputes and potential retardation of innovation.[9] Hence the existence of patents may lead to at least a

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5 Heller & Eisenberg, 'Can Patents Deter Innovation? Anti-commons in Biomedical Research', Science Vol. 280, 1 May 1998.

6 J Walsh & J Cohen, 'Research Tool Patenting and Licensing and Biomedical Innovation', Forthcoming in Cohen & S Merill (eds) *Patents in the Knowledge-Based Society,* Washington DC, National Academies Press.

7 *Ibid.*

8 *Ibid.*

9 J Straus, *Genetic Inventions and Patent Law*, OECD 2002.

redirection in other fields where it is thought that a dependency might be created. On the other hand, however, with regard to research tools a study showed that patents do not have a discernible effect on the cost or the pace of research as some are staple goods purchased without disclosure of intended use, and also as there are practical working solutions such as infringement that is hard to be detected behind closed doors.[10]

Whether the problem of access is real or not also depends on the interpretation of the breadth of the patent as regards infringement, amongst other. For example, in the US the *Scripps Clinic v Genetech* case the Federal Circuit found patent infringement by virtue of the production of the same protein by recombinant means, refusing to construe product claims to include inherent process limitations. It found that product by process claims are not limited to products prepared by the process set forth in the claims.

> The decision reflects two antagonistic results, creating possible process-related exceptions to infringement of a product claim that on its face makes no reference to any process parameters, while reading process limitations out of a claim that expressly recites them.[11]

Hence, the problem of patentability approval despite limited disclosure supporting their broad claims may be aggravated by the broad interpretation of infringement by the Courts.

In addition, the lax application of the patentability requirements may lead to unjustified extensions in scope. EU researchers in accord with US in a joint article of the President of the US National Academy of Sciences and the President of the Royal Society of London, admonish that:

> those who patent DNA sequences without real knowledge of their utility are stacking claims not only to what little they know at present but also to everything that might later be discovered about genes and protein associated with the sequence. They are in effect laying claim to a function that is not yet known or a use that does not yet exist. This may be in current shareholders' interests, but it does not always serve society well.[12]

Summing up, in view of the increased cumulative nature of innovation a concern has been raised that the proliferation of patents may lead to impeded access to essential technology and so impedance of innovation. Practical evidence confirms that patents have been extended both in subject matter and in scope and this is seen by the research community as often unjustified. As patents by definition involve a degree of exclusivity, their very grant is bound to affect access to the patented technology. Where their grant is unjustified or overbroad then lack of access is bound to be seen as unwarranted. While it is felt that this may in turn lead to an impedance of innovation, no evidence to date unambiguously establishes a clear negative effect on innovation.

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10 Nuffield Council on Bioethics, 'The Ethics of Patenting DNA', 2001

11 Y Ko, 'An Economic Analysis of Biotechnology Patent Protection' (1992) 102 Yale LJ 777.

12 D Gitter, 'International Conflicts over Patenting Human DNA Sequences in the US and the EU: An Argument for Compulsory Licensing and the Fair Use Exemption' (2001) 76 NYULRev 1623, p 19.

As regards specifically the issue of exclusion, so far practice evinces broad licensing patterns in most cases. Nonetheless there is still concern in the industry that access to essential upstream technology may be refused and it is felt that this may negatively impact on innovation. Whether this has to be seen as a systematic failure in the patent system or individual cases of blocked access is not clear. As the industry also attributes the lack of evidence of a discernible effect to the existence of working solutions, it is not clear what the status of each of those is and what the position would be in their absence.

Despite the ambivalence of evidence on the gravity of lack of access and its impact on innovation, industry participants still feel that this is a problem that needs to be addressed. Hence, for present purposes onwards, it is assumed that this theoretical possibility of exclusion may be a problem which in turn may lead to a deleterious effect on innovation. If so, tipping the balance too much in favour of patentees comes with an increased social cost in the biopharmaceutical industry in view of the vital nature of the goods and technology in question. The patent system has balancing instruments that permit for the limitation of breadth on a case by case basis, including claim interpretation, invalidation and compulsory licensing. Some of these balancing mechanisms are analyzed next, to assess their desirability and adequacy in easing these concerns.

PATENT LAW MEANS TO ENSURE ACCESS

Types of Inventions and Relations Amongst Them

The patent system is created to motivate several types of inventions. On the one hand there are pioneer inventions that involve a distinct step in the progress of art, as distinct from a mere improvement or amelioration of what had been done before. On the other hand are the technological improvements that may result from independent discoveries or intentional efforts to design around and therefore avoid infringing the patent.[13]

In view of the incremental nature of innovation there may be overlapping patent rights to technology that may have different relations amongst them. Patents may be blocking so that improvements are concerned; complementary, whereby different inventors independently patent different components of a larger invention, and where patents are useless without a license to the separate patented products; or competing, whereby patents compete with each other in the market whether because they are substitutes or involve inventing around the patents.[14] Yet the categorization amongst such patents is imperfect.[15]

In the case of improvements, the patent system treats them differently according to their significance and value as related to the pioneer invention.[16] At the bottom of the

[13] MJ Conigliaro, AC Greenberg and MA Lemley, 'Foreseeability in Patent Law' (2001) 16 Berkeley Tech LJ 1045.

[14] SC Carlson, 'Patent Pools & the Antitrust Dilemma' (1999) 6 Yale J on Reg 369.

[15] Hence, it is not clear where downstream dependent innovation/research fits in this demarcation.

[16] MA Lemley, 'The Economics of Improvement in Intellectual Property Law' (1997) 75 Tex LRev 989. This is also consistent with the inventive step determination in case of pharmaceuticals. The greater the structural

scale are minor improvers for which the law offers no protection and may appropriate their findings only by trade secrets or first mover advantages. The law, however, makes no allowance for them to infringe the pioneer invention. Higher up the scale are significant improvers that exceed the minimum social value threshold for patentability and are thus able to get an improvement patent. While they may not use the pioneer invention without the permission of the patent holder, they may prevent the patent holder (and any other unlicensed party), from using their improvement. This often leads to the case of blocking patents which, according to the transactional view of IPRs, is conducive to levelling the playing field and to minimizing the chances of a bargaining breakdown. In the EU there is also a provision for compulsory licensing in cases where the improvement patent involves an 'important technological advance of considerable economic interest.' Parallel to the rationale for blocking patents in the US, this is, *inter alia*, conceived to induce voluntary licensing between the parties. On the top of the scale of improvements, are radical improvers that are sufficiently radical to depart from all prior patents even though they may be in the literal language of the claim.

Patent law has embedded provisions to give account to improvement and follow-on innovation. These are balancing instruments of the patent system as an output and as an input for further innovation and development. Provisions to that end include most importantly the experimental use exemption and the compulsory licensing provisions. But, as will be seen, these patent provisions of themselves do not adequately address the issue of potential lack of access to essential upstream technology. They mostly address 'improvements' that do not necessarily cover downstream dependent innovation. The difference becomes clear in the case of research tools.

Research tools are sequences used in research with no immediate therapeutic or diagnostic value. They are a means to develop a commercial product such as a medicine or a vaccine and not an end product of themselves. For example the EST approach involving the rapid sequencing of the coding parts of genes was used as a means to locate entire genes. Research tools are licensed for particular sequences or applied to discover new drugs or other research, hence realizing a commercial value. They constitute the typical example of upstream innovation required to develop downstream innovation. It is in this instance that the balance the patent system of itself strikes, between inventions as an output and as in input for further innovation, is called into question. It is in this instance that the patent law safety nets of themselves may not be adequate to ease the concerns.

> There are various ways in which patents on DNA sequences which have a primary use as research tools may inhibit innovation and development: the cost of research may increase, as the grant of increasing numbers of patents will mean that ever more licenses are required before research can be conducted; research may as a matter of practice, be made more difficult if researchers are required first to negotiate the use of patented genes and sequences; *a patent owner may withhold a license*

distance and the better the technical effect of the invention as compared with the state of the art, the greater the likelihood that inventive step will be found. See B Domeij, *Pharmaceutical Patents in Europe*, The Hague, Kluwer Law International, 2000.

> *to gain maximum financial benefits, or license it exclusively to one or a limited number of licensees*… There is insufficient evidence to judge the extent to which the granting of patents over DNA sequences based on a primary use as research tools is producing the potentially deleterious effects set out above. However, we take the view that the exercise of a monopoly over what are now essentially discoveries of generic information accessible by routine methods is, in principle, highly undesirable.[17]

The adequacy of the most relevant for such purposes patent provisions is examined next.

Patent Law Safety Nets

The experimental use exemption

The experimental use exemption doctrine is a very narrow exception that excuses the infringement of a patent. In Europe, acts done privately and for purposes that are not commercial and acts done for experimental purposes relating to the subject matter of the invention do not infringe the patent. The Community Patent Convention exempts from infringement acts done for experimental purposes relating to the subject matter of the patented invention.[18] These are aimed to understanding and/or improving the technology of the invention, or to experiments *on* the invention. It amounts to research in the technology field and the inventions are used for a different purpose than that for which they were originally created. This hence, represents only a small loss of revenue to the patentee as his main market resides in their non-experimental uses. The fact that such research may lead to improvements or new competing products that are patentable does not change the analysis.[19] Experimentation *with* a patented invention, however, does not advance the field of technology or contribute to innovation as it leaves the invention unchanged. This type of experimentation is not exempted and so in such cases a license is required. The problem of access to upstream innovation would come under this type of use of the invention. Hence, for example, a research tool that is used for conducting work will require permission from the patent holder, whereas people that study the research tools themselves will be considered exempted.

As articulated right now, the experimental use doctrine, in addition to being seldom used and of dubious nature and substance, does not and cannot cater for instances of access to essential technology. Its main weakness for present purposes lies in the fact that it does not provide a means to ensure that access is not precluded. Hence, in the case where access to research tools is essential to develop a downstream technology,

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[17] Nuffield Council on Bioethics, The Ethics of Patenting DNA, 2001, para 5.39-5.41.

[18] Art. 9 of the CPR provides the limitations of the effects of the Community patent. The rights shall not extend to:
(a) acts done privately for non-commercial purposes;
(b) acts done for experimental purposes relating to the subject-matter of the patented invention;
the extemporaneous preparation for individual cases in a pharmacy of a medicine in accordance with a medical prescription nor acts concerning the medicine so prepared.

[19] P Ducor, 'Research Tool Patents and the Experimental Use Exemption - A no-win situation?' Nature Biotechnology, Vol. 17, Oct. 1999, p 1027. But is that desirable?

the exemption is inapplicable, and so it would not seem to be a viable means to ensure access to it.

Compulsory licensing

The Community Patent Regulation, in accordance with TRIPS, provides for three main cases of compulsory licensing (CL). These are in cases of:

- non-use for three years from the grant or four from the application;
- when necessary to use a second otherwise infringing patent that constitutes an important technical advance of considerable economic significance; and
- in cases of extreme urgency, crisis, or to remedy an anti-competitive behavior.[20]

The arguments in favour and against compulsory licensing will not be taken up here. But for present purposes it suffices to say that these provisions may have a utility both as a compeller inducing voluntary licensing but also as a safety net to address substantive concerns. From a patent perspective the provision relating to significant technological advances is the most significant to address the present concern.[21]

According to that provision, a license may be mandated in cases where there is a product or process that would otherwise be infringing a first patent, and which involve a significant technological improvement of considerable economic significance.[22] Industry–specific similar provisions have also been created such as the European Directive on Biotechnological Inventions that allows breeders to request a CL when he/she cannot acquire or exploit a plant variety without infringing a prior patent.[23] It also allows for CL where the patent holder cannot use a protected variety without infringing third parties' rights.[24]

While these provisions may be desirable, the extent to which they are sufficient is questionable as they have been narrowly interpreted and so only exceptionally applied. So, for example, the substantial improvement provision was applied by the German Federal Patent Court on June 7 1991, to find in favour of a grant of a CL.[25] In the case, Bioferon owned a patent for a pharmaceutical product polyferon for the treatment of chronic polyarthritis and also held dependent patents of specified uses of human immune interferon. The Court found that there was a public interest in the medical use of polyferon which was dependent on the dominant substance patent, but the Federal Supreme Court later, in December 1995 decided that a CL would not be granted if the public interest could be satisfied with other, more or less equivalent, alternative preparations. On the facts, it found that substantially improved therapeutic properties

[20] CPR, Art 21.

[21] The significance of the CL provision relating to anticompetitive behaviour is taken up later on, and the importance of the provision relating to extreme urgency and the implications it may have for the biopharmaceutical industry is not of direct relevance to the present concern and is analyzed in another paper.

[22] CPR, Art 21.

[23] Directive 98/44/EC on the Legal Protection of Biotechnological Inventions, OJ 1998, L213/13, Art 12(1).

[24] Directive 98/44/EC, Art 12(2).

[25] See case analysis in Grounds for Granting Compulsory Licensing, at www.southecentre.org, p 4.

had not been established.[26] The decision reflects the hesitation of the courts to find the provision applicable on the facts.

It also bears noting that whether this provision can only be used for improvements or also for dependent or downstream technology is not clear. While the wording of the Community Patent Regulation only provides for a second infringing patent, and so on its face covers both cases, it would seem that this provision would be inadequate to cover cases raising issues similar to the research tools experience, as use is needed prior any *potential* patent. Hence, it would seem that this provision could not be used in cases of blocked access to an upstream innovation for downstream research, as opposed to already granted patents.

Conclusion

Patent law provisions seem to predominantly cater for improvement considerations rather than the upstream/downstream relation of dependency found in the case of, for example, research tools.[27] This directs consideration to other means that may be used to address the latter concerns. The TRIPS Agreement legitimises compulsory licensing as remedy to anticompetitive practices. This raises the question of what anticompetitive practices are and how antitrust may be used to achieve the desired result in such cases. It effectively diverts the problem to the dynamics of the relation between competition and patent law. The issue of control of an upstream market by a company restricting access to the downstream competitors is not a new one to antitrust law. The leverage rationale lying behind it is as applicable to the biopharmaceutical industry as any other industry. The precise question then for our purposes becomes the following: can the EFD be applied to ensure that follow-on innovation is not impeded in the biotechnology industry by virtue of the control of an upstream technology, and would such application be desirable?

COMPETITION LAW TO COMPLEMENT THE PATENT SYSTEM

IP and Competition Law: a systems' interaction

Recent IP legislation conceives the possibility of abuse of IPRs and that IPRs are not unlimited rights, or deserving a different threshold from other property rights.

IP statutes allow for a consensual market to operate in four ways: they create property rights, lower transaction costs, provide valuable information, and contain a mechanism for enforcement.[28] Hence, IPRs are devised to create a market for information goods that would otherwise not be established, or at least not optimally: "IP is conceived to bring informational subject-matter into the realm of market rules to optimize their

[26] See Grounds for Granting Compulsory Licensing, at www.southecentre.org, p 4.

[27] As was earlier pointed out, this is aggravated by the fact that it is not clear where this type of information fits in the general categorization of patent law protection.

[28] H Ullrich, 'IP, Access to Information and Antitrust: Harmony, Disharmony and International Harmonization', in *Expanding the Boundaries of IP: Innovation Policy for the Knowledge Society*, Oxford, Oxford University Press, 2001; H Ullrich, 'Legal Protection of Innovative Technologies: Property or Policy?' 2001, in O Grandstrand, The Swedish Intellectual Property Symposium.

creation."[29] Private parties are left to internalize the decision of whether to create a type of knowledge whose value is not known before hand, and are given the opportunity to respond to the market created, that will in turn set the price of the created information. The rationale is similar to the one of real property:

> There appears then to be some truth in the conservative *dictum* that everybody's property is nobody's property. Wealth that is free for all is valued by no one because he that is fool enough to wait for its proper time of use will only find that it has been taken by another… The fish in the sea are valueless to the fisherman, because there is no assurance that they will be there for him tomorrow if they are left behind today.[30]

Efficient exploitation is attained by privatization.

Hence, IPRs are not exemptions from the competition provisions, but rather, the IP system depends on the well-functioning of competition, and is only devised to allow for the response to the opportunities and conditions of the market.[31] Hence, the system of IP is not conceived as protection *from* competition, but rather protection *for* competition in the market of intangibles, whose tangible embodiments are set against and valued according to the competitive market conditions which competition protects. IP does not guarantee a reward, but like any other property right, merely grants the opportunity for a reward on the market. Therefore, IP can only require equal treatment by the competition provisions. Like for any other property, the exclusivity allows for the autonomous determination of conduct and does not modify antitrust rules.[32]

IP sets out the regulatory framework, under which it provides for the grant of individual property. The exclusivity turns the public good into an economic good, for which competition alone can determine the value, providing the incentives and rewards according to demand.[33] In such cases, it depends on the well-functioning of competition on the market. As a piece of individual property, however it provides such autonomy of decisions and freedom of contracting, just as any other property, which competition must control just as any other case.[34] Here, IP does not constitute a justification for infringement of competition, nor does it grant the right to restrain or impair residual competition. "The exclusivity is granted to allow to respond to the opportunities in the market not to control it."[35] And, it is the competition provisions

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[29] *Ibid.*

[30] HS Gordon, The Economic Theory of a Common-Property Research: The Fishery, (1954) 62 Jnl of Political Economy 124.

[31] Indeed, as is later elaborated, the IP system is a constitutive element of the market.

[32] H Ullrich, 'Legal Protection of Innovative Technologies: Property or Policy?' 2001, in O Grandstrand, The Swedish Intellectual Property Symposium.

[33] The market sets the price, which was also the basic reason leading to the preference of property rights over the other schemes.

[34] Related to this issue is the question of whether IPRs are a right to do something suboptimal but useful or merely a basic right to optimize that can be overridden. The analysis of this issue is beyond the scope of the present inquiry.

[35] H Ullrich, 'Legal Protection of Innovative Technologies: Property or Policy?' 2001, in O Grandstrand, The Swedish Intellectual Property Symposium.

that determine when it controls the market, whether an IP or any other case is concerned, in the same way. There is no economic justification for treating IP differently.

The Transition from Separate to Unified Fields

The traditional confusion with regard to IP and its consideration as exempted or requiring a different threshold from competition, springs from the assumption that the exclusivity must be total and so the IP holder is allowed to charge at any price he wants, and so IP in the short term is allowed to exclude competition as it will enhance dynamic competition in the long-term.

> The problem with this approach is that, by an equation of the protected intangible subject-matter with its tangible embodiments, it creates a confusion between the reasons justifying the exclusivity (on the technology market) and an alleged right to restrain competition (on the product market). Therefore it assumes an antagonism where there is none. …The reason for protecting technologies … is that by their very nature, they cannot be exposed to competition, unless they are protected against imitation, in one way or the other.[36]

Hence, the traditional approach was to view antitrust and IP as two competing and separate fields, where IP granted a monopoly within which the property rights were absolute. Viewing the fields as separate spheres involving an inherent tension required the determination of what was in the scope of the property rights, so that anything within was lawful whereas anything beyond, constituted an antitrust violation. It is in this context that the European Courts and Commission resorted to the existence/exercise, the specific-subject matter and the essential function doctrine.

IP and competition policy through different means address the same dilemma, namely, the balance of the "monopoly privilege", and its dissemination- the vertical and horizontal dilemma. IP addresses these questions in the definition of exclusivity and its limits. Competition addresses these questions in maintaining competition in *the face of exclusivity as defined by IP*. This is also reflected in the fact that patent infringement claims and abuse of a dominant position claims based on refusal to grant access address the same problem: the definition of permissive exclusivity and patent breadth. And while both serve a series of social, economic and political considerations, and so may point to different conclusions depending on their different policies, IP and competition policy are interdependent and mutually determining.

Summarizing, IP and competition law are interdependent and inter-determining. IP changes a non-market to a market, sets out a regulatory framework embodying competition concerns, and by granting exclusive rights limits *competitors* in certain respects just as any other kind of property. But as a piece of individual property it may be abused, exploitatively or structurally as any other case, as competition law provides.

[36] *Ibid,* p 7.

It is in this sense that IP is a constitutive element of competition, constitutes protection *for* competition, but is not a restriction or exemption *from* competition law.[37]

How Antitrust Control Affects Incentives to Innovate

The typical and strongest argument against using antitrust law to control conduct that is condoned under intellectual property laws and in favor of immunizing it from liability, is that it will hamper incentives to innovate. While there is very little empirical evidence on the effects of such control in general, and compulsory licensing, in particular,[38] nonetheless it is argued that such a concern is based on a series of erroneous assumptions.[39] Firstly, it assumes that intellectual property laws grant holders an economic monopoly. Secondly, it assumes that the acquisition of monopoly power is the only way to appropriate revenues from inventions, and thirdly it assumes that antitrust liability would necessarily have overall adverse effects on incentives to innovate.

Intellectual property rights in general and patents in particular do not necessarily and automatically confer monopoly power on their owners.[40]

> The intellectual property laws do not purport to confer any monopoly, however, but only the right to exclude others from producing the good, expression or symbol covered by the intellectual property interest. This right is a property rights that is not different in principle from other property rights.[41]

The law encourages the creation of substitutes, of inventing around inventions and so substitutes may exist in the market. Hence, the legal monopoly granted by a patent does not in most cases coincide with an economic monopoly in the marketplace.

As regards the appropriation of revenues that provides the incentive to innovate, it is clear that intellectual property rights are not in most cases the most significant factor in ensuring returns in most industries. Factors such as lead time, reputational advantages and costly copying may present greater sources of excludability and profit.[42] While it is true that in the pharmaceutical industry specifically patents are the most significant of such factors in appropriating returns, here too, 'Economic analyses dispute the idea that the concentration of market power is the best way to ensure an optimal

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[37] See S Anderman, *EC Competition Law and IPRs: The Regulation of Innovation*, Oxford, OUP, 1998.

[38] FM Scherer, 'The Law and Economics of Compulsory Patent Licensing', New York University Graduate School of Business Administration 43-50, 1977.

[39] S Genevaz, 'Against Immunity for Unilateral Refusals to Deal in Intellectual Property: Why Antitrust Law should not Distinguish Between IP and Other Property Rights', to be published in Berkeley Law and Technology Journal

[40] *Ibid.*

[41] H Hovenkamp, MD Janis and MA Lemley, *IP and Antitrust: An Analysis of Antitrust Principles Applied to IP Law*, New York, Aspen Law & Business, 2002.

[42] See H Perritt, 'Property and Innovation in the Global Information Infrastructure' [1996] U Chi Legal Forum 261.

appropriation.'[43] Kenneth Arrow suggests that a monopolist has less incentive to innovate than a firm in a competitive industry as the latter has a higher incentive to reduce the cost for its product.[44] Hence, antitrust liability does not necessarily lead to overall decreased incentives to innovate in the relevant industry.

In addition, since antitrust control is limited and exceptional, it would only rarely impose a constraint on IP owners' courses of action.[45] In addition, Ayres and Klemperer suggest that the loss of incentive is negligible in comparison to the increase in social welfare stemming from limited restrictions on the patentees' market power.[46] But, the latter's suggestion applies only in cases where there is high price elasticity in the market so that every price reduction results in an increase in demand.[47] In industries like the biopharmaceutical where demand for the end product is not elastic as consumers *need* access to medicaments (as opposed to luxury products), the reduction in the monopoly price may have few consequences on deadweight loss and may greatly diminish incentives to innovate. Nonetheless, the same may not be the case in the pre-commercial stage of research where demand is for research tools by competing firms on different levels of the market, as distinct from end product situations. In addition, Scherer concluded that compulsory licensing had little effect on incentives to innovate in industries where parties had to maintain a high level of R&D to remain competitive or where the ability of competitors to invent around patents diminished the value of patent protection.[48] Even innovators' testimonies seem to take for granted that antitrust

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[43] S Genevaz, 'Against Immunity for Unilateral Refusals to Deal in Intellectual Property: Why Antitrust Law should not Distinguish Between IP and Other Property Rights', to be published in Berkeley Law and Technology Journal, p 9.

[44] *Ibid*; see also KJ Arrow, *Economic Welfare and the Allocation of Resources for Invention, in Essays in the Theory of Risk-Bearing*, Markham Publishing Co, 1971.

[45] *Ibid*, p 10.

[46] I Ayres & P Klemperer, 'Limiting Patentees' Market Power Without Reducing Innovation Incentives: The Perverse Benefits of Uncertainty and Non-Injunctive Remedies' (1999) 97 Mich LRev 985, p 990: 'Because the last bit of monopoly overcharging is so disproportionately damaging, restricting the patentee's monopoly power a small amount is likely to increase social welfare. The benefit of reducing the deadweight loss of supra-competitive pricing is likely to outweigh the costs of a slightly lower incentive to innovate.'

See also S Semerano, 'The Efficiency and Fairness of Enforced Sharing: An Examination of the Essence of Antitrust' (2003) 52 Kansas LRev 57, p 25: 'All things being equal, forced sharing may discourage both the innovator and the sharer from investing in improvements. But all things are not equal. Shared property may enable more vigorous competition than would otherwise occur, and that competition may stimulate investment to a greater extent than forced sharing may reduce it. A firm not faced with competition will only consider innovation's demand-expanding and entry-delaying effects. A firm faced with competition, however, will have an incentive to innovate not only to expand the existing market and deter entry, but also because of the fear of losing market share to, and the desire to gain it from, a competitor.'

[47] S Genevaz, 'Against Immunity for Unilateral Refusals to Deal in Intellectual Property: Why Antitrust Law should not Distinguish Between IP and Other Property Rights', to be published in Berkeley Law and Technology Journal, p 11.

[48] FM Scherer, The Economic Effects of Compulsory Patent Licensing, NY, NY University, 1977; FM Scherer & D Ross, Industrial Market Structure and Economic Performance, Abingdon, Houghton Mifflin, 2nd ed, 1980: 'all in all the substantial amount of evidence now available suggest that compulsory patent licensing, judiciously confined to cases in which patent-based monopoly power has been abused… would have little or no adverse impact on the rate of technological progress … ' p 456-7.

liability might arise just as in any other case, and that is not perceived to affect incentives.[49]

Recent Recognition

Article 8 of TRIPS provides that '*appropriate measures… may be needed to prevent the abuses of intellectual property rights* … '. This reflects the fact that intellectual property rights are *not* immune from the competition provisions and that it is possible for patent holders to abuse their position. The Database Directive 96/9/EC also contemplates the possibility of abuse by a copyright holder:

> protection by the sui generis right must not be afforded in such a way as to facilitate abuses of a dominant position … . Whereas the provision of this Directive are without prejudice to the application of Community or national competition rules.

The Directive reflects the notion that IP is not exempted and that it is subject to the application of competition rules, *just as any other case* of property rights.

In addition, the Draft Legislation on a Community Patent[50] provided for a system of compulsory licensing 'to provide guarantees against abuses of the rights conferred by the patents'.[51] The Commission may grant such licensing of a Community patent where inter alia:

i) licensing is needed to use a second patent involving an important technical advance of considerable economic significance in relation to the invention claimed in the first patent, subject to an obligation to cross-license;

ii) in times of crisis or extreme urgency, or to *remedy a practice determined after judicial or administrative process to be anticompetitive*.

Hence, the patent system contemplates the possibility of compulsory licensing of patents where there is anticompetitive action as determined by competition law and not IP. This might be a reflection of the fact that in accordance with economic theory the patent is just as any other property right for the purposes of competition law, and that the incentives and need for innovation do not qualify for an immunity firstly because it is not known how much incentive is necessary and so it may not be sensitive to these limited instances of control, and secondly because there might be static distortions outweighing dynamic benefits or other concerns about follow-on inventions. Patents grant a legal monopoly that is not necessarily to be equated with an economic monopoly. For example, in the pharmaceutical industry patents do not award a legal monopoly over the treatment of a specific disease, but only over a specific product or process. Hence there is often potential for strong competition between products in a therapeutic class. The lack of equation of a legal with an economic monopoly however,

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[49] FTC/DOJ Proceedings on Competition and IPRS; March 19 2002: A. Diverse perspectives on patents. B. Business perspectives on patents. Biotechnology and Pharmaceuticals.

[50] Proposal for a Council Regulation on the Community Patent, COM(2000) 412 final, August 1, 2000, OJ C 337 E/278, Nov 28 2000

[51] In Explanatory Memorandum of Proposal

works two ways. It requires that no presumption be instituted that patents create market power,[52] but it also requires that when it coincides with an economic monopoly it is not exempt. Where the legal and the economic monopolies coincide, the antitrust provisions will apply as they control according to the market conditions, something that the patent system would be unable to do in view of the fact that it operates ex ante.

These are significant developments as it is not only competition law that controls IPRs, but IPR statutes also envisage and recognize the legitimacy and necessity of such control. IP statutes may be seen to reflect an understanding that IP and competition are no longer assumed to have separate spheres, so that the metes and bounds must be sought within which IP is absolute, but IP remains subject to competition law scrutiny as provided for by the latter for any case according to its effects. Hence, the compulsory patent licensing provision may be read as directing the question of what constitutes an anticompetitive act to antitrust law according to its established rules.

On the competition law side, it is clear that IP is subject to competition control as Commission and Courts practice attest. While the Courts and Commission, in their latest decisions have abandoned the insistence on defining the scope of IP protection under the existence/exercise, and specific subject-matter doctrines, nonetheless they still reflect a *theoretical* understanding that IP warrants a different threshold of general immunity except for the 'exceptional circumstances'.[53] As has been seen, this not warranted. The circumstances should be no more exceptional than they are for other cases. The Commission's recent *Microsoft* decision reflects a move to that direction, insofar as it reads *Magill* as suggesting that 'intellectual property rights are not in a different category to property rights as such.'[54]

THE ESSENTIAL FACILITIES DOCTRINE AS APPLIED IN THE BIOTECH FIELD

Viewing the dynamics of the relation between patent and competition law this way is significant, as this way a solution to the concern with regard to patents in the biopharmaceutical industry may be sought in competition law. In the case of a controlling upstream innovation that impairs the progress of the downstream innovation by virtue of limited licensing practices or in many cases a refusal to deal, it would seem that antitrust is the most effective mechanism to judge when access to such upstream innovation should be granted, and to compel such access.

As was seen, such concerns are not new to antitrust law, and indeed doctrines have developed outside the pharmaceutical industry, such as the essential facilities doctrine, which are also applicable to the present industry. The essential facilities doctrine contemplates the imposition of a compulsory license in cases where access to the facility is necessary to compete. Such an antitrust remedy should be seen as a complement to the IP remedies only requiring a different threshold- that of a dominant

[52] See for example the IP Licensing Guidelines 1995 in the US that recognize that.

[53] I insist on theoretical understanding, as in practice it would seem that the circumstances are in no way different than they were in other cases.

[54] Commission Decision of 24 March 2004, C(2004) 900 final, para 550.

position as opposed to the existence of a significant technological advance of significant economic interest found in the patent statutes.

What is suggested is that the essential facilities doctrine *can* be interpreted and used in such a way as to address the potential problem in the biopharmaceutical industry. Its application involves two questions: firstly whether the essential facilities can be applied to intellectual products. It is argued that substantively the issue is the same whether a physical or intellectual input is at stake. In addition there is no policy reason to apply antitrust principles differently and so the creation of a new doctrine to address the same concern may just add greater confusion.

The application of the EFD to address concerns of access to essential upstream innovation reflects a concern regarding follow on innovation and a policy decision to give priority in such cases to such concerns. It has been argued that especially since initial research is usually supported by academic incentives or public funds, in such cases patents may be more a barrier to applied research than an incentive for the basic research.[55] The application of antitrust control as proposed would be limited to cases where the monopoly is effectively over a variety of product lines and so there is a series of dependent inventions. There is no evidence that such antitrust control would hamper incentives to innovate, and so it is assumed that subject to contrary evidence the normal antitrust principles should be adhered to, and considerations of potential technology impedance should be given priority.

The second question that needs addressing is how one applies the EFD to the biopharmaceutical industry and how that addresses the concerns. The main problems to be encountered would be whether there need to be two markets in an antitrust sense and whether there needs to be a new product. The *IMS* decision left a lot of discretion in this respect.

As regards the two markets requirements the Court adopted a liberal interpretation:

> it is sufficient that a potential market or even hypothetical market can be identified. Such is the case where the products or services are indispensable in order to carry on a particular activity … [56]

Hence, it would seem that this case can be used for precedent in not requiring two markets in an antitrust sense but rather applying the EFD according to the essentiality of an input for the operation of a market. Hence, in the research tool example where access is needed to potentially develop some downstream product the doctrine remains applicable and the research tools if truly indispensable *could* be an essential facility.

The second requirement relates to the requirement of a new product. Again, the Court in *IMS* adopted a more broad interpretation as it refers to '*intention* to produce new goods or services':

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[55] JH Barton, 'Patents and Antitrust: A rethinking in light of patent breadth and sequential innovation' (1997) 65 Antitrust LJ 44.

[56] Case C-418/01 [2004] 4 CMLR 28, para 44.

> may be regarded as abusive only where the undertaking which requested the license does not intend to limit itself essentially to duplicating the goods or services already offered on the secondary market by the owner of the copyright, but intends to produce new goods or services not offered by the owner of the right and for which there is a potential consumer demand.[57]

This is of significance in the biopharmaceutical industry as it takes into account the case of research tools. It refers to intention to produce as distinct from actual production of new products. This would allow for a CL to be granted relating to a certain indispensable research tool while taking into account that a more extensive use of it is *likely* to lead to more products but will not necessarily do so. Hence this will allow access to research tools to be used for further research irrespective of what that later leads to. It effectively involves endorsing a wider definition of 'new product' to include *potential* innovation.

Effectively the essential facilities doctrine can be used to grant access where this is otherwise refused, to an indispensable input for further research. It hence can address problems associated with potential technology impedance and potential restricted access to necessary inputs. It involves recognition that inputs to innovation *can* be an essential facility, and bases it on treating IP just as any other case, adopting a broader definition of a new product while addressing the same substantive issues. This of course rests on the assumption that the more research paths undertaken the better. While the economics of innovation and whether concentration or competition is more conducive to innovation are far from clear, it is assumed in this scenario that in some cases where access may be refused, access would be more desirable. The essential facilities doctrine addresses this and fine tunes the balance according to its determination of 'essentiality' and 'indispensability' on the facts of the case. As a practical matter, the delineation of these concepts would need to be addressed. As a matter of law, however, its application can be contemplated.

This way the antitrust duty to deal remedy may be seen as interchangeable with or at least complementary to the patent CL provisions, only with a difference in threshold; one requiring a patent of significant technological advance of considerable economic interest, and the other requiring the existence and abuse of a dominant position by virtue of a refusal to grant access to an *essential* input as set against the market conditions, respectively.

While the effect may be similar to that envisaged with the creation of the compulsory licensing provisions for dependent patents, it appeals to a wider and potentially different line of cases, in that it is not restricted to dependent *patents* but may be applied to downstream innovation as distinct from improvements.

Of course such a provision would only be applied in the most exceptional of cases, yet it would have an effect also indirectly in encouraging voluntary licensing. It offers more flexibility as a rule than the dependency provision, as it relies on a rule of reason approach of assessing the effects of a refusal to grant access. The advantage of the

[57] *Ibid,* para 49.

antitrust application of a duty to deal is that it is set against the market conditions so as to see to what extent access to the input is indeed necessary in view of the other alternatives and substitutes, to what extent a benefit will accrue to the consumers by virtue of access and to what extent indeed the market has proven the patent to control not only a specific product or process but indeed a whole area of endeavour.

The approach effectively advocates a more explicit consideration of follow on innovation in the application of antitrust analysis and that may not only be true for the application of the duty to deal provisions, but also for investigations of cross-licenses and patent pools, and potentially mergers.[58] Indeed in the EU unilateral restraints on innovation have on several occasions been condemned,[59] whether because they involved the gaining of control over potentially competitive innovations, preventing downstream innovation, and foreclosing innovation by raising barriers to entry.

The recent endorsement of the innovation markets approach in the *Genzyme/Novazyme*[60] merger in the US can be seen as another instance where competition law is used to control, mitigate or counter-balance what are deemed to be undesirable patent effects as set against the market conditions. The innovation markets approach is aimed at assessing the effects of a merger on the incentives for R&D and innovation. It assesses the extent to which output in the upstream R&D market may be restrained and whether the latter may lead to adverse competitive effects on the downstream product market at some time in the future. The concern is similar to that of the present case in that it aims at encouraging multiple research paths by keeping essential innovation tools de-concentrated even if only to protect innovation on a research/pipeline level as distinct from commercialisable products. Merger control in this instance is used as means to ensure that R&D is not too concentrated so that downstream potential markets *may* develop, and uses remedies such as divestiture and compulsory licensing to achieve that result. Similarly to such an approach, the essential facilities doctrine could be used to ensure that R&D is not suppressed by the control of essential inputs in the R&D process by a few dominant firms with the discretion and possible motive to deny or reduce access to such inputs.

While it would seem that much uncertainty surrounds most fundamental questions and so many assumptions have to be made, the importance of CL as a means of addressing follow-on innovation consideration should not be underestimated.

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[58] See for example innovation markets approach in merger review, and consideration being paid to potential competition. See also for example JH Barton, 'Patents and Antitrust: A rethinking in light of patent breadth and sequential innovation' (1997) 65 Antitrust LJ 44, that proposes that attention also be paid to technology lines and not only product market or technology or innovation markets. 'Clearly there are antitrust issues when a license or merger concentrates control over product lines or combines into one management several patents covering complementary ways of manufacturing a specific product.'

[59] See M Dolmans, 'Antitrust and the Suppression of Technology in the US and Europe: Is there a Remedy? Restrictions on Innovation: An EU Antitrust Approach' (1998) 66 Antitrust LJ 455.

[60] See FTC Jan 13, 2004 closing the investigation of Genzyme Corp.'s 2001 acquisition of Novazyme Pharmaceuticals.

> To the extent that neither statutory nor case law establishes clearly the legal scope of an IP grant, one should also look to policy concerns in determining whether a unilateral refusal to license should ever be considered an antirust violation.[61]

In addition, recognizing the existence of CL under antitrust law to remedy a situation of blocked follow-on innovation as a *last resort safety net* (whether this wants to be seen as remedying a perceived patent failure or simply balancing the system as initially contemplated) would seem to be a feasible and indeed desirable option. While competition law and the essential facilities doctrine is not the only measure to improve the balance, it is a means of enhancing the innovation/access balance. It requires no change in the current state of the law, and only involves an interpretation of the antitrust laws as applicable to patents and cases of a refusal to grant access, albeit with a more explicit recognition and articulation of what those laws are, to account for the potential technology impedance problems in the biopharmaceutical industry.

Effectively the approach advocates using dynamics of the competition and patent law balance to address innovation concerns as a system's interaction.

[61] '… (*Continued*) … There is no definitive test for dividing the optimal level of protection for IP. Logically the law should not place antitrust constraints on a monopolist's right to refuse to license if such constraints would undermine the IP laws. Conversely, the law should not give IP holders the carte blanche to refuse to license if that would result in frustrating the very objectives that IP laws seek to achieve.' M Lao, 'Unilateral Refusals to Sell of License IP and the Antitrust Duty to Deal' (1999) 9 Cornell JL & Pub Policy 193.