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A Critical Appraisal of Remedies in the
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Abstract

We discuss and compare the remedies in the two cases antitrust cases of the European Union (EU) against Microsoft. The first EU case alleged (i) that Microsoft illegally bundled the Windows Media Player (WMP) with Windows; and (ii) that Microsoft did not provide adequate documentation that would allow full interoperability between Windows servers and non-Microsoft servers as well as between Windows clients and non-Microsoft servers. After finding Microsoft liable and imposing a large fine, the EU imposed as remedies the requirements on Microsoft (i) to sell a version of Windows without WMP (Windows-N); and (ii) to publish and license interoperability information. Windows-N was a commercial failure, and there has been only limited cross-platform server entry. In its second investigation of Microsoft, the EU alleged illegal tying of Internet Explorer (IE) with Windows. The EU settled with Microsoft with Microsoft undertaking the obligation to ask (through compulsory Windows updates) consumers whose computers have Internet Explorer pre-installed to choose a browser from a menu of competing browsers. Thus, the EU imposed quite different remedies in the two cases: an unbundling remedy for the WMP but a close to a must-carry requirement for IE. We analyze and compare the different approaches.

Key words: antitrust, remedies, Microsoft, complementarity, innovation, efficiency, monopoly, oligopoly, media player, interoperability, Internet browser

JEL Classification: K21, L41, L42, L12, L86, L63

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I. Introduction

In 2004, the European Commission (Commission) adopted a decision declaring that Microsoft had violated Article 82 EC[3] by committing two abuses of its dominant position on the market for PC operating systems (the first EU Microsoft case).[4] Microsoft was held to have abused its dominant position by refusing to supply competitors with certain interoperability information and to allow them to use it for the purpose of developing and distributing competing products on the market for work group server operating systems. It also found that Microsoft had infringed Article 82 EC by making supply of its client PC operating system Windows conditional on the simultaneous acquisition of its Windows Media Player (WMP). The European Court of First Instance (CFI) affirmed the decision of the Commission in 2007.[5]

Following complaints by Opera, the Norwegian Internet browser maker, in December 2007 the Commission initiated investigations and sent a Statement of Objection (SO) in January 2009[6] alleging a violation by Microsoft of Article 82 EC for tying its web browser Internet Explorer to its dominant client PC operating system Windows. On October 7 2009, the Commission gave its preliminary approval to the choice screen proposal and opened it to testing and feedback.[7] On December 16, the Commission accepted the final choice screen proposal.[8]

This study will focus on the remedies that were adopted by the Commission and confirmed by the CFI in the first EU Microsoft case as well as those suggested by Microsoft in the second EU Microsoft case and will *not* examine the liability issue or the specific substantive standards for the finding of an abuse of dominant position in EU competition law.[9] Although there will be some references to the remedial strategy adopted in the United States for practices that were closely related to those condemned in the European Microsoft case, this study will also not systematically compare the US remedy with the EU remedy for the simple reason that each remedy addressed a different competition law problem, and therefore required the adoption of different measures to address that problem.

The study starts by discussing the aim of competition law remedies, before examining the roots of the Microsoft case in Europe and the consequent choice of a remedial approach by the Commission and the Court. It then explores the effectiveness of the remedies in achieving the aims that were set. The non-consideration of the structural

[3] Article 82 of the EC Treaty prohibits the abuse of a dominant position that one or more undertakings detain in a relevant market when there is an affectation of trade between member states.
[4] COMP/C-3.37.792-*Microsoft* [2007] OJ L32/23 (hereinafter Commission Microsoft).
[5] Case T-201/04, *Microsoft Corp. v. Commission* [2007] 5 C.M.L.R. 11.
[6] European Commission, MEMO 09/15, 17 January 2009, available at Europa Press Release.
[7] European Commission, MEMO/09/439 7 October 7, 2009, available at Europa Press Release.
[8] See European Commission at http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1941. In the final settlement, Microsoft made additional commitments on interoperability between rivals' software and its own, including Windows, Windows Server, Office, Exchange, and SharePoint.
[9] On the tying part of the case see, Nicholas Economides & Ioannis Lianos, The Elusive Antitrust Standard on Bundling in Europe and in the United States at the Aftermath of the Microsoft Cases, forthcoming, (2009) 76(2) Antitrust Law Journal, available at http://www.stern.nyu.edu/networks/Economides_Lianos_Bundling.pdf .

remedy in the European case and the pros and cons of developing such a remedy in the future are briefly discussed before more emphasis is put on alternative remedies (competition and non-competition law ones) that have been suggested in the literature. The study concludes by discussing the fit between the remedy and the theory of consumer harm that led to the finding of liability and questions a total dissociation between the two (arguing for a principle of remedial proportionality). We believe that it is important to think seriously about potential remedies before litigation begins. However, we do not require an *ex ante* identification of an appropriate remedy by the plaintiffs, since this could lead to underenforcement or overenforcement.

II. The aim of competition law remedies

Competition law remedies are adopted with the aim, among others, to restore competition in the market.[10] This includes first the "micro" goals of putting the infringement to an end, compensating the victims,[11] and curing the particular problem to competition, but also the "macro goal" of putting incentives in place "so as to minimize the recurrence of just such anticompetitive conduct."[12] This study embraces a broader view of the concept of remedies than Council Regulation 1/2003 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty.[13] According to Article 7 of Regulation 1/2003 the aim of competition law remedies is "to bring the infringement effectively to an end." Remedies should therefore be distinguished from sanctions against undertakings, as the latter have the aim to punish the infringer and to provide compensation to victims or society in general.[14] This distinction does not adequately take into account that both sanctions and remedies affect the incentives of the wrongdoers' in their future behavior on the market and thus may lead to restore competition. This study adopts a broader view of remedies, which includes different aims, allegedly also those performed by sanctions, such as stopping the illegal conduct and preventing its recurrence, restoring competition, deterrence, just compensation, disgorgement of illicit profits. This overall approach may provide a more useful analytical framework for analyzing the effect of competition law on the specific market.

[10] See A. Douglas Melamed, Afterword: The Purposes of Antitrust Remedies, 76 Antitrust Law Journal 359 (2009).

[11] Taking illegal gains away from the law violators and "restore the monies to the victims" constitutes a principal goal of competition law remedies: see, Robert Pitofsky, Antitrust at the Turn of the Twenty-First Century: the Matter of Remedies, (2002) 91 Geo L J 169, 170.

[12] Eleanor Fox, Remedies and the Courage of Convictions in a Globalized World: How Globalization Corrupts Relief (2005) 80 Tulane L Rev 571, 573.

[13] Council Regulation (EC) No 1/2003 [2003] OJ L 1/1. See also, on the distinction between remedies and sanctions, OECD, Remedies and Sanctions in Abuse of Dominance Cases, DAF/COMP(2006), May 2007, available at http://www.oecd.org/dataoecd/20/17/38623413.pdf , at 18 "(t)ypically, remedies aim to stop a violator's unlawful conduct, its anticompetitive effects, and their recurrence, as well as to restore competition. Sanctions are usually meant to deter unlawful conduct in the future, to compensate victims, and to force violators to disgorge their illegal gains."

[14] See also, on the distinction between remedies and sanctions, OECD, Remedies and Sanctions in Abuse of Dominance Cases, DAF/COMP(2006), May 2007, available at http://www.oecd.org/dataoecd/20/17/38623413.pdf , at 18 "(t)ypically, remedies aim to stop a violator's unlawful conduct, its anticompetitive effects, and their recurrence, as well as to restore competition. Sanctions are usually meant to deter unlawful conduct in the future, to compensate victims, and to force violators to disgorge their illegal gains."

Furthermore, the restrictive position adopted by Regulation 1/2003 concerns public enforcement and does not take into account the emerging role of private enforcement in EC competition law.

Remedies seek generally to restore "the plaintiff's rightful position, that is, to the position that the plaintiff would have occupied if defendant had never violated the law" or "to restore the defendants to the defendant's rightful position, that is, the position that the defendant would have occupied absent the violation."[15] In other words, remedies are a cure to a "wrong" the plaintiff committed, "in contravention of some legally-recognised right of the plaintiff's"[16] or of the category of right-recipients that the legislator aimed to protect. The wrong of the defendant gives rise to the enforceable right of the plaintiff (or the protected category) to impose on the defendant a correlative duty of stopping the illegal behavior, paying damages, making restitution, adopting a specific behavior. Article 7 of Regulation 1/2003 does not oppose this conceptualization of remedies, as it links the adoption of a remedy to the end of the infringement, a concept that might be understood narrowly, the termination of the illegal conduct, but also more broadly as outcome-oriented, thus requiring the reversal of the effects of the illegal conduct.

An important aspect in the definition of remedies is therefore to determine who would be the beneficiary of this right, in other words the protected category that detains the right to impose a correlative duty to the defendant. We will assume that the protected category for competition law remedies is the consumers of the relevant market harmed by the "wrong" committed by the defendant.[17] A wider perspective would be to consider that the protected category consists of the "broader public" who derives benefits from the principle of competition, allegedly jeopardized by the practices of the dominant firm.[18]

Whichever perspective is chosen, "restoring competition" should not be interpreted as reaching perfect competition (or free competition if one takes a deontological perspective), which is practically unattainable, and in some cases normatively undesirable objective from a public policy perspective.[19] The remedy aims to

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[15] Douglas Laycock, Modern American Remedies : Cases and Materials (Little, Brown, 1994), at 2.

[16] Michael Tilbury, Michael Noone & Bruce Kercher, Remedies: Commentary and Materials (3d ed., LBC Information Services, 2000), at 1.

[17] In this case, consumer welfare or consumer sovereignty will be proxies of consumer harm.

[18] See, the Opinion of AG Kokott in Case C-8/08 *T-Mobile Netherlands BV and Others* [19 February 2009], para 58 & 71 defending the view that the objective of EC competition law is to "protect competition as such" because this is of benefit, not only for consumers but for "the public at large." In Case C-8/08 *T-Mobile Netherlands BV and Others* [4 June 2009] nyr para 38 the European Court of Justice (ECJ) accepted that "Article 81 EC, like the other competition rules of the Treaty, is designed to protect not only the immediate interests of individual competitors or consumers but also to protect the structure of the market and thus competition as such" but did not adopt the position of AG Kokott with regard to the ultimate beneficiaries of the principle of competition, thus suggesting that a possible interpretation of the aims of EC competition law is the avoidance of a long-term consumer harm.

[19] In industries with significant network effects, even in the absence of anticompetitive actions, the natural equilibrium is neither perfect competition nor an egalitarian market structure. Markets with strong network effects, such as the market for operating systems of PCs, are ''winner-take-most'' markets with significant market share and profits inequality as well as high concentration. Thus, the "but for" world that would have existed in the absence of anti-competitive actions is one of very significant inequality. Attempting to impose the perfectly competitive egalitarian environment of a non-network industry can lead to lower social benefits. *See* Nicholas Economides, The Economics of Networks, International Journal of Industrial Organization (1996) 14, 675-699, available at http://www.stern.nyu.edu/networks/Economides_Economics_of_Networks.pdf; Nicholas Economides and

restore the market that would have existed in the absence of the conduct found illegal, that is, what is commonly called the "but for" market conditions.

Competition law remedies list also a prophylactic objective: "ensure that there remain no practices likely to result in monopolization in the future."[20] This is certainly a difficult enterprise that requires from the courts a guessing exercise linked to a counterfactual analysis of the situation in the market with and without the specific competition law violations. This is particularly true in complex and dynamically evolving markets, where static models cannot easily predict the situation that would have existed absent the restraint. It also requires a difficult decision on the appropriate remedy enforcement mechanism, as the judge should decide on the degree of her involvement (as opposed to market forces or regulatory institutions) in the operation. One could indeed perceive the operation of designing appropriate remedies as being, first of all, a decision over the need for regulatory interference in order to bring the self-correcting forces of the market back to their usual operation as the default mechanism that would adjust the incentives of market actors and therefore the interaction between supply and demand in the specific sector of the economy. Thus, remedies could be (i) setting up conditions for the market to work or (ii) directly influencing or guiding the market.

There are of course different choices that can be made and combined in order to affect the incentives of market actors and restore "competition," defined as the best possible outcome for the consumers of the specific relevant market in terms of price, quality, variety, innovation etc., if one assumes, as does this study, a consumer-driven competition law and policy. First, it is possible to contract out the remedy to other affected market participants by enabling them to sue for the recuperation of the damages suffered because of the conduct found illegal or for more than the damages incurred in order to deter market participants from adopting a similar anticompetitive conduct in the future. Second, it is possible to develop remedies that would affect the discretion of market participants to run their business, in other words affect their autonomy as market participants and consequently their incentives. The latter could be conceived as a *continuum* ranging from preserving some degree of discretion for market participants (in the case of contractual remedies, such as commitments) to purely non-voluntary schemes, unilaterally imposed by the public authorities. One could also distinguish remedies that relate to the conduct of the market participants and attempt to affect their incentives to adopt a specific form of conduct (by creating disincentives such as fines, or, more brutally, by imposing injunctions, interdictions, conduct remedies) from more intrusive remedies that affect the infringing company's assets (structural remedies) or the management's status (criminal sanctions).

III. Designing optimal remedies and the roots of the Microsoft problem in Europe

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Fredrick Flyer, Compatibility and Market Structure for Network Goods, Discussion Paper EC-98-02, Stern School of Business, N.Y.U., at http://www.stern.nyu.edu/networks/98-02.pdf; and Nicholas Economides Competition Policy in Network Industries: An Introduction, in Dennis Jansen (ed.), *The New Economy and Beyond: Past, Present and Future*, Edward Elgar (2006), at http://www.stern.nyu.edu/networks/Economides_Competition_Policy.pdf .

[20] See, US v. Microsoft Corp., 253 F.3d 34, 103 (D.C. Cir. 2001).

The design of optimal remedies requires a clear identification of the competition law problem that the antitrust remedy is attempting to address. It may be that competition authorities and courts develop different remedial strategies, for precisely similar or analogous fact patterns, because the competition law problems that were identified as the source of consumer harm in the liability phase of the decision are different. This study builds on the assumption that consumers should be at the centre of the attention of competition law enforcers, not only at the liability phase of the decision, but also at the remedy phase.

At the background of the finding of a competition law violation there is always a consumer harm story, in other words a narrative of consumer harm that is built on specific inferences from the facts of the case and that is established by different types of evidence: circumstantial, empirical or theoretical, quantitative or qualitative. In order to understand and assess the remedies adopted in the Microsoft case, we need to briefly unravel the narrative of consumer harm that led to the adoption of these specific remedies. Additionally, often actions can be identified as anti-competitive and their likely effect can be determined, but the quantification of their effect is much more difficult. Thus, a full restoration of the market to the "but for" world may be unfeasible. Often all that can be done is to eliminate the impediments to competition that resulted from anti-competitive actions.

In Europe, the dominant narratives of anticompetitive effect in the first Microsoft EU case were two: first, an issue of lack of interoperability and compatibility that allegedly harmed consumers; second, a story of leveraging. Both stories are different from the dominant narrative of the US *Microsoft* case, although they also relate to the business strategy of Microsoft to integrate different applications in its Windows platform, the source of Microsoft troubles in the US. However, there are different views on the anticompetitive effects of this strategy of integration. While in the US the main story of anticompetitive harm was that Microsoft was essentially attempting to preserve the dominance of the Windows' platform,[21] in Europe the Commission and the Court perceived Microsoft's strategy as essentially being focused on the application part of the business, where it attempted to extend its dominant position through the network effects of its platform.[22] The different narratives of anticompetitive effect justified the choice of a different remedial strategy.

Institutional differences with the US, such as the unavailability of civil remedies (fines) for infringements of Sections 1 and 2 of the Sherman Act, while fines are frequently imposed in Europe, may also explain the different remedy mixture in each jurisdiction. Private enforcement and damages actions are also less frequent in Europe

[21] The leveraging attempted monopolization part of the browser market claim was not successful. See, *US v. Microsoft Corp*., 253 F.3d 34, 80-81 (D.C. Cir. 2001) although an undertone of leveraging theory existed in some other claims. See, for instance, the integration of IE and Windows (Ibid., at 65-66).

[22] The Commission also argued that Microsoft also had a maintenance of monopoly/defensive leveraging objective for the interoperability part of the decision: Commission Decision, *Microsoft*, at para. 768-770, but the extension of monopoly power was the primary concern in both the interoperability and the tying parts of the case. See also, Case T-201/04, above n 5, at para. 1288, 1327 & 1344 ("it must be borne in mind at the outset that the two abuses at issue form part of a leveraging infringement, consisting in Microsoft's use of its dominant position on the client PC operating systems market to extend that dominant position to two adjacent markets, namely the market for work group server operating systems and the market for streaming media players").

than in the US. Although the beneficiaries of the compensation are different for fines than for damages actions (taxpayers for the first, consumers for the second), there is a close relation between civil sanctions and damages, from a deterrence perspective, as both instruments increase the overall cost of being caught for the violator.

The alleged narrative of anticompetitive effect is intrinsically related to the imposition of a specific duty to the defendant to cure the wrong committed. It affects therefore the mixture of the different types of remedies adopted. In some cases, that will require the adoption of a specific duty to act (conduct remedies). In other cases, it will entail a substitutionary (pecuniary) remedy, often when it is difficult or impossible to cure all the negative effects of the practice on the protected category with conduct remedies.

A. Specific (conduct) remedies

The Commission adopted conduct remedies for both anticompetitive practices of Microsoft. These remedies should respect the usual requirements of proportionality[23] and the existence of a relation between the remedy and the infringement that has been established.[24] The first remedy addressed the interoperability/compatibility issue, the second the tying/leveraging issue.

1. Interoperability/compatibility

The Commission found that Microsoft had refused to provide Sun with information enabling it to design work group server operating systems which could seamlessly integrate in the "Active Directory domain architecture," a web of interrelated client-PC-to server and server-to-server protocols that organize Windows work group networks. Microsoft's refusal to provide interoperability to Sun was found to be part of a broader pattern of conduct of refusing the relevant information to any vendor of work group server operating systems. Microsoft developed this strategy after it had, for a certain period of time, provided analogous information for previous versions of Microsoft's products to Sun and to the industry at large. The Commission found that this disruption of previous levels of supply eliminated competition in the relevant market for work group server operating systems, as this information was indispensable for competitors operating in that market.[25]

According to the Commission, the objective pursued by Microsoft was to leverage the quasi-monopoly power it had in the operating system market to the work group server market. Due to network effects, Windows is an indispensable platform for most applications. In reaching this conclusion, the Commission relied on evidence that there was a link between the enhanced interoperability from which benefited Microsoft's group server operating systems, in comparison to competing group server operating systems,

[23] Case 15/83, Denkavit, [1984] ECR 2171, paragraph 25 and Case C-354/95, The Queen v Minister for Agriculture, Fisheries and Food, ex parte National Farmers' Union and Others, [1997] ECR I-4559, paragraphs 49 and 50.
[24] Case , *Commercial Solvents*, para 45
[25] The exact market definition for interoperable systems was contested between Microsoft and the EU. Here we take the liability verdict as given.

and the rapid rise to dominance of Microsoft's applications in the group server operating system market. The Commission proceeded even further and attempted to show consumer harm, as in the absence of Microsoft's refusal to provide interoperability, the competitors would have been able to provide new and enhanced products to consumers. However, it did not include any evidence of the existence of projects for new products or investments that were not carried on because of Microsoft's conduct. The Commission proceeded to a qualitative balancing of the incentives of Microsoft and its competitors to innovate in the marketplace and concluded that Microsoft had committed an abuse of a dominant position sanctioned under Article 82 [26]. Imposing a duty to provide interoperability would not reduce Microsoft's incentives to innovate, because this is the way competition takes place in this industry, and that would also preserve the incentives to innovate of Microsoft's competitors.

In adopting the conclusion on Microsoft's liability, the Commission was indirectly influenced by the existence of a previous remedial strategy addressing problems of interoperability in the software sector.[27] In fact, although the decision of the Commission targeted the refusal of interoperability by Microsoft to Sun, it is clear from the general description of the competition law problem to which the Commission was confronted in this case that it envisioned the issue of interoperability more broadly and therefore not strictly confined to the facts of the specific case. For example, the Commission referred to the strong network effects that existed in this market, thus reducing considerably the contestability of Microsoft's dominance in the platform and application parts of its business. The Commission also emphasized, when it examined the issue of Microsoft's dominant position, the "strong commercial and technical associative links" between the PC operating system market and the work group server operating system market with the result that "Microsoft's dominance over the PC operating system market has a significant impact on the adjacent market for operating systems for work group servers."[28] This observation communicates the idea that the competition law problem to which the Commission was confronted was of structural nature (relating to the nature of the market and the existence of barriers to entry) and therefore required the development of a set of remedies that would address the problem of interoperability at its core.

The Commission referred to previous industry practice, in particular the license agreement with AT&T relating to the disclosure of portions of the Windows source code[29], to previous decisional practice, such as the IBM precedent, and to the existing regulatory framework in order to emphasize the need to establish interoperability in the software market. Furthermore, the EC Software Directive adopted in 1991[30] restricted the exercise of copyright over software (including exercise by non-dominant undertakings) for interoperability reasons and explicitly provided that its provisions were without

[26] For an analysis see, Ioannis Lianos, Competition Law and Intellectual Property Rights: Is the Property Rights' Approach Right? Chapter 8 in *Cambridge Yearbook of European Legal Studies*. John Bell & Claire Kilpatrick (ed.), Oxford: Hart Publishing, 2006, pp. 153-186..
[27] Commission Case IV/29.479, IBM.
[28] European Commission, Microsoft, para. 526.
[29] Ibid., para 212.
[30] Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs [1991] OJ L 122/42.

prejudice to the application of Article 82, in particular if a dominant undertaking refused to make available information which is necessary for interoperability.[31]

The main objective of the remedy was thus to restore interoperability, at least to the same degree that existed on the market before the alleged disruption by Microsoft of the previous supply of information. This raised two difficulties.

First, the Commission had to define the requisite degree of interoperability. This is an issue linked to both the liability and the remedy parts of the decision. Microsoft argued that it already provided some form of interoperability, which was allegedly found insufficient by the Commission, as this degree of interoperability was still providing an advantage to Microsoft's work group server operating systems. The issue could be framed as a platform neutrality problem: where a platform owner also provides complementary goods or services (applications), which rely on the platform and which compete with other applications. Had Microsoft not provided full (or native) interoperability to its own work group server operating systems, after providing the same degree of interoperability in the past with competing applications, most likely the Commission would not have found a violation of Article 82 EC. In other words, the Commission understood interoperability in relative (not absolute) terms, requiring in systems composed of components of different companies the same level of interoperability achieved between the dominant platform's components. This created a paradox as the Active Directory did not exist in the past (before Windows 2000) and Microsoft had not provided interoperability information in the past. Rather, what Microsoft provided was a license to the source code of Windows itself, for others (mainly AT&T) to use to build bridges between UNIX and Windows.[32] But providing Windows source code was not what the Commission wanted Microsoft to do. Furthermore, the disclosure requirement that was imposed to Microsoft by the Commission applied prospectively to future generations of Microsoft's products, thus implying that Microsoft should update the disclosed information, each time it brought to market new versions of its products.[33] The aim set for the remedy was clearly to enhance the ability of Microsoft's competitors to "develop products that interoperate with the Windows domain architecture […] and hence viably compete with Microsoft's work group server operating system."[34]

Second, the Commission had to decide the institutional arrangement that would have achieved most effectively the required degree of interoperability. This issue relates to the implementation mechanism for the remedy, which raised important difficulties in this case. Article 7 of the Commission's liability decision required Microsoft to submit a proposal to the Commission "for the establishment of a suitable mechanism assisting the Commission in monitoring Microsoft Corporation's compliance." The complexity of the decision, and in particular the need to constantly verify the accuracy and completeness of the information provided by Microsoft, as well as the need to provide adequate information on specifications, would have indeed required, in some circumstances, the inspection of Microsoft's source code in order to resolve any issue of accuracy and completeness of the specifications disclosed, thus requiring the appointment of a

[31] European Commission, Microsoft, para. 763.
[32] Ibid., para
[33] Ibid., para 1002.
[34] Ibid., para 1003.

Monitoring Trustee.[35] The Monitoring Trustee was urged to adopt a proactive, rather than reactive, role in enforcing the interoperability, as well as the tying, part of the decision.[36] The compliance process for the interoperability part of the decision faced difficulties that led to a number of exchanges between the Commission and Microsoft and eventually a number of Article 24 Regulation 1/2003 penalty decisions.[37]

Following the judgment of the Court of First Instance confirming the Commission findings on Microsoft's liability[38] Microsoft agreed with the Commission to alter a certain number of the conditions in its license agreements regarding the provision of interoperability information (the Neelie Kroes-Steve Ballmer agreement).[39] The Commission supported also in December 2007 the conclusion of a licensing agreement between Microsoft and Samba (the "PFIF Agreement"[40]). Microsoft was willing to provide, as an annex to the agreement, an indication of all the patents it claimed in its licensed information and agreed not to sue Samba for infringement of an unlisted

[35] Commission Decision (Case COMP/C-3/37.792 Microsoft), C(2005)2988 final. The Commission appointed as Monitoring Trustee, Professor Neil Barrett, a computer scientist, from a shortlist of four experts submitted by Microsoft in October 2005. See, IP/05/1215.

[36] The European Commission's decision had the advantage of intervening at a later stage when the US experience could have been very instructive for the design of the interoperability remedy. For an excellent account of the US experience, see William H. Page and Seldon J. Childers, Software Development as an Antitrust Remedy: Lessons from the Enforcement of the Microsoft Communications Protocol Licensing Requirement, 14 Mich. Telecomm. Tech. L. Rev. 77 (2007), available at http://www.mttlr.org/volfourteen/page&childers.pdf; William H. Page, 'Mandatory Contracting Remedies in the American and European *Microsoft* Cases', (May 5, 2009). University of Florida Levin College of Law Research Paper No. 2009-22. Available at SSRN: http://ssrn.com/abstract=1073103

[37] Article 24 of Regulation 1/2003 entitles the Commission to impose such penalty payments not exceeding 5% of average daily turnover in the preceding business year per calendar day to compel companies to put an end to infringements of EC Treaty anti-trust rules, where an infringement has been established by a previous Commission anti-trust decision. The Commission issued a decision in November 2005 pursuant to Article 24(1) of Regulation 1/2003 which warned Microsoft that if it did not comply with its obligation to supply complete and accurate information and with its obligation to make the information available on reasonable terms, it would face a daily fine of up to €2 million. Commission Decision imposing a periodic penalty payment pursuant to Article 24(1), available at http://ec.europa.eu/competition/antitrust/cases/decisions/37792/art24_1_decision.pdf ; Commission Decision fixing the definitive amount of the periodic penalty payment [July 12, 2006], available at http://ec.europa.eu/competition/antitrust/cases/decisions/37792/art24_2_decision.pdf ;
decision for non-compliance pursuant to Article 24(2) of Regulation 1/2003 imposing Microsoft a further €280,5 million for continued non compliance with the March 2004 Decision and raising, this time acting on the basis of Article 24(1), the periodic penalties to €3 million for non compliance. Finally, in February 2008 the Commission adopted a second Article 24(2) Decision which imposed an additional €899 million penalty for charging unreasonable prices for access to interface documentation for work group servers. See, Commission Decision C(2008) 764 final fixing the definitive amount of the periodic penalty payment imposed on Microsoft, available at http://ec.europa.eu/competition/antitrust/cases/decisions/37792/decision2008.pdf ..For a more detailed analysis see, Nicholas Economides & Ioannis Lianos, The Quest for Appropriate Remedies in the Microsoft Antitrust EU Cases: A Comparative Appraisal, in Luca Rubini (ed.) *Microsoft on Trial: Legal and Economic Analysis of a Transatlantic Antitrust Case* (Elgar, 2009 forthcoming)

[38] Case T-201/04, *Microsoft Corp. v. Commission* [2007] 5 C.M.L.R. 11

[39] William H. Page & Seldon J. Childers, 'Bargaining in the Shadow of the European Microsoft Decision: The Microsoft-SAMBA Protocol License', (2008) 102 Northwestern University L Rev 332.

[40] The Protocol Freedom Information Foundation Agreement. PFIF was a nonprofit corporation created by the Software Freedom Law Center (SFLC) in order to license the documentation to free or open source developers.

patent.[41] These "patent maps", which have also become a prominent feature of Microsoft's interoperability policy[42] provide developers an opportunity to attempt to successfully design around, without risk of patent infringement. Microsoft has only included patents on the patent map that it believes are necessarily infringed by any implementation of the protocol. The Samba license constitutes by far the most important development of the EU Microsoft Decision's remedial phase.

2. Tying

In comparison to the complex and long-standing compliance to the interoperability part of the decision, the conduct remedy imposed with regard to the tying of WMP to Windows was relatively straightforward. The 2004 Commission Decision took the view that Microsoft had violated Article 82 EC, in particular because of the possible leveraging of its quasi-monopolistic position in the PC operating systems market to the media player market. As it is explained in the Commission's decision, the US Judgments did not solve that particular anticompetitive problem. First, the US proceedings focused only on the maintenance of monopoly argument and the leveraging argument was abandoned at the appeal level. The plaintiffs abandoned the tying claim after the Court of appeal ruled that technological tying should be examined under a rule of reason. Second, as a consequence of the narrow focus of the US liability decision, there was no specific remedy included for tying:[43] the US judgment did not provide means enabling the Original Equipment Manufacturers (OEMs) and end-users to remove Windows Media Player code from the PC operating system (as it was technically unfeasible to remove the WMP code without running the risk that other parts of the operating system and third party products relying on WMP would not function properly),[44] but only requested Microsoft to provide OEMs and end users the means to remove access (including icons) to the WMP application or to disable automatic launches.[45]

The effectiveness of this remedy was limited as only few OEMs took advantage of this possibility.[46] The alleged lack of success of the remedy[47] could be explained by the fact that the final remedial order did not require Microsoft to charge a lower license fee to OEMs that deleted access to Microsoft middleware, although this eventuality was included in Judge Jackson's remedial order.[48] In addition, the Commission may have

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[41] William Page & Seldon Childers, Bargaining in the Shadow of the European *Microsoft* Decision: The Microsoft-SAMBA Protocol License, above, at 347.
[42] http://www.microsoft.com/protocols/default.mspx#patent%20maps .
[43] However, bundling made also part of the maintenance of monopoly claim: *US v. Microsoft Corp*., 253 F.3d 34, 65 (D.C. Cir. 2001).
[44] Commission Decision, Microsoft, para. 829.
[45] *New York v. Microsoft Corp.*, 224 F.Supp.2d 76, 153-155 (D.D.C. 2002).
[46] William H. Page & John E. Lopatka, *The Microsoft Case* (University of Chicago Press), at 215.
[47] One could however also advance that taking into account the liability claim, which was that OEMs were forced to carry IE because they could not exclusively promote other browsers, the remedy was fully "successful" in providing them with that option. The fact that they may or may not choose to take advantage of that right may not necessarily mean the remedy was unsuccessful, unless a "successful" remedy is defined as a socially desirable market outcome, which could blur the distinction between competition law intervention and regulatory alternatives.
[48] Ibid., at 216.

found this remedy inadequate "because it reinforced the applications barrier to entry from which Microsoft benefited by encouraging content providers to encode their products in Microsoft's standards."[49]

The importance of the leveraging argument and network effects in the European case and the insistence of the Commission on the need to restore the freedom of choice of the consumers that were coerced by Microsoft's conduct to use WMP as a default media player led to a more intrusive remedy than in the US Microsoft case. The fact that WMP was offered for free, that there were other ways to reach consumers for competing products and that the consumers were not forced but simply likely to use WMP did not influence the conclusion of the Commission that there was coercion. The extent of the competition problem was of structural nature: the ubiquity of Windows undermined because of the network effects competition in media players.[50] This was thought to deter innovation and reduce consumer choice as competing media players that consumers preferred were excluded from the market.[51]

The extent of the competition problem identified, Microsoft's distributional advantage, led to a more intrusive competition law remedy than in the US case, affecting Microsoft's freedom to design its products. Article 6 of the Decision requested Microsoft to offer a version of Windows for client PC, which does not include WMP media files,[52] the new version being equally performing. The remedy applied to licenses for both end-users and OEMs. Microsoft was also asked to refrain from using "any technological, commercial, contractual or any other means which would have the equivalent effect of tying WMP to Windows", for example by selling the new version at a higher price than the Windows with WMP version.[53] This did not include directly an obligation for Microsoft to charge the Windows without WMP version for a lower price than for the Windows with WMP version, since most competing media players were offered for free. In addition, the Decision included an indication of activities having an effect equivalent to tying to which Microsoft should not resort, such as privileged interoperability between WMP and Windows or any other favorable treatment to Windows, conditional discounts, punishing or threatening OEMs who obtain Windows without WMP, tying WMP to other products that "would exhibit a similar ubiquity as Windows," such as Microsoft Office.[54] The Commission rejected Microsoft's arguments that removing the WMP would undermine the integrity of the operating system, as for the Commission any interdependencies between the two products were the result of "deliberate choice by Microsoft" and the integration of WMP was not a precondition for the multimedia

[49] Ibid., at 218.
[50] Commission Decision, Microsoft, para. 979. As the Commission puts it, "through tying with Windows, Microsoft uses Windows as a distribution channel to anti-competitively ensure for itself a significant competition advantage in the media player market. Competitors, due to Microsoft's tying, are a priori at a disadvantage irrespective of whether their products are potentially more attractive on the merits."
[51] Ibid., para. 978-984.
[52] According to the Commission, "these files contain the technologies which have been identified as bringing about the foreclosure effect by virtue of WMP being tied to Windows, namely the files that support the proprietary Microsoft codecs, file formats and DRM formats and the WMP user interface": Ibid, para 1019.
[53] Ibid., para. 1012.
[54] Ibid., para. 1013(v).

capabilities of Windows.[55] In other words, the remedy imposed attempted to unravel the various links that tied WMP and Windows. Microsoft was given 90 days to implement the remedy. The Commission rejected Microsoft's proposal to include other media players in Windows (the must carry remedy).

Measured in terms of the number of sales for the Windows XP N edition, the effectiveness of the remedy can certainly be questioned.[56] The Commission's hope of widespread adoption of Windows XP N and the emergence of new powerful competitors did not materialize.[57] One could compare the situation of the media player market with that of Internet browser market, which was the subject of the US Microsoft case.[58] As it was previously explained, after the Court of appeal's judgment, the tying case was dropped. By the time of the Court of appeal's decision, Microsoft commanded an impressive share of the Internet browser market (almost 90%). It is only recently that Mozilla Firefox, a competing Internet browser, developed by Netscape in the form of open source software in 2004, after Netscape's defeat in the first browser war,[59] has been able to challenge Internet Explorer's dominant position with IE's usage share reducing to 66.1% in the second quarter of 2009.[60] The situation is relatively different in the media player market, where a number of competing programs developed during the same period. One could advance that one of the reasons for the faster development of competing products in the media player market than in the Internet browser market was the relatively important constraint and distraction that litigation in Europe placed to Microsoft's management, and the effect the decision had on Microsoft's aggressive competitive ethos.[61]

B. Substitutionary remedies

[55] Ibid., para 1027 & 1031. The Commission distinguished between two sorts of dependencies: "technical" which would by definition lead to the non-functioning of the operating system and functional dependencies which can be dealt with "gracefully": ibid., at para. 1033.

[56] The alleged ineffectiveness of the remedies may raise questions on the validity of the liability theory of harm at the first place. One could claim that Microsoft was essentially found liable for failing to produce a product – Windows without media functionality – that no one wanted.

[57] There is no doubt that powerful competition existed in Media Players before the introduction of Windows XP N, as evidenced by the huge successes of the iPod and the associated media format, as well as the Adobe Flash media player.

[58] US v. Microsoft Corp., 253 F.3d 34, 103 (D.C. Cir. 2001).

[59] See, http://en.wikipedia.org/wiki/Browser_wars .

[60] See, http://en.wikipedia.org/wiki/Usage_share_of_web_browsers . Mozilla Firefox had 22,47% of usage share. According to other reports, the IE versions had a total of 54.4% market share in July 2009, a significant decline from 65.8% in March 2009. See, http://www.techcrunch.com/2009/07/05/since-march-internet-explorer-lost-114-percent-share-to-firefox-safari-and-chrome/?awesm=tcrn.ch_.Furthermore, Apple Safari 4 and Google Chrome have done well since their releases too.

[61] Gary L. Reback, *Free the Market!* (Portfolio, 2009). See also the remarks of William E. Kovacic, Designing Antitrust Remedies for Dominant Firm Misconduct, (1999) 31 Connecticut L Rev 1285, 1288-1292 advancing that the existence of an antitrust lawsuit may inhibit aggressive commercial behavior by the defendant as well as distract the defendant's employees from more productive functions, thus imposing formidable costs on the company. One could however remark that Microsoft continued to introduce new products in the market, such as Zune (media player hardware) and Silverlight (for Internet media playback, like Adobe Flash).

Substitutionary remedies may take different forms: e.g. fines, damages, disgorgement of illegally acquitted gains. As it is the case for remedies in kind, the objective of substitutionary remedies is to place the plaintiff or the protected category of right holders to the situation that would have existed absent the infringement. This could be either achieved through compensation of the right holders and/or by restoring competition. For example, the objective of fines is to raise the costs of the violation of competition law and therefore affect the incentive of these undertakings to adopt a similar conduct in the future. This deterrence effect will also affect the incentives of all other undertakings likely to adopt similar conduct in the future.

The monetary transfers involved may have different addresses. Indeed, substitutionary remedies may consist in fines, which is a monetary transfer to the tax payer, or damages, which is a monetary transfer to the "victims" of the anticompetitive practice. In any case, setting an optimal level for civil sanctions and damages should take into account the interaction of these two forms of substitutionary remedies. The European Commission imposed what could, at first sight, appear as a hefty fine to Microsoft. However, if one compares the fines imposed to Microsoft in Europe with the level of damages claims and settlements in the US, it would be possible to conclude that the amount of fines imposed in the European Microsoft case could lead to lower deterrent effects than the US substitutionary remedies.

1. Fines

Article 3 of the Commission's decision imposed to Microsoft what appeared at the time as a record fine in an abuse of dominance case[62]. The Commission calculated the amount of the fines according to the method set in the Guidelines on setting fines of 1998, revised in 2006.[63] The Commission took into consideration in order to set the basic amount of the fine the gravity of Microsoft's infringement, a leveraging strategy which comprised two separate abuses: a refusal to supply and a tying abuse.[64] The fact that Microsoft had already achieved a dominant or leading position in these industries was found a sufficient indication of the gravity of the infringement. The initial amount for gravity was set to €162,732,101, without distinguishing which amount represented the fine for the refusal to supply interoperability infringement and which one for the tying infringement. This starting amount was doubled in order to ensure "a sufficient deterrent effect on Microsoft," in light of the undertaking's significant economic capacity.[65] The duration of the infringement was also particularly long: the refusal to supply abuse lasted six years and it was still ongoing at the time of the decision; the tying abuse lasted more than 5 years. The Commission set the overall duration of the infringement to 5 years and 5 months, thus increasing the basic amount of the fine by 50% to €497,196,204, taking into account an increase of 10% for each year of participation in the infringement. The fine represented 7.5% of Microsoft's turnover on the market for client PC and work-

[62] The latest record being held by the fine imposed to Intel. See, IP/09/745.
[63] Guidelines on the method of setting fines [1998] OJ C 9/3; Guidelines on the method of setting fines [2006] OJ C 210/2.
[64] Decision Commission, para 1061-1068.
[65] Ibid., at 1076.

group server operating systems in Europe,[66] thus below the threshold of 10% set by the Guidelines. No aggravating or attenuating circumstances were found.

The Court of First Instance affirmed the fine imposed by the Commission and rejected Microsoft's arguments that no fine should be imposed, as the infringements resulted from "novel theories of law" or that Microsoft had already taken measures, following the US settlement to provide the necessary degree of interoperability.[67] The Court found that the doubling of the basic amount of the fine by the Commission was justified for deterrence reasons: in a prescient (for recent developments) paragraph the Court noted that "since Microsoft is very likely to maintain its dominant position on the client PC operating systems market, at least over the coming years, it cannot be precluded that it will have other opportunities to use leveraging vis-á-vis other adjacent markets."[68]

Although the fine imposed to Microsoft seems particularly important, its deterrent effect may be questioned. In the high technology sector, where network effects may tip the market for some time towards a particular technological standard, incurring the costs of civil penalties may still be a profitable strategy for monopolists. The effectiveness of this part of the European remedy should be examined in comparison to the pecuniary sanctions imposed in the US Microsoft case. There is no provision for civil penalties, such as fines, under the Sherman Act and their adoption may not be possible, at least for the near future.[69] In US antitrust law, pecuniary sanctions take the form of wealth transfers to the victims of the exclusionary practice, which may engage a private action to collect damages. Most often, this leads to settlements entered between the monopolist and the claimants. The next section will discuss the availability of damages and settlements as an effective "pecuniary" remedy. These remedies provide compensation/restitution to the victims of the competition law infringement, as well as deter the monopolist or dominant firm from adopting similar practices in the future by acting indirectly on their incentives.

2. Damages

In comparison to the amount of the fines imposed by the European Commission, the monetary transfers to consumers and competitors affected by Microsoft's antitrust law infringement in the US case seem particularly important. According to Harry First, more than 220 private cases have been filed against Microsoft, from consumers and rivals.[70] Consumer class actions represent the largest group of claims (more than 80%), with individuals having filed thirty cases and state attorneys general having filed two cases on behalf of their non-business citizens.[71] This category of private plaintiffs had an

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[66] CFI, para 1319.
[67] CFI, para. 1324.
[68] CFI, para 1363.
[69] The proposal to make the necessary amendments to permit the imposition of civil fines has been rejected by the recent Antitrust Modernization Commission, Report and Recommendations, 285-291 (April 2007). For a critical analysis, see Stephen Calkins, Civil Monetary Remedies Available to Antitrust Enforcers, 40 U.S.F. L. Rev 567 (2006); Harry First, The Case for Antitrust Civil Penalties, Antitrust law Journal Forthcoming; NY Law and Economics Research Paper No 08-38. Available at SSRN: http://ssrn.com/abstract=1162353 .
[70] Harry First, 'Netscape is Dead: Remedy Lessons from the Microsoft Litigation', (August, 29, 2008), NYU Law and Economics Research Paper No.08-49. Available at SSRN: http://ssrn.com/abstract=1260803
[71] Ibid., at 6.

important hurdle to overcome, as they had to prove that they were overcharged, following Microsoft's maintenance of monopoly in the operating systems market. As indirect purchasers, they were barred from bringing a federal antitrust private damages claim,[72] and class actions had to pass the procedure of class certification.[73] Important difficulties also arose with regard to the existence of an overcharge of Windows, as Microsoft was allegedly able to maintain its monopoly power by excluding potential competing platforms in the operating systems market.[74] The issue revolved on the question of what would have been the price of Windows, had Netscape and Java been able to challenge Microsoft's dominant position and develop a competing platform. Judge Jackson's decision contained some indications that Microsoft was able to charge higher prices to Windows 98 upgrades, while lower prices would have also been profitable. However, Judge Jackson also recognized that it might be in Microsoft's interest to "keep the price of Windows low today" in order to support the growth of the operating system market.[75]

Another group that filed private damages suits in the US Microsoft case included the two competitors that brought the case against Microsoft in the EU, Netscape/AOL and Sun. Netscape settled in 2003, while Sun settled a few days after the publication of the decision of the European Commission in 2004 and consequently retreated as a third party intervener in the European litigation. As for other Microsoft's opponents in the European antitrust case, both RealNetworks and Novell settled, with the exception of Novell's pending lawsuit against Microsoft relating to the damage suffered by WordPerfect (for lack of interoperability information),[76] In total, the settlements in the US seem to have exceeded the $3.5 billion.[77]

In comparison, the fine imposed by the European Commission, which represents only a fraction of the total amount of settlements, seems to lead to under-deterrence, absent private enforcement. This conclusion is reinforced by the absence of any private action brought against Microsoft for damages in the EU. There are two cumulative explanations for this: First, private enforcement of EC competition law is only nascent and does not include a system of treble damages or other incentives for private actions.[78]

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[72] *Illinois Brick Co. v. Illinois*, 431 U.S. 720 (1977). With the exception of some states that provide the possibility for state antitrust actions filed in state courts.

[73] The majority of the courts adopted, however, a liberal standard for class certification. See William H. Page & John E. Lopatka, *The Microsoft Case* (University of Chicago, 2007), at 235.

[74] Whether Netscape together with Java could have been a real threat to Windows was not clear and definitely not proved. Netscape's CEO Jim Barksdale completely dismissed that likelihood at trial stating that Netscape never planned such entry into operating systems. However, Microsoft had taken this potential threat, expounded by Netscape's CTO Mark Andreesen, very seriously as internal Microsoft emails presented at trial revealed. But if Netscape's success was very unlikely in the absence of anticompetitive actions, the remedy should be limited to erasing the anti-competitive hurdle and should not involve a restructuring of the market.

[75] *United States v. Microsoft*, 84 F.Supp. 2d 9, 27 (D.D.C. 1999), (Finding of Fact ¶ 66). However, this argument is not credible given that Microsoft already had over 90% market share in the OS market. In fact, it is likely that potential competition in the OS market drove Microsoft to charge a significantly lower price than the unconstrained monopoly price. For a detailed analysis of pricing of Windows, see, Nicholas Economides, The Microsoft Antitrust Case, Journal of Industry, Competition and Trade: From Theory to Policy,(2001) 1, 7-39, at http://www.stern.nyu.edu/networks/Microsoft_Antitrust.final.pdf , pp. 16-19.

[76] Harry First, Netscape is dead: Remedy Lessons from the Microsoft Litigation, above, at 9.

[77] Ibid., at 27.

[78] See, the recent discussion of possible options in European Commission, White paper on Damages Actions for Breach of the EC Antitrust Rules COM (2008) 165.

Second, the heart of the European case was not maintenance of monopoly, and therefore a possible overcharge of Windows, but the extension of the monopoly power of Microsoft to the work group server and media player markets. Concerning the work group server market, it is not clear if consumer harm took a different form than just a slower pace of innovation, because of the exclusion of competitors or led also to an increase in the prices charged by Microsoft. In the media player market, the product was given for free, so the harm to consumers was not relating to higher prices but to possibly lower quality, as allegedly better quality media players were excluded from the market. It would, however, be extremely difficult and costly to quantify this reduction of quality.[79] Because of the limited access of European consumers to damages and the difficulties to get damages in the US, for comity concerns, in particular after *Empagran,*[80] European consumers will stay without compensation and, consequently, there would be less deterrence. The weakness of private enforcement of competition law in Europe indicates that fines should be set at a higher level in order to ensure more effective deterrence.[81]

IV. Did the EU Microsoft case remedies failed?

The success of the interoperability remedy required a sustained and continuing effort of setting and monitoring compliance standards, which was particularly difficult in the absence of a regulatory authority that could supervise its enforcement. The Commission initiated the mechanism of the Monitoring Trustee, which proved particularly useful in the promotion of the SAMBA-Microsoft settlement, the only positive as far outcome of the European Commission’s decision. However, the CFI annulled this part of the decision. The crafting of remedies involves the consideration of an adequate institutional mechanism for their enforcement.

The design of the tying part remedy was also particularly problematic, as the Commission took a quasi-regulatory role by imposing to Microsoft a particular product design, which, however, produced very poor results on the marketplace. We will, however, argue that a structural remedy would have not been appropriate in this case. We will then examine some alternative remedies suggested before addressing the important issue of the proportionality of the remedies.

1. The enforcement difficulties of the interoperability remedy: institutional aspects

[79] However, during the infringement period there was significant innovation and entry of new products such as the iPod and the Adobe Flash Player.

[80] *F. Hoffmann-La Roche Ltd. V. Empagran S.A.*, 542 U.S. 155 (2004).

[81] This supposes, however, a clarification of the liability standard under Article 82 EC. The European Commission has recently adopted guidance on Article 82 EC: DG Competition, Communication from the Commission, Guidance on the Commission’s Enforcement Priorities in Applying Article 82 EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings(2009) 864 final. Note the guidance on enforcement priorities is a softer law instrument than guidelines: it is complementary to the Commission’s specific enforcement decisions. The choice of the instrument of guidance on enforcement priorities offers to the Commission more leeway in presenting its approach for Article 82. The Commission could not have adopted guidelines contrary to the rulings of the European courts [see the most recent reminder by Advocate general Kokott, Case C-8/08, *T-Mobile Netherlands BV and Others* [2009] ECR nyr, para 29]. The Commission maintains the ability to reject a complaint when it considers that a case lacks priority for other reasons (e.g. lack of Community interest).

The appointment of a Monitoring Trustee, independent from Microsoft, although at its payroll, was the primary mechanism of enforcement of the remedy imposed by the Commission for both the interoperability and tying parts. The Monitoring Trustee was required to assess whether the information made available by Microsoft was complete and accurate and to ensure that Windows N was not less performing than any bundled version of Windows Microsoft would continue to provide on the market. Furthermore, Article 4 of the decision imposed Microsoft an obligation to refrain from repeating any act or practice which would have the same or equivalent object or effect than the anticompetitive conduct. This exemplified the forward-looking role of the Monitoring Trustee, as it was clear that "the obligation to disclose interoperability information must apply 'in a prospective manner' to future generations of Microsoft's products."[82] Microsoft successfully challenged this part of the Decision at the CFI for lack of legal basis.

The CFI found that Regulation 17/62, in force at the moment of the decision, did not provide the Commission with the authority to compel Microsoft to grant to an independent monitoring trustee powers which the Commission itself was not authorized to confer to a third party.[83] The Court questioned the independence that the Monitoring Trustee would have had from both the Commission and Microsoft and the broad scope of his powers and mission. It also noted that no limit in time was envisaged for his continuing intervention in monitoring Microsoft's compliance. Moreover, the principle of proportionality required that the costs associated with the enforcement of the remedy and compliance should not be borne by the undertakings but by the Commission, in fulfilling its own investigation and enforcement responsibilities.[84]

The conservatism showed by the Court in envisioning an effective compliance mechanism seems misplaced. The independence of the Monitoring Trustee from Microsoft, but also from the Commission, ensured its impartiality, which was an essential characteristic in order to enhance compliance and cooperation from Microsoft. This was crucial for the success of the remedy (provide adequate information on specifications). After all, it is because the Monitoring Trustee had developed a relation of confidence with Microsoft's technical staff that he had been able to mediate successfully between Microsoft and SAMBA, ironically during the period following the Court's decision and before the Commission formally replaced him with a system of *ad hoc* external experts.[85] It may have not been possible to achieve the same degree of cooperation from Microsoft, had the Commission employed internal or external experts for the enforcement of the decision, as in this case no direct relation (without the intermediate of lawyers) would have existed between Microsoft's technical staff and the technical staff of the parties requiring interoperability. It is true that the Commission's decision should have included a realistic time horizon for the monitoring of the decision and should have quantified the costs. However, as it became clear in the compliance procedure for the US antitrust decision, the extent and time scope of monitoring was an unknown factor depending on

[82] CFI, para. 1270.
[83] Ibid., para 1271.
[84] Ibid., para 1277.
[85] William H. Page & Seldon J. Childers, 'Bargaining in the Shadow of the European *Microsoft* Decision: The Microsoft-SAMBA Protocol License', at 346.

the clear articulation of what the government wanted Microsoft to produce and on the willingness and ability of Microsoft to provide detailed specifications for its interoperability information.[86] Sharing the costs of the enforcement mechanism would have limited the exorbitant costs for Microsoft, which may seem out of proportion, but at the same time it would have reduced, to a minor extent, Microsoft's incentives to comply with the decision. The Commission could have nevertheless taken in charge a larger proportion of the expenses during the first period of the operation of the enforcement mechanism, Microsoft's share progressively increasing in order to incur the costs of delayed compliance.

The appointment of the Monitoring Trustee illustrates the blurring of the distinction between competition law and regulation, when it comes to the enforcement of far reaching and forward looking remedies, with regard to the scope of the obligations imposed and the time-horizon of the remedy. The European Monitoring Trustee intervened three years after the Technical Committee in the US antitrust case started to monitor Microsoft's compliance. The US Technical Committee had become at that time a quasi-regulatory entity with 40 experts employed and the ability to persuade DOJ and the States that additional obligations and burdens should be imposed in order to ensure effective interoperability. The Technical Committee can receive complaints, interview Microsoft's staff and examine the Windows' source code, subject to confidentiality; the expenses of the Committee, including the salaries being taken in charge by Microsoft.[87] The Monitoring Trustee was able to build on these efforts to ensure interoperability and to benefit from the US experience but he also contributed to the compliance effort in the United States. Indeed, in 2006 the US Technical Committee started working closely with Microsoft's experts in order to improve the technical documentation provided to licensees, using "as a starting point the specification agreed upon between Microsoft and the Monitoring Trustee."[88]

One could envision a higher degree of cooperation at the remedial stage of multijurisdictional cases, such as Microsoft, if compliance is ensured by an independent entity, like a Monitoring Trustee or a Technical Committee, including the sharing of the costs of the compliance mechanism between jurisdictions. It is clear that despite the different theories of antitrust liability in Europe and in the US, the remedies imposed with regard to the interoperability part of the decision converged at the end. This type of international cooperation at the remedial stage of antitrust cases could be enhanced if the Commission had the ability to appoint independent compliance officers/experts. The procedure has been used in the context of Article 9 of Regulation 1/2003 commitment decisions, such as the *Deutsche Bundesliga*[89] and *FA Premier League*[90] cases concerning the collective selling of media rights to football matches, where the Commission appointed a monitoring trustee to monitor the auctions of the Premier League rights, or in

[86] William H. Page & Seldon J. Childers, 'Software Development as an Antitrust Remedy: Lessons from the Enforcement of the Microsoft Communications protocol Licensing Requirement', above, at 75 noting that "we have no way of estimating the costs of a program of this scale with any accuracy, but they certainly run into eight figures."
[87] *Final judgment*, Part IV.B.
[88] Joint Status Report on Microsoft's Compliance with the Final Judgments (September 7, 2006), available at http://www.usdoj.gov/atr/cases/f218000/218096.htm .
[89] Commission Decision, Bundesliga [2005] OJ L 134/46.
[90] Commission Decision, FA Premier League [2004] OJ C115/3.

Repsol[91] where the Monitoring Trustee had to monitor the opening up of the fuel distribution system in Spain. Monitoring Trustees were also used in merger cases cleared with obligations and commitments, where the Trustees enjoy important powers, such as the supervision and management of the divested business, the exercise of shareholder rights or the appointment of board members.[92] The CFI's decision in *Microsoft* raises questions on the legality of this practice, in particular as the company giving the commitment is usually required to incur the Trustee's costs. Regulation 1/2003 does not grant the Commission any power to establish such monitoring mechanisms and this is certainly an issue that has to be tackled in the recent review process of Regulation 1/2003.[93]

2. The "failure" of the Windows-N remedy and the "must carry" proposal

As it has been exposed previously the EU decision, upheld by the Court of First Instance, found Microsoft liable for tying Windows Media Player (WMP) with Windows. WMP participates in a market where it and its substitute media players are distributed without charge. Since there are always costs of developing these software, both Microsoft and its competitors sell below production and distribution cost of media players. Of course, as part of Windows, WMP enjoys part of the Windows revenue.

Companies such as Microsoft and its competitors (for example RealAudio) distribute their media players for free with the hope that their software development costs will be recouped if (i) in the future the product will be sold at a positive price, or (ii) the firm will be able to sell upgraded versions of the software (with more features) at a positive price, or (iii) the firm will be able to sell products or services complementary to the free product (for example, sell music or video downloads at a positive price or sell software that produces audio or video in a compatible format). Although media players have been distributed for free for almost a decade and have experienced significant technological advances, there is no evidence that their basic versions will ever be sold at a positive price. Additionally, with the exception of Apple's iTunes, there is no evidence of substantial revenues from sales of complementary products.[94] And, iTunes profits come almost exclusively from sales of the complementary hardware (iTunes players). Thus, there are no damages arising from higher prices because of restriction of competition, since no company charged a positive price. The only possible damages can arise from a restriction of the full extent of varieties and qualities of media players that might be available in the absence of the tying behavior of Microsoft.

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[91] Commission Decision, Repsol [2006] OK L 176/104.

[92] See, for instance, Case No. COMP/M.5406-IPIC/MAN Ferrostaal AG, Celex No. 309M5406; Case No COMP/M.5253 – SANOFI-AVENTIS/ZENTIVA, Celex No. 309M5253; Case No. COMP/M.5224 – EDF/British Energy, Celex No. 308M5224. Commission Notice on remedies acceptable under Council Regulation (EC) No. 139/2004 and under Commission Regulation (EC) No. 802/2004, [2008] OJ C 267/1.

[93] Although nothing on this topic is included in the European Commission, Report on the functioning of Regulation 1/2003, COM(2009) 206 final.

[94] Of course there are attempts to get revenue from complementary goods. For example Real Networks, offers an upgraded version at a positive price as well as subscription services for content. However, these revenues are not substantial and have led to the decline of companies that are essentially only in the software media players business such as Real Networks.

The variety issue is further complicated by the fact that a number of companies distribute media players that each has a "favored" format but can also play content in a number of other formats, to the extent that the other format owners allow it. So, for example, WMP plays WMA (the Microsoft-favored format) as well as MP3 (based on a public standard) but does not play the RealAudio format because its specifications have not been made public. Similarly, RealAudio plays its proprietary format, as well as WMA, MP3, and others. Thus, wide distribution of WMP does not necessarily imply dominance of the WMA *format* since WMP can play many formats. It is possible, however, to argue that even dual encoding (that is encoding in a number of different formats) may confer a distributional advantage to Microsoft. Ian Ayres and Barry Nalebuff noted that "Microsoft would still have the unique ability to ensure that its media player would be on all new machines – and thus eventually on all machines" and that "in turn, would mean that a content provider that encoded its content in the WMP format would be ensured nearly 100% reach in the market" and would have therefore little incentive to engage in dual encoding.[95] The conclusion that WMP will be eventually on *all* PCs is true only under restrictive modeling assumptions, and empirical evidence attests that it is certainly not true today. Additionally, the fact that WMP plays a number of other formats, including some based on open standards, makes the exclusivity argument of including WMP with Windows weak.

In the aftermath of the *U.S. v. Microsoft* settlement[96], any consumer as well as any computer manufacturer can set up any media player as the default one, thereby severely limiting any distributional advantage of the joint distribution of WMP with Windows. However, they do not benefit of the same distributional opportunities than WMP, precisely because dual encoding may not be materially equivalent to ubiquitous encoding. Finally, one could argue that the distribution advantage that any player enjoys is also limited because any rival media player can be downloaded and installed in a few minutes. If consumers do not think it is worth spending a couple of minutes to download and install rival players, clearly consumers do not see significant value in the variety and quality that rival players may add. Thus, the damages that can be ascertained from Microsoft' distributional advantage cannot be substantial. The Commission and the Court may have overestimated the distributional advantage conferred to WMP by its joint distribution with Windows.

The Commission imposed as a remedy on Microsoft the requirement to produce and distribute in the EU a version of Windows without WMP, which became known as Windows-N. The Commission's remedy allowed Microsoft to continue producing and distributing in the EU the U.S. version of Windows that included WMP but was subject to the requirements of the consent decree that resolved *United States v. Microsoft*. The EU did not mandate a specific price difference between Windows and Windows-N.[97] The

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[95] See, Ian Ayres & Barry Nalebuff, Going Soft on Microsoft? The EU's Antitrust Case and Remedy, (2005) 2 *The Economist's Voice* 1, 5.

[96] *United States v. Microsoft Corp*., 215 F. Supp. 2d 1 (D.D.C. 2002); *U.S. v. Microsoft*, 231 F. Supp 2d. 144 (D.D.C. 2002); Final judgment, *State of New York et al. v. Microsoft Corp.*, 224 F.Supp.2d 76 (D.D.C. 2002) hereinafter *New York v. Microsoft Corp*; *Massachusetts v. Microsoft Corp*., 373 F.3d 1199 (C.A.D.C. 2004).

[97] The lack of a price difference requirement is in sharp contrast with the proposal to the District Court of the nine states ("litigating states") that did not agree with the USDOJ-Microsoft settlement that was also signed by nine other states. The litigating states proposed to "freeze Windows" to its pre-1998 state and

two versions of Windows were sold in the EU at the same price and practically no OEM bought and adopted Windows-N.[98] Thus, the remedy imposed by the Commission had no noticeable effect in the marketplace. At the same time, the dire predictions of expanded dominance of WMA never materialized in the long period between the beginning of the EU case and the Commission's decision or even later. In contrast, a new, until recently proprietary, format promoted by Apple (tied to hardware also produced by Apple!) has become the dominant format in the market for song downloads, a key market for goods that are complementary to media players. Additionally, "flash player," a new player from Adobe has become the standard video player in Internet browsers.

We are at a loss to understand why the EU Commission thought that requiring Microsoft to produce and distribute Windows without WMP was going to change significantly competition in media players. It was almost mathematically certain that Windows-N (without WMP), sold at the same price as Windows (with WMP), would not sell well, and therefore would have little impact on the market share of WMP. It is also hard to imagine how depriving consumers of WMP in Windows-N in the post-US-settlement environment, where both the OEM and the final consumer can designate any media player as the default one, would have enhanced consumers' choice. The European Commission rather considered that consumers expected a media player but advanced that the OEMs should be free to build PCs that feature a non-Microsoft media player.

In negotiations before the Commission's decision was announced, the Commission rejected a reported Microsoft proposed remedy to include in the distribution of Windows three rival media players besides WMP and let the consumer designate the default player. This proposal that would have guaranteed as wide distribution of RealAudio and other players as WMP, would have erased any distributional advantage of WMP, would have dispelled any tying concerns, and would have given full decision power to consumers. Such a remedy would have addressed the competition law concerns raised by Microsoft's abuse much more effectively than the proposed remedy.[99] At the same time, its adoption would have at least guaranteed the ability of even a dominant firm (Microsoft) in the complementary good (Windows) to innovate and distribute in the way it finds most appropriate. The benefits of this proposal both for consumers and innovation are obvious and substantial in comparison to the imposed remedy. It provides consumers the best of both worlds—the benefits of standalone media players and the benefits of an integrated solution.

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impose on Microsoft the requirement to sell any additional functionality at an additional price. It is interesting, however, that the CFI noted in its decision that "[s]hould Microsoft now decide to sell the unbundled version of Windows at the same price as the bundled version, the Commission would examine that price by reference to the present market situation and in the light of Microsoft's obligations to refrain from any measure having an equivalent effect to tying and, if necessary, adopt a new decision pursuant to Art. 82 EC." *Microsoft*, 5 C.M.L.R. 11, ¶ 908.

[98] Windows-N sold less than 2000 copies.

[99] Indeed, the issue in this case was "not that Microsoft integrates [WMP] in Windows, but that it offers on the market only a version of Windows in which [WMP] is integrated, that is to say, that it does not allow OEMs or consumers to obtain Windows without [WMP] or, at least, to remove [WMP] from the system consisting of Windows and [WMP]." *Microsoft,* 5 C.M.L.R. 11, ¶ 1149. The remedy could have identified a number of media players from those existing at the time of the commitment of the abuse that would have been integrated to Windows. It is in this respect different from a common carrier obligation, as it would not necessarily have extended to media players that would have been commercialized after the termination of the abuse.

We argue that the requirement that a dominant firm "must carry" the competitors products should, however, only be imposed when (i) there are substantial distributional advantages of the dominant firm in the sense that access to the dominant firm's input is indispensable in order to viably stay on the market and (ii) there are substantial consumer losses arising from the lack of distribution through the dominant firm. Because of the *US v. Microsoft* settlement, computer manufacturers can install any media player they want without facing any penalties or retaliation from Microsoft. To the extent that computer manufacturers install what consumers desire, the present extent of distribution of WMP with Windows seems more than a reflection of consumers' choice than a decision by Microsoft. Of course consumers are likely to be better off if they receive more free software delivered with their new computer, thus avoiding search costs and reducing the risk of the status quo bias advantages that benefit software that is already downloaded on the desktop.[100] This, however, does not mean that the dominant firm should have the obligation to distribute this software, and additionally to do so without collecting practically any revenue from competitors whose software it is forced to distribute, unless the operating system is considered as an essential facility. But in this case the standards of liability are different (allegedly stricter) than those required for tying.[101] It seems to us that, if the competition authority decides to impose a "must carry" remedy, it should bring a proper essential facilities case rather than rely on the most favorable, for carrying its standard of proof, liability standards of tying and then ask for a "must carry" remedy.

The "must carry" obligation is of special interest because it has been considered by the EU as a remedy to its current investigation of Microsoft for bundling Internet Explorer with Windows, as discussed in detail below.[102] Clearly, the EU could not impose that Windows be distributed without an Internet browser and the ability to download a browser because that would severely cripple the ability of the typical user to reach the Internet. But does it make sense for Microsoft to be required to distribute rival browsers?

It could be argued that requiring Microsoft to distribute rival browsers may not provide an appropriate remedy, in presence of weak anticipative effects. Like with media players, competing browsers can be downloaded and installed in a few minutes, so the

[100] William Samuelson. & Richard J. Zeckhauser, Status quo bias in decision making. (1988) 1 *Journal of Risk and Uncertainty* 7-59. It is well accepted that variations in the framing of decision may affect choice: see, Amos Tversky & Daniel Kahneman, The Framing of Decisions and the Psychology of Choice, 211 Science Vol. 211, No. 4481. (Jan. 30, 1981), pp. 453-458.

[101] The European Court of Justice took a restrictive view of the obligation of a dominant undertaking to grant access to its facilities by imposing a number of conditions in Case C-7/97, *Oscar Bronner GmbH & Co KG v. Mediaprint* [1998] ECR I-7791, para. 41, 45-46. The refusal "must be likely to eliminate all competition" on the part of the competitor requesting access, that access should be indispensable and not only make it harder for the requesting undertaking to compete and it should not be capable of being objectively justified. With regard to the indispensability condition, the Court held that access would have been indispensable only if it was not economically viable to create a home-delivery system for a newspaper with a comparable circulation to the dominant firm's. One could argue that the conditions in *Bronner* set the outer boundaries of the special responsibility of a dominant firm and consequently of the corresponding duty, under Article 82, to abstain from any action that would be likely to exclude rivals from the market. The excluded rival would be granted access only if it is impossible for an undertaking with a comparable output to the dominant firm to develop such facility, which indicates that the Court applies a not yet as efficient as test.

[102] MEMO/08/19, available at http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/19 awaiting the publication of the final decision of the Commission.

reluctance of consumers to do might show that they do not find it sufficiently desirable. To this claim it is possible to respond that consumers may have a status quo bias favoring Internet Explorer, particularly because, having used only Internet Explorer, the user has no real way to know what it means for a browser to be better.[103] One could also advance a natural reluctance to take on additional learning costs associated with using a different browser. OEMs may also refrain from the additional support costs that are associated with offering another browser. It could be argued nevertheless that the damage that consumers may incur from the joint distribution of Internet Explorer with Windows is very limited. In the particular case of the browser, as contrasted with the media players, there is almost full compatibility between the various browsers. Additionally, Firefox provides a plug-in that emulates Internet Explorer and can even be used for live updates from Microsoft that require Internet Explorer. As with the media player analysis, there are no damages because of price competition since all the browsers are distributed for free. Additionally, the almost full compatibility of browsers implies that the benefits of variety and quality will be smaller than in the media player market. Thus, it seems likely that imposition of the "must carry" remedy might be out of proportion in this case.

If the effects on consumers are considered to be more substantial, the "must carry" remedy might be an appropriate remedy, although it could face some practical difficulties. The issue of the mandatory Java distribution was raised in the US Microsoft case.[104] The Court found that a "must carry" requirement would have not provided a substantial benefit to competition, once Microsoft's anticompetitive restraints on other channels of Java distribution were lifted by the other parts of the Court's remedy (exclusivity arrangements).[105] The reason for the Court's reluctance was, however, its uneasiness in granting a specific competitor, Sun Microsystems, an advantage in its efforts to compete with Microsoft, not accorded to other competitors in the industry. The Court noted that "favoritism of one market participant over another in a remedy provision places the Court in the improper position of exerting too much control over the market."[106] An adequate remedy would provide equal treatment to third parties, in order to restore competition. For example, complainants should not be the only ones receiving the benefits of a "must-carry" obligation: any firm that is capable of challenging the dominant firm should be included in the design of this obligation. It follows that for the must carry obligation to function equitably, new products should also be periodically included. This could raise some practical difficulties, such as, which browsers, from the five main ones and/or browsers from niche players, to include and on what license terms as well as to how to align the release schedule of these browsers with the release schedule of Windows to be solved by further negotiation between the parties.

Negotiations between the Commission and Microsoft on whether to implement a version of a must carry rule gave rise to important recent developments. As previously explained, the Commission opened formal proceedings on Opera's complaint in

[103] Behavioral law and economics have emphasized the consideration of status quo bias in envisioning consumer behavior. See, William Samuelson and Richard Zeckhauser, Status quo bias in decision making, (1988) 1(1) *Journal of Risk and Uncertainty* 7. On the importance of heuristics and biases in analysing behavior see, Daniel Kahneman, Paul Slovic and Amos Tversky (ed.), *Judgment under uncertainty: heuristics and biases* (CUP, 1982).
[104] *New York v. Microsoft*, 224 F.Supp 2d 188-190.
[105] Ibid., at 189.
[106] Ibid.

December 2007 and issued a Statement of Objections to Microsoft in January 2009. To terminate the Commission's current investigation in the Internet Explorer case, Microsoft initially announced[107] that it would not distribute the standard Windows 7 in Europe. Instead, it intended to produce and distribute in Europe a special edition of Windows 7 called Windows 7 E which would not have Internet Explorer or any other browser pre-installed, adopting the removal approach of the Windows XP N remedy imposed by the Commission in the WMP case, as the sole version of Windows in Europe. OEMs would have the option to install a web-browser of their choice as the default as well as include other browsers before the PC reached the final consumers.

As part of the initial proposal of Microsoft, European consumers who would buy an upgrade to Windows 7 for Windows Vista or XP, as well as those consumers who would buy Windows 7 and install it themselves from scratch on a 'naked' computer (which comes from the manufacturer without an operating system) would be given a version of Windows 7 E that would include a file transfer protocol (FTP) link to a website from which they could download and install Internet Explorer 8. The Commission applauded Microsoft's steps to provide OEMs more flexibility, but was critical of Microsoft's decision on the distribution of the retail upgrade or retail clean install.[108]

Based on that public feedback, as well as on private discussions, Microsoft withdrew its unilateral plan of distributing Windows 7 E[109] and proposed a final resolution that would commit[110] it to (i) distribute a 'ballot screen' through software update[111] to European users of Windows XP, Windows Vista, Windows 7, and Windows client PC operating systems, by means of Windows update; and (ii) allow both OEMs and users to turn on or off Internet Explorer.[112] Thus, the remedy does not only concern Windows 7. The European Commission received comments from third parties and finally accepted Microsoft's commitments by adopting an Article 9 Regulation 1/2003 decision on 16 December 2009[113].

This remedy may have far-reaching consequences on the structure of the web-browser industry and the distributional advantage of Internet Explorer. The choicescreen will give those users who have set Internet Explorer as their default web-browser an

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[107] See www.bloomberg.com/apps/news?pid=newsarchive&sid=abzAzMCoi3Rw.

[108] See Memo/09/272, 12 June 2009, available at http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/09/272&format=HTML&aged=0&language=EN&guiLanguage=en.

[109] See http://microsoftontheissues.com/cs/blogs/mscorp/archive/2009/07/31/windows-7-and-browser-choice-in-europe.aspx.

[110] Microsoft's Commitment to address the competition concerns identified by the European Commission in Case No. COMP/C-3/39.530, available at www.microsoft.com/presspass/presskits/eu-msft/docs/07-24-09Commitment.doc ('Commitment').

[111] The words 'ballot screen' were used inappropriately in the preliminary design of the remedy; the appropriate words are 'choice screen'. There is no ballot here and there is no decision by majority or any other rule that will be imposed on all participants. The screen will allow each consumer to set the default browser for him or herself, and allow the consumer to uninstall Internet Explorer.

[112] See www.microsoft.com/presspass/presskits/eu-msft/docs/ANNEX_A.doc for a detailed description of how this will be implemented in Windows 7.

[113] Commission Decision, Case COMP/C-3/39.530 – *Microsoft*, available at http://ec.europa.eu/competition/antitrust/cases/decisions/39530/final_decision_en.pdf (hereinafter EU Microsoft II decision); Microsoft's commitments are included in the Annex of the Commission's decision (hereinafter Commitment)

opportunity to choose whether to install (and which) competing web-browser(s) in addition to the one(s) they already have.[114] Users will be able to select one or more of the web-browsers offered through the choice screen. Microsoft commits to distribute and install the choice screen software update ‘in a manner that is designed to bring about installation of this update at a rate that is as least as high as that for the most recent version of Internet Explorer offered via Windows Update’.[115] It is also emphasized that ‘nothing in the design and implementation of the Choice Screen and the presentation of competing web browsers will express a bias for a Microsoft web browser or any other web browser or discourage the user from downloading and installing additional web browsers via the ChoiceScreen and making a web browser competing with a Microsoft web browser the default’.[116]

The design of the choicescreen attempts to represent as best as possible actual consumer preferences. At the same time, it avoids providing an excessively large choice that would have occupied a lot of disk space. The choicescreen will be populated with the 12 most widely-used web-browsers that run on Windows 7 as measured semi-annually by averaging monthly usage share data for the previous six months for which data is available, with only one browser per vendor listed and shares for different released versions of the same vendor’s browsers added together to determine the browser’s total usage share[117] That will not include Internet Explorer “or any other browser which is based on Internet Explorer's rendering engine and the development or distribution of which is funded in whole or in substantial part by Microsoft”[118]. The choice screen will in a horizontal line and in an unbiased way display icons of the basic identifying information on the web browsers. In addition, the choicescreen will prominently display the final releases of the five web-browsers with the highest usage share in the EEA, the remaining seven being displayed if the user scrolls sideways and in a random order[119]. In order to ensure a higher degree of transparency, only those web browsers included in at last two of the three data sources for usage share information for web browsers (ComScore, NetApplications and StatCounter) would be considered for the choice screen. These will be ranked according to the arithmetic means of their numerical ranks in the data sources, taking into account their best ranking in two data sources[120]. It is also specified that ‘Microsoft will bear the costs of the technical implementation of the remedy in Windows and may not charge for the inclusion of a third party web browser in the Ballot Screen’.[121]

The ‘must carry’ remedy is limited to web-browsers and any web-browser vendor eligible to appear on the choice screen should refrain from installing additional software in the same download. This is an interesting hybrid. Microsoft has to include the promotion of competing browsers, but does not have to distribute the code of third parties’ browsers. The duration of the commitment is five years, leaving a wide window

[114] Commitment above, para. 8.
[115] Commitment, para. 9.
[116] Commitment, para. 10.
[117] Commitment, para. 11 and 14.
[118] Commitment, para. 14.
[119] Commitment, para. 13.
[120] Commitment, para. 14.
[121] Commitment, para. 14.

of opportunity to Microsoft's rivals, and in particular Google, to take hold of a significant part of the web-browser market.

On turning Internet Explorer on or off, 'Microsoft will ensure that if Internet Explorer is turned off, then (i) it can only be turned on through user action specifically aimed at turning on Internet Explorer; (ii) the user interface cannot be called upon by applications; and (iii) no icons, links or shortcuts or any other means will appear within Windows to start a download or installation of Internet Explorer'.[122] A website will provide all necessary information about turning on or off Internet Explorer. In addition, Microsoft 'will maintain that page so that other browser vendors can link to it if they wish'.[123] In essence, the 'OEMs will be free to pre-install any web browser (or browsers) of their choice on PCs they ship and to set any browser as the default web browser'.[124] Microsoft has also committed 'not to retaliate against any OEM refraining from developing, using, distributing, promoting or supporting any software that competes with Microsoft web browsers' through an alteration of commercial relations with that OEM, or by withholding the application of preferential terms, or finally by entering into any agreement with an OEM that conditions the grant of any monetary payment, discount or the provision of preferential licensing terms or any other preferential treatment on the choice of Internet Explorer.[125]

In many ways, the European Commission's proposed outcome is similar to that of the US consent decree. The US consent decree allowed OEMs and final consumers to choose the default browser; similarly, OEMs and final consumers will choose the default browser in Europe. But there are also important differences.

First, the US consent decree was broader since it applied to all middleware, while the proposed EC outcome covers only browsers. Besides browsers, middleware includes email clients, audio-players, instant messengers, Java, and other software that functions between the operating system and applications.

Secondly, unlike in the United States, where all final consumers are given the opportunity to choose a default browser (and other middleware) through a 'set defaults' screen, Microsoft's commitment in Europe will give a choice of browser to final consumers *only* if their computer has Internet Explorer set as the default browser.[126] If the computer manufacturer has set up a browser other than Internet Explorer as the default, the final consumer will not be presented with the EC ballot screen or the 'set defaults' screen available to US consumers. Thus, the mechanism is tilted (i) against Microsoft since computers with a non-Internet Explorer default will not have the same choice (that might have resulted in Internet Explorer); and (ii) in favour of non-Microsoft *commercial*

[122] Commitment, para. 1.
[123] Commitment, para. 1.
[124] Commitment, para. 2
[125] Commitment, paras 4–5.
[126] Also note that in the European Union, final users will be *automatically* prompted to choose a browser, if their computer came with Internet Explorer as the default, while in the United States they are not automatically prompted but just have the option of choosing defaults. See http://microsoftontheissues.com/cs/blogs/mscorp/archive/2009/07/31/windows-7-and-browser-choice-in-europe.aspx: 'Shortly after new Windows PCs are set up by the user, Microsoft will update them over the Internet with a consumer ballot software program. If IE is the default browser, the user will be presented with a list of other leading browsers and invited to select one or more for installation'. No choice screen will appear to users if Internet Explorer is not the default browser.

browser vendors (Chrome, Opera, Safari, etc.) who can compensate OEMs to set up their browser as a default (and then will not have the ballot screen appear to final consumers). This may favour non-Microsoft browser vendors that have the deepest pockets.

Thirdly, in the proposed EC outcome, Microsoft is obligated to line up many competitors' browsers for the final consumer to choose from. Thus, the Commission's proposed outcome is a 'must carry' rule imposed on Microsoft, especially since it applies only to computers where the OEM has installed Internet Explorer as the default. In the US middleware default set-up screen, the consumer is faced with a list of browsers chosen by his computer's manufacturer. Depending on the computer manufacturer's choices, this list could be extensive, but could also be limited to a single browser (Internet Explorer or another one) and the consumer would need to take extra steps to download other choices.

Fourthly, the proposed EC outcome allows OEMs and consumers to uninstall more layers of Internet Explorer, if they wish, than just the front end of Internet Explorer that the US decree allows. In the proposed EC outcome, an OEM may choose never to show the existence of Internet Explorer to the final customer. Even so, deeper layers of the Internet Explorer API will remain in Windows when Internet Explorer is 'off' and an applications manufacturer will be able to call and utilize the Internet Explorer API for both the 'on' and 'off' Internet Explorer functions. Additionally, users can always 'turn on' Internet Explorer even if the OEM has turned it off. OEMs cannot permanently disable Internet Explorer.

Fifthly, for an OEM that has chosen a default browser other than Internet Explorer in Europe, the operating system and security updates will not appear to be carried out through Internet Explorer. That is, even if Internet Explorer does the updates in the background, the consumer will see an interface that does not mention Internet Explorer.[127]

3. Would a structural remedy have been an appropriate solution to the Microsoft antitrust problem?

In thinking about a potential structural remedy in the EU case, it is worth discussing its imposition in the US case. This is because in both cases, the issue was also leveraging monopoly power to a market of a complementary good.

In *US v. Microsoft*, Judge Jackson adopted the plaintiff's remedies proposal word-for-word and imposed a breakup of Microsoft into two "Baby Bills,"[128] an operating systems company which would inherit all the operating systems software, and an "applications" company with all the remaining software assets. Cash and securities holdings of other companies held by Microsoft would be split between the resulting entities. Bill Gates and other officers of the company would not be allowed to hold executive and ownership positions in both of the resulting companies.[129]

[127] This means that the Windows updates will be provided in the same way they are provided today in Vista and in Windows 7 Release Candidate.

[128] This is a word play on "Baby Bells" that came out of AT&T and the first name of the co-founder and then CEO of Microsoft, Bill Gates.

[129] For a more detailed evaluation of the final US remedy see Nicholas Economides, Comment of Nicholas S. Economides on the Revised Proposed Final Judgment in United States v. Microsoft, January 22, 2002, at http://www.usdoj.gov/atr/cases/ms_tuncom/major/mtc-00022465.htm#comments.

In arguing for the break-up, the government put forward a number of reasons. But, since there was only an extremely short formal hearing on remedies, there was no chance for both the government's and Microsoft's cases on remedies to be discussed and evaluated. The government and the judge have stated (formally and informally) the following arguments for a breakup:

1. That they considered the repeated violations of antitrust law by Microsoft as an indication that Microsoft would not follow any conduct or contractual restrictions; in fact, in some informal remarks, government officials believe that they were "tricked" by Microsoft in settling the 1995 case with terms that Microsoft was able to exploit;
2. That the lack of remorse by Microsoft's executives was a clear indication that Microsoft "could not be trusted" to implement any other remedy;
3. That the breakup was a "surgical cut" that would create the least interference with business;
4. AT&T and the rest of the telecommunications industry benefited from AT&T's breakup, and so should Microsoft and the software industry; after all both industries have network effects;
5. The breakup eliminates the incentive for vertical foreclosure; and
6. The breakup reduces the "applications barrier to entry" since now the applications company might write popular Microsoft applications (such as MS-Office) for other platforms.

The government failed to show that the proposed (and later abandoned) breakup was the appropriate remedy. USDOJ did not perform the appropriate cost-benefit analysis to show that conduct remedies were not sufficient and that a breakup is necessary. None of the affidavits in the remedies phase even approach a discussion on evaluating alternatives. Additionally, a few weeks before Judge Jackson's decision, under the supervision of Judge Posner the government and Microsoft had reached a compromise that imposed only conduct remedies.[130] The government failed to justify why it was ready to compromise a few weeks earlier (in the settlement negotiated by Judge Richard Posner who was asked to try to find a settlement by Judge Jackson), on behavioral remedies but later claimed that structural remedies were necessary. Harry First notes that the plaintiffs would have been probably more successful, "had they clearly such a remedy in mind at an earlier stage in the proceeding."[131]

The first argument of the government in support of a breakup does not stand to reason. The 1995 case was settled with a decree that explicitly stated that Microsoft can include in its operating system any additional functionality. It is reasonable that Microsoft (or any observer, including USDOJ) would believe, given the 1995 consent decree, that adding browser functionality to Windows does not violate the consent decree.[132] This, of course, does not mean that adding such functionality does not violate antitrust law in general, but it puts to its death the idea that the government was tricked by Microsoft. The fact that companies and antitrust enforcers often have an asymmetry of

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[130] The settlement was rejected by the States.
[131] Harry First, 'Netscape is Dead: Remedy Lessons from the Microsoft Litigation,' above, at 32.
[132] The dispute regarding the application of the 1995 consent decree ended with a DC Circuit ruling in favor of Microsoft's understanding of the meaning of the decree. 147 F. 3d 935.

information is very common and expected, and cannot be considered a “trick,” or a reason not to enter into agreements between antitrust authorities and companies.

The second argument of the plaintiffs in support of the breakup seems excessive. Antitrust enforcement is not an emotional tug of war in which the egos of either the plaintiffs or the defendants need to be satisfied. The show of remorse or lack thereof by Microsoft executives could not possibly define the remedy. We find it hard to believe that the judge would be correct in finding a different remedy appropriate if enough Microsoft executives simply showed public remorse. Moreover, Microsoft, like any other defendant, had a right to appeal (and it did so). A defendant’s belief that he will prevail on appeal should not result in punishment.

The third argument, that the breakup is a surgical cut and therefore would disrupt the industry the least, is countered by the facts. A breakup of Microsoft would eliminate Microsoft as a flexible and formidable competitor. The wholehearted endorsement of the breakup by Microsoft’s competitors in servers and back office (who were not found in *US v. Microsoft* to have incurred damages by the Windows monopoly but will greatly benefit from the confusion and disruption created by a Microsoft breakup) is evidence that the breakup would be one of the most disruptive possible outcomes. Generally breakups of large companies are complicated and drawn-out affairs that disrupt the company that is broken up, the producers of complementary goods to its products, and its customers.

The fourth argument, that, since AT&T’s 1982 breakup was successful, so would Microsoft’s is incorrect. AT&T was divided into the long-distance company (AT&T), and seven regional operating companies, each of which remained a regulated local telecommunications monopoly until 1996. The destruction of AT&T’s long-distance monopoly encouraged competition, which brought sharply lower prices and immense consumer benefits. There are a number of key differences between the two companies and their competitive situations. And these differences make it very likely that a Microsoft breakup, besides harming Microsoft, would harm consumers and the computer industry.

In 1981, AT&T was a 100-year-old regulated monopoly with many layers of management. For historical reasons, the local phone companies within the old AT&T, such as New York Telephone, were managed separately from the “long lines” division. Thus, it was not difficult to separate the divisions since they functioned on many levels as separate companies. AT&T also had an abundance of managers to help cope with the breakup. By contrast, Microsoft is a young, entrepreneurial company run by few top executives, and its divisions are fluid. While this has made Microsoft an efficient and successful company, it also means that a break-up would have posed significant managerial problems and severely reduced the company’s flexibility. Finally, AT&T was a regulated utility, and regulation guaranteed that the companies emerging from the breakup stayed interconnected. In contrast, the Microsoft breakup would likely to lead to incompatibilities and further loss of efficiency.

USDOJ’s two-way breakup plan was premised on the hope that an autonomous applications company would create a new operating system to compete with Windows. But at trial it was stipulated that more than 70,000 applications run on Windows, creating what the government called “the applications barrier to entry” in the operating-system market. The new applications company, however capable, is unlikely to be able to single-handedly create a successful rival operating system in short order.

The breakup of Microsoft, first proposed by the government, imposed by Judge Jackson, and, after the DC Court of Appeals decision not pursued by the government, would have had detrimental effects. First, the breakup was likely to result in higher prices. If USDOJ was correct and Microsoft kept its OS prices low so that it can exercise its monopoly power in the adjacent browser market, the post-breakup Baby Bill that would inherit the operating system would have no incentive to keep the price low. The OS Baby Bill would no longer have the incentive to disadvantage any applications companies. Thus, if USDOJ's theories are correct, the OS Baby Bill would exercise its monopoly power and raise the price of the operating system to the detriment of consumers. If USDOJ was correct and Microsoft has significant monopoly power because of the "applications barrier to entry," higher prices would be the direct result of the breakup. Second, as explained earlier, the breakup would likely eliminate the efficiencies that make Microsoft a flexible and formidable competitor.

A breakup would likely temporarily eliminate the incentive for interference from OSs to applications and vice versa. Of course, the same can and has been accomplished by conduct restrictions without the cost and the disruption of a breakup. Moreover, the district court's breakup proposal did not impose permanent restrictions on the post-breakup functions of the resulting companies. The OS and the applications Baby Bills would have been able to enter into each other's business soon after the breakup. It is very likely that a few years after such a breakup, one of the resulting companies would dominate both markets.

4. Alternative remedies

The difficulty of devising adequate remedies that address the application entry barrier issue as well as the distributional advantage of Windows, and the alleged "failure" of the traditional conduct remedies employed in this case[133] led some commentators to suggest alternative and unconventional remedies, including non-antitrust alternatives.

a. Public procurement procedures as an antitrust remedy: reducing the applications barrier

Regulation is not the only way States can intervene in the marketplace. Increasingly, State ownership and/or State contracting/spending are employed in order to achieve specific public policy objectives.[134] Competition in the marketplace might be one of those objectives. Professor Herbert Hovenkamp raised the possibility of public contracting being used as a tool to reduce Microsoft's applications barrier to entry and gave the example of Alcoa, where the government sold the productive capacity of aluminum it owned under the conditions of the Surplus Property Act, which "required the government to consider the impact on competition whenever it sold a significant piece of private property to a private firm" and excluded Alco from participating to the bid for government plants.[135] According to Hovenkamp, "(t)oday the government could do

[133] Carl Shapiro, 'Microsoft: A Remedial Failure', 75 Antitrust L J 739 (2009).
[134] See, Christopher McCrudden, *Buying Social Justice* (OUP, 2007).
[135] Herbert Hovenkamp, The Antitrust Enterprise (Harvard Univ. Press, 2005), at 302.

something similar by requiring its departments and agencies to use open-source software as an alternative to Microsoft's products."[136]

This would increase the open source software installed base, as governments are among the principal purchasers of software products and would help the economy move from a monopolized to a competitive computer platform network. The benefits for innovation could be particularly important, as recent studies have showed that innovative incentives (investments in applications) are sometimes greater for open source than for proprietary software platforms [137] Microsoft would be able to participate to the government bidding process, under the condition that it submits its own open-source products, either by developing new products or by making public the source code of Windows. This may improve allocative efficiency, as the government would also be able to purchase software products at a lower price (not including remuneration for intellectual property rights), and dynamic efficiency with increased competition between different products (assuming that a competitive market is better suited for innovation than a monopolistic market for software products). One could also envision as a condition for Microsoft's participation to a call for tenders the unbundling of its applications from the operating system so as to guarantee an installed base to competing formats, or a wide interoperability with all existing or new formats. Of course, any imposed restriction of software choice would also precipitate reductions in utility of government users, at least in the short run. These utility losses of the Hovenkamp proposal have to be considered and balanced with the potential benefits outlined above.[138]

The decision of the Brazilian government to switch from Microsoft proprietary software to open source software and to pass legislation making the use of open source software mandatory for governmental departments was reportedly aiming to force Microsoft to rethink its business model.[139] The German government has also adopted Guidelines for federal, state and local governments as well as other public sector agencies

[136] Ibid.

[137] Nicholas Economides & Evangelos Katsamakas, Linux v. Windows: a comparison of application and platform innovation incentives for open source and proprietary software platforms, in Juergen Bitzer and Philip J.H. Schroeder (eds.) The Economics of Open Source Software Development, Elsevier Publishers, 2006, at http://www.stern.nyu.edu/networks/Economides_Katsamakas_Linux_vs._Windows.pdf.

[138] Additionally, it would be far reaching into the realm of industrial policy if the government specified a particular model of software development predicting what finished software products provides the greatest value per dollar spent. If Microsoft is forced to make the Windows source code public, this would reduce Microsoft's incentives to drive that product forward with new innovations as others could then offer essentially the same product for free, possibly only subject to risk of patent infringement suits. Also, there is no significant evidence that the open source model can become a replacement for for-profit software. See, Nicholas Economides and Evangelos Katsamakas, Two-sided Competition of Proprietary vs. Open Source Technology Platforms and the Implications for the Software Industry, Management Science (2006) 52, 1057-1071, at http://www.stern.nyu.edu/networks/Economides_Katsamakas_Two-sided.pdf ; Nicholas Economides and Evangelos Katsamakas, Linux vs. Windows: A Comparison of Application and Platform Innovation Incentives for Open Source and Proprietary Software Platform, in Jürgen Bitzer and Philipp J.H. Schröder (eds.), The Economics of Open Source Software Development, Elsevier Publishers, 2006, at http://www.stern.nyu.edu/networks/Economides_Katsamakas_Linux_vs._Windows.pdf.

[139] See, Steve Kingstone, Brazil adopts open-source software, June 2, 2005, BBC news, available at http://news.bbc.co.uk/2/hi/business/4602325.stm .

interested to migrate from Microsoft proprietary technology to open source software and signed contracts with IBM for computer systems based on Linux operating systems.[140]

These initiatives may have influenced Microsoft's progressive commitment with interoperability, and probably led to the publication of the "interoperability principles"[141] An example may be the interoperability of Microsoft's former proprietary OOXML (Office Open XML file format), now a formal ISO standard,[142] with the OpenDocument Format (ODF) standard, which is supported by sun Microsystems, IBM, Novell, Nokia, Intel and Red Hat. This led to the release of Microsoft Office 2007 service pack 2, a product that, according to Microsoft, "provides built-in support for more file formats than any other productivity suite on the market" and which comes with a "new programming interface that will make it easy for developers to make any other document format show up in the drop down menu and be selected by users as their default, putting it on a par with the major formats already supported in Office 2007."[143] This business culture evolution may have been provoked by the recent competition law challenges on interoperability and the use of public procurement as a way to increase competition in the marketplace. The cumulative impact of these combined antitrust and non-antitrust remedies is outside the scope of this study and should be empirically examined.

b. Standard setting organization and *de facto* versus de jure standardization

The alleged *de facto* standardization of the Windows architecture work group computing environment or the Windows media player platform through the leveraging of Microsoft's dominant position in the operating systems market was a development that both the European Commission and the Court of First Instance abhorred[144]. The CFI was particularly clear that its reservations did not concern the process of standardization, which may provide benefits to consumers, but the way this *de facto* standardization took place in this particular case. The Court noted that "(a)lthough, generally, standardization may effectively present certain advantages, it cannot be allowed to be imposed unilaterally by an undertaking in a dominant position by means of tying."[145]

A possible alternative is to delegate the task of developing interoperable standards to a Standard Setting Organization (SSO), which will assist the competition law authority or court from a burdensome monitoring mechanism in implementing interoperability requirements, although there might be competition law issues involved in the operation of

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[140] See, IBM signs Linux deal with Germany, BBC news, June 3, 2002, available at http://news.bbc.co.uk/2/hi/business/2023127.stm .

[141] See, http://www.microsoft.com/interop/principles/default.mspx .

[142] See, http://en.wikipedia.org/wiki/Standardization_of_Office_Open_XML#cite_note-0

[143] http://microsoftontheissues.com/cs/blogs/mscorp/archive/2009/04/28/following-through-on-our-commitment-to-interoperability.aspx .

[144] See, Commission Decision, para. 779 where the Commission noted that the position of Microsoft on the client PC operating systems market will enable it to "determine to a large extent and independently of its competitors the set of coherent communications rules that will govern the *de facto* standard for interoperability in work group networks." But note that standardization to WMA and WMV never occurred, but was assumed by the Commission to be later disproved in actuality. Today, as well as before the imposition of the Windows N remedy, WMA and WMV are not dominant media formats.

[145] CFI, para. 1152.

the SSO.[146] In this case, the standard will not emerge by a process of de facto standardization by a dominant firm but will be the outcome of negotiations. The SSO's activity will be closely monitored in order to avoid cartel-like behavior, deceptive conduct and to guarantee transparent and open procedures.[147] However, different problems with this specific solution are the imbalance of power between Microsoft and its competitors in the standard setting body and the subsequent risk that the standard approved will not be "sufficiently" interoperable with competitors' products.[148] Additionally, the standard setting process is slow and could thus retard innovation in some dimensions while accelerating it in others. Furthermore, an agreement by competitors on a standard tends to restrict competition because competitors are limited largely to competing within the specific narrow confines of the standard, that is, just the best implementation of it. It follows that breakthrough innovation with alternative approaches tends not to occur because everyone is focused on implementation of the standard.

V. The need for a principle of remedial proportionality

The principle of proportionality constitutes an important limit to the European Commission's discretion in imposing remedies. It is explicitly provided in Article 7 that the Commission may impose on undertakings any behavioral or structural remedies which are proportionate to the infringement committed and necessary to bring the infringement effectively to an end. This provision mainly codifies previous case law of the Court relying on Article 3(1) of Regulation 17/62 that the remedies imposed should "not exceed what is appropriate" and should be "necessary to attain the objective sought, namely to restore compliance with the rules infringed."[149] Structural remedies are generally disfavored, if there is no equally effective behavioral remedy or where any equally effective behavioral remedy would be more burdensome for the undertaking concerned, as otherwise the remedy might be disproportional. The principle of proportionality takes an arithmetic form in Article 23(2) of the Regulation providing that the Commission may impose fines on undertakings that may not exceed 10% of its total

[146] See the ongoing litigation in the EU against Rambus: and the commitments offered by the latter: see, MEMO/09/273.

[147] See, Philip J. Weiser, 'Regulating Interoperability: Lessons from AT&T, Microsoft, and Beyond', 76 Antitrust L. J. 271, at 298. See, however, the rejection of the 'truth-in-standards" provisions suggested by the non-settling states by the D.C. Circuit on the motive that these were unrelated to the violation found. The non-settling states would have required Microsoft to continue supporting any industry standard it has publicly claimed to support until it publicly disclaims such support, or the standard expires or is rescinded by the standard setting body and to continue to support an industry standard any time it makes a proprietary alteration.

[148] See the recent investigation by the European Commission of the interoperability of OOXML, which was approved as an ISO-recognized international standard in April 2008. However, there have been allegations which are currently investigated by the European Commission that there have been irregularities or attempts to influence the vote at the European Committee for Standardization or the International Organization for Standardization, thus illustrating the difficulties of guaranteeing the transparency of the process. See, http://www.pcworld.com/article/144036/microsofts_iso_win_may_raise_antitrust_issues.html

[149] See, case T-170/06, Alrosa Co. Ltd v. Commission [2007] ECR, II-2601, para. 102; Case T-338/94, *Finnboard* [1998] ECR II-1617, para. 242; Case T-76/89, RTE and ITP v Commission [1991] ECR Ii-757, para. 93; Case T-7/93 Langnese-Iglo v Commission [1995] ECR II-1533, para. 209; Case T-9/93 Schöller v Commission [1995] ECR II-1611, para. 163.

turnover in the preceding business year (an attempt by the legislator to draw a rough balance between the anticompetitive harm and the harm to the undertaking's financial position). In addition, in fixing of the amount of the fine, regard shall be had both to the gravity and to the duration of the infringement as well as to the effect of the competition law infringement on the market.[150] The Court of First Instance has also recently applied the principle of proportionality to commitment decisions adopted under Article 9 of Regulation 1/2003: In *Alrosa*, the Court held that "…the voluntary nature of the commitments … does not relieve the Commission of the need to comply with the principle of proportionality, because it is the Commission's decision which makes those commitments binding" and that "giving that commitment, the undertakings concerned merely assented, for their own reasons, to a decision which the Commission has empowered to adopt unilaterally."[151] The Commission is subject to the same duty of applying the principle of proportionality in adopting Article 7 or 9 decisions, which would require, in the case of Article 9 "an appraisal *in concreto* of the viability of those intermediate solutions", that were not finally chosen by the Commission.[152]

It remains to be seen if the Commission will eventually adopt an Article 9 commitment decision in the Microsoft case and if it will appraise *in concreto* the less onerous alternative remedies on offer, following the Alrosa case law of the CFI. In any case, the "must carry" remedy imposed should be subject to the requirement of proportionality, which raises the issue of the exact content of this principle in assessing competition law remedies.

The principle of proportionality is given a specific content in Article 7 of Regulation 1/2003 and in the competition law case law of the European courts.[153] It requires that "measures adopted by Community institutions do not exceed the limits of what is appropriate and necessary in order to attain the legitimate objectives pursued by the legislation in question; when there is a choice between several appropriate measures, recourse must be had to the least onerous, and the disadvantages caused must not be disproportionate to the aims pursued."[154] Proportionality is also a general principle of Community law, applying as such to all measures adopted by Community institutions. According to settled case law, "by virtue of that principle, the lawfulness of the prohibition of an economic activity is subject to the condition that the prohibitory measures are appropriate and necessary in order to achieve the objectives legitimately pursued by the legislation in question; when there is a choice between several appropriate measures recourse must be had to the least onerous, and the disadvantages caused must not be disproportionate to the aims pursued."[155] This three-part test has, of course, to take into account the margin of discretion of the European Commission in adopting

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[150] See, Joined Cases C-189/02 P, C-202 P, C-205-208/02 P, C-213/02 P, Dansk Rørindustry and others [2005] ECR I-5425, para. 243

[151] Case T-170/06, Alrosa v. Commission [2007] ECR II-2601, para 105-106. Appeal pending Case C-441/07 P.

[152] Ibid., para. 156. See, however, the contrary position of Advocate general Kokkott in Case C-441/07 P, Commission v. Alrosa, para. 62.

[153] Case T-260/94, Air Inter v. Commission [1997] ECR II-997; Case T-65/98, Van den Bergh Foods v. Commission [2003] ECR II-4653, para. 201; Case T-170/06, Alrosa v. Commission, para. 98.

[154] Opinion of Advocate general Kokkott in Case C-441/07 P, para 46.

[155] Case C-331/88, The Queen v Minister of Agriculture, Fisheries and Food and Secretary of State for Health, ex parte: Fedesa and others [1990] ECR I-4023, para. 13.

appropriate remedies. In that sense, proportionality differs from a cost-benefit analysis which would focus only on the gravity of harm and the alternative remedies that might have been imposed: that is the remedy will be disproportionate when its costs and burdens outweigh its likely benefit of restoring competition or when its costs would be more important than an alternative remedy which would have also been equally effective. Proportionality may take into account other issues, such as the degree of judicial deference to the Commission's decision, as "the appropriateness of and the need for the contested decision must be assessed in relation to the aim pursued by the institution."[156] Although the principle of remedial proportionality does not exist as such in US antitrust law, a constitutional proportionality requirement applies to most punitive damages cases as well as to other types of remedies.[157]

The first step of the proportionality principle is of particular interest for our purposes. It may indeed be advanced that the appropriate and necessary character of the remedies to be imposed would require a precise remedial measurement, not only with regard to the magnitude and scope (amount) of the harm to consumers/competition or the nature of the infringement, but also in relation to the type of violation that was identified. This might cover a specific competition law category (i.e., a refusal to deal, a tying case, an exclusive dealing case),[158] but also the theory of harm advanced in the specific case (i.e., maintenance of monopoly, leveraging, essential facilities). The importance of remedial fit is often stressed by antitrust law literature.[159] It is also indirectly linked with causation between the anticompetitive conduct and the theory of harm, which has, in certain circumstances, "more purchase in connection with the appropriate remedy issue."[160]

It is clear that remedies should be effective, in the sense that they should aim "to re-establish the competitive situation, i.e., the competitive process that would have prevailed *but for* the infringement."[161] However, it is also clear that the principle of proportionality requires a close fit between the harm and the remedy. The suggestion that remedies may go beyond "mirroring the abuse" profoundly misunderstands the relation between the remedy and the right it is attempting to protect.[162] One could conceive the right as being distinct from the provision of the remedies for violation of that right, in other words there is a dichotomy between rights and remedies, each concept being

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[156] Case T-170/06, Alrosa v. Commission, para. 99.

[157] Tracy A. Thomas, Proportionality and the Supreme Court's Jurisprudence of Remedies, 59 Hastings L. J. 73 (2007); E. Thomas Sullivan, *Proportionality Principles in American Law* (OUP, 2008).

[158] On the importance of categorization in the context of Article 82 EC, see Ioannis Lianos, Categorical thinking in competition law and the "effects-based" approach in Article 82 EC, in Ariel Ezrachi (ed.), *Article 82 EC – Reflections on its recent evolution* (Hart Pub. 2009), pp. 19-49.

[159] See, Thomas O. Barnett, Section 2 Remedies: What to do after catching the Tiger by the Tail, 76 Antitrust L. J. 31, 36 (2009), "the remedy needs to be tied closely to the anticompetitive conduct occasioning it. That means that remedies need to be sufficient, but not overbroad, and proportional to the offense"; Gregory J. Werden, Remedies for Exclusionary Conduct Should Protect and Preserve the Competitive Process, 76 Antitrust L. J. 65. 65 (2009), "(r)emedies for exclusionary conduct should arise organically out of the theory of the case" citing Laurence A. Sullivan, *Handbook of the Law of Antitrust* 146 (1977).

[160] US v. Microsoft Corp., 253 F.3d 80.

[161] Per Hellström, Frank Maier-Rigaud, Friedrich Wenzel Bulst, Remedies in European Antitrust Law, 76 Antitrust L. J. 43, 58 (2009)

[162] Ibid., at 59.

conceptually isolated from the other. This formalistic position might lead to impose no remedies for the infringement of a right or to impose stricter remedies than the nature and effect of the violation of the right would have required. For example, a remedy that would go beyond simply "mirroring the abuse" and would "give the infringer's competitors an advantage over the infringer in order to restore the competitive process"[163] fixes a high remedial target that might go beyond the violation of the right, the alleged abuse. It could eventually jeopardize the dominant position of the firm, as this is an anomaly to the competitive process, the dominant firm having the ability to behave independently from its competitors. However, Article 82 does not condemn dominant position as such, nor does it restrict a dominant firm's ability to compete on the merits, that is a situation that has not been qualified as an abuse.[164] Remedies that go beyond mirroring the specific abuse could certainly be adopted in theory but that should be done either by advancing an additional theory of harm/liability under Article 82 that is more directly linked to the remedy sought or by employing another competition law instrument than Article 82.[165]

An alternative view would be to consider that rights and remedies are profoundly interlinked with each other, so that the remedy is the measure of the right. This profoundly legal realist view would consider that "the nature of the remedy sought in an antitrust case is often an important clue to the soundness of the antitrust claim"[166] (the "if you cannot fix it, it isn't broken" argument). Between these two poles, there is the principle of remedial proportionality, which we defend as being normatively desirable and recognized by positive law. Without adopting a strict dichotomy between the identification of the right (or the liability step) and the remedy, the principle of proportionality requires a close link between the two. In an economically informed Article 82 this would require a fit between the theory of harm or the type of abuse and the remedy imposed: in the Microsoft case, a more explicit causal connection between the tying abuse category and the "must carry" remedy that will eventually apply.

VI. Conclusion

The success or the failure of the remedial action in the US and the EC Microsoft case is still, five years after the D.C. Circuit decision on remedies in the US and the same period since the Commission's Decision, a matter of controversy.[167] Some tend to link the alleged failure of the remedy, or its unexpected costs and scope, with the issue of

[163] Ibid.

[164] Ibid. The authors' reasoning is based on an internal contradiction. They advance that remedies may go beyond mirroring the abuse but at the same time they qualify their statement by recognizing that the remedy "should not undermine the infringer's incentive to compete on the merits." However, this is not very different from advancing that the remedy should mirror the abuse. Indeed, if the dominant firm competes on the merits, there is no abuse.

[165] A broader theory of abuse (and consumer harm) under Article 82 EC that would have a direct link with the remedies sought could be one option to deal with the problem in this case. Sector inquiries with the possibility of imposing effective remedies, market investigation references or a provision equivalent to Section 5 of the FTC Act could also be adequate tools in this case.

[166] Brunswick Corp. v. Riegel Textile Corp., 752 F.2d 261, 267 (7th Cir. 1984).

[167] See, most recently, the exchange between Carl Shapiro, 'Microsoft: A Remedial Failure', (2009) 75 Antitrust Law Journal 739 & Keith N. Hylton, 'Remedies, Antitrust Law and Microsoft: Comment of Shapiro', (2009) 75 Antitrust Law Journal 773.

liability, professing what has been known as “if you cannot fix it, it isn’t broken.” Although it is clear that, in principle, the costs of remedies should not outweigh the consumer benefit they achieve, it is also contended that plaintiffs employ a sequential information model that addresses one issue at a time. It would be therefore inappropriate to dismiss a case simply because the plaintiff did not identify an adequate remedy. Harry First rightly observes “it seems inevitable that plaintiffs will refine their case as they learn more in the course of the litigation process,” in particular in high tech industries where technological change is so complex and technological change so rapid that there is a need for quick action.[168]

At the same time, the litigation process is cheap compared to competition in price or product development. Thus, rivals have significant incentives to sue global dominant firms on multiple grounds and in multiple jurisdictions with the expectation that some suit will ultimately be successful in some jurisdiction. And, sometimes, one or more of these cases is picked up and pursued by an antitrust authority, as it happened with the two cases against Microsoft, one in the US and one in the EU. To some extent, the lack of fully-thought remedies in both of these cases is a consequence of the history of the cases, that is, how they were started by allegations of rivals who were primarily interested in improving their competitive position vis-à-vis the dominant firm rather than remedying all the consequences of anti-competitive behavior.

The anticompetitive effects of these practices were clearly identified and a dominant narrative emerged as a retrospective rationalization of different practices and strategies adopted by Microsoft that harmed consumers: the maintenance of monopoly story in the US case and the leveraging story in the EU case. The identification of a specific consumer harm story could operate as a limit to the identification of adequate remedies. Antitrust liability stories transcend the different stages of a case, including the issue of remedies that need to address the specific consumer harm. The US Microsoft case was problematic at this respect as there wasn’t a direct link between the antitrust liability story of maintenance of monopoly and the forward-looking remedies adopted. It is clear that Microsoft executives were concerned by the potential (but unlikely) erosion of the Windows’ platform ubiquity from the joint actions of Sun and Java. The competitive threat to Windows did not materialize but Microsoft raised the walls of its fortress preventively in order to defend its position from Java’s and Sun’s naval attack, if one employs Carl Schapiro’s fortress metaphor.[169] But, is it legitimate to require dominant firms to bring down the walls of their fortress or to keep them at the same level they were before, when they identify, perhaps wrongly, the existence of a potential threat of attack? Lowering the wall some centimeters will certainly be an option but the question will be of how much lower and how much for what reason.

In comparison, the narrative of the first European Microsoft case fits better with the remedies imposed. The issue here was that the dominant firm was using an existing fort to attack a new area and extend its fortification. The dominant firm would have thus been able to reinforce the defenses of its existing fort and to increase the risks for those attacking it. The remedy in this case seems more straightforward in comparison to the previous setting: terminating the extension of the fortification will bring the end of both the ambition to reinforce the existing fortifications and to occupy a new area.

[168] Harry First, ‘Netscape is Dead: Remedy Lessons from the Microsoft Litigation’, above, at 31.
[169] Carl Shapiro, ‘Microsoft: A Remedial Failure’, at 747.

What this metaphor shows is that the choice of the adequate narrative among different consumer harm stories should explain/correspond to the remedy sought. This was certainly the case with the EU Microsoft case but not with the US Microsoft case, where the difficulty for the leveraging argument to get accepted by the courts as well as the change of the administration and possibly the re-framing of the government's claim[170] led to the development of a narrative (maintenance of monopoly) that had only an indirect link with the bulk of the forward-looking remedies that were finally imposed.

This mismatch between the consumer harm story/narrative and the remedy sought is also manifest in the second EU Microsoft case. Although the Commission seemed to advance a consumer harm story based on the relatively favorable, for its position, case law on tying, establishing some form of quasi per-se illegality of tying if a company has a dominant position, the "must carry" commitment accepted by the Commission as an adequate remedy for the competition problem does not address directly this particular risk of abuse. Unbundling would have certainly looked as the most adequate remedy for a leveraging/tying concern. However, the Commission reacted negatively when Microsoft decided to unbundle IE from Windows 7-E. The "must carry" remedy adopted fits more with an essential facilities case, where Windows would have been considered indispensable for the distribution of an Internet browser. We do not criticize the remedy as such, which could perhaps prove to be effective, in terms of reinvigorating competition in the Internet browser market, but the apparent conceptual mismatch between the consumer harm story and the remedy. It would be particularly damaging for the development of competition law and economic growth in general if plaintiffs could employ the less demanding, in terms of standard of proof, theory of consumer harm in order to achieve the most far reaching, in terms of commitments from a dominant firm, remedies. The problem cannot be solved by the characterization of the Microsoft case as a strictly "tying" case. The classification of abuses under Article 82 is not a clear-cut exercise and there is always a fine conceptual line that distinguishes different categories of abuses, if one takes an effects-based approach.[171]

[170] Harry First & Andrew I. Gavil, 'Re-framing Windows: The Durable Meaning of the Microsoft Antitrust Litigation', (2006) Utah L. Rev 679, 682.

[171] See, Ioannis Lianos, Categorical Thinking in Competition Law and the 'Effects-based' Approach in Article 82 EC, in Ariel Ezrachi (ed.) Article 82 EC: Reflections on its Recent Evolution (Hart Pub., Oxford, 2009), pp. 19-49.