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A Tale of Two EC Cases: *IBM* and *Microsoft*

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Arguably the largest abuse of dominance case in Europe before *Microsoft* was the *IBM* case of the early 1980s. Both cases were about interoperability and bundling, and both followed litigation in the United States. Unlike *Microsoft*, the European *IBM* case was settled without a decision being taken, so the public record is thin. This paper looks back at the case, and the increasingly competitive environment surrounding IBM, and contrasts it with the situation of *Microsoft*. The September 2007 judgment of the Court of First Instance in *Microsoft* is then discussed. That the Commission won on interoperability is welcomed, but not the apparent ease of its victory, which may have left unclear limiting principles for the future.

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I. Introduction

Arguably the largest abuse of dominance case in Europe before the recent *Microsoft* case¹ also concerned a major U.S. company in the computer industry accused of unlawful tying and bundling, and of refusing to supply interoperability information to its rivals. On December 19, 1980, the European Commission delivered a statement of objections to IBM, which stated that the company held a dominant position in markets for IBM and IBM-compatible central processing units (CPUs) and basic software, and in a wider market for general purpose computer systems. Four abuses were alleged: bundling of basic software, bundling of main memory, non-disclosure of interface information, and refusal to supply certain software installation services (called IPOs²) to users of non-IBM CPUs.

Despite its great commercial importance, the European abuse of dominance case against IBM receives little more than passing reference in EC competition law textbooks.³ That is largely because the case was settled by undertakings given by IBM in August 1984. Not only did the substantive issues in the case never come to Court, but there was no published decision by the Commission. A three-page note appeared in the *EC Bulletin*,⁴ where the IBM undertakings were published, but the official record is thin. Not so IBM's Defence, which consists of three volumes amounting to 960 closely printed pages (not counting appendices), a copy of which is to be found in the Codrington Library of All Souls College, Oxford.⁵ Part of the discussion that follows has been informed by that (partisan) source.

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- 1 Case T-201/04, *Microsoft v. Commission* (not yet reported) (judgment of Sep. 17, 2007) [hereinafter *Microsoft* judgment].
 - 2 Installation Productivity Options were software products to assist the installation of certain IBM programming on a CPU.
 - 3 Some do, however, cite Case C-60/81, *IBM v. Commission*, 1981 E.C.R. 2639, in which the European Court of Justice dismissed as inadmissible an application by IBM to annul the Commission's decision to initiate proceedings and issue the Statement of Objections. And in 1984 there was an entirely separate Commission decision clearing the distribution arrangements for IBM personal computers.
 - 4 European Union, *Averting the Danger of an Abuse of a Dominant Position: the IBM Case*, 7/8 & 10 BULL. EUR. COMMUNITIES (1984) [hereinafter *EC Bulletin*]. There was also reference to the case in EUROPEAN COMMISSION, XIVTH REPORT ON COMPETITION POLICY (1984). Academic commentary includes discussion of the EC *IBM* case in Section VIII of Fox (1986). See Eleanor Fox, *Monopolization and Dominance in the United States and the European Community: Efficiency, Opportunity and Fairness*, 61 NOTRE DAME L. REV. 981 (1986), at § VIII.
 - 5 Case IV/29.479, *Defence of International Business Machines Corporation to the Statement of Objections of the Commission of the European Communities* (Aug. 31, 1981) [hereinafter *Defence*]. The copy of the Defence, in a fine leather binding, was presented to Library in 1996 by Sir Jeremy Lever QC, Fellow of the College, who led IBM's defense team. In addition to that Defence, IBM also lodged a detailed paragraph-by-paragraph commentary on the statement of objections with the Commission.

Another parallel between the European *IBM* and *Microsoft* cases is that both were initiated while suits brought by the U.S. Department of Justice (DOJ), and a string of private actions, were before the U.S. courts. The U.S. government case against IBM, launched at the end of President Johnson's term of office in 1969, was dropped by the Reagan Administration thirteen years (and four Presidents) later for being "without merit". The case brought against Microsoft in 1998 by the DOJ during President Clinton's term was settled in 2002 by the DOJ during President Bush's term after a landmark judgment by the U.S. Court of Appeals for the DC Circuit the year before. Others have contrasted the pair of U.S. cases, perhaps most pithily Franklin Fisher (2000):

"Simply put, IBM had no monopoly to protect, and its bundling actions could not have produced one. By contrast, Microsoft had monopoly power, and its bundling and related actions "made no business sense" save for the protection of that power."⁶

The present paper discusses some contrasts between the pair of European cases. Needless to say, the twenty years between the IBM settlement and the Commission's decision in *Microsoft* saw a transformation in computer technology. The case was about a world of mainframes, but the personal computer (PC) was launched in the very month, August 1981, that IBM submitted its Defence to the statement of objections. Indeed the seeds of the *Microsoft* case were sown that same month when IBM signed up Microsoft, which had been founded just six years earlier, to provide an operating system for the PC. Ironically, mainframes, in the form of servers, have made a sufficient comeback to become a central issue in *Microsoft*.

Major developments in EC competition law occurred over the two decades. The first abuse of dominance case decided by the European Court of Justice (ECJ) was *Continental Can* in 1973, which established precedents on market definition.⁷ Early cases on abusive refusal to supply were *Commercial Solvents* (1974) and *Hugin* (1978).⁸ The Court's judgments in *United Brands* (1978) and

6 F.M. Fisher, *The IBM and Microsoft Cases: What's the Difference?*, 90 AM. ECON. REV. 180 (2000). Fisher was the chief economics witness for IBM in *U.S. v. IBM* and the chief economics witness for the Government in *U.S. v. Microsoft*.

7 Case C-6/72, *Europemballage Corp. and Continental Can Co. Inc. v. Commission*, 1973 E.C.R. 215.

8 Cases 6/73 & 7/73, *Commercial Solvents et al. v. Commission*, 1974 E.C.R. 223 and Case 22/78, *Hugin v. Commission*, 1978 E.C.R. 1869.

Hoffmann-La Roche (1979) elucidated the concepts of dominance and abuse in terms that have endured.⁹ These were the early, formative years of EC competition jurisprudence, well before the judgments of the 1990s such as *Magill* on the compulsory licensing of intellectual property (IP), and *Hilti* on tying.¹⁰ Indeed, the Court of First Instance (CFI), which gave judgment in those two cases, and which has become so central to European competition law, was not created until 1989. So at the time of the *IBM* case, there was little EC case law, and most of it was in ink that had barely dried.

Competition economics has also changed substantially since 1980, and radically with regards to analytical methods. The application of game theory to competition issues, rigorous analysis of dynamics and uncertainty, and sophisticated statistical approaches to empirical study of industries, all blossomed under the “new industrial economics” of the 1980s as prior approaches, based on the “structure-conduct-performance” approach, received less attention. In particular, the economics of network effects, standards, compatibility, and switching costs that existed by 1990 was simply unavailable in 1980.

The European *IBM* and *Microsoft* cases, despite their superficial similarities, are therefore from different eras of law and economics as well as of computer technology. The next two sections discuss the two cases in turn. The final section then suggests some lessons from the comparison between the cases, particularly with regard to the issues of tying and refusal to supply common to them.

THE EUROPEAN *IBM* AND *MICROSOFT* CASES, DESPITE THEIR SUPERFICIAL SIMILARITIES, ARE FROM DIFFERENT ERAS OF LAW AND ECONOMICS AS WELL AS OF COMPUTER TECHNOLOGY.

II. The IBM Tale

A. SOME HISTORY

The IBM tale starts at least fifty years ago. Under a 1956 consent decree, IBM settled an antitrust suit brought by the DOJ by agreeing, among other things, to sell as well as lease its machines (which then used punch cards) and to supply parts and servicing in the aftermarket for machines that it sold. The provisions

⁹ Too well, some would say. For example, the canonical explanation of dominance in terms of the power to behave independently of competitors, customers, and ultimately consumers is less than clear as a guide to what constitutes market power. Case 27/76, *United Brands v. Commission*, 1978 E.C.R. 207 and Case 85/76, *Hoffmann la Roche v. Commission*, 1979 E.C.R. 461.

¹⁰ RTE, ITP & BBC v. Commission, 1995 E.C.R. II-485 [hereinafter *Magill*] and Case C-53/92 P, *Hilti v. Commission*, 1994 E.C.R. I-667.

of the decree remained in place throughout the U.S. and EC *IBM* cases that were to come, and were not lifted until 1996 to 2001.¹¹

The EC case of the early 1980s stemmed from IBM's announcement in April 1964 of its System/360 family of computers.¹² This system gave superior processing power from the incorporation of integrated circuits, not just transistors, and software innovation, including in the form of operating systems. The crucial breakthrough, however, was a new systems architecture that provided future upward compatibility; applications software written for one machine in the System/360 family would work, without needing to be rewritten, on more powerful or subsequent members of the family. Previously, software often needed costly conversion or adaptation to operate on a machine other than that for which it was designed, even from the same manufacturer. Indeed, applications written for IBM's prior 1400 series were incompatible with System/360.

System/360 also offered hardware compatibility. Peripheral devices such as disk drives and tape drives for data storage that worked with one CPU in the System/360 family would also work with another through standard interfaces. This modularity greatly enhanced system flexibility for users, who could adapt and upgrade their systems much more easily than was possible before. It also allowed scale economies in production; indeed, just as off-the-peg suits can be produced at lower average cost than made-to-measure, so too can peripherals for standard interfaces.

System/360 entailed huge development costs for IBM, and the strategic risk that the gains in flexibility brought by compatibility would come at too high a cost in terms of system performance. While a general tool has obvious advantages of flexibility over a set of bespoke tools, it may have the disadvantage of doing any given task less well. In a sense then, System/360 was a gamble that the benefits to users of compatibility would dominate its various costs, relative to the design of bespoke tools, as solutions to their computing needs.

The gamble paid off handsomely, and System/360 rapidly became a huge commercial success for IBM. Yet it was quickly outdated by advancing hardware, software, and communications technologies. In June 1970, IBM announced the (compatible) successor range, System/370, which incorporated major gains in

11 Press Release, U.S. Department of Justice, Justice Department Agrees to Terminate Last Provisions of IBM Consent Decree in Stages Ending 5 Years From Today (Jul. 2, 1996).

12 This account draws in part from F.M. FISHER ET AL., *FOLDED, SPINDLED, & MUTILATED: ECONOMIC ANALYSIS & U.S. v. IBM* (1982), and from F.M. SCHERER, *INDUSTRY STRUCTURE, STRATEGY & PUBLIC POLICY* (1996), at ch. 7. Fisher, supported by co-authors McGowan and Greenwood, testified for IBM, and their book robustly states his view that the industry was competitive throughout, and that the DOJ's case was a disaster due to unsound economic analysis. The book is reviewed critically in F.M. Scherer, *Review of F.M. Fisher, J.J. McGowan, & J.E. Greenwood*, 22 J. ECON. LIT. 620 (1984). Scherer was an early witness for the DOJ, but later resigned "in dismay".

processing power, storage capacity, memory access speed, capability of terminal devices, and operating system software to enable, for example, online and time-sharing uses. IBM introduced numerous System/370 products throughout the 1970s, incorporating gains in hardware price/performance, the advent of “virtual memory”, and facilitating new ways of working, notably “distributed” rather than traditional centralized computing. Then, at the end of the 1970s, the PC industry emerged.¹³

B. COMPETITION ISSUES

The compatibility and modularity facilitated by IBM’s System/360 and /370 architecture opened up new dimensions of competition, and of antitrust litigation. In addition to creating system-versus-system competition, it stimulated component-versus-component competition. For example, a rival producer of peripherals such as storage devices could compete with IBM to supply users with IBM-compatible storage devices to work with their IBM CPUs. The presence of IBM-compatible peripheral suppliers in turn opened up competitive possibilities for suppliers of IBM-compatible CPUs. Likewise, suppliers of basic software and of a variety of services (e.g., maintenance) relating to computer systems conforming to IBM’s architecture had expanded opportunities to compete with IBM’s software and services.¹⁴

The commercial success of System/360 and /370 gave rise to issues of switching costs and network externalities, but the vast economics literature that now exists on those subject had barely begun in 1980.¹⁵ The direct effect of IBM’s compatibility architecture was to reduce, if not eliminate, the previously high costs of switching between its own computer systems, and the costs of switching between components within them. A consequence was that for an IBM-compatible user wishing to upgrade its system, the switching costs of moving to another IBM-compatible system were considerably lower than those entailed by moving to a system with a different architecture. In short, the lowering of intra-system switching costs made inter-system switching more costly in relative terms. As the IBM architecture rapidly gained commercial ground, network effects strengthened, for example through the growth in the availability of IBM-compatible software and service provision. There may also have been direct benefits to IBM users of others adopting IBM-compatible systems, and hence direct network effects, but not to

13 IBM’s response to the emergence of personal computing (and Microsoft’s to that of the Internet browser) is analyzed from an organizational perspective in T. Bresnahan et al., *Organizational Diseconomies of Scope and Creative Destruction* (2007) (mimeo) (on file with the author).

14 The System/360 and /370 compatibility standard also facilitated the growth of companies that would lease IBM (and IBM-compatible) systems to users, sometimes in competition with IBM’s sales.

15 For a recent survey, see J. Farrell & P.D. Klemperer, *Coordination and Lock-In: Competition with Switching Costs and Network Effects*, in 3 *HANDBOOK OF INDUS. ORG.* (M. Armstrong & R. Porter eds., 2007).

the extent of today's IT environment of ubiquitous applications software in which file sharing is much more common.¹⁶ IBM's architecture became a de facto standard, and for a time IBM enjoyed market power as a result.

So while IBM's system innovation opened up opportunities for IBM-compatible rivals, they faced some difficulties in taking advantage of them. The first was IBM's naturally superior access to interface information. With inherently asymmetric information between IBM and its IBM-compatible rivals about how system architecture would develop, the rivals were at some disadvantage. Plug-compatibility requires timely knowledge of plug-hole design. But the asymmetry of information arose from the creation and development of the architecture for compatibility, which was fundamental to IBM's innovation and itself to the benefit of the rivals as well as customers.

The second potential difficulty for a component supplier, whether of hardware or software, concerned bundling. For example, a rival supplier of main memory would have many more selling opportunities if IBM sold CPUs without (or with only minimal) main memory than if it sold CPUs with substantial main memory as one package. Hardware bundling tended to increase during the 1970s. Miniaturization made it possible, and processing efficiency made it desirable, for control circuitry and substantial main memory to be in the CPU box. From today's perspective it may seem odd that things were ever different, but some saw the bundling as anticompetitive foreclosure by IBM.¹⁷ With software bundling, the trend went the other way. Software bundling was standard practice in the industry until the late 1960s, but as user sophistication and experience grew over time, so did demand for separate software products, and suppliers including IBM responded by moving towards separate pricing.

The third problem for IBM-compatible rivals was that IBM responded to their emergence with aggressive—some said predatory—price competition.

In sum, the IBM-compatible rivals had an obvious interest in IBM being required:

- (a) to disclose interface information as soon as possible;
- (b) to unbundle; and
- (c) to not price too low.

16 Direct network effects were of course tremendously important in telecommunications, where the U.S. government launched a major antitrust action against AT&T in 1974 and which had a very different outcome from that against IBM: AT&T got broken up.

17 Fisher et al. (1983), *supra* note 12, at 335 argue that any attempt by IBM to bundle more main memory than customers wanted would have created business opportunities for IBM-compatible suppliers such as Amdahl to supply CPUs with less main memory. By contrast, there are no Windows-compatible competitors to Microsoft in the supply of PC operating systems.

Less obvious was whether consumer interests would be served by such measures, or whether and how competition law should impose such requirements.

C. U.S. LITIGATION

Alongside the U.S. government proceedings, a series of private plaintiffs brought actions against IBM under Section 2 of the Sherman Act, with initial success. Control Data Corporation, a maker of powerful mainframes, filed suit against IBM in December 1968 and secured a large out-of-court settlement early in 1973. Later that year, another private plaintiff, Telex Corporation, won in district court and was awarded USD 260 million in (treble) damages, but the judgment was reversed by the U.S. Court of Appeals for the Tenth Circuit in 1975.¹⁸

As in all of the IBM antitrust litigation, market definition and the assessment of monopoly power constituted a major battleground, with plaintiffs and IBM contending for narrow and broad market definitions respectively.¹⁹ The *Telex* case is most notable, however, for its analysis of predatory pricing and is a leading example of the shift away from readiness to condemn price cuts as predatory, often on the basis of evidence as to “intent”, towards cost-based standards. As recently as 1967 the U.S. Supreme Court in *Utah Pie* had adopted the former approach.²⁰ But in 1975, coinciding with publication of, and influenced by, the landmark paper by Areeda and Turner,²¹ the appeals court in *Telex* reversed the district court’s finding that IBM’s price cuts were unlawful. In 1983, the U.S. Court of Appeals for the Ninth Circuit in *Transamerica v. IBM*, another case brought by an IBM-compatible rival, further embraced the Areeda-Turner cost-based test, though with qualification, in upholding a district court judgment (after a hung jury) in 1979.

These court of appeals opinions on predatory price cuts in IBM cases were by no means as permissive as the Supreme Court was to be in *Brooke Group* (1993),²² but they were stages in the traverse from *Utah Pie* to where we are now. All this was well before the European jurisprudence on predatory pricing started

18 *Telex Corp. v. International Business Machs. Corp.*, 510 F.2d 894, 926 (10th Cir.) [hereinafter *Telex*] and *Transamerica Computer Co. v. IBM*, 698 F.2d 1377 (8th Cir. 1983) [hereinafter *Transamerica*]. The *Telex* and *Transamerica* cases are discussed in E. FOX ET AL., *CASES AND MATERIALS ON U.S. ANTITRUST IN A GLOBAL CONTEXT* 231-36 (2nd ed. 2004).

19 One combatant’s view of the market definition battlefield is in Fisher et al. (1983), *supra* note 12, at ch. 3 *in particular*.

20 *Utah Pie Co. v. Continental Baking Co. et al.*, 386 U.S. 685 (1967).

21 P. Areeda & D.F. Turner, *Predatory Pricing and Related Practices Under Section 2 of the Sherman Act*, 88 HARVARD L. REV. 697 (1975).

22 *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209 (1993).

to develop, in cases such as *AKZO* and *Tetra Pak*,²³ and predatory pricing was not part of the EC case against IBM.

The interface disclosure element of the EC case had been another aspect of the *Telex* case and was central to the case brought against IBM by Memorex in the late 1970s. Memorex was unsuccessful at first instance (again after a hung jury) and on appeal in 1980, shortly before the EC issued its Statement of Objections (SO) concerning IBM. U.S. plaintiffs were likewise unsuccessful with allegations of technological bundling. For example, CalComp, a supplier of IBM-compatible peripherals, was rebuffed by the U.S. Court of Appeals for the Ninth Circuit in 1979 on the grounds that it was perfectly reasonable for IBM to redesign its products to make them more attractive to users and that it had no duty to help those such as CalComp to survive or expand.²⁴

On the eve of the issue of the EC's SO, the U.S. courts had therefore rejected the pleas of private plaintiffs. Worse still for them, the new U.S. antitrust administration, led by William F. Baxter at the DOJ, was about to withdraw its case against IBM having "concluded that the case is without merit and should be dismissed."²⁵

D. THE EC PROCEEDINGS

The SO delivered to IBM in December 1980 was a document of 378 pages plus appendices. It took account of seven complaints from, among others, Memorex and Amdahl, a maker of IBM-compatible CPUs. The Commission's case was that IBM was dominant in markets "for the supply of key products for its most powerful range of computers, the IBM System/370,"²⁶ notably for IBM and IBM-compatible CPUs, and that in breach of Article 86 (now Article 82 of the EC Treaty) it had abused its dominance by memory bundling, software bundling, interface non-disclosure, and refusal to supply IPOs. Like the eventual undertakings, the following account focuses on memory bundling and interface information.

IBM's Defence was submitted on August 31, 1981. A hearing was held in February 1982, by which time the U.S. case was over. The Commission then sent IBM a statement of proposed remedies focusing on the issues of memory bundling

23 Case C-62/86, *AKZO v. Commission*, 1991 E.C.R. I-3359 and Case C-333/94 P, *Tetra Pak v. Commission*, 1996 E.C.R. I-5951.

24 *California Computer Products v. International Business Machines*, 613 F.2d 727 (1979) [hereinafter *CalComp*].

25 William F. Baxter, U.S. Department of Justice, Stipulation of Dismissal in *U.S. v. IBM* (Jan. 8, 1982). On the same day, the U.S. government and AT&T agreed a settlement of their antitrust case under which AT&T would divest its regional Bell operating companies.

26 Quoting the EC Bulletin, *supra* note 4.

and interface information. During 1983, as formal proceedings advanced, there were also informal discussions. The Commission drafted a decision, but the settlement of the case according to undertakings signed by IBM on August 1, 1984 forestalled its issue.

In its Defence, IBM first argued points on due process and international law points in relation to proceedings before the U.S. courts. The Defence went on to deny dominance, and particularly took issue with the Commission's approach to market definition, with its implication of "hundreds of separate markets, divided from each other by allegedly impenetrable hedges of incompatibility, and with IBM dominating 'its own square' of the chess board—and allegedly some wider area of the chess board as well."²⁷ For IBM, the relevant market was for electronic data processing (EDP) generally, and IBM's share had fallen to somewhere in the region of 30 percent. In hindsight, it is interesting to note the Defence's mild statement that a system based on "minicomputers", which were excluded from the Commission's market, "provides users with a good alternative to the centralised approach based on large processors and corresponding peripherals."²⁸ Whatever else one may think of IBM's Defence on dominance, that and related points about "microcomputers" and "intelligent terminals" soon became true with a vengeance.

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On the alleged abuse relating to memory bundling, the nub of IBM's case was that the CPU as a whole, including main memory, constituted a single product, having been designed, made, sold, and working as such since the industry began. There was no evidence of user demand for memory-less CPUs and, according to the Defence, "EDP products should continue to be designed by engineers, not by lawyers or the Commission."²⁹

On interfaces, the alleged abuse was IBM's policy of not disclosing to rivals interface changes relating to new products until IBM's first customer shipment of the product. In its Defence, IBM argued that the Commission's SO had not made clear what it meant by "interface information", had misunderstood the relationship between interface information and systems architecture, and had ignored the crucial issue of the importance of lead time as an incentive to invent. The point that interface information was valuable design information was illustrated

²⁷ Defence, *supra* note 5, at vol. I, para. 1.5.10.

²⁸ *Id.* at vol. II, para. 5.2.64.

²⁹ *Id.* at vol. III, paras. 2.1.13, 2.1.22 & 2.8.5.

by diagrams of the internal workings of Rubik's Cube,³⁰ the interfaces of which were said to be the essence and genius of the design. IBM argued that as an innovator it had but a short period of grace before others could imitate, free of the original development cost, and that truncation of that lead time would blunt the incentive to compete by innovation: "Far from enhancing competition, the enforced early disclosure of technical information about IBM's new products would stifle it."³¹

In the end, IBM did undertake as part of the 1984 settlement to supply interface information, for new System/370 hardware products within 120 days of announcement (or general availability if earlier), and for new software products as soon as interfaces were reasonably stable. IBM also agreed to disclose information to enable interconnection of competitors' systems or networks with IBM's System/370 Network Architecture (SNA). IBM's express intention in the undertakings was "to supply the information necessary to attach and not to supply product design information." IBM did not have to disclose information on unique interfaces between a sub-system of two products, those being most likely to reveal product design. It reserved the right to charge a reasonable and non-discriminatory royalty for the supply of proprietary information protected by IP law. On memory bundling, IBM undertook, without prejudice to its design freedom, to offer System/370 CPUs without main memory (beyond the necessary minimum for testing) while remaining free to supply CPUs with main memory.

The aftermath of the EC case makes IBM's 1981 Defence of allegations of dominance look more prescient than perhaps it appeared at the time. Minicomputers and microcomputers (e.g., the Apple II) and associated software were on the way to transforming the industry. IBM saw the threat and opportunity that this presented, and created an independent division with unprecedented autonomy to develop the PC, in some haste, and (unlike System/360/370) with open architecture.³² The IBM PC was a huge commercial success; yet, whatever market power IBM still had around 1980 soon evaporated, which brings us to the Microsoft tale.

30 *Id.* at vol. III, 266-67. Rubik's Cube was then an intriguingly novel toy puzzle.

31 *Id.* at vol. III, para. 3.1.7. The Defence also stressed the extra-territorial effect of required early disclosure, which the respective appeals courts had recently rejected in *Berkley Photo Inc. v. Eastman Kodak Co.* 603 F.2d 263, 275 (2d Cir. 1979) as well as in *Memorex Corp. v. IBM Corp.*, 636 F.2d 1188 (9th Cir. 1980) [hereinafter *Memorex*].

32 See Bresnahan et al., *supra* note 13. The "firm-within-a-firm" that developed the IBM PC at Boca Raton, Florida, had the mission to "act like an entrant", contrary to prevailing IBM corporate culture. It did, with major organizational problems in due course.

III. The Microsoft Tale³³

IBM's contract with Microsoft to provide operating system software for the IBM PC was followed four years later with the start of the development of another operating system called OS/2. But Microsoft was free to license to others its MS-DOS product that it developed from the 86-DOS software that it had acquired to deliver the original contract relating to the IBM PC. The open DOS standard for the IBM PC was adopted by a number of competing original equipment manufacturers (OEMs) for desktops and portables and, as it gained widespread commercial acceptance, so did Microsoft's MS-DOS. It formed the basis for Windows, which was first released in 1985. In due course, Windows, rather than OS/2, became the dominant PC operating system and, hence, the hub of network externalities relating to applications software, especially with the introduction of Windows 3.0 in 1990. Thus, the root source of market power moved from IBM to Microsoft. In parallel, Microsoft developed its Office suite of applications software, including Word and Excel. In 1995, Microsoft introduced Windows 95, the Internet Explorer (IE) web browser, and the Microsoft Network (MSN) online service.

A. THE U.S. CASE

By this point, Microsoft was already involved in antitrust proceedings. In 1994, the DOJ charged Microsoft with illegal maintenance of its operating system monopoly through its licensing arrangements with OEMs and its agreements with software developers.³⁴ That case was settled by consent decree in 1995. But then, in 1998, the DOJ and a number of States filed suit against Microsoft alleging:

- (i) illegal maintenance of an operating systems monopoly;
- (ii) attempted monopolization of internet browsers in violation of Section 2 of the Sherman Act; and
- (iii) tying in violation of Section 1.

The central issue in the case was whether Microsoft was unlawfully undermining the Netscape Navigator Internet browser to maintain its operating system monopoly. Practices relating to various routes to market for browsers were at issue, including: licensing agreements between Microsoft and OEMs; the integration of the IE browser and Windows; agreements with Internet service providers

³³ Parts of this section are based on J. Vickers, Some Economics of Abuse of Dominance, Paper presented at Fifty years of the Treaty: Assessment and Perspectives of Competition Policy in Europe, IESE Business School, Barcelona (Nov. 19, 2007), at §6. That paper contains a wider discussion of current policy towards Article 82.

³⁴ The FTC had initiated an investigation which led the Bureau of Competition to recommend charges against Microsoft. With one Commissioner recused, the Commission split 2-2 on accepting the staff recommendation and under their rules did not pursue the investigation. In an unusual move, the DOJ picked up the investigation from the FTC.

(ISPs); dealings with Internet content providers, independent software vendors, and Apple; and also alleged abuses in relation to the Java programming technologies of Sun Microsystems.

The district court found Microsoft liable on all but one count and adopted the remedies (then) sought by the DOJ, including the splitting of Microsoft into separate companies for operating systems and applications software. (The parallel with the AT&T break-up of the early 1980s naturally comes to mind, although that was agreed to in a settlement.) Microsoft appealed, and on June 28, 2001, the U.S. Court of Appeals for the DC Circuit issued its judgment.³⁵

The Court first upheld the finding that Microsoft possessed monopoly power in the worldwide market for Intel-compatible PCs operating systems on the basis of its very high share of that market and the “applications barrier to entry” (i.e., the self-reinforcing network externalities associated with the Windows standard that create a powerful tendency for applications software to be written to be compatible with it). There is good reason to believe that with the spread of mass-market software applications, the Windows network externalities were much stronger than System/370 network externalities were for IBM in the 1970s. Yet the Internet was at the same time a threat to Microsoft through “middleware”—software that bridges between the operating system and applications. In particular, a non-Microsoft browser, notably Netscape’s Navigator, with Java technology, might displace Windows as the platform for much applications software to be written, thus eroding the applications barrier to entry.

The Court upheld many of the findings that Microsoft had, without pro-competitive justification, illegally maintained its Windows monopoly by using exclusionary measures to thwart rival browsers and so prevent them from gaining critical mass to become rival platforms for applications software development.³⁶ But the Court, citing a lack of proper browser market analysis, rejected the further claim that Microsoft had unlawfully attempted to extend its Windows monopoly to browsers. On the Section 1 tying claim, the Court ruled that structured rule of reason, not per se, treatment was appropriate for platform software products, because their bundling might have “redeeming virtue”, and remanded the issue back to the lower court.³⁷ The Court entirely quashed the district court’s remedy order.

35 United States v. Microsoft, 253 F. 3d 34 (D.C. Cir. 2001). Economic analyses of the case include M.D. Whinston, *Exclusivity and Tying in U.S. v. Microsoft: What we know, and don’t know*, 16 J. ECON. PERSP. 63 (2001); and D. Rubinfeld, *Maintenance of Monopoly: U.S. v. Microsoft*, in *THE ANTITRUST REVOLUTION* (J. Kwoka & L. White eds., 4th ed. 2004).

36 For example, the Court upheld the findings that Microsoft had anticompetitively, and with no justification, removed IE from the “Add/Remove Programs” utility in Windows 98 and commingled browser and operating system software so that attempted removal of IE would cripple the operating system.

37 The section of the judgment on the inappropriateness of per se condemnation of Microsoft’s software tying cites the bundling issues in several IBM cases of the 1970s and 1980s, including the *CalComp*, *Memorex*, *Telex*, and *Transamerica* cases, see notes 25, 31 & 18, *supra*.

The DOJ's emphasis on, and the Court's upholding of much of, the monopoly maintenance case against Microsoft (unlike the Court's dismissal of the monopoly leverage case) can be seen in the context of the Chicago School contention that "there is only one monopoly profit."³⁸ That proposition has been shown by post-Chicago economics not always to be true, but it nonetheless provides a reason to be more skeptical about claims of monopoly leverage than of monopoly maintenance. Monopoly maintenance has to do with the preservation of one monopoly, not the addition of a second one, so it is not in disagreement with the view that there is only one monopoly profit.³⁹

In 2002, under a new antitrust administration, the DOJ (and some but not all of the states) settled with Microsoft. The final judgments on remedy, among other things, ban Microsoft restrictions on the freedom of OEMs to distribute non-Microsoft middleware, and require certain interoperability disclosures. In particular, Microsoft must disclose the application programming interfaces by which its middleware interoperates with Windows operating systems products, and must license on reasonable terms the communications protocols by which its PC operating systems interoperate with and its server operating systems. The courts approved the settlement but its effectiveness has been subject to much criticism (e.g., with regard to delays in the licensing of communication protocols to enhance interoperability).⁴⁰

THAT PROPOSITION HAS BEEN SHOWN BY POST-CHICAGO ECONOMICS NOT ALWAYS TO BE TRUE, BUT IT NONETHELESS PROVIDES A REASON TO BE MORE SKEPTICAL ABOUT CLAIMS OF MONOPOLY LEVERAGE THAN OF MONOPOLY MAINTENANCE. MONOPOLY MAINTENANCE HAS TO DO WITH THE PRESERVATION OF ONE MONOPOLY, NOT THE ADDITION OF A SECOND ONE, SO IT IS NOT IN DISAGREEMENT WITH THE VIEW THAT THERE IS ONLY ONE MONOPOLY PROFIT.

38 In the words of Judge Easterbrook in *Schor v. Abbott Laboratories*, 457 F.3d 608 (7th Cir. 2006):

The basic point is that a firm that monopolizes some essential component of a treatment (or product or service) can extract the whole monopoly profit by charging a suitable price for the component alone. If the monopolist gets control of another component as well and tries to jack up the price of that item, the effect is the same as setting an excessive price for the monopolized component. The monopolist can take its profit just once; an effort to do more makes it worse off and is self-detering.

39 The possible coherence of monopoly leverage theory was shown in M.D. Whinston, *Tying, Foreclosure and Exclusion*, 80 AM. ECON. REV. 837 (1990). An analysis of how tying can preserve monopoly is given in D. Carlton & M. Waldman, *The Strategic Use of Tying to Create and Preserve Monopoly Power in Evolving Industries*, 30 RAND J. ECON. 194 (2002). For a broader survey of the antitrust economics of tying, see J. Tirole, *The Analysis of Tying Cases: A Primer*, 1(1) COMPETITION POL'Y INT'L 3 (2005).

40 On January 29, 2008, the District Court extended the remedy provisions of the Final Judgments to November 2009 in light of the delay in implementing the licensing of communications protocols.

B. THE EC CASE

The European Commission decision of March 2004 that Microsoft had abused a dominant position in breach of Article 82 of the EC Treaty was directed at different issues. As in the U.S. case, Microsoft's dominance was of the worldwide market for client PC operating systems, but instead of Internet browsers, the alleged abuses concerned operating systems for workgroup servers, and media player software. In particular, Microsoft was held to have abused its dominant position:

- (a) by refusing to supply and authorize the use of interoperability information for rivals to develop competing products on the market for workgroup server operating systems; and
- (b) by tying Windows Media Player with the Windows client PC operating system.

There are obvious parallels with the 1980 allegations that IBM had abused dominance by refusing to supply interface information (in a sufficiently timely manner), and by bundling memory and basic software with CPUs. Both Microsoft and the Commission argued that the IBM undertakings of 1984 favored their respective cases.⁴¹ The Commission saw a consistently careful and balanced assessment of disclosure obligations; indeed, the IBM case had recognized that timely disclosure of IP-protected information could be necessary for interoperability, and the Commission had in both cases distinguished between interface information and internal product design.

There had of course been major developments in EC jurisprudence over the twenty years between cases, notably the *Magill* and *IMS Health* judgments of the ECJ concerning obligations of dominant firms to supply to rivals information protected by IP rights.⁴² The Commission denied that the Microsoft communications protocols at issue were innovative and did not concede that the interoperability information withheld by Microsoft had IP protection, but its decision was premised on the assumption favorable to Microsoft that it was.

Magill had concerned the refusal of television companies (ITV, RTE, and the BBC) to supply program schedules protected by national copyright law to a would-be supplier of a weekly comprehensive TV guide. In a 1988 decision upheld by the CFI, the Commission found the refusal to supply to be an abuse of dominance. On appeal from the CFI, the ECJ confirmed the result, but in terms that appeared to limit the range of circumstances that would count as so exceptional as to compel by competition law the licensing of the IP rights of a dominant firm. In particular, the refusal prevented the appearance of a new product,

41 Commission Decision 2007/53/EC of 24 May 2004, Case COMP/C-3/37.792 — Microsoft, 2007 O.J. (L 32) 23 [hereinafter Commission Decision], at §5.3.1.4.1.3 (*sic*).

42 RTE, ITP & BBC v. Commission, 1995 E.C.R. II-485 [hereinafter *Magill*] and Case C-418/01, *IMS Health v. NDC Health*, 2004 E.C.R. I-5039 [hereinafter *IMS Health*].

not offered by the copyright owners, for which the information was indispensable and for which there was potential consumer demand. The refusal had no justification in terms of broadcasting or magazine publication. And by refusing to license the information, the copyright owners reserved to themselves the secondary market for weekly TV guides by excluding all competition.

The ECJ further developed these criteria in its preliminary ruling in *IMS Health* in 2004. IMS, the leading provider of pharmaceutical sales data in Germany, refused to license information protected by IP rights concerning the geographical format by which sales data were presented. The Court reaffirmed that, while refusal to grant a license cannot itself constitute abuse, the exercise of an exclusive right may in “exceptional circumstances” involve abuse. In particular:

“[I]n order for the refusal by an undertaking which owns a copyright to give access to a product or service indispensable for carrying on a particular business to be treated as abusive, it is sufficient that three cumulative conditions be satisfied, namely, that that refusal is preventing the emergence of a new product for which there is a potential consumer demand, that it is unjustified and such as to exclude any competition on a secondary market.”⁴³

The irony of the interoperability part of the EC *Microsoft* case is that Microsoft relied primarily on the criteria established in *Magill* and *IMS Health* to argue that its refusal was not abusive, while the Commission argued that their automatic application would be problematic, and that the entirety of the circumstances surrounding the refusal, which need not be the same as in those cases, had to be examined.⁴⁴ The Commission pointed to three special factors:

- (i) the refusal concerned interoperability in the software industry, to which the EC legislature has attached particular importance;
- (ii) Microsoft used its extraordinary market power in the client PC operating systems market to eliminate competition in the market for work-group server operating systems, which it had rapidly risen to dominate; and
- (iii) the refusal involved disruption of previous supplies.⁴⁵

⁴³ *IMS Health*, *id.* at para. 38.

⁴⁴ *Microsoft* judgment, *supra* note 1, at paras. 315-16. The Commission argued also that the *Magill* and *IMS Health* criteria were satisfied in any event.

⁴⁵ *Id.* at para. 317.

The Commission had also addressed, in its decision on interoperability,⁴⁶ the criticism of leverage theory that “there is only one monopoly profit,” making the important monopoly maintenance point that by strengthening its dominance in the workgroup server operating systems market Microsoft reinforced its dominance in the PC operating systems market (because a future competitor in the latter would require compatibility with the former).⁴⁷

The irony is that the CFI arrived at the conclusion of abuse by simply applying the criteria from *Magill* and *IMS Health*. It saw no need to examine other special circumstances. Microsoft had failed to show that the interoperability information was not indispensable. There was no manifest error in the Commission’s conclusion that there was risk of elimination of effective competition on the workgroup server operating system market, or in the finding that the new product test was met because the refusal limited technical development to the detriment of consumers.⁴⁸ And Microsoft had not shown any objective justification for its refusal, in particular in terms of its incentives to innovate.

The ease with which the CFI upheld the Commission’s decision on interoperability has two aspects. One is the relatively light standard of review, focusing on the question of manifest error. The second is that on substantive questions (e.g.,

THUS, THE COMMISSION RATHER OVER-PROVED ITS CASE, WITHOUT THE SPECIAL FACTORS (i) TO (iii) COMING MUCH INTO PLAY.

the new product and elimination of competition issues) the CFI readily found the criteria for abuse to be met, which suggests that the criteria might be more elastic, and so less exceptional, indeed more ordinary, than previously thought. The CFI even opined that “Microsoft impaired the effective competitive structure on

the workgroup server operating systems market by acquiring a significant market share on that market.”⁴⁹ Thus, the Commission rather over-proved its case, without the special factors (i) to (iii) just discussed coming much into play.

46 However, with regard to the other part of the Commission’s case, it is not as clear how the bundling of Media Player with Windows could serve to maintain market power in PC operating systems.

47 Commission Decision, *supra* note 41, at paras. 767ff. The U.S. Remedy Opinion (*New York v. Microsoft Corporation*, 224 F. Supp. 2d 172, 173 (D.D.C. 2002)) makes essentially the same point, that better communication between rival server operating systems and Windows client PCs could further the ability of the former to provide a platform that competes with Windows itself.

48 The new product test is found only in the case law on the exercise of IP rights. The CFI’s judgment interprets the test liberally. It would appear unnecessary to identify a particular new product (e.g., a weekly comprehensive TV guide) thwarted by the refusal to supply, but sufficient to show less incentive for competitors to attempt follow-on innovation (see *Microsoft* judgment, *supra* note 1, at para. 659); a circumstance rather often met, one imagines.

49 *Id.* at para. 664. Yet paragraph 559 of the judgment says that even if the Commission had been wrong to conclude that Microsoft was dominant in the workgroup server operating system market, it would not suffice to undermine a conclusion of abuse because the abuse had to do with “leveraging” the quasi-monopoly of the PC operating systems market. Compare the Commission’s distinct monopoly maintenance point referred to above.

On the tying and bundling of Media Player, the Commission and CFI followed something akin to a rule of reason, not per se, approach. (To that extent at least, there is consistency with the general approach of the DC Circuit Court to the Section 1 tying claim in the U.S. *Microsoft* case.) The alleged abuse stemmed from the fact that beginning in May 1999 the Windows operating system for PCs always came with Media Player. The objection was not to Microsoft selling Windows bundled with Media Player, but to Microsoft not also selling Windows without it. Accordingly the Commission's remedy was to require Microsoft to supply a version of Windows without Media Player, which became known as Edition N, on terms no worse than those for the bundled version.

The analysis of tying abuse followed four steps. The first was to note that Microsoft had a dominant position in the tying product (client PC operating system software). Second, the tied product (Windows Media Player) was found to be separate from the tying product by reference to consumer demand. Third, it was noted that consumers could not buy the tying product without the tied product. Fourth, and more controversially, it was concluded that competition was foreclosed on the grounds that, by offering OEMs Windows with Media Player bundled, Microsoft gained an unparalleled distribution advantage, with the result that third-party media players could not compete on the merits through OEMs. Microsoft was found to not have demonstrated an objective justification for supplying Windows always with Media Player, and the remedy was judged proportionate. As with IBM's 1984 undertaking on memory bundling, Microsoft remained free to supply the bundled version. It did so at the same price as the version without Media Player, Edition N, which unsurprisingly met with little demand.

On bundling, the Commission risked less and gained less than on interoperability. Its bundling remedy would have had greater commercial impact, but would have been more contentious, if it had gone further (e.g., by requiring some minimum price difference between the bundled and unbundled versions of Windows). But, in addition to the inherent unattractiveness of price (difference) regulation, there is the difficulty of determining even in principle what the difference should reflect. One possibility is avoidable cost, but that is presumably near zero. Going further and banning bundled supply altogether would have avoided the difficulties of price regulation, but it is hard to see how that would have been proportionate given efficiencies of software bundling.

A month after the CFI judgment, Microsoft announced that it would not appeal, but the European *Microsoft* tale is by no means at an end.⁵⁰ On January 14, 2008, following competitor complaints, the Commission announced a pair of

50 It is even possible that the IBM tale will have a new chapter. Following the *Microsoft* judgment, the European Commission received a complaint that IBM is refusing to supply interface information relating to its mainframes (*US software maker files complaint vs IBM with EU*, REUTERS, Dec. 18 2007). There is also U.S. litigation on this point.

investigations into further allegations of abuse of dominance by non-disclosure of interoperability information, and by tying. The interoperability information relates to a wide range of products, including the Office suite. One issue is whether Microsoft's new file format for Office "is sufficiently interoperable with competitors' products."⁵¹ The second issue concerns the tying of Internet Explorer (and other software products) to the dominant Windows operating system. Both issues echo the U.S. case. Plus ça change, plus c'est la même chose?

IV. Assessment

What morals can be drawn from these tales? The first is that the EC case against IBM was rapidly approaching, if not passing, its sell-by date. My view is that IBM probably did have a dominant position in the 1960s and for much of the 1970s, but hardly beyond. The U.S. government case had considerably more merit in 1972 than by 1982, but (unlike the U.S. *Microsoft* case) the court process failed to resolve it in reasonable time. As Scherer put it, "by 1982 ... the character of the computer industry had been transformed, and it was about to undergo even more radical change."⁵² The Commission's principal market definition in terms of IBM-compatibility may have generated a high IBM "market share" but did not change the facts of growing market competition. In any case, the memory bundling allegation was questionable given that the technological efficiency reasons for bundling substantial memory had become compelling. The interface non-disclosure point, especially if it had been made years before, was more arguable.

A second lesson is that, despite the evaporating nature of the Commission's case, the dispute with IBM reached a broadly reasonable outcome in a sensible manner.⁵³ The U.S. government case grotesquely took thirteen years to go nowhere, whereas the EC *IBM* case was resolved three-and-a-half years after the delivery of the SO. In my view, the memory bundling undertaking was unnecessary but probably not harmful since IBM could still offer the (efficient) bundled version. The commercial impact of the interface disclosure undertaking is debatable, but its scope and timing requirements (the 120 days from the announcement) were such as to advance openness of standards somewhat without creating unfortunate precedents or doing great commercial damage to IBM. Competition itself was doing that.

51 Press Release MEMO/08/19, European Commission, Commission initiates formal investigations against Microsoft in two cases of suspected abuse of dominant market position (Jan. 14, 2008), available at <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/19>.

52 See Scherer (1996), *supra* note 12, at 266, where he quotes approvingly Thomas J. Watson Jr.'s ironic observation that "a lot of people would agree at the outset that the Justice Department's claim had merit," but that the case went unresolved so long that "the natural forces of technological change etched away whatever monopoly power we may have had."

53 *Id.* at 266 calls the EC settlement "mild but probably efficacious."

The next observation is that, whether or not one shares their conclusions, the judgments of the appeals courts, both in the IBM private suits and in *U.S. v. Microsoft*, have deserved respectful attention in Europe in what are, after all, global markets. In the late 1970s and early 1980s, the federal appellate courts were making a substantial and well-informed correction to decades of excessive antitrust interventionism, and the IBM cases were part of that. Many look forward to the day when European judgments are as impressively reasoned as the 2001 judgment in *U.S. v. Microsoft*.

As with the DOJ, the European Commission's case against Microsoft was altogether more cogent than were its allegations against IBM. The network externalities and entrenchment of market power are much greater. Whereas Schumpeterian competition (the "gale of creative destruction") undid IBM's market power, there is good reason to believe that Microsoft was holding it back (though the weather system associated with Google might prove irrepressible).

That the Commission prevailed on interoperability is therefore to be welcomed in my view, but the terms of the CFI's judgment give grounds for concern which I hope will prove unfounded. Some would argue that dominant firms should never be required by competition law to share information (assumed to be) protected by IP rights with rivals.⁵⁴ Others would argue that there are rare cases where that can be required, but that they should be clearly exceptional. The terms of the Commission's decision are broadly consistent with the latter position. Here is an immensely important proprietary de facto software standard on the basis of which Microsoft was maintaining, if not extending, great market power, including over competition to innovate. But the CFI's judgment can be read as suggesting that the criteria in *Magill* and *IMS Health* can be met in circumstances well short of extraordinary.

In sum, the Commission may have won too easily on interoperability. Things certainly look inviting for complainants wanting IP-protected information from rivals, and perhaps also for plaintiffs before national courts now that EC competition law applies directly in Member States. The ECJ has no opportunity to clar-

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⁵⁴ There are related issues in the debate, heightened by the U.S. Supreme Court's 2006 opinion in the *eBay* case (*eBay, Inc. v. MercExchange, L.L.C.*, 547 U.S. ____, 126 S. Ct. 1837. (2006)) on remedies for infringement of IP rights. In what circumstances should the IP owner not be entitled to a permanent injunction and instead receive monetary damages? Depending on how such damages are determined, the latter course is not entirely removed from compulsory licensing.

ify the limits of “exceptional circumstances” because there is to be no appeal. Maybe the Commission can clarify robust limiting principles along with its enforcement policies. Its long-awaited guidelines on its Article 82 policy would be a good place to start. ▼