



New 'Windows' on Competition
The Microsoft Case

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1983
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Published by:



CUTS Centre for Competition, Investment & Economic Regulation
D-217, Bhaskar Marg, Bani Park, Jaipur 302 016, India
Ph: +91.141.228 2821, Fax: +91.141.228 2485
Email: c-cier@cuts.org, Website: www.cuts-ccier.org



Researched and written by:

Alice Pham*

Citation:

Pham, Alice (2008), 'New 'Windows' on Competition *The Microsoft Case*', CUTS International, Jaipur, India

* Director, CUTS Hanoi Resource Centre

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Executive Summary

Microsoft, the most powerful company in the software industry, seems to be engaged in endless litigations on the antitrust front over the years. Geographically, it face itself up against trials from the US, the EU, and a wide range of nations all over the world such as Brazil, India, Taiwan, Korea and Japan, etc. The software giant has been alleged of various anticompetitive practices, which may cause great harm to competitors and consumers. The Microsoft cases draw a lot of attention, not just amongst competitors, lawyers and consumers and those who are directly involved with the cases, but also among scholarly circles and schools because of the interesting and challenging issues, which emerge from the application of competition law and policy in the context of the “New Economy”.

Those most important trials that the company has gone through came from the US and the EU. The first case in the US was an inquiry by the Federal Trade Commission (FTC) in 1994 over Microsoft’s monopoly in the market for operating systems of personal computers (PC/OS). This was followed by a court case – *United States of America vs. Microsoft Corporation* – filed against Microsoft by the US Department of Justice (DOJ) and 19 US states in which Microsoft was accused of tying Microsoft Windows – its patented PC/OS — and Internet Explorer (IE) in a monopolisation attempt. During almost the same time, other private suits against Microsoft also took place, of which the plaintiffs are Netscape, Sun Microsystems and Be Inc. However, Microsoft seemingly succeeded in settling all these cases by means of settlement agreements with the DOJ on disclosing information to competitors, publicising part(s) of its original Windows code, separating IE browser out of Windows and loosening the relationship with PC manufacturers, etc.

Windows wars were also present on the other side of the Atlantic Ocean. The European Commission (EC) sent three Statements of Objection in three successive years and concluded its investigation in a Decision in 2004. This Decision ordered Microsoft to: (i) disclose interface information to

competitors; and (ii) provide another version of Windows, without Windows Media Player, which was believed by EC to have been tied to Windows in the same fashion as IE once was. Besides, heavy fines were also imposed. The Decision's remedies were then upheld by the European Court of First Instance (CFI).

It was found in most cases that Microsoft has abused its monopoly power, which was created by dominant market shares in several markets and substantial barriers to effective entry. The concerns are that Microsoft has abused its dominance to gain competitive advantages over competitors in other (downstream or adjacent) markets, blocking innovation and exploiting customers. In the US case, in the market for Intel-compatible PC/OS, its strategy is to protect the applications barrier by expanding IE's share of browser usage, meanwhile depressing shares of competitors like Netscape and Sun Microsystems that may enable Microsoft's monopolisation of the browser market. In the EU case, Microsoft was accused of abuse of dominance by denying interoperability with its competitors in the market for workgroup server operating systems and foreclosure against incompatible product developers, which enabled it to exercise monopoly power in the downstream market.

Bundling is another issue of similarity between Microsoft cases in the US and the EU. IE in the case of *United States of America vs. Microsoft Corporation* and Media Player in the EU case are thought to have been tied to the Windows PC/OS in similar tactics. Both of these are taken as integral parts of Windows, hence, Microsoft leaves original equipment manufacturers (OEMs) and end-users no alternative but to use Microsoft products. The result is a weakening of effective competition in the market, a reduction of consumer choice and less innovation.

Microsoft also allegedly undertook exclusive dealing arrangements with OEMs, Internet Access Providers (IAPs), Internet Content Providers (ICPs), hardware manufacturers or independent software developers, in which the other party can earn extraordinary benefits and support in return for solely promoting and distributing IE, and excluding Navigator. In these licensing agreements, the so-called "non-assert obligation" and "indemnity clauses" were found to impair competition.

Not only competitors but also consumers have to suffer from Microsoft's monopoly. Windows are becoming more and more expensive, due to not only Microsoft's increasingly strengthened position but also the number of licences for Windows that end users are forced to buy to upgrade. In addition to pricing issues, there exist non-pricing issues that consumers face. Microsoft products were claimed to attack non-Microsoft ones, disable them or at least degrade their PC's functionality. Critics say that Microsoft intentionally deprived consumers of competitors, which ultimately stripped them of truly beneficial innovations which go against Microsoft's self-interest.

Microsoft's Windows, from an obscure software licensed by IBM long time ago, has become an 'essential facility' for the whole computer software industry nowadays. And those legal battles surrounding the company has undoubtedly become of 'precedent-setting' value. The significance of the "innovation" issue in antitrust scrutiny against the software company has diverted the case from the boundaries of traditional competition rules.

It is, therefore, essential that sound antitrust enforcement principles should be developed and appropriately applied so as to avoid bias scrutinising truly aggressive pro-competitive behaviours, and at that same time insure that monopoly power are not misused to harm innovation, to retard technological progress, and ultimately to harm consumers. It is also advisable that regulators create structural conditions for future innovations and enforce a suitable compliance oversight mechanism.

The Microsoft cases are still under controversy, not only due to the giants' undeniable achievements and contributions to mankind's progress, but also the way competition laws are moulded differently and implemented differently in different jurisdictions. They also provide useful reference points for competition authorities in small and developing markets if they attempt to discipline such a giant like Microsoft in such a complex area like this.

This monograph examines Microsoft's various alleged anticompetitive practices and its long-lasting battle with successive trials from nations worldwide. It also looks into some legal issues that should be discussed that are based on Microsoft's experiences. The ultimate objective is to raise awareness on the new application of competition law, especially for reference in developing countries to deal with cases of the same nature.

1

Introduction

United States of America vs. Microsoft Corporation may well be the most important antitrust trial during the US' recent history: the Federal government, 19 states, the District of Columbia, and a Federal Judge have all determined that Microsoft, the software industry's most powerful company, has consistently and flagrantly abused its power and violated the law to the detriment of competition, consumers and innovation. Meanwhile, on the other side of the Atlantic Ocean, last trolleys of the clash between the software giant and the 15-nation blocs are amongst the most closely watched phenomenon.

The European Commission (EC), in the time of Mario Monti, the famous Italian economist and politician accused Microsoft of anticompetitive conduct in the workgroup server operating system and audio-visual software markets, and planned to raise the cap on the amount it will fine Microsoft for failing to comply with its ruling from Euro 2 million (US\$2.9mn) to Euro 3 million (US\$4.4mn) per day, under the leadership of Neelie Kroes. However, still pending until now is the judgment of the European Court of First Instance on the appeal that Microsoft lodged against EC's decision in 2004.

Elsewhere all over the world, the Japanese, Brazilian, Taiwanese, Indian, South Korean and Russian authorities are making additional demands. Microsoft seems to have been spending virtually all its time in negotiations with the potentates of competition law, each of whom relies on a different procedure, uses a different theory and makes different demands. For Microsoft, the battle appears to be never ending. The Microsoft case is important not only because the trust-busting involves a company whose turnover in 2005 was US\$40bn, but also because it also sheds great significance on the developments of innovation and technology in the future, and the direction that antitrust policies treat 'New Economy' issues in our contemporary fast-changing world. Besides, not only competition authorities and competitors

are finding faults with the software giant, consumers all over the world are also crying out loud against the injuries they suffered because of the company's monopolistic behaviours.

This monograph looks at Microsoft's various alleged anticompetitive practices as well as some legal issues inherent in them, with a view to enhancing understanding of an antitrust precedent set in the context of the "New Economy". It also provides a brief review of the allegations so far to the company and its epic legal battles on various antitrust fronts – jurisdictional as well as geographical, against various 'rivals'. The ultimate objective is to help raise awareness on the new application of competition law, especially for reference in developing countries, which are most unaware and insufficiently equipped to deal with cases of the same nature.

1.1 Microsoft's Antitrust Fact Sheet in US

In 1980, when IBM licensed an obscure piece of software known as DOS from an unknown start-up called Microsoft, it created the conditions for Bill Gates to build the world's largest software firm. The seemingly modest business move thus changed the course of the whole industry. From there, Microsoft has gone a long way with a lot of entrepreneurial and innovative efforts, and even several years full of disappointments, to the current glory and prosperity. However, in the lights of recent series of antitrust watershed against the company, it appears that the dominance Microsoft is possessing today is not merely a result of its legitimate "super skill, foresight and industry"¹, but a consequence of its unlawful drive for power as well. The software giant has allegedly been engaged in a variety of anticompetitive practices for the self-serving maintenance and development of its dominating position to the detriment of competition, consumer and innovation.

1.2 The First Microsoft Case

The US Government's interest in the Seattle-based software company's affairs began in 1991 with an inquiry by the Federal Trade Commission (FTC) over whether Microsoft was abusing its monopoly on the market for operating systems² of personal computers (PC/OS). The FTC commissioners came to a deadlock with a 2-2 vote in 1993 and closed the investigation, but the Department of Justice (DOJ) opened its own investigation on August 21 of that year. This was undertaken in collaboration with the European Union's (EU's) Directorate General IV (DGIV) related to certain unlawful licensing

practices in connection with the marketing of DOS and Windows 3.1. The case resulted in a settlement on July 15, 1994 in which Microsoft consented not to tie other Microsoft products to the sale of Windows but remained free to integrate additional features into the operating system.

1.3 United States of America vs. Microsoft Corporation³

The United States vs. Microsoft (87 F. Supp. 2d 30, DDC 2000) was a court case filed against Microsoft Corporation on May 18, 1998 by the US DOJ and 19 US states. The plaintiffs alleged that Microsoft abused monopoly power in its handling of operating system sales and web browser sales. The issue central to the case was whether Microsoft was allowed to bundle its flagship Internet Explorer (IE) web browser software with its Microsoft Windows operating system. Bundling them together is alleged to have been responsible for Microsoft's victory in the browser wars as every Windows user had a copy of IE.

It was further alleged that this unfairly restricted the market for competing web browsers such as Netscape Navigator that were slow to download over a modem or had to be purchased at a store. Underlying these disputes were questions over whether Microsoft altered or manipulated its application programming interfaces (APIs) to favour IE over third party web browsers, as well as Microsoft's conduct in forming restrictive licensing agreements with original equipment manufacturers⁴ (OEMs), and Microsoft's intent in its course of conduct.

Microsoft stated that the merging of Microsoft Windows and IE was the result of innovation and competition, and that the two were now the same product and were inextricably linked together and that consumers were now getting all the benefits of IE for free. Those who opposed Microsoft's position countered that the browser was still a distinct and separate product, which did not need to be tied to the operating system, since a separate version of IE was available for Mac OS. They also asserted that IE was not really free, because its development and marketing costs may have kept the price of Windows higher than it might otherwise have been. The case was tried before US District Court Judge Thomas Penfield Jackson.

Judge Jackson issued his Findings of Fact on November 5, 1999, which stated that Microsoft's dominance of the PC/OS market constituted a monopoly, and that Microsoft had taken actions to crush threats to the

monopoly, including Apple, Java, Netscape, Lotus Notes, Real Networks, Linux, and others. Then on April 3, 2000, Jackson issued a two-part ruling: his Conclusions of Law were that Microsoft had committed monopolisation, attempted monopolisation, and tied in violation of Sections 1 and 2 of the Sherman Act, and his Remedy was that Microsoft must be broken into two separate units, one to produce the operating system, and one to produce other software components.

On September 26, 2000, after Judge Jackson issued his Findings of Fact, Microsoft appealed to the US Supreme Court. However, the Supreme Court declined to hear the appeal and sent the case to a federal appeals court. The DC Circuit Court of Appeals unanimously overturned Judge Jackson's rulings against Microsoft on browser tying and attempted monopolisation on grounds that he gave off-the-record, but nevertheless disclosed, interviews to the news media during the case, and that Judge Jackson having opinions about the defendant was improper. However, the appeals court did affirm in part Judge Jackson's ruling on monopolisation. The DC Circuit remanded the case for consideration of a proper remedy for "drastically altered scope of liability" that the court had upheld under Judge Colleen Kollar-Kotelly. The DOJ, however, announced on September 6, 2001 that it was no longer seeking to break up Microsoft and would instead seek a lesser antitrust penalty.

On November 2, 2001, the DOJ reached an agreement with Microsoft to settle the case. The proposed settlement required Microsoft to share its APIs with third-party companies and appoint a panel of three people who would have full access to Microsoft's systems, records, and source code for five years in order to ensure compliance. However, the DOJ did not require Microsoft to change any of its code nor prevent it from tying other software with Windows in the future. On August 5, 2002, Microsoft announced that it would make some concessions towards the proposed final settlement ahead of the judge's verdict.

On November 1, 2002, Judge Kollar-Kotelly released a judgment accepting most of the proposed DOJ settlement. Nine States (California, Connecticut, Iowa, Florida, Kansas, Minnesota, Utah, Virginia and Massachusetts) and the District of Columbia (which had been pursuing the case together with the DOJ) did not agree with the settlement, arguing that it did not go far enough to curb Microsoft's anti-competitive business practices. On June 30, 2004, the US appeals court unanimously approved the settlement with the

Justice Department, rejecting objections from Massachusetts and other dissenting states that the sanctions are inadequate.

1.4 Other Private Suits

In January 2002, Netscape, then owned by AOL Time Warner, revived a feud from the 1990s, suing Microsoft for using anticompetitive business practices. AOL argued that Microsoft made deals with OEMs and Internet providers to shut Netscape out of the marketplace and destroy what could have been an alternative to Microsoft's desktop dominance. In May 2003, a settlement was reached between the two parties, in which Microsoft agreed to pay parent company AOL Time Warner US\$750mn and let the media company license its browsing software free for seven years. The agreement also called for Microsoft to license its digital media technology to AOL, work with the company to promote digital media initiatives, and even help distribute AOL software discs through computer manufacturers.

In March 2002, Sun Microsystems Inc. announced a US\$1bn suit against Microsoft because the software giant made the Windows XP operating system incompatible with Sun's Java programming language. Claiming "extensive anticompetitive conduct," Sun said that Microsoft forced other companies to distribute products that did not work with Java, effectively crippling Java and inhibiting its growth. On June 26, 2003, a panel of the US Fourth Circuit Court of Appeals in Richmond, Virginia overturned a lower court's preliminary injunction that would have required Microsoft to carry Sun's Java technology in the Windows operating system. The court upheld the same lower court's ruling that Microsoft had infringed on Sun's copyrights. The panel decision kicked the case back to District Judge Motz, who has been in charge of the case for further proceedings.

Also in March 2002, Be Inc. filed an antitrust complaint against Microsoft claiming that it used its monopoly power to prevent OEMs from installing Be's operating systems and thus forcing the company out of business. In June 2003, a settlement was reached, under which Be would receive a payment from Microsoft, after attorney's fees in the amount of US\$2.25mn to end further litigation, though Microsoft admitted no wrongdoings. All other terms of the settlement remained confidential.

1.5 Federal Class Action Lawsuit (MDL)

The federal class action consumer suits, also known as multi-district litigation (MDL), were a consolidation of a number of class action cases that originally included potentially hundreds of millions of licencees. These cases (more than 100) were consolidated before Judge Motz of the US District Court for the District of Maryland in Baltimore, where through the pre-trial process, he narrowed the claims significantly – throwing out the claims of indirect purchasers, foreign purchasers and refusing to certify a class of volume licence customers – to include only those who purchased directly from the Website or through direct marketing initiatives. In September 2003, a US\$10.5mn settlement was reached between Microsoft and the remaining narrow class of end-user direct purchasers, awaiting approval by the court.

2

Window Wars on European Threat

The Microsoft case in Europe originated with a December 1998 complaint from Sun Microsystems, alleging that Microsoft was refusing to supply it with interoperability information necessary to interoperate with Microsoft's dominant PC/OS. In February 2000, following information obtained from the market, the EC broadened the scope of its investigation to examine Microsoft's conduct with regard to its Windows Media Player product.

On August 1, 2000, on the basis of an initial investigation, the EC sent Microsoft a Statement of Objections alleging that Microsoft was denying interface information, which rival work group server operating system vendors needed to interoperate with Microsoft's dominant Windows PC/OS.

On August 30, 2001, the Commission sent Microsoft a second Statement of Objections that: (i) confirmed and expanded the interoperability objections of the first Statement of Objections, in particular by taking into account Microsoft's recently released Windows 2000 generation of PC and server operating systems; and (ii) alleged that Microsoft had engaged in anti-competitive tying of its Windows Media Player product with its Windows PC/OS.

On August 6, 2003, on the basis of additional evidence that EC had gathered, a third Statement of Objections confirming both the interoperability and tying objections of the second Statement of Objections was sent to Microsoft. Microsoft provided responses to each Statement of Objections. In addition, following the third Statement of Objections, Microsoft requested an Oral Hearing. This was held on November 12-14, 2003.

Following an extensive analysis of the evidence on the file, EC concluded its investigation on March 24, 2004 by way of a Decision. This Decision found that Microsoft had abused its dominant position in the PC/OS market by:

- refusing to supply competitors in the work group server operating system market interface information necessary for their products to interoperate with Windows, and hence to compete viably in the market. The Decision, therefore, ordered Microsoft to disclose, within 120 days, complete and accurate interface information which would allow rival vendors to interoperate with Windows, and to make that information available on reasonable terms; and
- harming competition through the tying of its separate Windows Media Player product with its Windows PC operating system. The Decision hence ordered Microsoft to provide, within 90 days, a version of Windows, which did not include Windows Media Player.

In addition, EC also imposed a record fine of US\$613mn on the software company for its anticompetitive conducts. Microsoft lodged an appeal against the Decision with the Court of First Instance (CFI) on June 7, 2004. Following exchanges of written pleadings, an Oral Hearing took place before the Grand Chamber of the CFI on April 24-28, 2006. Besides, on June 25, 2004, Microsoft lodged an interim measures appeal at the CFI for the Decision's remedies to be suspended pending the outcome of its main appeal. On the same date, EC voluntarily suspended Microsoft's obligations pursuant to the Decision pending the outcome of Microsoft's interim measures appeal.

The main grounds for Microsoft's interim measures appeal were that Microsoft would suffer serious and irreparable damage as a result of the Decision's remedies being imposed pending the CFI's final decision on Microsoft's appeal against EC's March 2004 Decision. As regards the interoperability remedy, Microsoft claimed that the implementation of the Decision would: (i) harm its intellectual property rights (IPRs); (ii) interfere with its commercial freedom; and (iii) irreversibly alter market conditions.

As regards the tying remedy, Microsoft claimed that the implementation of the Decision would: (i) interfere with Microsoft's commercial freedom by forcing it to abandon its "basic design concept" for the Windows PC operating system; and (ii) damage Microsoft's reputation as "a developer of quality software products".

Following exchanges of written pleadings, an Oral Hearing on Microsoft's interim measures appeal was held before the President of the CFI from September 30 to October 1, 2004. In an Order of December 22, 2004, the President of the CFI rejected Microsoft's request to suspend the Decision's remedies on the grounds that Microsoft had not demonstrated that these would cause it serious and irreparable damage. As of that date, Microsoft has therefore been obliged to comply with the Decision's remedies.

On September 17, 2007, the CFI handed down its long-awaited judgment in the case. In summary, on the key issues the Court upheld the EC's findings that:

- Microsoft had abused its dominant position by refusing to supply interoperability information to competitors for work group server operating systems.
- Microsoft had abused its dominant position by bundling the Windows Media Player with its Windows PC operating system.
- The EC did not err in assessing the gravity and duration of the infringement and did not err in setting the amount of the fine. The US\$7.2mn fine imposed on Microsoft stands.

On a significant process issue, the Court annulled EC's appointment of a Monitoring Trustee with far reaching rights and powers, including access to Microsoft premises, employees and source code, as having no legal basis in EU law. As of that date, Microsoft has two months to decide whether to appeal the CFI's ruling to the European Court of Justice (ECJ). An appeal must be limited to points of law only.

3

Microsoft's Monopoly & Its Anti-competitive Conducts

The earlier two chapters summarised the main factual details of two most important competition trials of Microsoft in the US and the EU. Many other competition authorities in the world also had problems with Microsoft's conducts, such as in Brazil, India, Taiwan, Japan, and most recently South Korea. Earliest was the Japan Fair Trade Commission (JFTC), which in 1998, warned Microsoft of the wording of some of its contracts with Internet Service Providers (ISPs), though decided that they would not bust the company on grounds of its unfair competitive behaviours towards Netscape. Some initial, though unsuccessful, inquiry efforts were also triggered by the Monopolies and Restrictive Trade Practices Commission (MRTPC) of India into the way Microsoft imposed restrictions on the buyers in the form of an end-user licence agreement (EULA).

The Brazilian Economic Defence Administration Board (CADE), however, in June 2004, cleared Microsoft of allegations that the company prevented competition in the country's software sector, after eight years of investigation. On the other hand, the Fair Trade Commission (FTC) of Taiwan was able to force the software company to cut its retail prices for key products up to 54.5 percent to escape a competition lawsuit and possible sanction. More recently, the Korea Fair Trade Commission (KFTC), in December 2005, fined Microsoft US\$34mn and ordered the company to produce a version of Windows without bundling a media player and instant messaging software into it.

In this section, we attempt to have a cursory look at the monopoly of Microsoft as well as its anticompetitive conducts toward competitors and consumers, as alleged by various plaintiffs as well as competition authorities.

Competition issues underlying the above mentioned disputes would, therefore, be analysed therein.

3.1 Microsoft & Monopoly

It was found in the US Government's case against Microsoft that the company enjoys monopoly power in the market of Intel-compatible⁶ personal computer operating systems (PC/OS) worldwide. In specific:

- The company possesses a dominant, persistent and increasing share of the relevant market (see Table 1); and
- This dominant market share is protected by a substantial barrier to effective entry – the applications barrier to entry (see Box 1 for more details on this).

This barrier ensures that no Intel-compatible PC/OS other than Windows can attract significant consumer demand, and the barrier would operate to the same effect even if Microsoft held its prices substantially above the competitive level for a protracted period of time. Indeed, the consumers have no commercially viable alternative to Windows.

Table 1: Microsoft's Actual and Projected Share of the (Intel-based) PC Operating System Market											
	Year ^(4,5,6)										
Operating system ⁽¹⁾	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Microsoft ⁽²⁾	93	92	93	93	90	94	95	95	95	95	96
IBM OS/2	0	3	3	4	7	3	3	3	3	3	3
UNIX ⁽³⁾	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other Intel	7	4	4	3	3	2	2	2	2	2	2

Notes:

1. Operating systems used in single-user client and PC operating environment.
2. Includes Microsoft 16-bit and 32-bit Windows and MS-DOS.
3. Intel-based UNIX operating systems.
4. Market shares may not total 100 percent due to rounding.
5. The market shares for the years 1997-2001 are forecasts.
6. World-wide

Sources: *International Data Corporation (1997), Operating Environment, Review and Forecast, 1996-2001*
International Data Corporation (1997), Client Operating Environments, Review and Forecast 1996-2001
 Available at: <http://www.usdoj.gov/antr/cases/exhibits/1.pdf>

Box 1: Network Effects and the Applications Barrier to Entry

Network effect is the phenomenon whereby a good or service becomes more valuable as more people use it, thereby encouraging ever-increasing numbers of adopters. Network effects become significant after a certain subscription percentage has been achieved called critical mass. At the critical mass point, the value obtained from good or service is greater than or equal to the price paid for good or service. As the value of good and service is determined by user base, this implies that after a certain number of people have subscribed to the service or purchased the good, additional people will subscribe to the service or purchase the good due to the positive utility: price ratio. Until this point has been achieved, however, only early adopters will subscribe. Telephones, fax machines and computer operating systems like Microsoft Windows, are strong examples of network effect.

In case of Windows, the overwhelming majority of PC users will only use a PC/OS for which there already exists a large and varied set of high-quality, full-featured applications, and for which new types or versions of applications will continue to be marketed at pace with those written for other PC/OS. On the other hand, software developers generally write applications first, and often exclusively for the PC/OS that is already used by a dominant share of all PC users, in order to have access to its large user base, thus ensuring a large body of applications from which consumers can choose.

The fact that there is a multitude of people using Windows makes the product more attractive to consumers, whereas the size of Windows' installed base impels software developers to write applications first and foremost to Windows. The large body of applications thus reinforces demand for Windows, augmenting Microsoft's dominant position and thereby perpetuating software developers' incentives to write applications principally for Windows.

To be a viable substitute for Windows, another PC/OS would need a pool of compatible applications, which is large and varied enough to reassure consumers that their interests in variety, choice, and currency would be met to more-or-less the same extent as if they chose Windows. However, the amount it would cost a PC/OS vendor to create over 70,000 applications (as currently written for Windows) is prohibitively large. It is, therefore, the number of applications written for Windows that build up the barrier to entry for any potential rivals - 'the applications barrier to entry'.

3.2 Abuse of Dominance or Attempted Monopolisation

Monopoly, or at least dominant position, of Microsoft in the PC/OS market left alone would not have created any problem for the competition potentates on both sides of the Atlantic Ocean, especially if it is a result of “super skill, foresight and industry”⁷. The US DOJ and the EC, not to say the competition authorities of other countries as mentioned above, however, were both concerned about the way Microsoft used or leveraged this monopoly to gain unfair competitive advantages over competitors and customers. The US DOJ challenged Microsoft on its attempted monopolisation conduct under Section 2 of the Sherman Act; while the EC alleged Microsoft of abusing its dominance under Article 82 of the EC Treaty (ex Article 86), the two used different wordings, however, for similar conducts and accusations.

In the US case, the plaintiffs asserted that Microsoft’s anticompetitive efforts to maintain its monopoly power in the market for Intel-compatible PC/OS warrant additional liability as an illegal attempt, under Section 2 of the Sherman Act, to amass monopoly power in the browser market. *This was agreed by Judge Jackson in his conclusion of the case but later on overturned by the US Appeals Court.* Meanwhile, the EC has developed evidence that Microsoft has thwarted competition in the workgroup server operating system market by leveraging its dominance in the PC/OS market.

A major threat to Microsoft’s monopoly power during the time of the US trial was “middleware”⁸ like Netscape’s Navigator Web browser and Sun Microsystems’ Java technologies, which potentially could be developed into a substantial platform for applications development, hence reducing the applications barriers to entry which are now protecting Microsoft’s dominant position in the relevant market.

Netscape’s Navigator web browser possesses key middleware attributes⁹ that endow it with the potential to diminish the applications barrier to entry. Fully aware of this potential, in June 1995, Microsoft proposed that Netscape abstained from releasing platform-level browsing software, i.e. Navigator for 32-bit versions of Windows. Netscape refused and Microsoft subsequently started working on minimising the extent to which software developers would avail themselves of interfaces exposed by this nascent platform. Realising that the extent of developers’ reliance on Netscape’s browser platform would depend largely on the size and trajectory of Navigator’s share of browser

usage, Microsoft set out to maximise its IE's share of browser usage at Navigator's expense.¹⁰

Though Microsoft never expressly declared acquisition of monopoly power in the Internet browser market to be the objective, it knew, or should have known that the tactics it actually employed (in its strategy to protect the applications barrier by expanding IE's share of browser usage – and simultaneously depressing Navigator's share) were likely to push IE's share to extreme heights. Navigator's demise would create a competitive vacuum for only IE to fill. Yet there was no evidence that Microsoft tried – or even considered trying – to prevent its anticompetitive campaign from achieving overkill.

Under these circumstances, the plaintiffs and their proponents argued that the wrongdoer intended the probable consequences of its acts and hence, the element of specific intent was proved. What is more, the predatory course of conduct that Microsoft has pursued since 1995 stressed the dangerous probability of Microsoft's success of monopolisation in the browser market. IE's share of browser usage has risen above 50 percent, and expected to rise more, while Navigator's share, which used to be well above 70 percent in early 1996, fell to around 50 percent in summer 1998 and has continued to decline ever since.

Coming to the EU case, Microsoft is accused of abusing its dominance in the PC/OS market by refusing to provide competitors in the work group server operating system market, in which Microsoft's share exceeded 50 percent in 2002 and around two-thirds in 2004, with interface information necessary for their products to interoperate with Windows, and hence to compete viably in the market.

In both the markets mentioned above, there are high barriers to entry, which, in the latter, is due to Microsoft's denial of interoperability with its competitors in that market, and foreclosure against those who would develop products in competition with Microsoft applications. This is because the workgroup server operating system market is a downstream market to the PC/OS one and competitors need Windows' interface codes to understand what is coming over the wire from the Microsoft platform, and to send information back in a format the Microsoft PC/OS is expecting. Microsoft's denial has *de facto* obliged customers to purchase/use Windows operating system for servers

if they want to ensure full exploitation of functionalities embedded in Windows PC/OS. Monopoly power in the downstream market is thus exercised anti-competitively.

That this is anticompetitive is admitted by Microsoft itself in the context of the US Federal Communications Commission's (FCC) review of the merger between AOL and Time Warner in 2000-01. Since at the time that merger was under scrutiny, Microsoft sought to have AOL required to ensure interoperability between AOL's instant messaging ("IM") systems and other systems, such as Microsoft's MSN messenger. Microsoft contended that AOL was dominant in the IM market and that the lack of interoperability will be "counter to the public interest because it threatens the openness of the Internet and the development of innovation and competition in the market for IM services".¹¹

Microsoft emphasised that "any remedy to the problem of AOL leveraging its dominance of IM...must require AOL to work toward interoperability with other competitors in the IM market, i.e. enable customers of third-party IM providers to communicate with AOL's IM customers". It thus sought to have the FCC require AOL to publish its IM protocol (so that other firms had the necessary information to exchange IM with AOL) and to pursue a common protocol for the benefit of server-to-server interoperability among IM service providers. Applied to the case we consider that this is an implicit admission that Microsoft's opposition to interoperability between PC/OS and workgroup server operating system is self-serving anticompetitive monopoly conduct.

Moreover, the clear anticompetitive effects of Microsoft's refusal to promote interoperability in a market it dominates, while demanding it in a market in which it is a struggling competitor, leads to a plausible inference of specific intent. In addition, abundant evidence of continued discriminatory licensing practices by Microsoft and its rising market share in the workgroup server operating system market – which proves the dangerous probability of success or the fact that Microsoft may already have monopolised this market – Microsoft's liability of dominance abuses can clearly be seen.

3.3 Bundling

This is also an issue of similarity between the two Microsoft cases in the US and the EU. Microsoft's allegedly anticompetitive bundling (or tie-in) of Media Player with the Windows PC/OS in the EU case is of quite the same nature as it was litigated as to IE in *United States of America vs. Microsoft Corporation*.

In *United States of America vs. Microsoft Corporation*, the plaintiffs alleged that Microsoft's combination of Windows and IE by contractual and technological artifices constituted unlawful tying to the extent that those actions forced Microsoft's customers and consumers to take IE as a condition of obtaining Windows. Using the *per se* analysis, Judge Jackson found Microsoft liable for illegal tying. However, the Court of Appeals for the DC Circuit refused to find this conduct illegal on the trial record, saying the rule-of-reason standard was more appropriate, given the uncertain nature of the software business.

*“Integration of new functionality into platform software is a common practice and that wooden application of per se rules in this litigation may cast a cloud over platform innovation in the market for PCs, network computers, and information appliances. . . . The natural inference is that sale of the items as a bundle serves consumer demand and that unbundled sale does not, for otherwise a competitor could probably offer the two products separately and capture sales of the tying good from vendors that bundle”.*¹²

The Court remanded for possible further consideration of the tying claim by the District Court, but the US DOJ and the states – the plaintiffs – later on dropped it. Microsoft's liability of bundling in this case, therefore, remains controversial.

Media Player is thought by the EC to have been tied to the Windows PC/OS in the same tactics that IE was. In the case of Internet Explorer, Microsoft argued that the browser was an integrated part of the operating system and hence did not provide users with the ability to uninstall this browser from Windows 98, although they could uninstall numerous other features other than IE – features that Microsoft also held out as being integrated into Windows.¹³ This is similar to the way Media Player is bundled into Windows XP: the player automatically installs with Windows XP, and cannot be uninstalled by consumers. Indeed, efforts to uninstall Media Player result in it automatically regenerating within about 5 seconds.

Media Players are software products that allow consumers to see and hear video and audio files without lengthy download time on their PCs. These innovative products are developed and manufactured by several companies, for example, Real Networks Inc. (RealPlayer) and Apple Computer Inc. (QuickTime) besides Microsoft. Microsoft's tying of its Media Player to its ubiquitous Windows PC/OS, a channel of distribution which is not available to competing vendors, is perceived by the EC as meant to rule the growing online media business.

OEMs and end users are thereby deprived of a free choice over which products they want to have on their PCs, especially as there are no ready technical means to remove or uninstall the Microsoft's media player. Competing products are thus *a priori* set at a disadvantage, which is not related to their price or quality. The result is a weakening of effective competition in the market, a reduction of consumer choice, and less innovation. On the other hand, record companies and movie studios are being desperate to find a way to stop consumers from illegally copying music and movies.

Microsoft software helps control access to digital material, giving providers control over how their products are used. If the Windows Media Player – which includes anti-piracy technology – becomes the *de facto* standard, studios and record companies will have little choice but to use Microsoft's software, hence reinforcing Microsoft's dominance.

3.4 Anti-competitive Licensing Practices

In the *United States of America vs. Microsoft Corporation* case, the software giant's various contractual agreements with OEMs, IAPs, Internet content providers¹⁴ (ICPs) and independent software developers, etc., were called into questions by plaintiffs as exclusive dealing arrangements¹⁵. In each of these agreements, Microsoft required the other party to promote and distribute IE to the partial or complete exclusion of Navigator in exchange for promotional patronage, substantial financial subsidies, technical support and other valuable consideration.

However, these agreements were not found to foreclose enough of the relevant market to ultimately deprive Netscape of the ability to have access to every PC user world wide (to offer an opportunity to install its Navigator) though they severely restricted Netscape's access to those distribution

channels leading most efficiently to the acquisition of browser usage share (OEMs, IAPs, etc).

Navigator can be downloaded from the Internet, available through myriad retail channels or mailed directly to an unlimited number of households. And the fact that Netscape was not allowed access to the most direct, efficient ways to cause the greatest number of consumers to use Navigator is judicially irrelevant to render that Microsoft is liable for exclusive dealing under antitrust law. The US Court, therefore, rejected the plaintiffs' argument.

As for the European side, the Commission also opened another front in its battle with Microsoft because of suspicions that the software giant's licensing policy towards hardware manufacturers unfairly restricts competition. The terms of Microsoft's deals with various OEMs like IBM, Hitachi and Toshiba are suspected by the Commission to likely impair competition by depriving the hardware groups of an incentive to innovate as their ability to enforce software patents of their own is restricted by the "non-assert obligations" they have under the licensing agreement. (Microsoft contends these obligations are widely used throughout the software industry to minimise risks of litigation.

Besides, their ability to sue Microsoft and other licencees over supposed infringement of patents is also limited. A series of "indemnity clauses" in the licenses, which mean that OEMs have to compensate Microsoft for using rival "open source" softwares, could also raise competition concerns.

4

The Consumer Harm

4.1 Pricing Issues

“Windows is too expensive”.¹⁶ This simple statement can generalise consumers’ perception of Microsoft’s liability for monopoly pricing in their case against the software company. Take a look at Microsoft’s documents introduced in the US trial that described the price of the PC/OS¹⁷ charged to OEMs for preinstalled PC/OS, as well as the prices charged to the public. It is argued that since the company gained its monopoly in the early 1990s, it has raised prices sharply for preinstalled PC/OS, almost tripling the price (see Exhibit 1).

EXHIBIT 1: OPERATING SYSTEM PRICES (a)		
	OEM (b)	STREET (c)
1981	\$40	na
1990	19	138
1998	50+	179

(a) Elzinga, Kenneth G. and David E. Mills, “PC Software,” September 1998, p. 51.

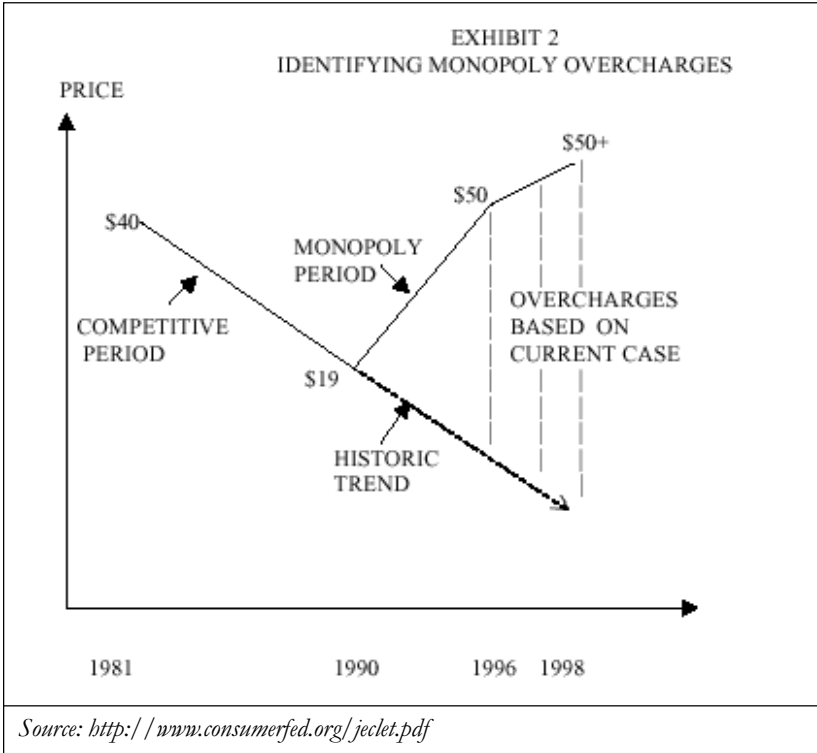
(b) Evans, David S., Albert Nichols and Bernard Reddy, “The Rise and Fall of Leaders in Personal Computer Software,” *National Economic Research Associates*, January 7, 1999, p. 4.

(c) *DT OS Pricing Strategy: Memorandum from Joachim Kempfn to Bill Gates*, December 16, 1997

(d) Press accounts on sealed testimony in which Microsoft admits that it has ceased remitting to OEMs \$4 per operating system for advertising costs. This results in an effective price increase to OEMs of \$4 per system.

Source: <http://www.consumerfed.org/jeclet.pdf>

Meanwhile economies of scale achieved from expanding production and advances in software engineering should have led a competitive software market to produce both dramatic increases in quality and dramatically declining prices, Microsoft's abuse of monopoly power reversed that trend (see Exhibit 2).



In addition, what makes Windows expensive is not just the pricing itself, but also the way Microsoft has been forcing consumers to buy it. Microsoft has been steadily tightening its conditions on licences. Many OEM licences for Windows are tied to a single machine and cannot be sold or transferred to another machine, even by the original owner. Therefore, a consumer who has been using computers since 1995 may have already had to purchase half a dozen or more Windows licences: to begin with Windows 95a, then purchased Windows 95b to make better use of the large hard drives, then new Windows licences for one or more upgrade computers, etc.

So it is not simply the price of Windows, it is also the number of licences for Windows that end users may end up buying. That is not to say how often end users have to pay upgrade fees, which they are forced to do – simply to read documents they receive from others as Microsoft has been constantly changing document formats so that owners of older versions of Microsoft Office cannot read the newer documents.

It cannot be unaware of the fact that most consumers have little use for the endless expansion of word processor features, particularly as the world has come to rely on the much simpler formats for information used in electronic mail. However, again it is using interoperability and compatibility as weapons to force upgrade and generate more earnings, against the interest of consumers.

4.2 Non-pricing Issues

While the pricing issues are an important measure of the cost of the Microsoft monopoly to consumer, there exist also non-pricing issues, many of which have been upheld by consumers themselves. The most common complaint is that Microsoft created confusion and frustration for consumers. Nader (1999)¹⁸ wrote: “We hear countless complaints that Microsoft attacks non-Microsoft products, so that they don’t work. For example, when Microsoft released its Windows Media Player, as a competitor against the RealAudio player, consumers wrote to say it disabled dozen of third party multimedia software programmes. Little wonders that people call Microsoft’s Internet Explorer the ‘Internet Exploder’ because it attacks and disables an unpredictable number of non-Microsoft applications”.

Consumers also say: “In its rush to deprive consumer of Navigator and the new world that Navigator potentially could open up, Microsoft intentionally hurt all end users by degrading their PCs’ functionality and causing them increased vulnerability to security breaches, bugs, and virus”.¹⁹

As of now, many criticised that Microsoft had specific intent of degrading system performance, regardless of whether that would harm consumers or not. In its internal emails²⁰ and by countless examples quoted by the judges, Microsoft has demonstrated that it believes it benefits when consumers cannot make competitors’ products work correctly. Microsoft has a range of methods to undermine its competitors’ products. When it does not use deliberate

sabotage, it can withhold important technical information or refuse to license technology to its competitors, such as by refusing to permit Netscape to distribute a utility to log-on to ISPs, or withholding or unexpectedly changing APIs and data file formats.

Further, in an indirect way, Microsoft caused “unique injury” to consumers by restricting their choice of software products in terms of choice and quality and more seriously, limiting innovative activities, thereby hurting future consumers. For most PC users, there are a steadily shrinking number of choices for a growing number of important applications.

Microsoft is squeezing the life out of markets for word processors, spreadsheets and desktop database software, presentation graphics, personal information managers, email clients, Internet browsers and audio-visual media players – the applications that most end users need. “Most harmful of all is the message that Microsoft’s actions have conveyed to every enterprise with the potential to innovate in the computer industry.

Through its conduct toward Netscape, IBM, Compaq, Intel, and others, Microsoft has demonstrated that it will use its prodigious market power and immense profits to harm any firm that insists on pursuing initiatives that could intensify competition against one of Microsoft’s core products. Microsoft’s past success in hurting such companies and stifling innovation deters investment in technologies and businesses that exhibit the potential to threaten Microsoft. The ultimate result is that some innovations that would truly benefit consumers never occur for the sole reason that they do not coincide with Microsoft’s self-interest”.²¹

5

The Essential Facilities Doctrine – A Door to Windows

In US antitrust law, the Essential Facilities Doctrine has its origins from the 19th century in the Common Law, that local monopolists were bound to do business in fair conditions with potential competitors. Subsequently, the US Supreme Court ruled, in *United States vs. Otter Tail Power Co.* (1973) that it was illegal to use monopolist power to prevent other companies from competing in downstream markets. Later on, in 1983, a clear four-part test to what was then settled the Essential Facilities Doctrine was first formed in *MCI vs. AT&T*. According to that, a facility is to be considered as essential with the presence of following factors:

- Control of the essential facility by a single company;
- The competitors must be actually or reasonably unable to duplicate this essential element;
- The refusal of use of the facility to a competitor; and
- Possibility of providing access to it.

In European case law, the EC first expressly cited the Essential Facilities Doctrine in its statement in *B&I Pipe Line PLC vs. Sealink* (Case IV/34.147) that:

“A company in a dominant position may not discriminate in favour of its own activities in a related market...The owner of an Essential Facility which uses its power in one market in order to strengthen its position in another related market, in particular, by granting its competitors access to that related market in less favourable terms than those of its own services, infringes Article 86 when a competitive disadvantage is imposed upon its competitor without objective justification”.

In its 1998 “Notice on the application of the competition rules to access agreements in the telecommunications sector – Framework, relevant markets and principles,” the Commission set out its most recent analysis for the application of the Doctrine, depending on five conditions:

- The access to the facility in question must be essential in order to compete in the downstream market.
- There must be sufficient capacity available to provide access.
- The facility owner must have failed to satisfy demand on an existing service or product market, block the emergence of a potential new service or product, or impede competition on an existing or potential service or product market.
- The company seeking access must be prepared to pay the reasonable and non-discriminatory price, and accept non-discriminatory access terms and conditions.
- There must not be an objective justification for refusing to provide access.

Though differently expressed by the very nature, the application of this doctrine in European case law is consistent with the US version. Applied to the Microsoft case, it forms a sound and justified basis to come to any settlement terms and remedies rendered by the US and European competition authorities over the company in these historic battles.

The control over a key element to compete – The PC/OS plays a “nervous centre” function for computers: it controls the interaction between the computer system’s microprocessors and peripheral devices such as display screens, disk drives, keyboards, printers, scanners, etc., allowing these elements to work in a co-ordinated manner. It is not just another software programme in a computer; any error related to it would immediately make the whole system useless and compatibility with its protocols is a key element for the whole software industry.

As discussed above, Microsoft enjoyed monopoly power in the PC/OS market (indeed, Windows has become the *de facto* standard for PCs), which has two major implications here. Technically, Microsoft possesses the underlying platform for any applications to run on PCs and hence has the key to compete in downstream markets, for example, the market for workgroup server operating systems. Economically, the company got hold of the major and most effective distributional channel for computer software applications, which are normally integrated (or in other words, “bundled”) into the PC/OS for sale to customers.

Impossibility to create a parallel substitute element – The main cause leading to this is the aforementioned applications barrier to entry, which appears (or is) insurmountable for any potential rivals, which Microsoft has maintained by any means in hand and which has been protecting the company's dominant position in return. Moreover, what makes it impossible to develop alternative compatible PC/OS is the difficult access to the Windows set of APIs and communication protocols. Obviously, Microsoft would refuse such access if it serves the creation of a competing product. And besides, even in the case this alternative product would be shipped, an updated version of Windows could introduce new features that would condemn the alternative platform to failure, given its potential weak installed base.

Under these premises, it is obvious that Microsoft has such a strong technological power on the whole industry, which has induced some specialists to state that this company has a natural monopoly on the PC/OS market. To make the matter worse, Windows as a computing programme is protected under intellectual property rights (IPRs), thus the software company is the legitimate owner of the interface codes and protocols that ensure the perfect performance of any application programmes in a PC or full interaction with a workgroup server. Consequently, Microsoft has a privileged faculty to determine when, how, and who accessed Windows' architecture, which made it more prohibitively difficult or impossible for any viable alternative product to develop.

Refusal to grant access in reasonable conditions – In its strategy with IE, Microsoft has signed several agreements with ISPs, ICPs, etc., to endorse the use of IE as the most suitable browser. Among the benefits Internet providers have received from these agreements, one of the most important was to get a total guaranty of compatibility with Windows. Indeed, many cases of incompatibility to open web pages have been given since Microsoft started to market its browser. For ISPs and ICPs, incompatibility means to be condemned to ruin, if they cannot access to their clients in optimal technical conditions, or at least in equal conditions as other competitors.

The agreements Microsoft has entered prove that Microsoft only offer access to the Windows codes without any substantial technical problems if the accessing companies accept Microsoft's conditions. Primarily they have to accede to promote IE as the most performing browser. That is to say in

order to have a total compatibility guarantee, those companies have to actively promote Microsoft products, which is quite an unreasonable imposition.

In the EU case, there is also evidence, as alleged in the Sun Microsystems complaint, that Microsoft refused Sun's request for disclosure of interface information to enable interoperability with non-Microsoft server software in Windows 95, 98, NT 4.0 and all subsequent updates. Sun also claimed that Microsoft applied a policy of discriminatory licensing by distinguishing between its competitors according to a so-called "friend-enemy" scheme. This is a refusal to deal in reasonable terms as well.

Possibility to grant access – The access to Windows codes is technically feasible, as there are already many companies, which through their present agreements with Microsoft have an open way to them. No technical reason appears to impede this access. In the presence of the above four elements, the Windows PC/OS may well be considered as an essential element for competitors in downstream and related markets, like Internet, Media Player and Workgroup Server Operating System. Suffice it to impose an open access to the codes of what has become a universal standard, or to have a must-carry decision on what has managed to dictate the distribution channel for computer software even if it has acquired its status in a factual way instead of being imposed by an authority or by a universal agreement among all the operators in a market.

Windows is an element that OEMs, software developers, and Internet providers depend upon. Thus "competition in the downstream markets will continue to depend upon the pricing and conditions of access to the upstream (market)"²², and to the extent that companies acting in those downstream markets do not have an open access to Windows, they are not able to deal with those secondary products. Microsoft's conduct would constitute an abuse of essential factor, which would clearly exceed the scope of protection granted by intellectual property rights.

Accordingly, even if Microsoft holds the ownership of Windows, it cannot use that right to deter competition on downstream markets to the benefit of its own products. Any remedies or settlement terms of the type as technical information disclosures, or "must-carry" would be theoretically well based and practically sound to ensure technological innovation, fair competition and consumer choice in the market.

6

Conclusion

From the perspective of antitrust jurisprudence, the Microsoft story exhibits a number of important legal issues. The significance of the “innovation” issue in antitrust scrutiny against the software company has diverted the case from the boundaries of traditional competition rules. When the US Congress passed the Sherman Act – under which Microsoft was convicted in the US case – in the 1890, the evils of monopoly power was perceived to be the behaviour (or potential) of restricting supply and propping up prices. Competition meant price competition between homogeneous products and involved a fixed or slowly evolving technological base; and the antitrust laws often focused on the price effect of potentially anticompetitive behaviour.

In today’s dynamic network industries, technological change and innovation receive substantial antitrust attention, no less than the pricing element. Innovation affects not so much the prices that consumers pay for given products, but more importantly innovation affect the quality of products in the marketplace and especially whether dramatically new and better products will come into existence. It is the force of innovation that can lead to higher quality products being offered at lower prices to consumers in the future. As upheld by Paul M. Romer, economist at Stanford University, *‘Innovation – be it better software, more effective drugs, or even more reliable cars – is the most important factor determining the well-being of consumers; and like any other economic activity, responds to incentives’*.²³

In its case against Microsoft, the EC expressly presented its determination “to ensure that the final outcome of the case is to the benefit of innovation and consumer alike”,²⁴ as stated by the Commissioner Mario Monti. In the US case, not just by charging monopolistic price, Microsoft allegedly harmed consumers by “depriving them of software innovation that they very well

may have found valuable, had the innovation been allowed to reach the marketplace”.²⁵ The Microsoft case is about innovation, as said Rubinfeld, Deputy Assistant Attorney General at the Antitrust Division of the US DOJ from June 1997 to December 1998.

It is, therefore, widely agreed that “the Microsoft case has to have precedent-setting value because so much more of the economy is made up of industries where innovation is important”.²⁶ Easier said than done. In dynamic high-technology industries the antitrust enforcement stakes are raised. On one hand, because the path of innovation today will significantly affect future product quality and price, the potential benefits of enforcement are huge.

On the other hand, because the path of innovation is highly uncertain and technology is rapidly changing, the potential costs of enforcement errors are large. These higher stakes as well as potential benefits make it essential that sound antitrust enforcement principles be developed and appropriately applied so as to avoid bias scrutinising truly aggressive pro-competitive behaviours, and at that same time insure that monopoly power are not misused to harm innovation, to retard technological progress, and ultimately to harm consumers.²⁷

Back to the concrete cases under review, first, in a rapidly innovating industry like the computer software one, regulators cannot keep up with the changes in an economy moving at Internet speed, and any attempts to set rules for conduct may actually impede innovation. Instead, it may be more important and more feasible to create appropriate structural conditions for future innovations and enforce a suitable compliance oversight mechanism. Besides, another special factor to be considered is that the Microsoft case focuses on industries with network effects, which has crucial implications on market structure and the ability of antitrust authorities to affect it.

In industries in which network effects are significant, a single firm may come to dominate the market and persist in that dominance. As users tend to gravitate toward using products that are compatible with the products owned by the greatest number of other users, a firm with an initially large installed base of users will tend to acquire dominance if the products of rivals are compatible with its own.

Such a firm may, in fact, have an incentive to adopt competitive strategies that consolidate the position of its standard by preventing the products of rivals from achieving compatibility. Where it chooses to do so, or if the costs of guaranteeing compatibility across networks are high, the products of rivals can become relatively less desirable to users even if they appear to be of comparable (or possible even higher) quality from a purely “technical” standpoint. When the dominant firm’s product becomes the standard for the industry, firms that are developing alternative standards may find it difficult to compete effectively.

Industry standards may take many forms, and the existence of an industry standard is neither a necessary nor a sufficient condition for the marketplace to be dominated by a single incumbent. In cases like Microsoft’s possession of *de facto* industry standard for PC/OS, the standards are proprietary and can be manipulated to make entry more difficult and competition less effective. In other instances, industry standards are non-proprietary and there exists considerable competition among firms within the same network, like the cases with fax machines (the products of which have achieved compatibility with one another by adhering to a common standard for encoding information) or television manufacturers.

Moreover, even where standards are proprietary, there can be considerable competition to become the standard, and there can be strong competition among coexisting networks. This is the case when competing products associated with different standards offer significantly different attributes as differing standards (and products) that appeal to different tastes or groups of consumers may coexist. In these cases, competition and innovation are boosted at the same time and guaranteed to the benefits of the proprietary owners as well as consumers. A sound modern antitrust approach to regulation in dynamic network industries in the “New Economy” must take all these dimensions into account.

Finally, whether Microsoft is really guilty of all these charges being lodged against the company all over the world or not is still controversial. And one cannot possibly completely deny the great achievements and contributions that the company has made to mankind over the years. However, experts and analysts have also been at odds over how competition laws are moulded differently and implemented differently between respective jurisdictions. For

example, a chorus of American critics said of the EC has been: “You protect competitors, we protect competition”²⁸.

Another no less critical issue is the ability of competition authorities in small and developing markets to discipline such a giant like Microsoft in such a complex area as this. There are some options such as getting the cooperation from competition authorities of more advanced economies, or riding on the work of the DOJ and the EC, or turning to open-source resources, or working together, forming alliances via various agreements at the regional or international levels. Some even thought of the possibility of a global regulatory institution. However, that debate is for another separate chapter.

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Endnotes

- 1 This is in the words of the US's *Alcoa* decision - *United States of America vs. Aluminium Co. of America* (148 F.2d 416, 2d Cir., 1945)
- 2 An “operating system” is the software program that controls the allocation and use of computer resources (such as Centre Processing Unit time, main memory space, disk space, and input/output channels). The operating system also supports the functions of software programs, called “applications”, which perform specific user-oriented tasks. The operating system supports the functions of applications by exposing interfaces, called “applications programming interfaces” or “APIs”. These are synapses at which the developer of an application can connect to invoke pre-fabricated blocks of code in the operating system. These blocks of code in turn perform crucial tasks, such as displaying text on the computer screen. Because it supports applications while interacting more closely with the PC system's hardware, the operating system is also normally said to serve as a “platform”.
- 3 The factual details in this part are retrieved from Wikipedia, the free web-based encyclopedia, at http://en.wikipedia.org/wiki/United_States_v._Microsoft (Last viewed on 8 August 2006).
- 4 “Original equipment manufacturers” (OEMs) hereby refer to manufacturers of PCs, such as the IBM PC Company and the Compaq Computer Corp. An OEM typically installs a copy of a PC/OS onto one of its PCs before selling the package to a consumer under a single price.
- 5 Most of the factual details in this part are retrieved from the official website of the European Commission at <http://ec.europa.eu/comm/competition/antitrust/cases/microsoft/> (Last viewed on August 11, 2006).
- 6 At the heart of all personal computers (PCs) and most workstations sits a microprocessor. Microprocessors also control the logic of almost all digital devices, from clock radios to fuel-injection systems for automobiles. Until the late 1980s, Intel Corporation was essentially the

only producer of PC microprocessors. Increasingly, however, Intel is facing competition from other manufacturers who produce “Intel-compatible” chips. These chips support the Intel instruction set and are often less expensive than Intel chips. In some cases, they also offer better performance. Two of the leading manufacturers of Intel-compatible chips are Cyrix and AMD. (As retrieved from http://www.webopedia.com/TERM/I/Intel_microprocessors.html on August 11, 2006)

- 7 See supra note 1
- 8 Operating systems are not the only software programs that expose APIs to application developers. There are non-operating system softwares that do likewise, for example the Netscape Web browser and Sun’s Java technologies. Such software is often called “middleware” because it relies on the interfaces provided by the underlying operating system while simultaneously exposing its own APIs to developers. Currently no middleware product exposes enough APIs to allow software developers profitably to write full-featured personal productivity applications that rely solely on those APIs. Even if middleware deployed enough APIs to support full-featured applications, it would not function on a computer without an operating system to perform tasks such as managing hardware resources and controlling peripheral devices. But to the extent the array of applications relying solely on middleware comes to satisfy all of a user’s needs, the user will not care whether there exists a large number of other applications that are directly compatible with the underlying operating system. Thus, the growth of middleware-based applications could lower the costs to users of choosing a non-Intel-compatible PC/OS other than Windows.
- 9 In contrast to non-Microsoft, Intel-compatible PC/OS, which few users would want to use on the same PC systems that carry their copies of Windows, a browser can gain widespread use based on its value as a complement to Windows. Besides, because Navigator exposes a set (albeit a limited one) of APIs, it can serve as a platform for other software used by consumers. A browser product is particularly well positioned to serve as a platform for network-centric applications that run in association with Web pages. Finally, Navigator has been ported to more than fifteen different PC/OS. Thus, if a developer writes an application that relies solely on the APIs exposed by Navigator, that application will, without any porting, run on many different PC/OS.

- 10 More details on the anticompetitive tactics used by Microsoft against Netscape, however, fell under the private lawsuit filed by AOL Time Warner (then owner of Netscape) against Microsoft mentioned above, and therefore would not be discussed in details here due to limitation of scope.
- 11 Covington & Burling, (2001) counsel to Microsoft, various redacted communications at <http://www.fcc.gov/transaction/aolexparte.html>
- 12 US Court of Appeals for the District of Columbia, *Opinions*, United States of America vs. Microsoft Corporation
- 13 Microsoft also made Windows 98 override the user's choice of default browser in certain circumstances. As shipped to users, Windows 98 has IE configured as the default browser. While Windows 98 does provide users with the ability to choose a different default browser, it does not treat this choice as the "default browser" within the ordinary meaning of the term. Specifically, when a user chooses a browser other than IE as the default, Windows 98 nevertheless requires the user to employ IE in numerous situations.
- 14 "Internet content providers" (ICPs) are the individuals and organisations that have established a presence, or "site", on the Web by publishing a collection of Web pages.
- 15 To evaluate an agreement's likely anticompetitive effects, under US antitrust law, a variety of factors need to be considered: (1) the degree of exclusivity and the relevant line of commerce implicated by the agreements' terms; (2) whether the percentage of the market foreclosed by the contracts is substantial enough to import that rivals will be largely excluded from competition; (3) the agreements' actual anticompetitive effect in the relevant line of commerce; (4) the existence of any legitimate, pro-competitive business justifications offered by the defendant; (5) the length and irrevocability of the agreements; and (6) the availability of any less restrictive means for achieving the same benefits.
- 16 Nader, R. (1999) *Consumer Harm in the Microsoft Case*, Address to the Bazaar – An Open Source Software Event, New York
- 17 These prices are for the complete PC/OS (i.e. what the consumer got when their PC booted up)
- 18 See supra note 16
- 19 Motz, J.F. (2001) United States District Judge, *Opinion, Microsoft Corp. – Multi-district Antitrust Litigation* (MDL No. 1332)

- 20 For example, Microsoft Vice President Brad Chase wrote to his superiors near the end of 1995, “We will bind the shell to the Internet Explorer, so that running any other browser is a jolting experience.”
- 21 Jackson, T.P. (1999), US District Judge, *Findings of Fact, United States of America vs. Microsoft Corp.* (Civil Action No. 98-1233 TPJ) (<http://www.usdoj.gov/atr/cases/f3800/msjudgex.htm>)
- 22 European Commission, (1998) OJ C 265/2 *Notice on the application of the competition rules to access agreements in the telecommunications sector – Framework, relevant markets and principles*
- 23 The importance of innovation as a driving force in economic growth has been a subject of frequent commentary. Technology and innovation markets were recognised explicitly in the 1995 US Department of Justice-Federal Trade Commission’s *Antitrust Guidelines for the Licensing of Intellectual Property* and the 1996 *Commission Regulation (EC) No. 240/96 on the Application of Article 85(3) of the Treaty to Certain Categories of Technology Transfer Agreements*. The importance of new and improved products is discussed, for example, in the US Federal Trade Commission Staff, *Anticipating the 21st Century: Competition Policy and the New Hi-Tech, Global Marketplace* 11-24 (May 1996) and Industry Canada’s 1998 Research Volume on *Competition Policy and Intellectual Property rights in the Knowledge-Based Economy*.
- 24 European Commission, (2001) IP/01/032 - *Commission initiates additional proceedings against Microsoft*, Brussels (<http://www.europa.eu.int/competition/>)
- 25 See supra note 21
- 26 Litan, R.E. (2000) *Case Study: The First Microsoft Case* (p.174-176), in *Antitrust Goes Global*, edited by Simon Evenett, Alexander Lehmann and Benn Steil, published by The Brookings Institution
- 27 Rubinfeld, D. L. (1998) *Antitrust enforcement in dynamic network industries*, *The Antitrust Bulletin*/Fall-Winter 1998
- 28 Fox, Eleanor M. (2003) *We Protect Competition, You Protect Competitors*, *World Competition* 26(2): 149–165, 2003.



CUTS Centre for Competition,
Investment & Economic Regulation
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CUTS Centre for Competition, Investment & Economic Regulation
D-217, Bhaskar Marg, Banipark, Jaipur 302 016, India
Ph: +91.141.228.2821, Fx: +91.141.228.2485
E-mail: c-cier@cuts.org, Website: www.cuts-ccier.org