

ANTITRUST IN THE U.S. AND E.U.

THE MICROSOFT CASE

by

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(Under the Direction of David R. Kamerschen)

ABSTRACT

This thesis examines the difference in the competition policy of the European Union and the United States. While the United States bases their policy solely on the harm to consumers, the European Union follows other goals. Furthermore, the European authorities accept the theory that harm to competition might result in harm to consumers. The differences of the policy are shown with the example of the Microsoft case. The markets of the so-called new economy differ in some important aspects from the classical industrial markets, which raises the question whether traditional antitrust policy is applicable. One could argue that no other company influences the global economy as much as Microsoft, thus the importance of balanced antitrust policy is more crucial than ever before. This thesis also examines the possible outcomes of the lawsuits and show, what the rulings will mean for Microsoft.

INDEX WORDS: Microsoft Case, Antitrust Policy, Competition Authorities

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CHAPTER 1

INTRODUCTION

The Microsoft case captured a high public interest, as it has made headline news for more than 4 years now. This case has more global relevance than prior cases, as governments and very large parts of the global economy rely on the software offered by this company. This makes the case very interesting for evaluating economic theories relating to anti competitive practices. Many papers were publicized concerning this topic and this case is still the focus of an intense debate among economists.

The technological markets of the so-called new economy differ in many aspects from the classical industrial markets. The market for computer software is an example of those new market economies. One might wonder whether the traditional antitrust policies are still reasonable to use or if these markets work under some new rules. But in the meantime, Microsoft faces legal conflicts with the two most influential competition policy authorities at the same time: The United States in 1997 and the European Union in 1998 filed complaints against the corporation. This raises the question of whether any differences in the understanding of antitrust policy exist between the major markets regulators in the global economy. Does the interpretation of economic theory differ across the Atlantic?

The purpose of this paper is to analyze those complaints against the Microsoft Corporation and to show how they reflect differences in the understanding of competition policy of these two major competition policy authorities.

Chapters 2 and 3 provide general background information of the cases. Chapter 2 specifically deals with the case *Department of Justice (DOJ) vs. Microsoft*. Following in Chapter 3 I explain and analyze why Microsoft faces a legal dispute with the European Commission for Competition. I focus on the underlying economic theory of both cases and examine the special problems arising in applying textbook examples to the new economy.

In Chapter 4 I highlight the difference in the interpretation of the economic theory by the U.S. and the European Union. According to the U.S. interpretation harm to consumers is the central point of all antitrust activities, the harm to competition is crucial when European authorities interpret the behavior of dominant players in the market. I show how this leads to different results of the cases and why these differences exist.

In Chapter 5 I discuss the possible outcomes of the cases for Microsoft. While the harsh ruling of Judge Jackson is not one of the probable outcomes anymore, its economic effects are interesting as a worst-case scenario for the company and thus worthwhile to discuss. I show why the settlement between Microsoft and the DOJ will not help to restore competition on the relevant markets and thus is often regarded to as a failure. I further examine whether the ruling of the European authorities could help to protect competition in other markets or if those decisions will not be effective in reaching this goal.

Chapter 6 concludes my thesis.

CHAPTER 2

UNITED STATES VS. MICROSOFT

2.1 Antitrust law in the United States

The antitrust laws of the United States are largely based on the Sherman Antitrust Act of 1890. Section 1 of the Act forbids price fixing and division of the market among competitors. Section 2 of the Sherman Antitrust Act states:

“Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony.”

Recent interpretations of the Sherman Antitrust Act imply that monopolization is illegal, if the offender firm took anti-competitive measures to acquire, preserve or enhance its monopoly.

A monopoly in itself is not objectionable under antitrust policy (for example DOJ (1995), § 2.2). Only the exploitation of market power is against the Sherman Act. If a firm reaches a monopoly structure through innovation or efficiency, there is a benefit for consumers, because inefficient competitors are swept out off the market. There would be no incentives for innovation if a firm could be punished for this. The next part of this paper will answer the question whether Microsoft has market power and how durable the monopoly is.

2.2 Is Microsoft a monopolist?

In the *DOJ vs. Microsoft* case, the U.S. government needed to show that Microsoft was a monopolist and there existed a possibility to end this monopoly. Otherwise there would not be any need for anti-competitive actions and thus no infringement of antitrust rules. Furthermore it had to show that Microsoft in fact used its power in an anti-competitive way.

2.2.1 The assessment of monopoly power

The examination of Microsoft's market power has to be the first step for the antitrust analysis. Therefore the relevant market has to be defined. Traditionally, a relevant product market is seen as a set of products, that are reasonably close substitutes for each other (see DOJ (1992), §1.11). The Department of Justice (DOJ) proposed in the Microsoft case the focusing on operating systems for Intel-compatible computer. Owners of Intel-compatible computer systems have no other reasonable alternative than to choose an operating system written for these computers. The judge agreed with this reasoning.

According to market studies the Microsoft operating systems have a combined share of 93% of the market for desktop operating systems¹ (International Data Corporation IDC, 1998). Taking into account that those include MacOS², which is based on Motorola platforms, there is no doubt of market dominance by Microsoft. Thus, even if the DOJ had chosen to extend the relevant market to desktop computer systems and to include MacOS into the relevant market, there would be no doubt about Microsoft's market power.

¹ Desktop operating systems are the main unit of a desktop computer residing near the user. Server systems are located at a central position of the company.

² An operating system by Apple Inc., that runs on Apple Macintosh computers.

2.2.2 The Sustainability of Microsoft's monopoly power

The existence of market power is unimportant, if it is not sustainable. If the incumbent producers face competition from either actual or potential entrants into the market, then they will price competitively according to the contestable market theory. Even if there is only one incumbent producer, prices will remain competitive, as long as he fears the threat of entrants. Thus antitrust policy has to address the conditions of entry and exit to the market. This was discussed in a very detailed manner at the Microsoft hearing. There are several points that the DOJ and Microsoft have made, to show whether entry into the market is possible. Some key terms used in this analysis are network effects or the “application barriers to entry”³.

Network effects, or demand-side economies of scale, describe the increasing utility to a consumer, as more consumers use the product. Good examples of these effects are fax machines. As the group of fax machine owner grows, the user can transmit documents to more people and can use it more often to send his messages. This clearly increases his valuation of the machine. Another example of direct network effects are standard application programs. As more people use the same word processing software, this increases the possibilities for the users to share their work with other people. Thus, users are better off if their word processing software can open the documents of friends or colleagues. Furthermore, if more computer users browse the web, web content will increase, as the supply replies to the demand for information goods. This gives the web consumer more utility and thus increases his valuation of the computer. These additional

³ The more than 70,000 (estimation by the government 1998) applications for windows are a very important asset of Microsoft. As the DOJ claims, they make a new entry into the relevant market quite impossible, because an OS has no use at all without applications and the development of new applications is a time-consuming and very costly process. (further details in Fisher, 2000)

effects are called indirect network effects. Network effects are important when judging the influences of a monopolist on the software market, where these effects are very significant. The existence of network effect protects Windows today, because the number of distributed and used copies make it hard for a seller of a substitute operating system to displace the dominant product, even if his operating system is technically superior. Thus, network effects create a barrier to entry for competitors.

The software market is a very dynamic market, where innovation is always present and can easily change the market structure. Thus, Microsoft and its key witness Professor Richard L. Schmalensee of the Massachusetts Institute of Technology (MIT) used this argument as evidence for the impossibility of a sustainable monopoly in the relevant market. Schmalensee used Linux as an example of very viable competition⁴, missing the basic differences between those competitors⁵. Furthermore, he argues that the usage of market shares as a measure for monopoly power is misleading in dynamic markets. He states that an “appropriate analysis generally requires the exercise of judgment regarding the likelihood of future races for market dominance and their likely nature” (Evans et al., 2000). One might easily agree to this argument, as a dynamic industry implies the possibility of entrance promoted by a technological shock.

⁴ In his direct testimony, Schmalensee refers to the 960% growth in the user base of the Linux Operating System. This argument is a little bit suspicious, even in the computer market. But his calculation is based on true facts, even though he does not specially state that his calculation is based on a one-user base in 1991, where just the famous programmer Linus Torvalds used “his” operating system. Thus sustained growth of nearly this amount is at least questionable.

⁵ Linux is an open source project. It is maintained mainly by the contribution of hundreds of volunteers, who write code in their spare time. It is hard to believe that this sort of organization has any chance to compete head-to-head with the monetary and structural backgrounds of a company like Microsoft. It is also important to note, that the licensing model (GPL) of Linux cannot generate the sort of revenues that Microsoft makes and without those revenues it is hard to see how Linux could compete head-to-head with Windows.

The DOJ disagreed with this argumentation and used the failure⁶ of the market entry of IBM as a good example of the network effects. They showed how these effects can block the entry of a new competitor such as IBM. IBM invested heavily in the first half of the 1990s to position OS/2 as an alternative to Windows (“A better Windows than Windows” was the commercial slogan used by IBM). They spent more than one billion dollars for development, testing and marketing, but they could not overcome the network effects already established by Microsoft. Especially switching costs⁷ and the non-existence of a large application base made it impossible for IBM to break the market. This is a good example for the “chicken-and-egg” problem (Gilbert and Katz (2001), p. 7), as users want a large variety of application programs and the developers only develop for a large customer base of an operating system. These network effects were referred to by the DOJ as the “applications barrier to entry”. Further interesting applications of these network effects and how one might overcome them are discussed in Bresnahan (2001 and 2001b).

The existence of a monopoly was found by all instances of the court as being true. Even the Court of Appeal, which reversed the basic remedies against Microsoft, found the existence of a monopoly in the relevant market. Thus, although this is a very interesting part of the story, I will not address it here any further, relying on the finding of facts by the courts and various publications⁸.

⁶ IBM gave up the marketing of OS/2 in 1996. This was a result of serious pressure by Microsoft (see testimony by Graham Lea) and the failure of an OS/2 port to the PowerPC architecture.

⁷ Costs that occur for changing the operating system, e. g. buying new hardware or acquiring new licenses for software products.

⁸ The Findings of Facts by Judge Jackson (1999) state: “Microsoft enjoys so much power in the market for Intel-compatible PC operating systems [...] it could charge a price for Windows substantially above that which could be charged in a competitive market. [...] In other words, Microsoft enjoys monopoly power in the relevant market”.

2.3 Threats to the applications barrier to entry

Although the previous chapter states that the Microsoft monopoly in the market for operating systems is sustainable, major innovations could be capable to lower the applications barrier to entry. The “Internet Revolution” was such a technological shock, that was unforeseen by Microsoft and could have allowed entrants into the market. The following two subchapters show why Microsoft had to fear Java and Netscape as a danger to its operating system monopoly.

2.3.1 The Java threat

Using the theory of the “applications barrier to entry”, the protection of this barrier is a key focus of a monopolist, because it strengthens its position and is a guarantee for the absence of new market entrants. The growth of the Internet and its new technologies (namely browsers and the Java programming platform) were a big challenge for the company (Gates, 1995). These new technologies were a threat to the operating system (OS) monopoly, because they could make the underlying operating system running on the users computer irrelevant, as they are available on different platforms (e.g. Netscape is available for Windows, Mac OS, OS/2 and all kinds of Unix flavors). If an application runs on top of those middleware⁹ platforms instead of using the underlying operating system, then the used operating system does not matter anymore (see Evans et al. (2000), pp. 8-9 for further details on this topic). According to Gilbert and Katz (2001, p. 11) a widely distributed Java would reduce the applications barrier to entry, as new applications written for Java would not rely on a particular operating system.

⁹ Programs that are able to run on top of an operating system and provide APIs for other applications are called middleware.

An application uses certain application programmer's interfaces (APIs¹⁰) to run. Windows has a very rich set of widely used APIs. Thus, if an application programmer writes a software application for the Windows platform, the available APIs will be used. But there is a drawback as well, because using these instructions makes porting to a different platform more expensive and time-consuming. And this is where Java and (on a smaller scale) Netscape come into play: by providing a development environment that is designed to run on top of different operating systems, they make the portability of software applications very easy. Java is designed to be an open language, which means, that programs written for Java will run on most platforms, including other desktop systems like Linux and MacOS as well as server platforms. Thus Java is an example for middleware.

2.3.2 The threat of an independent web browser

The threat of Netscape was more indirect. Netscape planned to develop APIs that its Navigator would offer to application programmers¹¹. Because of the platform independence of the Navigator browser (in contrast to the Internet Explorer, which was only available for Windows and MacOS) this would also mean, that applications developed for it would run platform independent (the middleware aspect of the Netscape threat).

¹⁰ APIs are code provided by an OS or by "middleware", which could be used by applications. This makes programming easier and more efficient, because this code could be re-used system wide and is only written one time. A rich set of provided APIs makes programming easier, because these functions can be used, without the need to code them yourself.

¹¹ The CEO of Netscape once told the press, that this step would "reduce Windows to a poorly debugged device driver".

Even though this threat by Netscape never became a reality (actually there is no evidence that Netscape even tried to develop APIs), the threat was present in the form of competing standards. During the first years of competition between Internet Explorer and Navigator, both companies extended the standard HTML code with their own definitions. This meant, that if a web page was “optimized” for one browser, than it would not be properly displayed by a different browser. Another technology, which was popular then, was the “Network Computer” (NC). The simple idea was adopted from terminals, where the desktop computer just displays programs, which run on a central machine (Inter-/Intranet-Server)¹². The desktop computer does not process any code from the used application and its abilities are stripped down to just display the data. Network Computers often used standards like HTML to display the content from the central system. Due to factors like total-cost-of-ownership these ideas were hyped at that time. But because of the incompatibilities between the browsers, the supplier of the most accepted browser controls the application, on which network software applications rely on. And those network software applications were meant to make large desktop operating systems like Windows replaceable. Thus, Microsoft had a strong interest in controlling this market, giving it a strategic position in a market that might weaken the applications barrier to entry¹³. Although one might claim that these applications have had more than 5 years to develop and they still do not have a significant market share, the development of on-line e-mail applications and even small office suites is a first sign of how important

¹² Examples are Stardivision’s StarPortal, which is now Sun’s StarDesk, an integrated Office Suite which runs on a central computer. The local desktop only displays the information from the central server and does not run the program code itself.

¹³ As Bresnahan (2001b) has emphasized other factors as “the absence of a client-side development environment outside Microsoft’s strategic control” also limit the possibilities of weakening the position of Windows in the market.

these might become in the future. And as the number of broadband connections to the Internet increases, the possibilities of centrally administrated software expand further as services are possible, that would not make any sense when using slow connections (e.g. Modems).

The distribution of either Java or the Netscape Navigator (which actually means that both are distributed, because an installation of the Navigator means also the installation of Java, which was used by the browser to access Java-based Internet content) was not in the interest of Microsoft, because it weakened its applications barrier to entry. The question of interest was now whether Microsoft used its monopoly power in an anti-competitive way to suppress the distribution of those middleware programs. The DOJ found two closely related mechanisms, by which Microsoft tried to weaken its competition: exclusionary and predatory behavior.

2.4 Usage of market power for anti competitive measures

The next step to show an infringement of the Sherman Antitrust Act is to find any usage of anti competitive measures by the monopolist. The following two subchapters show the main anti competitive practices undertaken by Microsoft (see Judge Jackson (1999), paragraph 79 – 407 for a complete listing of anti competitive behaviors).

2.4.1 Exclusionary behavior

Exclusionary behavior is restricting access of competitors to certain resources or customers to raise their costs and weaken their ability to compete. The DOJ found many examples of Microsoft's attempts to block Netscape's access to the market.

Manufacturers of PCs (so-called original equipment manufacturers or “OEMs”, e.g. hardware companies as Dell, Gateway or Hewlett Packard) were required to carry the Internet Explorer and present it at an appropriate spot. They had to do this, even when customers preferred Netscape (which had a market share of more than 80% at that time, and which had a superior quality in comparison to the Internet Explorer, at least in the first versions of both products). Microsoft used its market power in the operation system market to threaten the OEMs. The OEMs had no alternative to Windows and if they wanted to sell a computer they had to have a license agreement with Microsoft. This was a clear use of market power to prevent a competitive threat.

The OEMs were not only a low-cost distribution channel for browsers, but they also introduced the World Wide Web to new computer users, who had never used a browser before. Switching a browser does not only imply costs¹⁴, it also requires knowledge of the installation process. Many users do not switch their start-up page in the browser, due to improper knowledge of how to do it or the growing habit¹⁵. The ability to browse the Internet does not entail the understanding of installing new software applications. The experience with the medium Personal Computer (PC) has grown in recent years. But many new users who wanted to surf the Internet were exposed to the PC technology for the first time. This makes the OEM distribution channel even more valuable, as the so-called “out of the box experience” determines which Web browser those first-time users utilize. And the habit and growing experiences will influence the

¹⁴ In the years 1995-1997 the flatrate for accessing the Internet was unavailable and online services as AOL or Compuserve charged between \$2.95 and \$4.80 per hour. The connection to the Internet was mostly done by using a modem, which did not have the speed they have today (14.4kbps while today the standard is 56kbps). Thus downloading a 10 MB browser package implied costs to the user. This has changed during the last few years, but is unimportant, as the lawsuit deals within the mentioned timeframe.

¹⁵ According to a survey in Family PC Magazine (1998): “About 38 percent set their start-up page to a site they found surfing, while 15 percent made their own start-up page. Most people grow so accustomed to their start-up page they never change it.”

choice of the browser even with growing knowledge and understanding of the technology.

Microsoft also made agreements with application software developers (so-called independent software vendors or ISVs), which were contractually required to use the Internet Explorer as their default browser and to use a modified Java¹⁶ developed by Microsoft. The requirement was a condition of the “first wave” contracts offered by Microsoft. In exchange, the developers got earlier access to new Windows versions and therefore the possibility to adapt their applications to new Windows requirements. Here Microsoft also used its market power achieved by Windows to distribute its browser and to block a multi-platform JAVA middleware platform.

Several other notable examples of the usage of Microsoft’s market power are agreements with Intel and Apple, which stopped Intel from developing Native Signaling Processing software for other operating systems and forced Apple to integrate the Internet Explorer into its operating system in order to keep the development of the MS Office for the Macintosh alive (see Judge Jackson (1999), ¶ 94-103 and ¶ 341-356).

2.4.2 Predatory behavior

Predatory behavior according to Ordovery and Willig (1981) is any business strategy that is only profitable because of the elimination of one or more competitors in the long-run. Usually this means that a company offers a product at an unprofitable low price and drives out competition in the market. Afterwards it enjoys market power and

¹⁶ Microsoft developed its own version of Java, which ran faster on Windows machines. But this takes the advantages of a multi-platform development language away, which is the main advantage of Java against other object oriented programming languages as C++. Thus, when a program was developed using MS Java, then it could only run on Windows, which means there is no threat to the application barrier to entry. Sun used the term “polluted Java” referring to this modification.

collects profits based on this dominance. Thus a company accepts sacrifices in short-run profits to impose losses on competitors. Indeed, the predator has to sell at prices below marginal costs to drive out equally efficient competitors.

By giving away its browser for free, Microsoft also used its market power and thus its earnings in different sectors, to subsidize the development of Internet Explorer. The DOJ made this out as an example for predatory behavior. But a free browser is a rather bad example for predatory behavior, because the whole Internet industry was based on those “free” give-aways. And a browser has negative variable costs¹⁷, because every copy used helps to establish an Internet portal. Furthermore content provider would pay for referring users to them by initial bookmarks, which were pre-defined when you install the browser. Thus selling the browser for a zero price is still above the variable costs. Another argument made by Microsoft is that this practice attracted more users to personal computers and thus to increased the sales of Windows¹⁸. And this result could be achieved as well by supporting a superior Netscape browser (which it was back in 1995).

A better example of predatory behavior could be “Tying and bundling”. Bundling is predatory, if its main objective is to force a competitor (Netscape) out of the market without having technological reasons for the bundling. Microsoft integrated the Internet Explorer into the operating System. Every new system (and every upgrade) results into the existence of the Microsoft browser and thus would lead to an advantage in the competition with Netscape. Microsoft always insisted that the Internet Explorer is a

¹⁷ Software products, which are distributed on a large scale, have variable costs approaching zero. But if the distribution in itself has a value for the producer, then the variable costs are negative (see examples above).

¹⁸ It would be interesting to know how giving away a browser for the Mac helps to sell more copies of Windows.

crucial part of Windows 95 and Windows 98. The DOJ showed that the Internet Explorer could be easily removed from Windows 95 and 98¹⁹ (and the first version of Windows 95 was completely independent of the Internet Explorer), which contradicts the crucialness theory of the browser. Thus there are no technical reasons for this tying. A different question is whether the integration actually increased consumer welfare. Many examples exist where tying and bundling improved the value of a commodity (e.g. cars and stereos are sold together). This discussion should be based on the very concept of operating systems²⁰. Microsoft argued that competing operating systems had a standard browser as well (see for instance Evans, 2000) and tying was rather a reaction to the competition than an anti-competitive measure. But the argumentation is based on the comparison of operating systems, which have bundled independent browser applications (e.g. RedHat which also supplies the Netscape Navigator) and operating systems (the Windows Family), which integrate the browser code. In the former case the user can choose whether he would like to install the software and in the latter there is no choice. Thus, Microsoft's argumentation against the DOJ allegations is weak. But a behavior is only predatory, if it relies on future profits. By raising the price for the particular product, the monopolist can earn profits in the future. One might argue in this case, that the price for the Internet Explorer has not been raised and Microsoft promised to give it away in the future as well. But to use the browser, the user needs a Windows license. And Microsoft has in fact raised the price for the operating system, as it has changed the license terms

¹⁹This can be done by using programs like 95lite or 98lite (www.98lite.com), which offer to de-install Windows "components" like the Internet Explorer or the Media Player.

²⁰ According to the Encyclopaedia Britannica an operating system is "software that controls the many different operations of a computer and directs and coordinates its processing of programs. An operating system is a remarkably complex set of instructions that schedules the series of jobs (user applications) to be performed by the computer and allocates them to the computer's various hardware systems".

that determine the value of the product. Thus evidence for predatory behavior concerning the tying of the browser is given.

The exclusionary and predatory actions (the latter at least in part) represent the anti-competitive usage of market power to block innovations like new middleware platforms from entering the market. Those technologies could lead to an eroding applications barrier to entry and thus would endanger the operating software monopoly at least in the long run. But they were defeated without a real market test, resulting in the widespread usage of possibly inferior products. Thus, Microsoft could build a strong market position without the need to be the more efficient or innovative than other producers.

2.5 The importance of product quality

The anti competitive practices mentioned above did not decide the “browser war” solely. Evans and Schmalensee (2000b) as well as Liebowitz and Margolis (1999) declared the improvement in the quality of the Internet Explorer as the reason for the change in the market share for Internet browser applications. In the early phase of competition, the Netscape Navigator was clearly superior to the Internet Explorer. The first version of the Internet Explorer was released in 1995 and was a licensed product of the Spyglass Mosaic, a commercial version of the NCSA Mosaic, the “grandfather” of Internet browsing software. Microsoft was unable to win a single review of the competing browsers until it released version 3 in 1996. It integrated plug-ins²¹ and Javascript and for the first time was able to compete, in terms of product quality, with the

²¹ A plug-in is a file containing data that is able to extend the operations of its parent application (here: Netscape Navigator). Popular plug-ins are the Real Player or Macromedia Flash, which extend the abilities of the World Wide Web in terms of multimedia.

Navigator. As Evans and Schmalensee (2000b) show, version 3 was able to win product reviews of major computer magazines. In 1997 both companies released version 4 of their browser software. For the first time ever, Microsoft won most of the reviews and scored in terms of product features.

The authors Evans, Schmalensee (2000b) and Liebowitz, Margolis (1999) used major computer magazines to show the improvement of Microsoft's browser and the superiority against its opponent Netscape in its later version of its browser. One might argue, that the number of observations is too small to draw conclusions. Furthermore there might exist a bias towards Microsoft products, as computer magazines depend on information from Microsoft of future versions of Windows. But, most importantly, the discussion misses the time frame when the anti competitive practices took place. While Microsoft was able to win product reviews against Netscape with the release of version 4 (which was released in October 1997), the exclusionary practices (e.g. the restriction put on OEMs concerning the distribution of a competing browser) happened in 1995 and lasted until 1997. Microsoft improved its browser and was finally able to compete in late 1997 with its superior version of the Internet Explorer, but they prevented competition on the merits earlier, when Netscape's browser was a clear winner. Microsoft used anti competitive measures to gain time that it had lost when it was unable to predict the impact of the Internet in the first place. Netscape was able to achieve a high market share, because they were ahead in time and released a browser earlier than Microsoft's first try. But Microsoft, like no other software company was able to compensate this disadvantage by using the anti competitive measures described above.

CHAPTER 3
EUROPEAN UNION VS. MICROSOFT

3.1 Antitrust law in the European Union

The antitrust laws of the European Union are laid down in the Treaty establishing the European Economic Community²², which was signed in Rome in 1957²³. Modeled similar to the Sherman Antitrust Act, article 82 states:

“Any abuse by one or more undertakings of a dominant position within the common market or in a substantial part of it shall be prohibited as incompatible with the common market insofar as it may affect trade between Member States.

Such abuse may, in particular, consist in:

- (a) directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions;
- (b) limiting production, markets or technical development to the prejudice of consumers;
- (c) applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;

²² At the moment Belgium, Denmark, Germany, Greece, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal, Finland, Sweden and the United Kingdom are members of the European Economic Community.

²³ The literature often refers to this treaty as the “Treaty of Rome”.

(d) Making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.”

Similar to recent interpretations of the Sherman Act, Article 82 of the Treaty of Rome does not prohibit the existence of market dominance, but only the abusive exercise of it. The examples of abusive behavior described in Article 82 are not exhaustive, and the reference to abuse by “one or more” undertakings has been interpreted as extending the concept to joint dominance. As indicated by the text of the Article a wide variety of types of behavior may constitute an abuse. Refusal to supply or deal, in particular where the enterprise has ownership or control of an essential facility to which competitors require access to provide a service to their customers (e.g. national telecommunications or rail networks)²⁴, has been held to constitute abuse on a number of occasions. These examples can be extended to essential information about a dominant operating system. The next part shows which complaints Microsoft faces and explains the facts this case is based upon.

3.2 Complaints against Microsoft

The case against Microsoft began in Europe in the year 1997, when different companies filed complaints against licensing practices of Microsoft. The European commission ordered Microsoft to comment on these allegations. Further details never became public (which includes even the names of the companies involved).

²⁴ For example see European Commission IP/02/686 (European Commission vs. Deutsche Telekom AG, “Commission suspects Deutsche Telekom of charging anti-competitive tariffs for access to its local network”) or European Commission IP/01/1415 (European Commission vs. Deutsche Bahn AG, “Commission warns Deutsche Bahn about discriminating against a private competitor”).

In 1998 Sun Microsystems filed a formal complaint against Microsoft, about the information policy of Microsoft regarding interfaces connecting clients and servers²⁵. Sun claimed, that Microsoft engaged in discriminatory licensing and supply of essential information concerning the network functions of the Windows product family. The E.U. examined this case carefully and filed a statement of objection²⁶ in the year 2000.

Knowledge about these interfaces is crucial if one wants to establish or enhance a server software system that is able to take connections from a client. The market structure of client operating systems makes the behavior of Microsoft special and is the reason for an antitrust case. The European competition commission defined the relevant product market as Personal Computers (PC) operating systems. The definition of this market is slightly different from the U.S. case, where the market definition only consists of “Intel-compatible computer operating systems”. Nowadays the only competitive microprocessor platform is supplied by Motorola (Power PC-Platform) and is widely used only in Apple Macintosh computers. The market share of Apple in the European Union is far smaller than in the U.S.²⁷, making the differences implied by the definition of the relevant product market neglectable.

Using this definition of the market, Microsoft has a 95 % market share in the E.U. (according to a press release by the Commission (E.U., 2000b))²⁸. In a client/server architecture, those PCs are often used as clients, which use centralized services as file

²⁵ A computer system, that requests services from another computer (server) using a specific protocol. An example for a Client/Server structure is the Internet. The Browser on the client requests information from a server. The client displays information that is stored on the server and transferred by it.

²⁶ A formal step in European antitrust investigations. This statement of objection is not a finding of facts, as it represents only the opinion of the commission. After receiving such statements, companies have two months to defend themselves in writing.

²⁷ According to Dataquest (2001) the market share of Apple in the European Union was 2.8%.

²⁸ The European Court of Justice set a standard, whereas a market share of 75% or more over a relatively long period of time is such a strong evidence that no further investigation is necessary, which means other factors like barriers to entry do not have to be taken into consideration (European Court of Justice (1979)).

serving or print serving. By refusing to offer technical information concerning the interfaces of those systems, Microsoft blocks competition in the fields of servers. Without this information the developer of server software is unable to add functions for communication with Windows clients. A server that is unable to connect to a Windows PC (which 95 % of all potential clients are) puts many restrictions on the choice of the client for the customer. And this is a major advantage for Microsoft server systems, because Microsoft can guarantee the interoperability²⁹ of its server products with its own client (or desktop) operating systems. This gives Microsoft an advantage over competing systems that is not based on product quality and the effect is, that even if superior products are available, customers will have to choose Microsoft products, because only homogenous architectures³⁰ guarantee full functionality. This phenomenon is called “the client dragging the server”, because the client determines which server product to use.

Thus the E.U. argued that Microsoft uses its monopoly in the desktop operating system business to leverage into the server market, where viable competition is still present. This shutting out of competition and usage of market power, even in different markets, is an abuse of the Treaty of Rome.

The complaint filed by Sun in 1998 covered the Windows products 95, 98 and NT 4.0. Microsoft answered the statement of objections with 9000 pages of documents, these documents concluded that full interoperability was always guaranteed and that rivals just want to copy Microsoft’s innovations. In 2001 the commission came to the result, that “Microsoft did not carry out its obligation to disclose sufficient interface information about its PC operating system” (E.U. 2001).

²⁹ The ability of the PC (or client) to talk to the server

³⁰ Client/server architectures that are supplied by one manufacturer.

Shortly afterwards the commission extended its case to Windows 2000 and a second statement of objections were voiced. Microsoft extended open network protocols like Kerberos³¹ and SMB³², making it impossible for competitors to use full functionality of these new protocols without technical details³³. Thus, although the idea behind the case stayed the same, it was extended to newer products of the Windows family. The policy of using market power on the desktop system market for generating advantages on the server software market is still used by Microsoft even in the most recent version of its operating systems.

3.3 Bundling of a media player

The extensions of the complaints against Microsoft were also broadened by the commission's view of bundling with the operating system. By bundling the Media Player³⁴ with Windows, Microsoft used its dominant market position to strengthen its position on the streaming market, hurting competitors like Apple (with its QuickTime products) and RealNetworks (with the RealPlayer software). The commission argued that the competitors do not have this mechanism to distribute their software and thus have a clear disadvantage in competition. Microsoft claims that the Media Player software is an integral part of the Windows family and thus the removal of its code is not possible. Therefore Windows does not have any code removal functions for the Media Player,

³¹ An open authentication system developed at the MIT.

³² A client/server protocol that provides file and printer sharing between computers.

³³ Open-source software implementations like Samba even had to use a technique called reverse engineering (analyzing an existing system to define a system which behaves equally) to find ways to connect to Windows Clients. Microsoft still refuses to give information to projects under the GPL (general public license).

³⁴ Software that allows one to see and hear media clips on the PC. It also allows customers to see video and listen to audio while it is still downloading from the web (so called streaming), a function necessary for TV and radio broadcasting via the Internet.

giving OEMs no choice, but to distribute the Player. Thus, even if an OEM decides that other products are superior, it cannot change the shipment of media software. Furthermore, because of customer confusion and higher support costs, OEMs generally restrain from installing more than one media software³⁵. Installing more than one application to perform certain functions increases support questions and increases support costs for the OEM. Additionally the desktop and the hard drive are a valuable real estate for the OEM making them reluctant to provide more products that serve the same purpose³⁶. This totally eliminates the possibility for competitors to use this distribution channel.

A different effect of this bundling is similar to arguments made regarding the “browser war”. If this Media Player software is available on nearly all personal computers (95 % market share), then it is very tempting for developers to use it. Especially content provider using the Internet need to rely on a format that is widely available, as video and audio websites need to have their web servers optimized or being at least compatible to the user’s client software. The media streams encoded with software by RealNetworks are converted to a format that is only usable with RealNetworks’ player software. The same incompatibility issue is present when regarding Microsoft’s Media software. The goal for content provider is to reach as many

³⁵ The DOJ pointed out this fact in the U.S. case. This argument was supported by testimonies of e.g. Richard T. Brownrigg, Chief Engineer for Internet Initiatives at Gateway, who testified that “Customers will try things that are sitting there [...] it would cause customer confusion and possibly generate a technical support call.” (Richard T. Brownrigg 3/5/98 Dep. Tr. 34.) or Mal Ransom, Senior Vice President of Marketing for Packard Bell NEC, who confirmed that two browsers have “the potentiality for confusing the users, especially the new user who really doesn’t understand what a browser is” (Mal Ransom 3/19/98 Dep. Tr. 28.). But this argument can easily be applied to media software as well.

³⁶ For example, Stephen Decker, Director of Software Procurement at Compaq, was averse to loading a second browser because it would “take up additional real estate on our hard drive.” (Stephen Decker 10/17/97 Dep. Tr. 22.)

customers as possible. By providing a free copy of the software with every operating system, the Windows Media player has a clear advantage on the supply side of media content as well. Even though, the competing media software is available freely on the net as well, the need for downloading and installing is a barrier to its use. And if a product with similar features is already on the customer's computer, than the customer will decide in favor of the easily accessible product, giving Microsoft an advantage just by the number of distributed operating system copies.

Thus the Windows media player has competitive advantages by the market power of Microsoft operating systems. By not allowing OEMs and retail customers to de-install the Media Player, Microsoft influences the choice of the media software in its own favor. The choice of media software is not solely based on superior quality but on differences in the distribution of the software. This advantage protects Microsoft's media software from market tests under equal conditions for both competitors and is another example for a monopolist leveraging into a different market.

The other side of this market for media players is also similar to an argument made before, concerning the browser market. By achieving a high market share for media software, Microsoft strengthens the barrier-to-entry for the operating system's market. The unavailability of the Windows Media Player for other desktop operating systems like Linux and the temptation for content providers to use Microsoft's formats, are a clear disadvantage for any upcoming operating system.

CHAPTER 4

COMPETITION POLICY ACROSS THE ATLANTIC

4.1 Competition and antitrust policy

The approach to competition policy of the DOJ and the European Commission differs considerably. The comparison of the two Microsoft cases shows some fundamental differences between the understanding of antitrust policy of the U.S. and the European Union, although a comparison of the underlying law (the Sherman Act and Article 82 of the EEC) does not seem to show any significant differences.

In the year 2000, the European Commission published the guidelines on vertical restraints, which state: “The protection of competition is the primary objective of EC competition policy, as this enhances consumer welfare and creates an efficient allocation of resources.” (E.U. 2000). And the European Court of Justice declared in 1973 that the protection of competition is a key goal of Article 82 of the EEC. In the case *Europemballage Corporation and Continental Can Co. vs. EC Commission* (Case 6/72) the Court declared: “Abuse may therefore occur if an undertaking in a dominant position strengthens such position in a way that the degree of dominance reached substantially fetters competition, i.e., that only undertakings remain in the market whose behavior depends on the dominant one.”(European Court of Justice (1973)). This emphasis on competition is a key distinction from the approach taken by the U.S. authorities.

The economic literature found two competing interpretations of the goals attributed to antitrust policy in the United States. Robert Bork (1966) found that the only legitimate goal of antitrust policy is the maximization of consumer welfare by promoting allocative efficiency. His conclusions are based on a detailed examination of the Sherman Act's legislative history and on an analysis of the law's major provisions (see Shughart II (1990)). Lande (1982) provides a different approach. In his view, the objective of the Sherman Act is to prevent the transfer of wealth from the consumers to the firms having market power. This implies that antitrust policy should apply to all firms charging prices in excess of their marginal costs. If these practices were the result of mergers or agreements not to compete than both interpretations would lead to the same result: antitrust policy should intervene. The results are different if a firm reaches its market power through superior efficiency. If this firm prices above marginal costs than Lande's approach would mean an infringement of the Sherman Act, while Bork's interpretation of the theory would decline such an infringement. To prevent transfer of wealth and to protect consumers from companies with market power is a policy, which tries to find a certain market structure. The perfectly competitive marketplace is the goal of this policy even in cases where this means a loss in efficiency.

The next two subchapters will show the meaning of the two different theories and the underlying interpretation of antitrust policy goals. While the U.S. approach only considers harm to consumers, the European approach does take harm to competitors into consideration. These differences are shown in the context of two recent cases, namely the American Airlines case (The District court for the District of Kansas, No. 99-1180-JTM) and the General Electric – Honeywell Merger (Case COMP/M.2220).

4.1.1 The U.S. approach: Protecting customers in the American Airlines Case

In recent years the U.S. courts have largely agreed on the principle of protecting consumers not competition. An example of this is the ruling of the Judge J. Thomas Marten against the DOJ in the American Airlines case. American Airlines was accused of repeatedly trying to drive small, start-up airlines out of the Dallas airport by saturating their routes with additional flights and cutting fares. After the competitors withdrew or drastically reduced their service, American Airlines re-established high fares and reduced its service. Although the court acknowledged that some rivals failed after the airline lowered its fares, it concluded that this did not justify a liability suit against American Airlines. The judge acknowledged the harm imposed on the competitors but did not regard this as an infringement of the antitrust laws. Consumers were not directly harmed, because American Airlines just re-established the old market conditions and prices.

4.1.2 The European approach: Protecting Competition in the GE-Honeywell merger

The blocking of the General Electric (GE) Honeywell merger is a highly publicized example of the differentiation between the harm imposed on competitors and harm imposed on consumers. On both sides of the Atlantic it was clear, that the merger would result in short-run price reductions for the consumers and in the end the U.S. regulators approved the purchase with minor conditions. But the E.U. regulators had concerns that GE's huge market power in aerospace products and engines would prove anti-competitive, resulting in long-time price increases. While the U.S. authorities looked for the short-term effects, the E.U. agency tried to forecast long-term effects. The E.U. speculated that the long-term effect of the merger would result in a reduction in

competition because the competitors could not offer the bundle of services, that a combined GE-Honeywell would be able to offer³⁷. This means that competitors could be driven out of the market, yielding a higher market concentration in favor of GE. And following these speculations meant the prediction of higher prices in the future, which would harm consumers³⁸. Therefore, the E.U. commission blocked the merger. As Charles James, antitrust chief at the DOJ, said: “What led the United States to clear the transaction – the prospect that it would make the combined firm a more effective competitor - was the very reason the E.U. opposed it.” The U.S. authorities followed Bork’s interpretation of antitrust policy goals, while the European Union accepted Lande’s understanding.

This distinction applies directly to the differences in the antitrust suits against Microsoft. The DOJ had to prove that consumers had been harmed by the actions of Microsoft, which is a rather difficult task. On the other hand the Commission for Competition bases its suit on the harm to competitors, regarding this outcome as a probable source of harm to consumers in the long run. And proving harm to competitors is much easier than that of harm to consumers. The harm to consumers is addressed in the following section.

³⁷ The Commission had concerns, that GE’s aircraft-leasing business (GECAS) could offer contracts that would bundle financial services with particular aircrafts that use GE-Honeywell parts. A bundle that could not be offered by its competitors.

³⁸ The Commissioner Mario Monti said in a statement: “The merger between GE and Honeywell, as it was notified, would have severely reduced competition in the aerospace industry and resulted ultimately in higher prices for customers, particularly airlines.” The written Commission decision states in § 229: “Given the nature of the jet engines market, characterized by high barriers to entry and to expansion, GE’s incumbent position with many airlines, its incentive to use GE Capital’s financial power with customers, its ability to leverage its vertical integration through GECAS, the limited countervailing power of customers and the weakening or marginalisation of its direct competitors, GE appears to be in a position to behave independently of its competitors, customers and ultimately consumers and can thus be characterized as a dominant undertaking on the markets for large commercial jet aircraft engines and for large regional jet aircraft engines.” (European Commission 2001)

4.2 Harm to consumers

Exclusionary practices that raise rivals' costs normally lower economic welfare as it raises prices for consumers. The restriction of the market access for Netscape raised its costs for distributing the Navigator software package. But it can also be true, that these practices can actually increase welfare by promoting innovation through the establishment of a standard³⁹ or by driving inefficient competitors out of the market⁴⁰. As a result the net welfare effects can be either positive or negative⁴¹. The result is thus, unclear. The predatory behavior in this case is also not easily assessable in terms of the harm to consumers. I will highlight the effects of the most important anti competitive practices used by Microsoft.

4.2.1. Short-run effects of a modified Java

The short-run effect of a modified Java in terms of the benefit to consumers is difficult to measure. Users of the Windows platform had a short-run benefit, because the implementation of Microsoft Java had a clear advantage in terms of processing speed. On the other hand if consumers later want to choose a different operating system, they have the burden of higher switching-costs, as the application is no longer available or has to be acquired again.

³⁹Which is hard to see here, as the Netscape Navigator had a market share around 80 % in 1996 and thus established a standard for web content.

⁴⁰ This is especially true in markets with high sunk costs and low marginal costs. For example if three companies each sell 100.000 units of a certain good with these scale economy features, then they would have higher per-unit costs than a single firm that sells 300.000 copies.

⁴¹ The questions regarding consumer benefit are discussed further in other papers (for example Evans and Schmalensee (2000) or Fisher and Rubinfeld (2000)).

4.2.2 Short-run effects of a free browser

Getting a browser for free⁴² seems to be an obvious short-time benefit for consumer, but here the browser is not free, in the sense, that the user cannot use it without a Windows license. This gives Microsoft the possibility to internalize the benefits from a free browser through the price of a Windows license. Microsoft increased the actual price of Windows in recent years by changing the license agreements. This procedure results in a reduced value of a Windows license. Therefore, the benefit to consumers is limited. The restrictions on distribution channels for Netscape impose costs on consumers, at least if they preferred to use the Navigator browser.

4.2.3 Long-run effects: Innovation

The long-run effects have to be based on effects on competition. The predatory behavior of Microsoft (bundling the browser to the operating system with questionable reasons) clearly posed a negative effect on competition for browsers. The arising question now has to be whether innovation benefits from strong competition or if a single player in the market could be as innovative as well. Microsoft spends nearly 20% of its total revenue (\$ 5 billion according to its annual report for 2001) for R&D, which in itself should be a good indicator for the innovation strength of Microsoft⁴³. On the other hand, Microsoft is not known for its innovative software technology, which is partly based on

⁴² The Navigator browser in contrast was initially downloadable without charge on a 90-day trial basis, afterwards it was free for students and educational institutions, but everyone else had to pay \$39 (later raised to \$49). Netscape changed policy this after Microsoft's announcement to give its browser away for free, making it a free browser as well.

⁴³ There is an interesting discussion concerning Microsoft and innovation in (Iansiti (2002)), which tries to show that Microsoft is highly innovative in the software business. But comparing R&D expenditures of Microsoft and companies like eBay, or the correlation between patents and innovation (especially concerning Microsoft's policy of protecting their market position) lead to some suspicion of the outcome. Especially if one thinks about the diversification of the companies R&D expenditures, as Microsoft also produces a Game Console or input devices (e.g. Mouse or Joystick) for Personal Computers.

the backward-compatibility efforts⁴⁴ of the company and partly on their preference for buying technology from outside⁴⁵. Thus, as there seems to be a lot of logical evidence, that competition is good for innovation⁴⁶, there is no empirical evidence on a general causality of competition and innovation.

4.2.4 The effect of consumer welfare on the two Microsoft cases

The effect on consumer welfare is hard to measure in the U.S. case. Neither the DOJ nor Microsoft tried to offer any numerical evidence of those effects. Relating a decline in competition to the decrease consumer welfare is not viable in the present context of the U.S. court findings. Therefore, the DOJ was left with the short-run effects, which do not lead to a clear result and for that reason, the assumption of consumer harm cannot be clearly proven. It is impossible to calculate whether the negative effects on consumer welfare outweigh the positive effects. Even the economic witness of the DOJ Prof. Franklin M. Fisher of the MIT denied the existence of consumer harm, stating during cross-examination in court that “On balance, I would think the answer was no [to the question if consumers were harmed], up to this point” (Auletta 2001, p. 126).

To conclude that consumers have been harmed is easier for the European authorities. This is because the assumption that market structure has an effect on consumer welfare is often assumed to be valid by the authorities in Brussels. An example

⁴⁴ Microsoft always keeps an eye on backward-compatibility, which means that users of a new office suite always have access to documents of the old version. This results in a reduction of switching costs, while it also affects innovation in the product line (rather evolution than revolution).

⁴⁵ The beginning of Microsoft was its contract with IBM to supply an operation system for the first generation of personal computers. Microsoft bought QDOS (Quick and dirty operating system) from a company called Seattle Computer Products, relabeled it and MS-DOS was born.

⁴⁶ Websites like <http://www.vcnet.com/bms/departments/innovation.shtml> try to show, that Microsoft does not innovate at all. While this is a little bit exaggerated, it raises at least a question mark concerning the ability of the company to innovate.

of this logic is the blocked merger between AOL-Time Warner and EMI in 2000. The European competition authorities blocked the merger of two of the five largest music companies worldwide, because of the fear that this would weaken competition in the music market. EC competition officials were concerned that the tie-up between EMI and Time Warner's Warner Music subsidiary would have placed 80% of Europe's recorded music business in the hands of just four global giants. The merger was blocked, although the combined market share of both firms was less than 30% in the European market for recorded music. This logic can also be applied to the Microsoft case. The leveraging into the market for server software with the help of a dominant market position in the desktop operating system market would eventually lead to less competition. In the eyes of the European Commission, this alone is a reason for the implementation of antitrust policy. Furthermore, the integration of the Media Player software poses harm on competitors like RealNetworks, which in the end will alter the market structure in a negative way. The commissioner Mario Monti underlined this argumentation by saying that "These products will not only revolutionize the way people listen to music and watch videos but will also play an important role in making Internet content and electronic commerce more attractive. The Commission is determined to ensure that the Internet remains a competitive marketplace to the benefit of innovation and consumers alike".

4.3 Disadvantages of the two approaches

The differences in competition policy concerning the approach to consumer harm show some significant drawbacks in both cases. While the U.S. authorities only

emphasize in their analysis the short-term harm to consumers, the Europeans take into consideration as well the long-term consumer welfare.

The problem of determining long-term consumer welfare is the missing knowledge regarding future behavior of the markets. It requires information about the long-run market structure and its results for consumer well-being. Thus, the European competition policy authorities rely on the forecasting of market structures and the possibility of market entrance in the future. Those predictions are very difficult to make and the European authorities impose legal sanctions based on those forecasts. The E.U. has to be very cautious when it enforces legal actions based on predictions and should not impose any actions without a very thorough investigation. Furthermore, the E.U. does not take any increase in consumer welfare into account, being that it could be a result of an efficient supplier with a high market share. On the other hand, the European policy achieves other goals with its competition policy, namely the integration of the common market and the restriction of national governments' influence on the markets.

The U.S. approach of antitrust policy assumes the functioning of the markets. According to the Chicago School of Economic Literature, a monopoly affects the economy only in the short run, as new competitors will enter the market if the monopolist charges monopoly prices (Reeder, 1982), as monopoly prices are higher than competitive price and competitors can gain market shares by lower pricing. But the existence of strong network effects and barriers to entry has proved to prevent this entry in the case of Windows operating systems. The existence of short run consumer harm is difficult to assess in this particular case. The U.S. interpretation of antitrust goals regards possible long run harm of a monopoly insufficiently, making a case against Microsoft vulnerable.

4.4 The Leverage theory applied to the Microsoft case

The European case is based on the leveraging into one market with the help of a dominant market position in another. The competition authority alleged that Microsoft used its Windows desktop operating systems market share to build a dominant position in the market for server and media software.

The theory of leveraging is one of the major differences between the U.S. and the E.U. regarding the handling of antitrust. While the European Union accepts this theory and its meanings for antitrust policy, the theory of monopoly leveraging “has been largely if not entirely rejected by our [U.S.] courts” (Charles James, Head of the Antitrust division at the DOJ)⁴⁷.

The Chicago School, including papers by Posner (1976) and Bork (1978) state that monopolists can use their monopoly power only once, and thus tying is not possible (or the monopolist has no incentive to tie)⁴⁸. They used a simple model, which introduces two separate markets (A and B), with the prices P_A and P_B . A monopolist is controlling market for A and every purchaser of a good A requires exactly one unit of good B. Thus the monopolist offers a bundle M, which consists of the goods A and B. It has the price $P_A + P_B = P_M$. Now suppose furthermore, that the price of B, offered by the competitors is P_X . Then the monopolist can certainly set $P_A = P_M - P_X$ to collect the remainder of the monopoly price for the bundle after B is purchased.

⁴⁷ Although it seems that reject is not really the right term, as e.g. the court decision in *Berkey Photo, Inc. vs. Eastman Kodak Co.* (603 F.2d 263 (2d Cir 1979)) accepted the theory as good law. It is more that the current government rejects this theory.

⁴⁸ As Posner (1976), p. 173, notes, “a weakness of the leverage theory is its inability to explain why a firm with a monopoly of one product would want to monopolize complementary products as well... To illustrate [this], let a purchaser of data processing be willing to pay up to \$ 1 per unit of computation, requiring the use of one second of machine time and 10 punch cards. Each of which costs 1c to produce. The computer manufacturer can rent the computer for 90c a second and allow the user to buy cards on the open market for 1c, or, if tying is permitted, he can require the user to buy cards from him at 10c a card – but in that case he must reduce his machine rental charge to nothing, so what has he gained?”

Now, if X is less than the monopolists per unit cost of B , then the monopolist will prefer to give the production to the competitor, which is profit-maximizing behavior. If, on the other hand, P_X is greater than his own cost, then by setting P_B below P_X and using $P_A + P_B = P_M$, every consumer will buy his bundle. Either way, the monopolist is indifferent between in-house production and the production by a competitor.

This simply means that the monopolist can use its market power only once. Customers who are willing to pay M for the bundle will pay one dollar less for A for every dollar the price of B is raised. Thus only one monopolist's rent can be gained.

But by changing some of the previous assumptions, we can find some rationale why a monopolist might still leverage into another market. While Fisher (1999) offers many examples, where this theory actually could work (as well as where it does not), this paper deals only with one example that applies directly to the Microsoft case⁴⁹.

Suppose we have two separate products A and B (A could be operating systems and B are browsers or media software). Now, we suppose further, that A and B are complements, which means that they can only be used together in a fixed proportion. In our case, we can loosen this restriction. A can be used without B , but the sales of A will be higher, if the price of B is low. From the point of view of the monopolist (Microsoft), this scenario is equivalent to one in which the monopolist has to buy B to sell a package of A and B . Now, it is clearly in the interest of the monopoly holder, that the price of B should be as low as possible. In this case, the monopolist may try to produce B himself, to bring down the price for B . This is even more important, if B was produced by another monopolist (Netscape had more than 80% market share in 1996), because the monopolist

⁴⁹ Choi and Stefanides (2000) have an interesting model of tying and the dynamic leverage theory, which is applied to Microsoft as well. But the assumption of a monopoly initially in both markets does not exactly fit our needs here.

of B will earn monopoly rents, which is clearly opposite to the goals of the monopolist of A. If furthermore B has other uses than just being the complement of A (e. g. a browser for Windows and MacOS), then the A monopolist may be able to earn monopoly rents by producing B. And this may apply even if the market for B was competitive before, because the market power of A might create a monopoly for B as well.

Another important idea is the protection of the monopoly by producing B as well. By protecting the entry in the market for A, the monopolist can stabilize its monopoly, making it harder for competition to play a role. If we now suppose, that the production of B makes it easier for competitors to enter the market for A, then A has a clear interest in controlling the market for B himself that goes beyond its short-run profit maximizing calculation. This is exactly what the Microsoft case is about. The presence of Netscape Navigator and Sun's Java (B), meant an easier entrance into the market for operating systems (as shown in chapter 2). Thus by controlling this market, Microsoft has the chance to protect its monopoly position in operating systems (A).

This reasoning shows why it was interesting for Microsoft to leverage into the market of web-browsers. But it also applies to other markets, which are dealt with in the E.U. case. It is easy to see, that the market for media software is similar to some aspects of the browser market. The presence of a media player increases the worth of the operating system, because it expands the range of use. And this was the key of the first example given by Fisher (1999). The user is only eager to pay a certain price for watching videos on his computer. Thus the consumer is willing to pay only a certain price for the bundle of the operating system and the video software. Now, every dollar he has to spend for a video software, he will spend less on the operating system. Thus, by

producing its own video player, the monopolist is able to participate from the monopolists rent. Thus, even without any concern about business policy reasons to supply its own media software and without thinking about barriers to entry to the operating systems market, the leverage theory can still be applied to show the interest of Microsoft concerning browser and media player markets.

The differences in the belief concerning the validity of the leverage theory are visible in the terms of the accusations in the two cases. The case of the DOJ against Microsoft is about securing an existing market power with anti-competitive measures. It is not about trying to get a monopoly position in the market for Internet browsers. The browser is just a key element to keep a dominant market position for operating systems. The complaints of the European Union are about using the dominant market position in one market, to build up a strong market position in another.

4.5 Judiciary background of antitrust policy

Differences in the way antitrust cases are handled have influenced many antitrust cases and have resulted in an imbalance concerning the assertiveness of antitrust policy. The observance of free markets in the participating countries of the European Union is the duty of the competition authority, which depends on the European Commission. The European Commission decides every key competition decision collectively, which gives it the power to overrule the proposed actions of the competition commissioner. While the DOJ can act only as plaintiffs in the court, the E.U. competition authority acts as prosecutor and judge. It collects evidence, conducts hearings and proposes actions to the European Commission. The defendant can appeal the actions at the European court

systems only after the rulings, which is a time-consuming process and thus not very often undertaken. The example of the proposed GE-Honeywell merger is a good example of the outcome of this imbalance of power. After the E.U. Commission blocked the merger, GE thought about appealing at the court. But after considering the length of the trial, GE dropped the offer for Honeywell and decided to accept the ruling. The outlook on several years of uncertainty of the outcome, which means that the company could not coordinate its reaction on market challenges, is normally the end of any desire to merge. The procedure is similar to the process of antitrust actions that are initiated by the Federal Trade Commission and it gives those competition authorities a very strong position in all its antitrust cases, but this is surely not enjoyed by the DOJ.

CHAPTER 5

BRIGHT PERSPECTIVES?

5.1 The possible outcomes of the United States vs. Microsoft case

While the proceedings of the U. S. case are still being held, the remedies proposed by Judge Jackson⁵⁰ in 2000 will probably not become effective. Without speculating about the actual outcome of the case, a short discussion of those remedies can be used as a worst-case scenario for Microsoft and thus as a basis for further discussions concerning the differences to the E.U. case. Furthermore the settlement between Microsoft and the DOJ, which was not approved by 9 states, is outlined here as well.

5.1.1 The Ruling of Judge Jackson

The remedies proposed by the government and settled by the Judge require separating Microsoft into two entities. One part of the company would receive all the rights for the operating system, while the other one would receive the office application package and all other product lines. Splitting up the OS and the office development means splitting up the by far most important parts of Microsoft. According to recent studies of the Microsoft (Gartner, 2002), these two product lines generate more than 70 percent of the companies overall revenues. These rather drastic measures find their

⁵⁰ Judge Jackson was the presiding judge in the United States District Court for the District of Columbia.

reason in the experience with the earlier consent decree⁵¹. After the failure of the earlier decree, the need for further restrictions of the monopolist was given.

From the economic standpoint, the question is whether splitting Microsoft could help open the market again and if this would enhance consumer welfare. The government's idea was, that an independent applications company would port its applications to other operating systems. This would strengthen the position of other operating systems and thus lead to more competition in the market. Another effect would be better public knowledge about features of Microsoft's operating systems. After the 1994 consent decree, Microsoft agreed to reveal all APIs and features of Windows to application developers. Shortly after the release of Windows 95 and the Office 95 package, programmers found secret code that had not been revealed to the competition. The proposed remedies still rely on a functioning market. It would not pose any further restrictions on the two companies and thus would give them the opportunity to compete. If Microsoft had achieved its market shares through innovation (as it claims), then these steps should not affect its market share.

5.1.2 The U.S. settlement

The lenient settlement actually reached between Microsoft and the DOJ (and with it 9 out of 18 states, which were co-plaintiffs in the case) gave up most of the points that the Judge had made before. The change in the U.S. government to the more market-

⁵¹ After investigations by the FTC, the DOJ sued Microsoft for violation of the Sherman Act, Section 2. The case was settled, with a consent decree. The key elements were the restriction on license agreements, which favored OEMs, which also bought licenses for other products ("bundling"). Microsoft argued that the IE is a new function of Windows and not a new program in itself and thus they did not violate this decree. Using this hole in the settlement, the DOJ had not achieved, what it hoped for.

oriented Bush administration, the worsening economic climate⁵² and the strange after-trial comments of Judge Jackson⁵³ helped Microsoft by making the DOJ more eager to settle. The main points of the settlement are access removal functions⁵⁴ (revised proposed final judgment (settlement) III.H.1) for the Internet Explorer and other middleware bundled with Windows, license agreements with OEMs and ISVs which forbid retaliation if those used middleware not by Microsoft (settlement III.A.) and the prohibition of exclusive deals with those software companies to make them use Microsoft Java (settlement III.F.1).

This settlement was heavily criticized by observers of the case. The removal functions for the Internet Explorer are simply a removal of the access functions of the Microsoft browser. By removing the access, the code of the browser is still part of the system. On one hand has this no positive effect on the resources needed to run Windows (and thus no positive direct effect for the consumer). On the other hand the existence of the code tempts programmers to use it to write applications in a shorter demand of time. This takes away the middleware threat by a competing browser or other middleware platform and as such helps to protect the exclusive application structure of Windows (by making porting a more costly and time-consuming process).

Retaliation measures taken by Microsoft for OEMs who install middleware by other companies are not allowed under this settlement. The problem of this is the definition of middleware. This definition is based on existing applications: Internet

⁵²The computer industry hoped that the launch of the upcoming Windows XP would boost sales and thus be a cure for the ongoing recession. This belief in itself is a nice example for the market power that Windows operating systems are possessing.

⁵³He likened Bill Gates, chairman of Microsoft, to Napoleon. These comments brought some suspicions about the unprejudiced ness of his rulings.

⁵⁴ Functions, which take away the users possibility to access a program (e.g. by deleting the Shortcuts which would start an application).

Explorer, Java, Windows Media Player, Windows Messenger and the e-mail tool Outlook Express. A problem of this is that all future programs distributed by Microsoft do not fall under this settlement. And even existing services like Passport⁵⁵ do not fall under this settlement. But Passport has the ability to protect the market power of Windows furthermore. If a consumer uses this service on his Windows machine, switching costs to other operating systems increase, as this service is not available on other platforms. Thus, he might find himself shut out off his preferred services, as the Passport mechanism will not identify him anymore.

The availability of information about Windows interfaces, including the disclosure of new protocols implemented into servers, is another crucial point of the settlement (III.E). While this is a right step into taking away anti-competitive advantages of Microsoft, the problems are the remaining loopholes. All information concerning security is not covered by this disclosure. Also information that could help piracy is excluded. While this seems to be a reasonable exclusion, especially the security argument has its flaws. As shown by examples like PGP⁵⁶, public availability of procedures does not decrease security. It even helps to find flaws in the specification of those. But the point is, those loopholes make it easy for Microsoft to exclude competition. Especially concerning server systems, the security argument will always find a base.

More worries are caused by the defined circumstances under which Microsoft has to disclose any information to software companies (settlement III.J.2). The company that requests a license for those implementations has to show that it has a reasonable business

⁵⁵ Passport is an authentication service for the Internet by Microsoft. If users subscribe to this service, their personal data is saved and authentication measures, which are integrated in their client operating system, can identify the person. This makes shopping and access to restricted services easier.

⁵⁶ Abbreviation for "Pretty good Privacy", which is a software package for e-mail encryption. While the mechanisms used are publicly available, it still is one of the most secure software packages on the market.

need for the information. Furthermore he has to “meet reasonable, objective standards established by Microsoft for certifying the authenticity and viability of its business” (settlement III.J.2c) and he has to submit any computer program using such information to third party verification, which has to be approved by Microsoft. We consider the browser case again, where Netscape had a time advantage over Microsoft and was able to supply a very innovation product. Only this innovation made it possible for a small startup to compete with Microsoft. Now, if this company needs access to some APIs of the Microsoft system, then it has to demonstrate the business need and the viability of its business. By demonstrating its viability, the company has to reveal its business plan. And if this company now implements some of the Microsoft code, than it has to test its software by a third party verification process. At least now, Microsoft knows what the company is trying to achieve and has the possibility to react to the competition before it even reached the market. This process might make sense, because its goal could be to prevent piracy. But the availability of code does not necessarily mean, that the key generating process could be decoded by someone (PGP example). And it has the side effect of protecting the application barrier to entry, exactly the opposite of what was intended to do. And by the requirement to demonstrate the business need, Microsoft prevents anyone working under the GPL to access information on communication protocols. Thus the settlement excludes the sources of Linux innovation completely from accessing information and helps Microsoft to protects its dominant position against the only viable alternative to Windows products.

Another key point of the case was the mixing of code, by making the Internet Explorer a “crucial” part of the operating system. The settlement does not cover this mixing of code at all, thus giving up completely on this point.

These measures deal with the basic infringements of the Sherman Act. The problem is, that the damage is already done and there is hardly any competition, which does not depend on Microsoft. As the DOJ argued during the case, the applications barrier to entry ensures the non-existence of competition in the market for desktop operating systems. Thus only a technological shock, which is unforeseen by Microsoft, has the ability to change the market structure. This possibility was there through the “Internet tidal wave” (Gates, 1995), but Microsoft used those anti-competitive measures to smoothen its effect. The settlement does not reverse any of those infringements and the strong market position of Microsoft is kept in place. Furthermore, it also falls short of lowering the applications barrier to entry. This settlement fails to allow competitors to enter the market. Although the DOJ successfully proved to the district court and the appeals court, that Microsoft used its dominant market position illegally to prevent the distribution of competitive middleware, the proposed settlement does not try to reverse the damage by lowering the barrier to entry. Furthermore, the exceptions shown before make it very unlikely, that this settlement could be effective at all. Experiences with the prior consent decree show that the company tends to interpret the exceptions in a self-beneficial way. Back then Microsoft used an extreme interpretation of the decree, although it knew, that the public opinion would mark that as noncompliance to the order (see Bank 2001, see pp. 118-121). Levinson, Romaine and Salop (2001) underline this argument. They say: “Microsoft has proven adept at circumventing antitrust conduct

restrictions and could easily invent new ways to enhance and extend its monopoly power.”

Judge Colleen Kollar-Kotelly stressed the need to settle this case given the economic uncertainty of the time. The company has been declared a monopolist, making it vulnerable to further legal actions in the future. The remaining question now is, what changed in terms of the written law, that the case took such a dramatic turning and came to this settlement.

5.1.3 Vertical Divesture

Besides the settlement and the ruling of Judge Jackson various commentators and interest groups proposed legal remedies. Those groups assumed the outcome would be a sure victory for the DOJ and a defeat for Microsoft.

The Software and Information Industry Association, which has more than 1,400 technology industry firms as its members (including Microsoft), proposed the breakup of Microsoft into 3 firms (“Baby-Bills”). This proposal was a reference to the AT&T breakup, where the telecom monopolist was divided into one long-distance carrier and several smaller companies. The group’s reasoning was that breaking up Microsoft would eliminate the need for further monitoring by the DOJ. The proposed remedies would also “effectively cure-one and for all-the competitive crisis plaguing the software industry.” (SIIA 1999). While it is true, that this wished-for remedy would certainly restore competition (at least between the 3 “baby-bills”) the efficiency of a de facto standard operating system would be completely lost. The 3 smaller firms would all own the intellectual property of the current Microsoft Corporation. They would all develop the

current Windows in different directions, leading to a splintering of the standard and thus to a decline in consumer welfare.

5.2 Possible results of the European complaints

As the head of the Commission for Competition, Mario Monti⁵⁷, never gets tired of telling the press that this case is independent of the outcome of the U.S. case, Microsoft may have to await serious remedies. Publicly available statements of the commission are rarely available and the case is not discussed in an open court, resulting in difficulties to determine the outcome goals of the authority. The commission has the right to impose fines of up to 10% of a company's total revenue, where the fine depends on the gravity of an infringement⁵⁸. With accounted revenues for 2001 of \$ 25.296 billion (Microsoft 2001), the highest possible fine would be more than \$ 2.5 billion. Compared to the more than \$ 7.5 billion of net revenues in the same year, the fine would not hurt Microsoft very much. The effect on the competitiveness of Microsoft seems to be minor, leaving the company with a high market share and bright outlook on future revenues. Furthermore the monopolist might pass the burden on to the consumer, by increasing direct or indirect costs of their operating system. This would even decrease consumer welfare and is a contradiction to one goal of the E.U. antitrust policy.

Other remedies discussed in the press are publishing technical information of the Windows interfaces. Microsoft started to give further details of its network protocol extensions to competitors. The problem of this process is, that Microsoft decides what is

⁵⁷ The economist and former president of the Bocconi University, Mario Monti, has the position of the competition commissioner at the moment.

⁵⁸ A detailed description of how to set the gravity is given in guidelines on the method of setting fines (EU, 1998).

important and what is not. Moreover Microsoft uses the argument of company secrets to decline enquiries for technical details. A solution for this problem could be a technically experienced committee observing Microsoft's behavior concerning these questions. This solution would be similar to the settlement agreement reached by the DOJ. Another problem is the tying of technical details to discriminating license agreements⁵⁹.

A different approach to this problem could be to put pressure on Microsoft to implement open standards. As open standards for network communication exist (e.g. the SMB protocol) Microsoft could be forced to implement those, without changing them. The implementation of open standards would yield higher consumer welfare, making products interchangeable and open markets for competition.

As the case was extended to the bundling of media software, the E.U. will probably insist on the exclusion of these software components from the operating system. Microsoft starts to offer possibilities to remove open access to some middleware of its system⁶⁰. While this step is primarily to fulfill the settlement between Microsoft and the DOJ, it could be a sign of how the case with the European commission can be resolved.

This solution has some drawbacks, because as stated before, the hiding of access to middleware does not mean, that the code is not available in the system. The availability of the code and functions (here the coder/decoder⁶¹ services provided by Windows), leads a content provider to develop using these functions. Thus, the disadvantage resulting from the market share of Microsoft operating systems is still

⁵⁹ Information concerning technical details of network protocols is not freely available for developers obeying the GPL.

⁶⁰ An update of the Windows XP (so-called service pack) to be released in August 2002 will offer functions to hide access to Microsoft middleware. These functions will allow the user to reconfigure his desktop, taking away the icons of certain software application.

⁶¹ A codec is any technology for compressing and decompressing data, examples are AVI-codecs provided by Microsoft or Real Video codecs provided by RealNetworks.

present. A strict separation from the operating system would be a better alternative and the commission will probably favor this outcome. While Microsoft is insisting on its “crucialness” theory, the separation of a media codec is not a barrier too high to overcome⁶². Further Microsoft middleware could be downloadable from their Website and made easily installable, giving the company the same distribution channel as its competitors and free the market from the inequality faced by the competition.

A breakup of the company into an operating system and an application division (as proposed by the DOJ) is very unlikely. The Commission for Competition does not have the political power to carry this out and the public reaction to this step (especially in the U.S., where the company is based) would be negative.

The outcome of this case might not be as drastic as once anticipated concerning the U.S. case. But by putting some restrictions on the monopolist, it might still help to protect competition in the affected markets. This case is furthermore a test for European competition policy, as it deals with a strong foreign company, which affects the economic perspectives globally.

⁶² These codecs were not a part of older Windows versions. Microsoft bundled them later with the operating system.

CHAPTER 6

CONCLUSION

The Microsoft cases have shown significant differences in the goals and tools of the antitrust authorities across the Atlantic. The direct focus on consumer welfare is missing in the European Commission, as its purpose is to achieve other aims, such as the undistorted market, which stresses the importance of competition. And the protection of competition (at least if large market shares are already present) might also lead to consumer welfare. The structure of the E.U. competition law, which gives the defendant the right to appeal after the Commission has ruled, sets the policy of the authority in a bad light. This leads to bad comments in the press especially in the U.S. and raises concerns of nationalistic policy and protection from foreign competition. But the E.U. antitrust law has in fact restricted many European companies and collected fines where they seemed appropriate. They blocked deals even when they seem consumer friendly, following a consistent policy that does not differ by the origin of the company it investigates.

The Microsoft case in the United States has shown another very interesting effect, as the change in the administration changed the interpretation of competition policy in an extreme way. The leading question is now how the law could have changed given a different administration. If something violates competition rules in 2001, how could it be market conformed in 2002? Given the antitrust laws in the U.S., which allow private

antitrust lawsuits, companies like Be or Sun have already filed complaints and thus follow the antitrust ideas of the Clinton-era. It seems that the differences in interpretation of the antitrust policy are at least to some extent due to differences in the approach to antitrust policy of the different administrations in the United States.

The question if those cases changed anything concerning the market structure where Microsoft has dominant market positions is a different one. The U.S. settlement is not going very far in its restrictions, although some first steps into the right direction are evident. The proposed break-up of Microsoft might have been a good way to establish competition in the market for desktop operating systems, leading to innovation, while standards would still be present. These standards (as the Windows platform) surely result in efficiency, while innovation that could break the monopoly would not be restricted anymore. On the other hand, Microsoft could also benefit from this outcome, as the two companies could act free from current company policies, giving the application company the possibility to port its software to other operating systems or the operating system part could make features available before the application software development kept up with those changes. The U.S. case brought at least some suspicion concerning Microsoft's competing behavior and provokes antitrust actions in the future. Furthermore, Microsoft had to install a very strong legal department, which will probably hinder innovation further, as the legal counsels are concerned about infringements of the competition law and block the adoption of new techniques in a very strict way. And they have lost some of their lead designers in the presence of the cases, as the "fun" of being at Microsoft was taken away, by controlling the employee's e-mails and by double-checking every new idea that might interfere with antitrust law or that might simply give the plaintiffs new

arguments in their cases. This might hurt Microsoft in the long run even more, restricting its abilities to innovate and slowing down the progress of the Windows platform. Thus, the rulings of Judge Jackson might have been in the interest of everybody, while the settlement might hurt the process of innovation. And this would mean, that the antitrust cases actually have decreased consumer welfare. Thus new harm to consumer came just from prosecuting this case, if the outcome is the proposed settlement.

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