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ANTITRUST STORIES

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U.S. v. Microsoft: Lessons Learned and Issues Raised

I. INTRODUCTION

Overview of the Case

On May 18, 1998, the U.S. Department of Justice, 20 individual states, and the District of Columbia filed suit against the Microsoft Corporation claiming that Microsoft had monopolized the market for personal computer ("PC") operating systems ("OS"s) and had used its monopoly to engage in a wide range of antitrust violations.[1] The case was tried in Federal District Court from October 19, 1998, through June 24, 1999. The court reached its findings regarding the facts of the case on November 5, 1999, and its legal conclusions on April 3, 2000. Microsoft's appeal to the Circuit Court of Appeals for the District of Columbia was decided on June 28, 2001. The appellate court affirmed the monopolization claim, reversed other conclusions by the District Court, and remanded the case to the District Court to find an appropriate remedy. Following extensive settlement discussions among the various parties, the Department of Justice (DOJ) and Microsoft reached a settlement agreement. Nine states opted not to join the settlement and proposed a different remedy. A 32–day remedy trial was held, and on November 1,

* Rubinfeld served initially as Deputy Assistant Attorney General for Economics, and later as a consultant during the course of the investigation and trial. Melamed served initially as Principal Deputy Assistant Attorney General and later as Acting Assistant Attorney General until shortly after the government filed its brief in the Court of Appeals in January 2001.

[1] *United States v. Microsoft*, Civil Action No. 98–1232. One state settled with Microsoft before the case went to trial.

2002, the District Court issued a remedy ruling, which was ultimately upheld by the Court of Appeals.

Microsoft's antitrust problems did not end with the Government's case. Microsoft was sued privately by multiple parties and in most cases settled for substantial sums. After its own investigation, the European Commission (EC) concluded that Microsoft's bundling of its operating system with its "player" (which allows a user to stream audio or video content from the web) violated Article 82 of the European Commission Treaty. The EC ordered Microsoft to pay a substantial fine and to put onto the market a second version of its current operating system, Windows XP, without a player. Microsoft has appealed the EC's ruling to the Court of First Instance, and (absent a settlement) could take that appeal further to the European Court of Justice.

There is no doubt that, from the public's perspective, *U.S. v. Microsoft* was the antitrust case of the 1990s and perhaps for decades before that. The investigation, the trial, and its aftermath received wide press coverage throughout. A number of the major actors in the drama became household names, as much a result of the public relations battle among the parties as of the litigation itself. There remains however, substantial debate as to the ultimate legal import of the case. In this essay, we will explain why we believe the case was indeed a significant antitrust case that has important implications for antitrust enforcement in the 21st Century. *U.S. v. Microsoft* not only proved that the Government could litigate a complex case in a dynamic, high technology industry in a timely fashion, but also reinvigorated Section 2 of the Sherman Act. The case provided a foundation for antitrust enforcement in the "new economy."

Industry Background

The Microsoft Corporation is a relatively young corporation. It was founded in 1975 as a software programming company by Bill Gates and Paul Allen in the Gates' family garage. IBM, the leader at the time in mainframe computing, had decided to enter and to develop the personal computer business. IBM had the necessary hardware technology but needed a software operating system. After IBM approached Microsoft, which did not have its own operating system at the time, Microsoft bought an OS, which it then licensed to IBM. Bill Gates and his colleague Steve Ballmer had the foresight to realize that PCs themselves would be cloned and therefore have limited value, but that the OS owned by Microsoft would provide a unique, highly valuable asset.

From its inception, Microsoft enjoyed exceptional success that paralleled the incredible growth of the PC desktop business. In the process, thousands of Microsoft employees have become millionaires. Many attribute this success to Microsoft's skill and foresight in realizing the value associated with control over a key PC asset, while others add the element of luck; all would agree, however, that Microsoft has shown an uncanny ability to adapt its business plans and to market innovative technology successfully.

Microsoft had initially faced stiff competition from competing operating systems, including in particular the operating system of the Apple McIntosh and IBM's OS/2 system. Apple was a significant threat because it was the first to popularize a color graphical user interface ("GUI"). It is now believed by many that Apple made strategic business errors in opting not to license its operating system or its key components to others in the 1980s and in charging a relatively high price for its computers. As will be seen, however, Apple's "closed architecture" strategy, which was strongly opposed by Microsoft at the time, became the heart of Microsoft's strategy a decade later. What is not widely understood is that Apple made (with hindsight) a second strategic error: It provided a royalty-free license of its GUI to Microsoft for use in Windows 1.0, which was Microsoft's first GUI-based operating system. In return, Microsoft produced a version of Microsoft Excel for the MacIntosh and agreed not to sell a version of Excel for other operating systems for one year. This license was an important element in Microsoft's successful defense of Apple's subsequent claim that the Windows' GUI violated Apple's claimed copyright of the "look and feel" of the Apple GUI.

Although Windows 1.0 and 2.0 were not commercial hits, Windows 3.1 and its desktop successors (Windows 2000 and Windows XP) were enormous successes. Not surprisingly, with its rapid growth in an increasingly important industry, its economic achievements, and its aggressive competitive style, Microsoft came under antitrust scrutiny. Various government agencies and private plaintiffs questioned whether Microsoft had used a range of anticompetitive practices to restrain competition, to exclude competitors, and to expand its market power beyond the operating system market. With hindsight, it appears that the very practices that raised antitrust issues in the late 1990s may have originated in the Gates' family garage.

II. LEGAL CLAIMS AND CHALLENGES

The Microsoft Investigations[2]

The Federal Trade Commission (FTC) undertook the first government investigation of Microsoft. The FTC examined Microsoft's software

[2] For a more complete overview of the issues raised in the case, see Daniel Rubinfeld, "Maintenance of Monopoly: *U.S. v. Microsoft, The Antitrust Revolution,*" 4th Edition, (John E. Kwoka, Jr. and Lawrence J. White, eds., New York: Oxford University Press) 476 (2004).

licensing practices with PC original equipment manufacturers (OEMs). Although two Commissioners wanted to bring an antitrust case against Microsoft at the end of the three-year investigation, they did not constitute the majority needed for an FTC complaint.[3]

This victory for Microsoft was short-lived because DOJ undertook its own investigation almost immediately thereafter. A year later, on July 15, 1994, DOJ filed a complaint claiming that Microsoft's contracts with OEMs were exclusionary and anticompetitive and that their purpose was to allow Microsoft to maintain its monopoly in the market for PC operating systems. Microsoft and DOJ immediately settled, with Microsoft signing a consent decree pursuant to which it agreed to restrict its licensing activities in a number of ways.[4] An important aspect of the consent decree was the agreement that Microsoft would not tie software products together by conditioning its operating system license on the license of other software products. But the agreement explicitly permitted Microsoft to continue to develop "integrated" products. The distinction between an anticompetitive tie and pro-competitive product integration became a central issue in the litigation that followed.

At about this time, the PC business itself was approaching what Microsoft CEO Bill Gates later called an "inflection point." The rapid development of the Internet created a need for software that would allow PC users to move beyond the desktop and to be able easily and efficiently to access the Internet. The first highly successful version of such software—which came to be known as a web browser—came from Netscape. In a very short period, Netscape's "Navigator" browser became the market leader; it accounted for approximately 70% of browser usage in 1996.

Microsoft was initially slow to realize the potential significance of the Internet, but it redirected its efforts aggressively towards Internet browser software beginning in 1996. It developed its browser—known as Internet Explorer or IE—and, in order to promote its acceptance in the marketplace, required OEMs to license and install Internet Explorer on all new PCs offered with the Windows 95 operating system.

In what one might view as the precursor to the Section 2 case that would follow, DOJ returned to court in late 1997, this time alleging that Microsoft had tied IE and the OS in violation of the 1995 consent decree. Microsoft argued that IE and the OS together constituted the kind of integrated product that was expressly permitted by the decree. DOJ was initially successful: On December 11, 1997, Judge Thomas Penfield Jackson issued a preliminary injunction ordering Microsoft to separate

[3] The Commission vote was 2–2. One Commissioner did not participate.

[4] *United States v. Microsoft Corporation*, 1995–2 Trade Cas. ¶ 71,096 (D.D.C. 1995).

its Windows 95 OS and IE. But, on appeal the U.S. Court of Appeals for the District of Columbia sided with Microsoft, ruling that Microsoft had offered evidence that the combination of IE and the OS provided functionality that was not available without product "integration."[5] The appellate court made clear, however, that its decision was based on its reading of the consent decree and not on broader antitrust principles.

The "Microsoft Case"

What became known as the "Microsoft case" began on May 18, 1998, when the DOJ, led by Assistant Attorney General Joel Klein, 20 states, and the District of Columbia brought suit against Microsoft, led by its general counsel William Neukom and, of course, Bill Gates. In its complaint, DOJ alleged that Microsoft had engaged in a range of practices involving agreements with OEMs, Internet service providers ("ISPs"), and others that had the purpose and effect, not of enhancing efficiency or benefiting consumers, but rather of protecting Microsoft's OS monopoly and excluding Netscape and other rivals. The heart of DOJ's case was the claim that Microsoft's conduct constituted unlawful maintenance of Microsoft's OS monopoly in violation of Section 2 of the Sherman Act.[6] DOJ also alleged that Microsoft had attempted to monopolize the market for Internet browsers in violation of Section 2 of the Sherman Act and that tying its IE browser to the Windows operating system violated Section 1 of the Sherman Act.[7] The Section 2 monopolization claim was a rare historical event; DOJ's last major Section 2 case, against AT&T, had been filed more than 20 years earlier and led to the breakup of AT&T into a long-distance company and a number of regional Bell Operating Companies.

The Theory of the Case

In the years prior to the filing of the Government's case, it became apparent to Microsoft that the Netscape Navigator browser could serve as the foundation for a software "platform" that had the potential to compete with Microsoft's Windows 95 (and later Windows 98) operating system. Operating systems provide application programming interfaces ("APIs") through which applications interact with the operating system and, thus, with the computer hardware. Applications developers must write their programs to interact with a particular operating system's APIs. The time and expense of then "porting" the application to a different operating system can be substantial.

[5] *United States v. Microsoft Corp.*, 147 F. 3d 935 (D.C. Cir. 1998).

[6] 15 U.S.C. § 2.

[7] 15 U.S.C. § 1.

The Windows OS accounted for the vast majority of PC operating system sales and the vast majority of the installed base of PC users. In large part because of the large number of Windows OS users, a huge number of applications, including the highly successful Office suite, had been written for Windows. The array of applications available for the Windows OS enhanced the value of that OS, both because it enabled the operating system to be useful to users with a wider range of application needs and because, when selecting an OS, users value confidence that they will be able to use other, unanticipated applications if their application needs change. It would be very difficult for a firm successfully to offer a competing operating system unless users of that OS would be able also to use a very substantial number of applications. Because much of the costs of developing and marketing applications are sunk (i.e., cannot easily be of value elsewhere) and costs of revising applications so that they can run on different operating systems are substantial, an application initially written for the Windows OS cannot easily be ported to another operating system. Applications developers are, moreover, less likely to write applications for other OSs that have far fewer users. There is, in other words, a "chicken-and-egg" problem, in which one cannot sell a new OS without an abundance of applications, and applications will not be written for a new OS until it has lots of users.

In antitrust parlance, this chicken-and-egg problem meant that Microsoft's OS monopoly was protected by a formidable entry barrier: the need for a huge body of applications available to users of competing OSs. This entry barrier, which came to be known as the "applications barrier to entry" (ABE), was central to the Microsoft case.

Netscape Navigator threatened to reduce that entry barrier. Navigator (and other browsers) relied on Java, a "cross-platform" programming language that was developed and marketed by Sun Microsystems. Java and Navigator, which could themselves run on both the Windows OS and other operating systems, gave applications programmers the ability to write programs that, without additional porting expense, would run on all operating systems. Java and Navigator functioned in effect as a form of "middleware," software that sits on top of an operating system and serves as the foundation for other applications. According to the DOJ, Netscape threatened Microsoft because its browser had the potential to distribute cross-platform Java to independent software developers. If those developers chose to write applications for other operating systems (such as IBM's OS/2 or Linux) or if they wrote directly to Navigator APIs (in which case the applications could be accessed by any operating system capable of using Navigator), the ABE would be reduced, and the Windows monopoly would be at risk.

Brief Overview of the Antitrust Issues

At the heart of the *Microsoft* case was DOJ's claim that Microsoft had engaged in a range of anticompetitive acts whose purpose and effect were to severely limit the commercial viability of the Netscape browser and thus to deflect the threat that the Netscape and Java middleware posed for Microsoft's OS monopoly. DOJ did not question the lawfulness of Microsoft's historical success that had led to its OS monopoly, but rather alleged that Microsoft was using its monopoly to thwart new competition and thereby threatened consumers with higher prices and diminished innovation in the future.

In response, Microsoft argued that it was not a monopoly, because it faced significant competitive threats in a highly dynamic industry, and that its conduct was pro-competitive because it brought innovations (such as the integration of IE with the Windows OS) to consumers and aided the distribution of those innovations. Microsoft argued that imposition of antitrust penalties for its conduct would diminish incentives for aggressive competition and would lead to less, rather than more, innovation.

The Outcome

In its April 3, 2000, opinion, the district court found in favor of DOJ on almost all of its claims. The Court ruled for the Government with respect to its Section 2 claims, including both its core maintenance-of-monopoly claim regarding the PC OS market and the separate attempted monopolization claim regarding the browser market, and on the claim that Microsoft had tied the IE browser to the OS in violation of Section 1. Although the Court rejected DOJ's claim that certain of Microsoft's agreements with third parties constituted exclusive dealing in violation of Section 1, it effectively prohibited those agreements because they were a part of the Section 2 violations.

Judge Jackson then accepted the Government's proposed remedies, which included conduct remedies that would limit Microsoft's use of exclusive contracts and its control over the PC "desktop." He also supported the Government's proposal that Microsoft be divided into two smaller companies—an operating system company and an applications company. The latter would maintain control over the browser business, although the OS company would retain property rights with respect to the current version of the browser. Judge Jackson agreed to stay his remedies until after the appeals court heard the case.

In an *en banc* hearing, the entire Court of Appeals for the District of Columbia Circuit heard Microsoft's appeal of the case. The unanimous appellate decision contained positive elements for both sides. From Microsoft's perspective, the appeal was partially successful because the appeals court (i) reversed Judge Jackson's decision that Microsoft had attempted to monopolize the browser market and (ii) remanded (sent back) the case to the lower court for a rehearing on the remedy issue and on DOJ's tying claim. But the decision was generally regarded as a victory for the Government because the court (i) upheld the maintenance of monopoly claim; (ii) in so doing, found almost every aspect of the conduct challenged by DOJ to be illegal; and (iii) generally accepted DOJ's economic theories, factual allegations, and legal framework. The Court of Appeals' rejection of DOJ's attempt-to-monopolize claim and remand of the tying claim had little practical consequence because the conduct on which those claims were based was found to be unlawful as part of the maintenance of monopoly claim.

In the initial remedy proceedings before Judge Jackson, DOJ (under Assistant Attorney General Joel Klein) recommended a structural remedy—a breakup of Microsoft into an operating system company and an applications company. DOJ believed that behavioral remedies were likely to be either ineffective or so intrusive and cumbersome as to be inefficient. DOJ argued that a breakup of Microsoft would likely encourage competition and lead to greater innovation. Despite DOJ's arguments, the Court of Appeals expressed skepticism about a structural remedy when it remanded the case to the District Court.

A different District Court judge, Judge Colleen Kollar-Kotelly, presided over the case on remand. DOJ (now in a new Administration, and led by Assistant Attorney General Charles James) chose not to pursue either the Section 1 tying claims or a structural remedy. Instead, after extensive negotiations, DOJ (and nine of the plaintiff states) agreed with Microsoft on the terms of a conduct remedy that included three basic components. First, the remedy sought to prevent Microsoft from excluding rivals from the OEM channel of distribution by prohibiting restrictive licensing agreements and outlawing retaliatory measures against OEMs by Microsoft. Second, it attempted to keep open the ISP distribution channel by placing limits on Microsoft's ability to discourage others from developing, promoting, or distributing non-Microsoft middleware products. Third, the settlement included a series of compliance measures whose goal is to facilitate enforcement of the other terms of the settlement agreement.

A number of states opposed the proposed settlement and argued that it would be ineffective. Their primary concern was that the proposed settlement did not prohibit Microsoft from bundling Microsoft non-browser middleware into the Windows operating system. Absent such prohibition, they argued, Microsoft would be free to tie other kinds of middleware software to the OS in order to exclude similar software offered by others that threatened the Windows monopoly. The opposing states also argued that the proposed consent decree would not effectively prohibit retaliatory conduct and restrictive licensing practices, would not effectively open the ISP channel of distribution, and would allow Microsoft to withhold needed technical information from developers of rival middleware. Finally, they argued that the proposed enforcement mechanism would be ineffective.

Judge Kollar–Kotelly's ruling was generally supportive of the settlement agreement reached between DOJ (and the settling states) and Microsoft. While the court rejected most of the more aggressive remedies proposed by the nine litigating states, the Court did order more stringent compliance procedures that were sympathetic to issues raised by the litigating states. The Court of Appeals affirmed Judge Kollar–Kotelly's order.

III. THE TRIAL

The Players

In a somewhat unusual move, DOJ hired New York attorney David Boies as Special Trial Counsel to lead its trial team. Boies joined the team near the end of DOJ's multi-year investigation and shortly before the complaint was filed. He was supported at the trial by the talented group of government staff attorneys and economists that had handled the investigation.[8]

Microsoft's trial team was lead by John Warden of Sullivan & Cromwell in New York. He was aided by a first-rate group of attorneys from his and other firms and from Microsoft itself. William Neukom, Microsoft's General Counsel, appeared throughout the trial.

While antitrust had seemed like a dry subject to the public and the press, let alone to a generation of law students, this trial marked a sea change. The courtroom was packed every day of the trial, with the press claiming a substantial share of the seating capacity. It is often thought that there are few surprises at trial, because both sides are well informed by the discovery process; but there were surprises at this trial. One of the first resulted from Microsoft's decision not to call CEO Bill Gates as a witness to tell Microsoft's story. That decision was not surprising. Gates had been subjected to three days of videotaped deposition by the Government. His answers to numerous questions appeared nonresponsive and evasive, and he failed to recall a number of significant e-mails concerning browser competition. But, in a surprising turnaround, the Government chose to introduce Gates' testimony, in the form of excerpts from his videotaped deposition, as part of *its* case.

[8] The states were represented most actively by Steven Houck of the New York State Antitrust Bureau.

Another peculiarity of this high-tech trial was that none of the three principal players in the trial—David Boies, John Warden, and Judge Jackson—was known to be an extensive PC user. David Boies, for one, while knowledgeable about the computer industry, relied heavily on the use of yellow legal pads.

Because the legal issues in the case involved substantial, complex issues of economics, each of the parties put forward its own economic expect. Franklin Fisher of MIT was the U.S. Government's economic expert, and his former Ph.D. student Richard Schmalensee, also of MIT, was Microsoft's expert. Rick Warren–Boulton was the States' economic expert.

The Parties' Strategies

There was a sharp divergence between the litigation strategies of the two parties. DOJ's strategy was to build up the elements of each of the legal claims in a detailed, traditional manner, first developing its view of market definition (an Intel-based PC OS market), then explaining why Microsoft had monopoly power in that market, and finally moving on to develop a foundation for each of the alleged anticompetitive practices. As part of its evidence, DOJ introduced email and other documentary materials that supported its view that Microsoft had intended the conduct complained of to harm Netscape and Java, rather than to benefit consumers.

By contrast, Microsoft not only attacked the evidentiary basis of DOJ's case, but also tried to win a broad, perhaps ideological victory by attacking the economic and legal premises of the Government's case. Thus, Microsoft countered DOJ's case by arguing that as a competitor in a dynamic, high technology market it should be protected from the application of classic, static competition principles, which it said could undermine its ability to innovate and to compete for the next generation of PC customers. While the Government focused on the specific details of Microsoft's conduct—for example, that Microsoft had excluded IE from the Add/Remove utility in Windows 98—Microsoft addressed the facts at a higher level of generality—for example, that bundling IE and Windows offered benefits to consumers. Along the way, Microsoft argued that there is no valid PC OS market, that there were no significant barriers to entry, that Microsoft did not have monopoly power, and that none of Microsoft's practices injured competition.

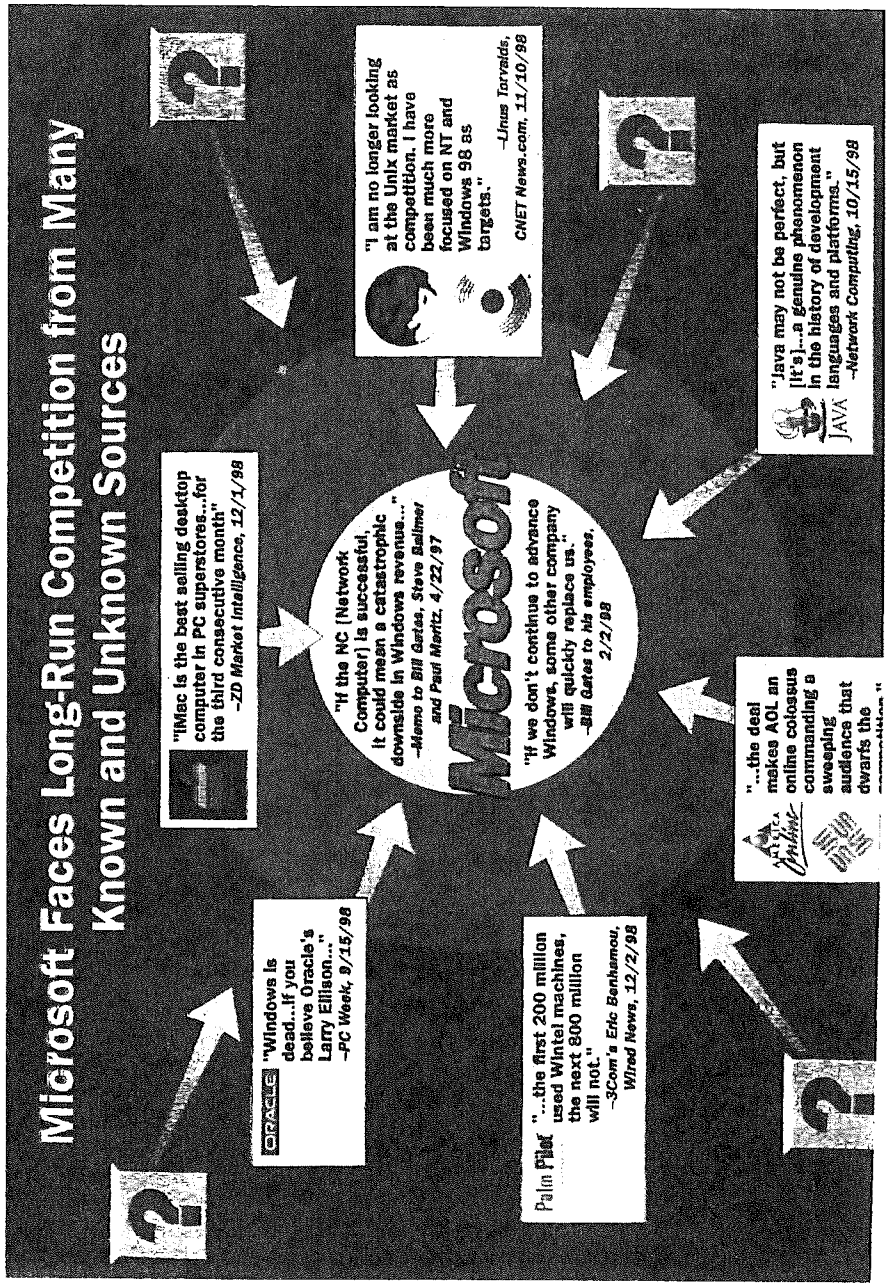
As noted, DOJ began its case by attempting to prove the existence of a PC OS market in which Microsoft had monopoly power. As to market definition, DOJ introduced evidence that the functionality and uses of products with Intel-based operating systems were substantially different from the functionality and uses of mobile, hand-held computers, workstations, mainframe computers, and other alternatives that Microsoft argued should be included in the market. DOJ then undertook to prove monopoly power through evidence of Microsoft's stable, high market shares and the presence of high barriers to entry (the applications barrier to entry). The Government's first exhibit was a simple, yet effective black and white table, listing the market shares of each of the PC OS competitors over a period of years.

By conventional antitrust standards, DOJ's evidence on market definition and market power was compelling. Microsoft faced a strategic decision. Should it take on a difficult fight about market definition and monopoly power, or should it admit to having a lawful monopoly gained through its "skill, foresight, and industry." The former would give Microsoft multiple ways to win the case and offered the possibility of a victory that, because it concerned market structure, would be valuable in future cases; but it risked squandering Microsoft's credibility by making arguments that were very unlikely to succeed and that seemed on their face to be almost untenable. The latter alternative would enable Microsoft to focus on issues about its conduct on which it was more likely to prevail.

Microsoft chose the former strategy. Its decision to concede nothing had a major impact on the trial. The Government's aggressive case on market definition and market power undermined Microsoft's credibility and made some of the Microsoft's witnesses appear unreliable. Ultimately, DOJ was successful not only on the ultimate market definition and market power issues, but also in persuading Judge Jackson about the applications barrier to entry (a term coined during the case itself), which was critical to DOJ's allegations about Microsoft's conduct.

The difficulties Microsoft faced on the market definition and monopoly power issues were exemplified by one of Microsoft's early trial exhibits, an elaborate, colorful exhibit (Figure 1) entitled, "Microsoft Faces Long-Run Competition from Many Known and Unknown Sources." The exhibit and associated testimony left the impression that, while current competitors (OS/2, Linux, the BE operating system) may not provide much competitive restraint, the prospect of future competition was sufficient to limit Windows' ability to raise price or restrict output. Ultimately, the exhibit (and associated testimony) did not succeed; having to depend on "unknown" competition to argue against monopoly power was asking for too much, at least absent proof that there were no entry barriers.

With respect to Microsoft's exclusionary conduct, a central issue in both the Section 1 and Section 2 claims was whether Microsoft had effectively foreclosed important channels of distribution from Netscape's browser (Navigator). Microsoft's first exhibit on the issue, entitled "There are Many Channels Used to Distribute Software," was simple,


Microsoft Faces Long-Run Competition from Many Known and Unknown Sources
"iMac is the best selling desktop computer in PC superstores...for the third consecutive month"
–ZD Market Intelligence, 12/1/98
ORACLE
"Windows is dead...If you believe Oracle's Larry Ellison..."
–PC Week, 9/15/98
"If the NC [Network Computer] is successful, it could mean a catastrophic downside in Windows revenue..."
–Memo to Bill Gates, Steve Ballmer and Paul Maritz, 4/22/97
Microsoft
"If we don't continue to advance Windows, some other company will quickly replace us."
–Bill Gates to his employees, 2/2/98
"I am no longer looking at the Unix market as competition. I have been much more focused on NT and Windows 98 as targets."
–Linus Torvalds, CNET News.com, 11/10/98
Palm Pilot
"...the first 200 million used Wintel machines, the next 800 million will not."
–3Com's Eric Benhamou, Wired News, 12/2/98
America Online
"...the deal makes AOL an online colossus commanding a sweeping audience that dwarfs the
JAVA
"Java may not be perfect, but [it's]...a genuine phenomenon in the history of development languages and platforms."
–Network Computing, 10/15/98

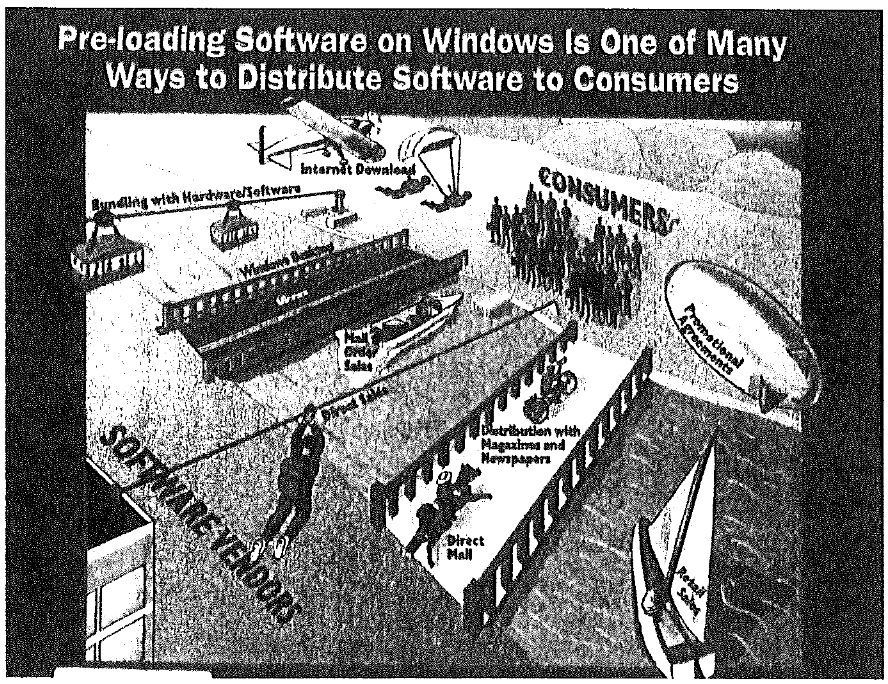
There Are Many Channels Used to Distribute Software

	Netscape	Microsoft
1 Retail sales through computer "superstores", electronics stores, department stores, and small, specialized retailers	✓	✓
2 Mail order sales	✓	✓
3 Bundling with other software	✓	✓
4 Bundling with hardware other than computer systems	✓	✓
5 Pre-loading via Windows desktop	✓	✓
6 Packaging of disks or a CD with new computer systems	✓	✓
7 Direct sales through telemarketing	✓	✓
8 Direct sales to corporate accounts	✓	✓
9 Direct mail	✓	✓
10 Distribution with magazines and newspapers	✓	✓
11 Internet sign-up with downloading or mailing of software	✓	✓
12 Free Internet downloads	✓	✓
13 Promotional agreements with other Web-sites	✓	✓
14 Use of copies of free software from friends or work	✓	✓

yet effective (see Figure 2). Its listing of fourteen channels of distribution, with check marks for Netscape and Microsoft in each channel, delivered the clear message that Netscape's access to customers was not restricted. It was left to DOJ in rebuttal to point out that, while Netscape had access to all those channels, its access to most of them, including the most important channels, was significantly restricted.

A second, elaborate graphical illustration of the same point was likely less effective, at least with respect to Judge Jackson (although it did entertain the reporters sitting in the courtroom). The colorful, artistic exhibit (see Figure 3) was entitled "Pre-loading Software on Windows is One of Many Ways to Distribute Software to Consumers." In the exhibit, a group of consumers is situated on an island. Software is distributed to those consumers through parachuting individuals (Internet download), a blimp (promotional agreements), a sailboat (retail sales), a man on a high wire (direct sales), a gondola (bundling with hardware/software), a man on a motorcycle crossing a bridge (distribution through magazines and newspapers), a man on a horse (direct mail), a motor boat (mail order sales), and a rail line (Windows desktop).

Figure 3



Ultimately, Microsoft was able to convince Judge Jackson that there was not sufficient evidence of foreclosure (i.e., evidence that 40 percent of the distribution channels were foreclosed) for a finding of exclusive dealing in violation of Section 1. But both Judge Jackson and the unanimous Court of Appeals found the evidence of foreclosure sufficient for DOJ's maintenance of monopoly claim under Section 2.

One can imagine an even more colorful graphical rebuttal exhibit illustrating DOJ's allegations about Microsoft's aggressive conduct. But DOJ in fact used few demonstrative exhibits and focused instead on Microsoft's emails, documents, and deposition testimony. The contrast in approach may have had the effect of making DOJ's case appear grounded in the evidence, and Microsoft's based on metaphor.

IV. WHAT THE CASE DECIDED

On one level, the legacy of the case is straightforward. The government prevailed on its maintenance of monopoly claim but not on its other claims. Both Judge Jackson and the Court of Appeals found almost every aspect of Microsoft's conduct challenged by DOJ to be illegal because of its effect on the OS market. The unlawful conduct included restrictive terms in Microsoft's license agreements with OEMs; commingling of browser and non-browser files in Windows; removing IE from the Add/Remove utility; restrictive agreements with Internet Access Providers, Internet Content Providers, and independent software vendors; dealings with Apple Computer and Intel; and various agreements and deception regarding Java. The Court of Appeals rejected DOJ's attempted monopolization and tying claims for legal reasons having to do with DOJ's failure to prove the requisite effects of the same conduct in the separate browser market.

The conduct remedy ordered after the remand from the Court of Appeals no doubt constrained Microsoft's behavior in some ways, but Microsoft's monopoly of the PC OS market appears unabated. The potential threats to Microsoft's market power that are discussed today—from companies like Google—were not anticipated when the case was brought. Some believe that the remedy actually did lower entry barriers to the market and promoted competition from rival suppliers of middleware, but whether they are correct is a difficult question whose answer will become clear only over time.

Although the impact of the case on Microsoft's PC OS monopoly is uncertain, the case appears to have had a larger impact on Microsoft overall. The government case spurred numerous private lawsuits that Microsoft settled at substantial cost, and the case likely encouraged government actions in the EU, Korea and elsewhere that have been, at the very least, burdensome and costly for Microsoft. The clear message would seem to be that being found to have violated the antitrust laws in a government enforcement action can be very costly—and is therefore something to be avoided—quite apart from any injunctive remedy obtained by the government.

The most important legacy of the case is thus likely to be, not its impact on Microsoft's OS monopoly, but rather its impact on antitrust enforcement. The Government had brought a Section 2 case against IBM in the late 1960s; the case lasted for over a decade before it was finally dropped. The IBM case is now widely viewed as a failure of Government enforcement; while the Government's allegations may have had force when the investigation of IBM first began, those allegations were no longer valid by the time the case was ready for trial. *U.S. v. Microsoft* is easily contrasted. The time period between the investigation and the trial on the merits was about three years, and the issues at trial were clearly salient at that time.

The issue of timing was crucial because the computer industry was and is highly dynamic and technology intensive. The computer industry represented the protypical "new economy" industry. *U.S. v. Microsoft* was the first government case to deal directly with the so-called "new economy" and, as noted, the first government Section 2 case of any kind in nearly 20 years. Partly because of Microsoft's strategic choices, a wide range of both basic and arcane issues were fully litigated and ultimately resolved by a unanimous Court of Appeals.[9] The government prevailed on most of these issues, including its Section 2 claim. Some might point to the lack of resolution with respect to the tying claims and the ineffectiveness of the ultimate remedy as failures. But the ability to put forward an effective case and to reach a timely resolution on the merits of a new economy case is significant; and the judicial resolution of those issues that were decided is likely to inform antitrust law for a generation.

The resolution of important antitrust issue in a dynamic, high technology industry is the most important legacy of the Microsoft case. Some of these issues concerned the economics of the new economy; others concerned antitrust law itself.

Economic Issues—Thinking About the Information Economy[10]

History is written by the winners and rewritten by the losers, often so much so that one forgets what it was like before the battle. The Microsoft case affected how we think about the information economy in several ways.

[9] The final disposition of the case was substantially delayed, however. Following a change in presidential administrations, the Court of Appeals' remand with respect to remedy and related settlement discussions and administrative proceedings extended the case for several years.

[10] *See generally* Franklin M. Fisher and Daniel L. Rubinfeld, "U.S. v. Microsoft: An Economic Analysis," *The Antitrust Bulletin* 1 (Spring 2001).

Network Effects. Central to the government's theory was the concept of "network effects," the idea that some products become more valuable as they become more widely used and that widely used products are to some extent insulated from competition from other products, even if those other products were superior in some sense. The concept is easy to understand with respect to what are called "direct network effects," such as the benefit to a telephone user from being able to reach lots of other telephone users that are connected to the network. In the Microsoft case, however, the government built its barrier to entry argument on "indirect network effects"—the idea that OS users benefit indirectly from a large base of users of the same OS because that base attracts applications which in turn make the OS more valuable, much the way VHS defeated Betamax in the VCR standard war largely because more motion pictures were released in the VHS format.

The idea behind the ABE was that an OS entrant would face a daunting "chicken-and-egg" problem in that it could not find customers for its OS unless it could assure them that they would be able to use thousands of applications with the OS and it could not get application writers to write applications for the OS until it had millions of customers. The ABE was central to the government's case because it provided the motivation both for the development of middleware, such as Navigator, and cross-platform languages, such as Java, and for Microsoft's efforts to exclude them. ABE was a new concept.

Microsoft and its allies vigorously opposed the idea and importance of network effects, both in general and with respect to the operating system, and argued that there were no significant barriers to entry. In articles, speeches and briefs, they disputed the historical examples used by early proponents to explain the idea of network effects, and they disputed the logic and legal significance of network effects. Further, they attacked a straw man by arguing that firms do not retain their dominance forever, even in markets characterized by network effects. This argument was especially infelicitous because the government's case was premised on the proposition that, while network effects enabled Microsoft to exercise monopoly power, they did not so insulate Microsoft from competition as to make application of the antitrust laws meaningless.

In the end, Judge Jackson and the Court of Appeals agreed completely with the government's analysis. The idea of network effects is now an important staple of antitrust law and economics that defendants and plaintiffs alike take for granted. That was not so before the Microsoft case. Had Microsoft's attack been successful, antitrust enforcement in dynamic, high technology industries would have suffered a serious setback.

Non–Leverage Tying. The core of the government's case was the allegation that Microsoft wanted to exclude the Navigator browser from the browser market in order to protect its OS monopoly. The idea was that, if Navigator achieved nearly ubiquitous distribution in the browser market, it might become a form of cross-platform middleware that would attract applications and thereby undermine the ABE because users of any OS would be able to access and use those applications through Navigator.

The principal means used by Microsoft to exclude Navigator, according to the government, were the various steps Microsoft took to bundle IE with Windows—commingling files, changing the Add/Remove utility, preventing OEMs from removing the IE icon from the desktop, and so on. It was, to our knowledge, the first time that tying of separate products had been challenged principally on the ground that it protected an existing monopoly in the dominant or tying product (here, the OS), rather than as a scheme to leverage that monopoly into market power in an adjacent market (here, in the browser market). Microsoft disputed the theory, arguing among other things that it was inconsistent both to allege that the browser posed a competitive threat to Windows and to define the relevant market to include only the OS and not the browser.

Both Judge Jackson and the Court of Appeals agreed with the government's theory. The idea that tying can be used to protect a monopoly in the tying product market is now an accepted part of antitrust analysis.[11]

Market Definition and Market Power. The government alleged that the market consisted of PC OSs, on the ground that there are no good substitutes for their particular set of functions, and that Microsoft had monopoly power in that market. For the latter point, the government relied on Microsoft's large and stable market share and the fact that Microsoft was able to impose onerous conditions on OEMs and others who wanted access to the Windows OS.

Microsoft disputed these allegations, largely by means of an argument that traditional antitrust concepts are not applicable to the "new economy." According to Microsoft, it held only a precarious position in a high-tech industry characterized by Schumpeterian or winner-take-all competition in which one firm would have a large share for a short while, only to be displaced when another firm developed a better product. Thus, Microsoft argued, despite its large share of OS sales, it was not able to exercise market power because it had to strive diligently to anticipate and compete against future rivals.

[11] *See, e.g.,* Dennis Carlton and Michael Waldman, "The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries." 33 *Rand Journal of Economics* 193 (Summer 2002).

In the end, both Judge Jackson and the Court of Appeals agreed with the government that, as long as there are barriers to entry to the relevant market, the kind of Schumpeterian competition described by Microsoft is not inconsistent with the existence of monopoly power. Indeed, the government's case was at bottom an effort to establish antitrust restrictions on conduct that might undermine such competition. By agreeing with the government on these matters, the courts ensured that antitrust would remain relevant and applicable to the new economy.

Legal Issues—How to Think about Antitrust

The Microsoft case resolved, sometimes explicitly and sometimes implicitly, a wide range of legal issues. Some involved matters of legal doctrine; others involved more subtle questions of antitrust methodology.

Dynamic, High Technology Industries. Microsoft's allies argued that antitrust principles were either inapplicable—because based on outmoded, static modes of analysis—or should be relaxed—in order not to interfere with rapidly changing markets—in dynamic, high tech industries. But Judge Jackson and the Court of Appeals essentially agreed with the government that the same antitrust principles apply to all industries, although they of course need to be applied with sensitivity to the particular facts. It is now well-accepted, as Judge Posner put it, that "antitrust doctrine is supple enough, and its commitment to economic rationality strong enough, to take in stride the competitive issues presented by the new economy."[12]

Intellectual Property. In something of a precursor to the current controversies at the intersection of antitrust and intellectual property law, Microsoft made sweeping arguments about the implications of its copyright and other intellectual property. "The company claims," the Court of Appeals said, "an absolute and unfettered right to use its intellectual property as it wishes."[13] Such a right, Microsoft seemed to reason, was necessary in order for Microsoft and others to gain from their intellectual property the rewards intended for the creative or innovative effort that created the intellectual property.

The courts rejected Microsoft's argument. The Court of Appeals said that it "borders on the frivolous."[14] The courts thus made clear in effect, as DOJ and FTC had stated in their Guidelines for the Licensing of

[12] Richard A. Posner, "Antitrust in the New Economy," 68 *Antitrust L. J.* 925 at 925 (2001).

[13] *United States v. Microsoft,* 253 F.3d 34, 63 (D.C. Cir. 2001) (en banc) (per curiam).

[14] *Id.*

Intellectual Property, that "intellectual property is essentially comparable to any other form of property."[15] The Guidelines state that the agencies "apply the same general antitrust principles to conduct involving intellectual property that they apply to conduct involving any other form" of property:

> An intellectual property owner's rights to exclude are similar to the rights enjoyed by owners of other forms of private property. As with other forms of private property, certain types of conduct with respect to intellectual property may have anticompetitive effects against which the antitrust laws can and do protect. Intellectual property is thus neither particularly free from scrutiny under the antitrust laws, nor particularly suspect under them.[16]

Product Design. In the 1997 proceeding, in which DOJ alleged that Microsoft had tied IE to its Windows OS in violation of the 1995 consent decree, Microsoft had argued that product design should be a safe harbor under the antitrust laws on the ground that judicial oversight is more likely to interfere with desirable innovation than to prevent anticompetitive conduct. The three-judge Court of Appeals panel in that proceeding was sympathetic to the argument. It held that review of product design should be "narrow and deferential," that a court should not "embark on product design assessment," and that the issue is not whether the combination of functionalities into a single product is a "*net* plus but merely whether there is a plausible claim that it brings some advantage."[17]

That proceeding concerned the meaning of the earlier consent decree. In the subsequent antitrust case, the unanimous en banc Court of Appeals took a very different approach. Where particular aspects of Microsoft's product design excluded rivals, the court required Microsoft to establish a pro-competitive justification for the design. The court held that both the commingling of browsing and other code in the same file and excluding IE from the Add/Remove Programs utility were unlawful because they tended to exclude Navigator and Microsoft offered no justification for them. The Court of Appeals upheld other aspects of Microsoft's product design that were shown to serve legitimate purposes.

The Court of Appeals noted that courts are as a general rule "properly very skeptical about claims that competition has been harmed by a dominant firm's product design changes."[18] But it plainly rejected

[15] Department of Justice, Antitrust Division, and Federal Trade Commission, "Antitrust Guidelines for the Licensing of Intellectual Property" (April 6, 1995), § 2.0.

[16] *Id.* at § 2.1.

[17] *United States v. Microsoft,* 147 F.3d at 949–950 (emphasis in original).

[18] *United States v. Microsoft Corp.*, 253 F.3d at 65.

any notion of a safe harbor or an unwillingness to undertake a "design assessment." Indeed, the en banc court said, "[t]o the extent that the [1998] decision completely disclaimed judicial capacity to evaluate 'high-tech product design,' it cannot be said to conform to prevailing antitrust doctrine."[19]

Broad Brush or Fine Tooth Comb. Resolution of any legal dispute requires determining implicitly or explicitly the level of generality at which the conduct at issue will be assessed. The parties in the Microsoft case disagreed profoundly about this issue.

DOJ examined Microsoft's conduct in detail. According to DOJ, it was permissible for Microsoft to bundle IE with Windows at no additional change, but it was not permissible for Microsoft to prevent OEMs from deleting means of accessing the browser or to deny users that ability by excluding IE from the Add/Remove utility; Microsoft was permitted to offer IE to Internet Access Providers free of charge but not to offer them promotional inducements in exchange for their commitment not to distribute Navigator; Microsoft could design and offer its own version of a Java Virtual Machine, but it could not design its Java development tools so that program developers would unwittingly design programs that would run only on Windows; and so on.

Microsoft almost uniformly approached the case at a higher level of generality. It treated the Add/Remove issue as one of product design, the IAP agreements as efforts to promote its platform, the Java development tools as part of its Java product improvement, and so on.

Judge Jackson and the Court of Appeals consistently took the government's approach and assessed Microsoft's conduct in detail. In this respect, the Microsoft case clearly stands for the proposition that any discrete aspect of a monopolist's conduct that tends to exclude rivals may be illegal unless there is a legitimate, pro-competitive justification for that particular aspect of the conduct.

Cumulative Effects and Course of Conduct. Microsoft argued throughout the case that each of the various acts complained of was too insignificant to exclude Navigator from the market. The Government, by contrast, argued that anticompetitive acts whose effects are too insignificant to be unlawful by themselves can become unlawful if their cumulative effect is significant enough.

The Court of Appeals did not explicitly resolve this dispute, explaining that it "need not pass on" the government's argument because Judge Jackson had not pointed "to any series of acts, each of which harms competition only slightly but the cumulative effect of which is

[19] *Id.* at 92 (citation omitted).

significant enough" to be unlawful.[20] But the Court appeared implicitly to agree with the government when it held that certain agreements with independent software vendors were unlawful on the ground that, although they affected only a "small channel for browser distribution," they had a "greater significance" because Microsoft had also largely foreclosed other channels.[21]

The Role of Rules. Both parties tried to rely on antitrust rules when they thought the rules favored them. Microsoft, as noted, argued that product design and use of intellectual property were beyond the reach of the antitrust laws. In addition, having persuaded Judge Jackson that its various exclusive dealing agreements did not violate Section 1 because they tied up less than 40 percent of the market, Microsoft argued that the same 40 percent rule should apply to the Section 2 claims. For its part, the government argued that, because there appeared to be separate demand for IE and Windows, they constituted separate products the bundling of which was illegal under the per se rule applicable to tying.

The Court of Appeals rejected such a rule-based approach. "Even assuming" that Judge Jackson was correct about exclusive dealing agreements under Section 1, the Court said, a monopolist can violate Section 2 by using exclusive contracts "in certain circumstances."[22] And the Court held that the automatic or per se rule against tying did not apply to this case because of the particular attributes of "platform software."[23] The Court of Appeals was relentless in eschewing formalistic rule-based analysis in favor of careful attention to the facts.

Causation. Except for the few types of conduct that are unlawful per se under the antitrust laws, conduct, no matter how offensive, can violate the antitrust laws only if it injures competition in the market as a whole. Microsoft argued that no such effect had been proven. It reasoned that the idea that Navigator and Java, if unimpeded by Microsoft, would have spurred OS competition and eroded Microsoft's dominance was sheer conjecture unsupported by proof.

The Court of Appeals rejected Microsoft's argument. While it cautioned that "Microsoft's concerns over causation have more purchase in connection with the appropriate remedy issue,"[24] it held that causation can be inferred "when exclusionary conduct is aimed at producers of

[20] *Id.* at 78.

[21] *Id.* at 72.

[22] *Id.* at 70.

[23] *Id.* at 89–95.

[24] *Id.* at 80.

nascent competitive technologies" as well as when it is aimed at producers of established substitutes.[25] In such a case, the question is not whether the nascent technologies "would actually have developed into viable" substitutes but whether they "reasonably constituted nascent threats."[26]

Tying. In addition to the non-leverage tying theory under Section 2, described above, the government also pursued a more traditional per se tying claim under Section 1. The theory behind this claim was that Microsoft had injured competition in the browser, or "tied product," market by tying the browser to the OS. The government argued, among other things, that the OS and the browser should be regarded as separate products for this purpose because there was separate demand for them. The district court agreed.

The court of appeals reversed, holding that the per se ban on tying is inapplicable to platform software. The court reasoned that the separate demand test is not suitable for rapidly changing products such as platform software because evidence of separate demand in the past would not reflect possible benefits from integration into a single product of software functionalities that had previously been sold as separate products. Although the court's decision purported to be narrowly focused on platform software, its reasoning could be applied more broadly and might signal a deeper judicial skepticism about the per se tying rule.

Anticompetitive Conduct Under Section 2. One of the major unresolved issues in antitrust is the standard for determining when conduct is "anticompetitive" for purposes of Section 2. The government argued, as it has argued since, that conduct is anticompetitive when it would not make business sense for the defendant but for its tendency to exclude rivals and thus create or maintain market power for the defendant. Microsoft did not articulate a specific standard but generally argued that firms should be given wide berth lest antitrust enforcement inhibit innovation.

The Court of Appeals did not explicitly agree with either party. Instead, it articulated its own test: Conduct is anticompetitive if (i) it harms the competitive process and (ii) either (a) is not shown to further efficiency or to have some other pro-competitive justification or (b) the anticompetitive harm outweighs its pro-competitive benefit.[27]

It is not clear precisely what this test means. The DOJ test and the Court of Appeals test are in substance identical with respect to points (i) and (ii) (a) of the Court's test. Where they appear to diverge is with respect to conduct that both harms competition and furthers a legitimate

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[25] *Id.* at 79.

[26] *Id.*

[27] *Id.* at 58–59.

purpose. DOJ proposed to decide those cases by inquiring whether the conduct would have made sense for the defendant—whether it would have been profitable—even if it had not harmed competition. The Court of Appeals proposed instead "weighing" the two competing effects, but it did not articulate any metric or algorithm for the weighing.

The Court of Appeals had little occasion to undertake any such "weighing" because it found that almost all of Microsoft's exclusionary conduct served no legitimate purpose at all. In the two or three instances in which the court concluded that the conduct did offer a pro-competitive benefit, the court upheld the conduct without elaborate balancing. Its opinion might be read to mean that any procompetitive benefit is enough to outweigh harm to competition. If so read, it would in this respect stand for the unremarkable proposition that conduct by a monopolist that injures competition and serves no legitimate purpose is illegal. But the balancing test articulated by the Court appeared to go further, and the Court's facile treatment of the balancing exercise might simply have reflected the Court's belief that those few aspects of Microsoft's conduct that did offer a procompetitive benefit posed only an insubstantial threat to competition. The legacy of the case with respect to the standard for anticompetitive conduct is unclear.

V. SUMMING UP

The Microsoft case was a contest between two fundamentally different approaches to antitrust law. The government built its case from the facts, with meticulous attention to the details. It did not broadly attack Microsoft's right to compete aggressively, to innovate and to bring its products to markets. It attacked instead specific aspects of Microsoft's conduct that it believed went too far—conduct that both interfered with rivals' ability to gain widespread market acceptance for their products and did not advance any meaningful, legitimate, pro-competitive interest.

Microsoft, by contrast, advanced broad, sometimes ideological arguments. Its defense emphasized the dynamic nature of the industry, the importance of innovation, reasons why courts should not interfere with product design or the use of intellectual property, and the quality of its products. It often ignored entirely allegations that specific aspects of its conduct harmed rivals without serving any legitimate purpose. It sought a sweeping victory that would largely free it from antitrust scrutiny.

As to this difference in approach, the government was the clear winner. The Court of Appeals' unanimous en banc opinion was remarkable for its lack of ideology and sweeping rhetoric, its careful attention to detail and its unwillingness to rely on formalistic legal rules. Perhaps the most important lesson of the case is that—in spite of all the press attention and editorial ferment that the case provoked—it was ultimately the details that mattered.