Lessons from the Microsoft Case

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This is the text of the fourth lecture of the European Investment Bank Lecture series, given by Professor Richard Schmalensee of the Massachusetts Institute of Technology on 26 March 2002. The Department of Economics is very grateful to the EIB for the endowment of this series.

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When most people, in the U.S. at least, think of "the Microsoft case," they think of the antitrust case filed in May 1998 by the United States government along with 20 states and the District of Columbia. In April 2000 a trial court found that Microsoft had violated U.S. antitrust law by illegally tying its Internet Explorer browser to its Windows operating system, attempting to monopolize the Web browser market, and taking a variety of anticompetitive actions aimed at Netscape's Navigator browser and Sun Microsystems' Java programming language in order to maintain an operating systems monopoly.[2] The government had also charged that Microsoft had prevented Netscape from distributing its browser, but the trial court found that it had not done so.

In June 2001 an appeals court agreed that Microsoft was guilty of illegal actions aimed at maintaining a monopoly in operating systems, but it shortened the list of illegal actions substantially. Moreover, it held that the trial court had employed the wrong standards to decide the tying claim and dismissed the claim that Microsoft had attempted to monopolize the browser market. (Though the plaintiffs were given the opportunity to re-litigate the tying claim, they declined to do so.) This case has recently become two cases in an important sense: a trial court judge in Washington D.C. is now both evaluating a remedy agreed to by Microsoft, the U.S. government, and nine states *and* holding hearings on a much stronger remedy proposed by nine other states and the

[1] Delivered as the European Investment Bank lecture at the European University Institute, March 26, 2002. The author is indebted to Jorge Padilla and Bernard Reddy for helpful comments on an earlier draft and to Kirstyn Walton for diligent assistance, but I alone am responsible for errors and opinions.

[2] The author was the expert witness for Microsoft in this trial.

District of Columbia.[3] Whatever she decides will almost certainly produce another round of appeals.

Microsoft's Antitrust War

But this case (or pair of cases) is just one battle, albeit the main one so far, in an ongoing war of antitrust litigation involving Microsoft.[4] The U.S. government began its antitrust investigation of Microsoft in 1990. Its main concern then was that IBM and Microsoft would monopolize the desktop operating system business by crippling Windows and developing OS/2 together. This investigation continued long after its initial concern had evaporated. It culminated in a consent decree (a settlement agreed to by the parties and endorsed by a federal judge) in August 1995 that barred Microsoft from using certain licensing practices for Windows. The decree also contained a provision barring Microsoft from tying other products to Windows, though this provision explicitly exempted "integrated products." In July 1996, a private firm sued Microsoft for treble damages, based on many of the allegations considered but not pursued by the government during its initial investigation.[5] In January 2000 this private case was settled for an estimated $150 million in damages.[6]

In late 1997 the federal government charged that Microsoft's inclusion of a browser in Windows 95 constituted a tie in violation of the 1995 consent decree. The court of appeals declined to uphold the government's charge in June 1998.

The federal government began a second investigation of Microsoft in 1996, which served as the basis for the major case (or cases) now staggering to a conclusion in Washington. After the trial court found Microsoft to have violated the law in this

[3] One state settled during the trial, and another settled after the appeals court decision.
[4] I exclude from consideration here the Microsoft matter now pending in Brussels before the European Commission (Case No. COMP/C-3/37.792 Microsoft) mainly because the details are not yet public. Press reports make it clear, though, that as in the U.S., attention centers on the design of the Windows operating system, and Sun Microsystems is an active advocate of enforcement against Microsoft. Microsoft has been the subject of investigation by the EC before; the Commission was involved in the 1995 consent decree discussed below.
[5] In the United States, private parties that have been injured by a violation of the antitrust laws are entitled to sue for three times the damages they have suffered and to ask courts for other remedies. In addition, a few members of a class (buyers of Windows who live in California, for instance) can sue on behalf of all class members.

proceeding, more than 130 private cases were filed. These involve allegations considered by the U.S. government from 1990 onward along with new charges, and they seek billions of dollars in treble damages. A negotiated settlement for almost all these cases was rejected by a federal judge in January 2002 as not being in the public interest, and all these cases are proceeding to trial.

After the court of appeals found Microsoft guilty of monopolization, AOL Time Warner, which had purchased Netscape in 1999, filed suit against Microsoft in January 2002. The court was asked to order Microsoft to pay several billions of dollars of damages and to impose an injunction against Microsoft to "eliminate the continuing effects of Microsoft's illegal conduct and to restore competition lost in the operating system market and in the Web browser market because of Microsoft's illegal conduct."[7] AOL Time Warner indicated that it intended to pursue the tying claim that the federal government and the states had declined to re-litigate. In February 2002, Be Incorporated also filed suit against Microsoft. Be had provided an operating system for Intel-compatible computers until selling all its assets to Palm the preceding November. During the earlier trial, Be's CEO had contended that its operating system did not compete with Windows, but its February complaint contended the Microsoft had excluded the Be operating system from the market that Windows dominated. Most recently, in March 2002, Sun Microsystems also filed a private suit against Microsoft. Sun is asking for $1 billion in damages and, among other things, for Microsoft to be required to bundle Sun's Java system with Windows.

Even though this long war is still far from over and its ultimate outcome is still in doubt in some respects, I believe a number of its important lessons have become clear. While some items on the list I put forward here may be controversial, the first is surely not:

<u>Lesson 1</u>: The cost of being firmly ensnared in the web of U.S. antitrust can be enormous.

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[6] No dollar figure has ever been made public by the parties. Trade press estimates were based on Microsoft's subsequent reduction of its quarterly earnings by $.03 per share.

[7] Steve Lohr, "Technology: An AOL Unit Sues Microsoft, Saying Tactics Were Illegal," *New York Times*, January 23, 2002.

The Microsoft war is the leading recent example of what Judge Richard Posner has called the "cluster bomb effect" in antitrust litigation: a single action or investigation may spawn a large number of government and private suits in a variety of jurisdictions with a variety of legal standards.[8] A cluster of lawsuits in the U.S. is almost inevitable when a profitable firm is found to have violated the antitrust laws. The ability to sue for three times actual damages on behalf of a class of injured parties provides livelihoods for a large number of able and aggressive trial lawyers and an asset to the shareholders of arguably injured firms. In announcing its lawsuit in March 2002, for instance, Sun Microsystems contended, plausibly, that it had a fiduciary duty to its shareholders to sue. Commenting on the filing of the AOL Time Warner lawsuit, a noted antitrust scholar observed that "Microsoft could easily be litigating these kinds of tag-along claims for 10 years or more."[9]

While the many millions of dollars that Microsoft has thus far paid in lawyers' fees and damage awards amount to a small fraction of the firm's market value, Microsoft's antitrust war is far from over. When all the dust has settled in all the courtrooms where battles are still being fought, Microsoft's ultimate out-of-pocket costs may be a large multiple of its costs to date. Moreover, the firm's ultimate total costs may be a large multiple of its out-of-pocket costs.

Microsoft's behavior has been under investigation by the federal government almost continuously since the days when MS-DOS was its most important product and the World Wide Web had not been invented. Its top executives have had to devote a significant fraction of their time to dealing with antitrust matters. Not only have they had to formulate and revise strategies for negotiation and litigation, they have had to testify (and prepare for testimony) repeatedly and to deal with endless inquiries from the press, public, customers, collaborators, employees, and prospective employees. Employees at all levels in the firm have had to store documents they would normally have discarded and to produce millions of pages of documents in response to numerous requests from numerous parties. The firm's once lofty reputation and the reputations of its top

[8] Richard A. Posner, "Antitrust in the New Economy," delivered at an ALI-ABA conference on September 14, 2000; available online at http://www.techlawjournal.com/atr/20000914posner.asp.
[9] Professor Herbert A Hovenkamp, quoted in Lohr, *supra* note 7.

executives have been badly tarnished, imposing intangible but not inconsequential costs on both.

Microsoft's costs will escalate dramatically when, inevitably, its conduct is governed by court orders. The settlement that Microsoft negotiated with the federal government and nine states restricts the firm's contracting practices, requires disclosure of some of its intellectual property, and imposes constraints on the design of its products. The final order proposed by the non-settling states imposes much stronger restrictions and constraints and requires much more disclosure. Microsoft would be required to produce a large number of different versions of Windows and to use an arbitrary formula to determine the price of each. Under either of these proposed orders, or any plausible blend, customers and competitors would be able to allege violations of the order to a court. Because product boundaries and technology change rapidly in this industry, the interpretation of any court order will inevitably involve the exercise of considerable judgment – thus inviting customers and competitors to use the process of enforcing the ultimate court order or orders to advantage themselves at Microsoft's expense. Microsoft will not be out of the U.S. antitrust web until the court orders that result from the current war expire – likely many years from now.[10]

I turn next to some key lessons from this war for antitrust policy and then to implications for business management. My overall conclusion, to which I return at the end, is that U.S. antitrust policy toward competition by leading firms in dynamic industries, as revealed by the Microsoft case, creates strong incentives for such firms to pull their competitive punches and gives their competitors strong incentives to engage in socially unproductive rent-seeking.[11] Unfortunately, there is no simple fix for this. While some productive reforms seem apparent, the policy problems posed by dominant firms in industries with histories of dynamic competition are complex and not susceptible to exact solution by litigation or regulation. Such firms should not be immune to

[10] The European Commission is apparently contemplating both ordering remedies that go beyond those agreed to in the U.S. settlement and imposing a substantial fine. It would thus be possible for the E.U.'s remedy to be more severe than that imposed in the U.S. An important concern if the decisions of these two jurisdictions differ is that complainants alleging violations may engage in forum shopping.

[11] I concentrate on the U.S. because I know it best, but everything I know about competition policy in the E.U. indicates that most of the issues and problems I consider here, except of course those related to private

antitrust. The wisest course for enforcement policy would seem to require unusually high levels of humility and restraint.

Lessons for Antitrust Policy

A key element of the government's case against Microsoft was the contention that its Windows product gave it monopoly power in "the market for operating systems for Intel-compatible personal computers." If "monopoly power" is defined conventionally, as the ability to hold price substantially above competitive levels and to stave off the threat of entry by an equally efficient competitor, there can no doubt that Windows had monopoly power.

Indeed, one can argue that this sort of monopoly power is almost inevitable in many software businesses and other dynamic industries — industries in which innovation and new product development are key instruments of competition. Almost all the costs of producing software are fixed, so scale economies are substantial. Both network effects, in which the value of something to any one user rises with its usage by others, and system effects, in which the value of one component of a system depends on the quality and price of complementary components, are important factors in the success of Windows. In particular, Windows serves as an important software "platform," providing services, such as the ability to display files on-screen, that permit applications programs to run efficiently and to be controlled by users. Much of Windows' current value and much of the difficulty facing any sort of "me-too" entrant stem from the number of popular applications it currently supports. An operating system that by itself would be just as good as Windows would not be nearly as attractive unless it would also support a comparable suite of useful applications. These arguments and the history of this industry suggest that Windows, like word processors and spreadsheets, competes in what might be called a "winner-take-most" business: at any one time there is likely to be a single dominant product, with others existing mainly in specialized niches.

The conventional approach to measuring market power begins by defining a set of reasonably close substitutes as the relevant market and computing sellers' shares of that

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lawsuits, arise in that arena as well. Some could be more serious in Europe, since consumer protection is

market. A high market share is taken to signal monopoly power, particularly when accompanied by high accounting profits and barriers to equally efficient entry. Using this conventional approach, one would conclude that the software industry, which strikes many observers as intensely competitive and in which category leaders have often been reduced almost overnight to the status of fringe products, is in fact full of monopolists or, in EU terminology, dominant firms. On both sides of the Atlantic, such firms are subject to special scrutiny because they are held to be unusually capable of using their market power (because they have an unusual amount of it) to protect themselves from fair competition. And, indeed, antitrust enforcement in the Clinton administration took exactly this point of view toward dynamic industries generally, not just as regards Microsoft.[12]

One important problem with this approach is that leadership positions in software businesses and in other dynamic industries are often fragile. Leaders in such industries may not be threatened by "me-too" products competing on price, but, as in Joseph Schumpeter's poetic vision of a half-century ago,[13] they risk being obliterated by the superior products that regularly emerge from intense dynamic competition to develop radical innovations. This risk constrains firms' ability to take anticompetitive actions: it is clearly what motivates market leaders in dynamic industries to invest heavily in improving their products and, at least in the case of Microsoft, to price well below what a static analysis suggests the traffic would bear.[14]

While as a logical matter a full analysis of competition must take into account the possibility of Schumpeterian creative destruction – the result of competition to be the next temporary monopolist, that is, of competition *for* the market rather than *in* the market -- the analysis of dynamic competition is very difficult and inevitably depends heavily on market-specific knowledge and on the exercise of judgment. It is difficult and thus uncommon for industry leaders to produce radical, disruptive innovations, so that

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only one among several objectives of E.U. competition policy.

[12] Robert F. Litan and Carl Shapiro, "Antitrust Policy During the Clinton Administration," in J. Frankel and P. Orzag, eds., *American Economic Policy in the 1990s*, Cambridge: MIT Press, 2002.

[13] Joseph A. Schumpeter, *Capitalism, Socialism, and Democracy*, 3rd Ed., New York: Harper, 1950, chs 5-8, esp. p. 84.

[14] Richard Schmalensee, "Antitrust Issues in Schumpeterian Industries," *American Economic Review*, 99 (May 2000): 192-196.

current market shares are of little use in the analysis of Schumpeterian competition.[15] Moreover, those plotting to depose leaders rarely brag about it, so investments in dynamic competition are difficult to measure. Finally, a history of dynamic competition is neither necessary nor sufficient for such competition to pose a significant threat to today's market leaders. Many industries go through a period of intense dynamic competition until the emergence of a dominant design and then go through long periods without disruptive innovations: the auto industry is a good example.[16] Thus, knowledge of the market and of the technology is necessary to make an intelligent forecast of the likelihood of disruptive innovation – and such forecasts are often wrong.

The easiest way for courts to deal with this difficult issue is to ignore it. After all, any discussion of the possibility of a current market leader being displaced by radical innovation is somewhat speculative – even if it is speculation that keeps sensible CEOs awake at night. This is what was done in the Microsoft case: even as the firm was frantically trying to deal with the emergence of Web-based services as a threat to desktop computing, this serious threat was found by the trial court to be speculative. The direction of bias is apparent, even if its importance is not.

Lesson 2: The traditional static analysis of market power understates the importance of competition in dynamic industries.

To be clear, static and dynamic competition are not perfect substitutes. It should be illegal for market leaders, however fragile their position, to engage in price-fixing or to foreclose competitors from distribution. As I noted at the outset, Microsoft was in fact charged with foreclosing Netscape's distribution, though the trial court found that it had not done so. The fragility of its market leadership was essentially irrelevant to the analysis of that charge and at least some others charges. But to focus only on static price/output competition in the market is to exclude most of the important competitive activity in dynamic industries and thus to start antitrust analysis with a misleading picture of market conduct and performance.

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[15] Clayton C. Christensen, *The Innovator's Dilemma*, Boston: Harvard Business School Press, 1997.
[16] James M. Utterback, *Mastering the Dynamics of Innovation*, Boston: Harvard Business School Press, 1994.

In the Microsoft trial, the government's experts argued at length that it was predatory for Microsoft to have spent hundreds of millions of dollars to develop the Internet Explorer browser and then to give it away as a part of Windows. The trial judge characterized Microsoft's conduct as "predatory,"[17] though he did not explicitly list predatory conduct as a violation. The government did not pursue a claim of predation on appeal, and the appeals court explicitly found that it was not illegal for Microsoft to have developed Internet Explorer at great expense and given it away.[18] Still, the analysis of this issue during the trial revealed another important lesson:

Lesson 3: In "winner-take-most" industries, traditional definitions of predation make no economic sense, thus neither do traditional tests.

The trial judge, quoting an earlier case, concluded that, "Because Microsoft's business practices 'would not be considered profit maximizing except for the expectation that … the entry of potential rivals' into the market for Intel-compatible PC operating systems will be 'blocked or delayed,' … Microsoft's campaign must be termed predatory." The use of profit maximization as a standard, rather than profitability, departs from most U.S. precedent, which requires both actual losses (not just profits less than they could be) and a reasonable probability of recouping those losses after competition has been excluded. Moreover, profit maximization is a standard that is inherently unknowable. Finally, general adoption of this standard would severely restrict competition, particularly in dynamic industries. Businesses in such industries routinely invest in creating intellectual property and building consumer loyalty. If these investments did not provide market power, in part by discouraging entrants, they would not be worth making. To bar them all would plainly lower consumer welfare.

The issue here goes beyond what standard or test to employ to detect predation in practice, however. Even defining predation is more difficult, indeed probably impossible, in winner-take-most industries. Suppose an incumbent monopolist, M, and an entrant, E, are engaged in a race to develop and market the next-generation graphics package. Suppose also that it is clear that when the dust settles one package will become the standard, while the other will be used by, at most, a few customers with specialized

[17] *United States v. Microsoft Corp*., 87 F. Supp 2d 30 (D.D.C. 2000) (Conclusions of Law), §1.A.2.c.

needs. As a matter of definition, what level of R&D and marketing spending by M should be termed predatory?

The only definition in the literature, by Ordover and Willig, holds that "the relevant question is whether the innovator anticipated positive incremental profit for the new product, given the continued viability of the rival."[19] But what can this mean in a winner-take-most industry? If E remains viable, M will not be profitable, and vice versa. Thus there is no policy for M that will generate "positive incremental profit, given the continued viability of E." Whether M has the purest of intentions or a black predatory heart, the only way it can survive is by eliminating E – and the same goes for E. Under the Ordover/Willig test, whoever survives is guilty of predation, and both M and E will rationally attempt to prey until one of them is driven to the wall. This simply cannot be sound policy. The problem is not with the Ordover-Willig definition; it is that there is no possible non-exclusion outcome that can be used as a baseline. Thus, even though I am somewhat uncomfortable with the notion that being in winner-take-most competition should be a full defense against charges of predatory behavior, I see no logical alternative.

Back in 1997 and 1998, the Microsoft case seemed not to be about predation but all about the allegation that Microsoft had illegally tied its Internet Explorer browser to its Windows operating system. And, though this claim is no longer being pursued by any government, analysis of the tying claim in this case teaches the following:

Lesson 4: In dynamic industries, antitrust restrictions on "tying" inhibit competition in product design.

In U.S. law, the standard requirements for a tying violation are as follows:[20] (1) two separate product markets exist, based on distinct demands; (2) the defendant has market power in the tying product market; and (3) consumers are forced to buy a product or service they might not otherwise purchase. No inquiry into impacts on consumers is required. (I gather that EU law is broadly similar.) In the Microsoft case, the

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[18] *United States v. Microsoft Corp*., 253 F. 3d 34 (D.C. Cir. 2001), III.B.3. (p. 42 of the slip opinion).
[19] Janusz A. Ordover and Robert D. Willig, An Economic Definition of Predation: Pricing and Product Innovation," *Yale Law Journal*, 91 (1981): 8-53, pp. 29-30.
[20] The leading case is *Jefferson Parish Hospital District No. 2 v. Hyde*, 466 U.S. 2 (1984).

government argued that there were separate markets for browsers and operating systems (even though all operating systems included browsers by the time of trial); that Microsoft had market power in operating systems; and that consumers had to take Internet Explorer when they bought Windows (even though the marginal cost of including it was zero, and Windows users were able to employ other browsers). The trial court agreed and found Microsoft to have engaged in illegal tying.

The appeals court, in a strange discussion, argued that the standard tying law should not apply to "platform software markets," enunciated a set of standards it felt should apply, and invited plaintiffs to try and meet those standards in a new trial. Plaintiffs declined. The idea that there should be one law for "platform software markets" and one law for everything else makes little sense, and one can hope it will not long endure.

In fact, dynamic competition often involves creating new products by combining features and services that were formerly only available separately. The addition of features and functionality has been a major force in the PC software industry since its inception. In the early 1980s, for instance, word processing software included neither spell-checkers nor grammar checkers. There were stand-alone products in both categories. By the late 1980s, the leading word processing programs included spell-checkers; by the early 1990s they also included grammar checkers. When WordPerfect, then the leader in this category added a spell-checker, it made life difficult for competitors in both categories. Under the standard law, this was surely an illegal tie. It is not difficult to come up with many more examples in other dynamic industries.

I don't think the way to deal with the ubiquity of product integration in dynamic industries is to try to formulate different standards for different product categories, as the Microsoft appeals court did. Neither economists nor courts can pretend to know enough to ensure that consumer welfare would be well served. I believe a better approach, consistent with that being developed by some U.S. courts, is to have tougher standards to prove illegal tying by product design than when tying is done by contract. Specifically, I believe it generally makes sense to condemn tying by product design, as here, only if the tying aspect of the design lacks technical merit and leads to incompatibility with rival

complementary products.[21] In this case, the fact that Windows users could easily use browsers other than Internet Explorer should have sufficed to dispose of the tying claim.

Most U.S. economists who study antitrust policy favor substantially weakening or even abolishing standard tying law on the grounds that it does not reliably promote consumer welfare. Why then did the Antitrust Division of the U.S. Department of Justice, which employs many able economists and takes consumer welfare as its objective, use tying law to attack Microsoft's design of Windows? It may be some time before we have a full answer, but I believe part of the answer is clear now. In the Clinton Administration, the Antitrust Division had great confidence in its ability to improve market performance,[22] and I believe it became convinced that Microsoft's behavior was broadly and deeply anti-competitive. It thus seized on tying law as a weapon it could use to get a court to find against Microsoft, which would in turn give it license to restrain the firm's behavior in ways that it felt would enhance competition.

If this is true, it causes one to ask how did the Antitrust Division become convinced that Microsoft needed to be restrained? Again, we don't yet have a complete answer, but it is clear that Microsoft's competitors played an important role. When leading firms take competitive actions that threaten the viability of smaller rivals, the latter often attempt to enlist the antitrust enforcers in their struggle. In the U.S. at least, enforcement agencies are generally aware that most attempts of this sort are simply rent-seeking and aim to reduce the intensity of legitimate competition.[23] But complaining firms in dynamic industries with novel, esoteric technologies can sometimes defeat this skepticism by making claims that the agencies simply lack the expertise to evaluate. Enforcement agencies generally want to enforce and, if logic and evidence can't tell them who is right, emotion may decide in favor of the smaller firm, particularly if it has a better public image or better political connections and appears to be in distress. In this case, Microsoft and its CEO had a reputation for being arrogant and aggressive, while Netscape seemed to be a group of pleasant young kids who gave out cute little Godzilla-

[21] For a more extensive discussion of this general issue, see David S. Evans and Richard Schmalensee, "Some Aspects of Antitrust Analysis in Dynamically Competitive Industries," in A. Jaffe, J. Lerner, and S. Stern, eds., *Innovation Policy and the Economy*, Vol. 2, Cambridge: MIT Press, 2002, pp. 28-31.
[22] Litan and Shapiro, *supra* note 12.
[23] I gather that E.U. enforcers tend to be somewhat less skeptical on this score.

like dolls. Because U.S. courts, at least, have an even harder time dealing with novel technical issues than government agencies, the risk of judicial hostility to leading firms can be substantial. Thus we have

> **Lesson 5: Because antitrust authorities and courts lack technical expertise in dynamic industries, they can sometimes be enlisted in socially harmful rent-seeking.**

In the Microsoft case, the leading example of this phenomenon involves the allegation of tying.[24] From version 3.0 onwards, Internet Explorer has been designed as a part of Windows, not an application like Word or Excel – or Netscape's Navigator browser. The first way in which this is true is that much of the software code used to perform browsing functions is also used by the operating system to perform other functions; this provides obvious efficiencies. For instance, the code used to display HTML files downloaded from the World Wide Web during browsing is also used to display Help files and other HTML files stored on the hard disk. If this code is deleted, the operating system simply will not work. The second way in which Internet Explorer is part of Windows is that the code used to perform browsing functions at the user's request is also available for use by applications programs through what are called application programming interfaces or APIs. Thus, for instance, other programs can use Windows to display HTML files from the Web, and some non-Microsoft browsers (and many other programs) in fact do this. If code that supports a set of APIs is deleted from Windows, applications that rely on those APIs will not run, and supporting applications programs is a core operating system function.

Despite these facts, much of the discussion of the tying claim in the trial involved "deletion" of Internet Explorer. The government seemed not to believe Microsoft's description of the design of Windows, though perhaps it was merely behaving strategically. When their software expert testified, having had access to the underlying Windows source code, he repeatedly used the term "deletion" to describe blocking end-user access to Internet Explorer. Toward the end of the trial, it seemed to the Microsoft camp that both sides had implicitly agreed that the only remotely feasible way to create a

version of Windows "without Internet Explorer" would be to block end-user access to the browsing functions in Windows. Nonetheless, it turns out that the trial record is anything but clear on this point, and both the trial court and the court of appeals found Microsoft to have violated the law by "placing code specific to Web browsing in the same files as code that provided operating system functions" so as to prevent PC makers from deleting Web browsing (i.e., Internet Explorer) code.[25] To Microsoft, this is an experience straight out of Kafka: this distinction simply does not correspond to any real difference. The set of code that is "specific to Web browsing" is essentially empty. Nonetheless Microsoft's request that the appeals court reconsider this technically absurd finding was quickly rebuffed, and this finding is currently playing an important role in the remedy hearing in Washington.

Lessons for Business Management

The brief discussion above of the costs to Microsoft – actual and potential, tangible and intangible – of the antitrust war in which it has been engaged for the last dozen years should serve to make clear the value of avoiding such a war. Wars between nations are often deterred by displays of strength and aggressiveness, but there are no workable deterrence strategies here. Rather, in addition to good legal advice, a firm is more likely to avoid an antitrust war by seeming weak and gentle. Comparing Microsoft's behavior with the behavior of high-tech market leaders like Cisco, AOL Time Warner, Netscape, Sun, and Intel that have for the most part avoided serious antitrust battles suggests the following multi-part lesson:

> **<u>Lesson 6</u>: To avoid the web of U.S. antitrust, leading firms in dynamic industries should court allies, use email with care, woo enforcers, and consider competing softly with small or politically connected firms.**

Firms like Microsoft that depend for their health on the development of high quality, innovative complementary products by third parties, necessarily need to develop

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[24] I am told that the non-standard definition of interoperability used by the European Commission in its ongoing Microsoft proceeding illustrate this point perfectly, but I have not studied this matter myself.
[25] *United States v. Microsoft Corp*., 253 F. 3d 34 (D.C. Cir. 2001), III.B.2. (quotation is from p. 38 of the slip opinion).

allies.[26] In particular, in developing and marketing Windows, Microsoft needs to work closely with both PC makers and independent software vendors. Depending on how they have been treated in the past or expect to be treated in the future, however, some allies stick with you even under heavy fire, while others depart as soon as hostilities begin. There is a difference between allies of conviction and allies of convenience, and Microsoft seemed to lack the former. It seemed that as its antitrust war became serious, many of Microsoft's apparent allies, or at least many of their mid-level employees, were willing to complain and testify against it, and it seemed to have few defenders.

The old U.S. Steel case provides a stark contrast. In its 1920 decision in this case, the U.S. Supreme Court explicitly noted that a large number of competitors had testified that U.S. Steel's conduct had not restrained them in any way.[27] Of course, U.S. Steel was meeting with its competitors to discuss keeping prices high, while Microsoft has charged relatively low prices and moved aggressively to improve and broaden its product line. In so doing it has competed with firms that had formerly produced complements to its products. This sort of behavior may benefit consumers, but it does not yield allies of conviction.

The point about email should be obvious to anyone who has followed the Microsoft case in the press: much of the most apparently damning evidence against Microsoft came from its own emails. Most large corporations have learned from this case and have tried to teach their employees to avoid using email for sensitive subjects and to compose email messages as if they were to be read to a hostile court. But the nature of the medium is such that these instructions are hard to follow.

The danger from emails is greatest in dynamic industries, in which emails are often loaded with jargon and inside jokes that may not be charitably decoded by a judge or jury. Moreover, the young, hyper-competitive employees who typically play key roles in such industries are often inclined to posturing and overstatement. For example, early in the case the government made much of an email that said, in effect, it is absolutely vital to Microsoft that Internet Explorer be included in the next release of the operating

[26] For interesting discussions of the issues this has raised for Microsoft and other firms, see Annabelle Gawer and Michael A. Cusumano, *Platform Leadership*, Boston: Harvard Business School Press, 2002.
[27] *U.S. v. United States Steel Corporation et al*., 251 U.S. 417 (1920).

system for the Apple MacIntosh, and if the recipient can't get it done, Bill Gates will do whatever it takes to make it happen. This was initially interpreted by the government as indicating that Gates would pressure Apple as hard as necessary to force it to include Internet Explorer. This interpretation was finally ruled out only when it was observed that the email had been sent *after* Apple and Microsoft had signed a contract obligating Microsoft to supply Internet Explorer for inclusion by Apple. The email simply indicated that if necessary, Gates would provide additional development resources to ensure that this obligation was met.

All large firms find themselves talking from time to time with antitrust agencies – directly or through outside counsel. The tone of those conversations may have serious long-run impacts. Most large U.S. firms have Washington offices and attempt to make as many influential friends as possible. Until fairly recently, though, Microsoft and many other technology-based firms did not see the point of making friends in Washington or other capitals, and they dealt with antitrust authorities with a certain impatience. After all, they were in an intensely competitive sector where regardless of history, you're only as good as your latest release, where, as Intel's Andy Grove famously put it, "Only the Paranoid Survive." Why should they *need* to woo antitrust authorities and other government officials? The Microsoft antitrust war has provided a definitive answer to that question.

The last point in the Lesson above is crucial from a management perspective – and very disturbing from the viewpoint of public policy. When a market leader pulls its competitive punches, competitors sleep better and complain less, but consumers are harmed. In dynamically competitive industries, market leaders seem to be particularly vulnerable to attack by competitors who either sue (in the U.S.) or persuade an antitrust or competition policy agency to do so. Thus in those industries, management should think about competing softly with those who can directly or indirectly do it harm in court. Sometimes, of course, a firm can't afford to pull its punches in this fashion. In 1995, Netscape had by far the most popular Web browser and was using that position to shape Internet standards to its advantage. Marc Andreesen, one of Netscape's founders and senior officers, repeatedly announced that Netscape would transform its browser into a

platform competitor of Windows by supporting a rich set of APIs.[28] Microsoft had little choice but to react and compete hard. Netscape's lawyers went to Washington and the rest, for better or worse, is history.

Conclusion

Microsoft Corporation is either an antitrust enforcer's dream or a nightmare, depending on how much he or she worries about consumer welfare. It is a dream because it is large, powerful, and aggressive, with an unpleasant public image and fewer loyal friends in the corporate world than one might expect. Its executives say what seem to be the most appalling things to each other via email. Attractive competitors with complaints about Microsoft abound, and one can expect courts to be skeptical of any attempt by Microsoft to introduce technical arguments in its defense. Microsoft operates in markets that are far from the polar ideal of perfect competition, and it regularly makes large investments (in R&D, among other things) intended to enhance its market power and make its products into essential standards. Applying the strict standards that antitrust has developed to judge the conduct of monopolists or dominant firms, it is likely that Microsoft (along with other leading high-technology firms) can be found in violation for competing too hard.

But Microsoft is also a nightmare because its establishment of Windows as a low-cost standard not tied to a single computer maker has been the source of enormous progress. It is hard to argue that Microsoft's responses to actual and potential competition have harmed consumers, and there is no obvious rule or formula that can be used to improve the long-run performance of the markets in which it operates. Short-run performance can, of course, be improved by putting intellectual property into the public domain, perhaps even creating multiple competing versions of Windows, or forcing price reductions. And competitors can be made happier by restricting Microsoft's ability to add features and functionality to its products and to compete in other ways. But consumers are directly harmed if Microsoft competes less, and in the long run actions

[28] Michael A. Cusumano and David B. Yoffie, *Competing on Internet Time: Lessons from Netscape and the Battle with Microsoft*, New York: Free Press, 1998, p. 105.

that undermine network effects by artificially fragmenting standards or that reduce incentives to innovate may multiply the damage.

Lesson 7: Antitrust is too blunt and dangerous an instrument to use to fine-tune the performance of dynamic industries.

Antitrust enforcers in the Clinton administration would not have accepted this lesson. They viewed dynamic industries, like software, as meriting special antitrust attention, both because these industries are shot through with (short-run) market power and because they had confidence in their ability to engineer improved performance. They viewed dynamic competition as typically a one-shot affair, with the winners' market positions strongly protected by durable first-mover advantages, so that rapid intervention was sometimes necessary to prevent anticompetitive acts from having very long-lived effects.

The Microsoft case should serve to erode confidence in the ability of antitrust enforcement to improve performance in dynamic industries. The appeals court decision handed down in June 2001, and which will shape relief that can take effect no sooner than mid-2002, stems from a complaint filed in 1998 that dealt in large part with the design of Windows 95 in the 1994-95 period. The time from 1995 to 2002 is an eternity in the software industry. During this period, dynamic competition has been an ongoing process, and leadership positions in various categories have been threatened by, among other things, the rise in Web-based services. In this case and in others, there is a real danger that the market will have changed so much by the time the case has concluded as to make it impossible to use the original record to design a useful remedy. Judge Richard Posner, after having served as a mediator in this case in early 2000, argued that antitrust is simply too slow to deal effectively with high-technology industries.[29] Add to this the fact that the probability of prosecutorial and judicial error is enhanced when emerging technologies are being considered, particularly if enforcement agencies feel compelled to intervene rapidly, and the risks of an aggressive antitrust policy become quite serious indeed.

[29] Posner, *supra* note 8.

To be clear, I am not arguing that a history of dynamic competition should confer immunity from antitrust. Again, static and dynamic competition are not perfect substitutes. No matter how innovative a firm has been, it should not be allowed to take actions that are clearly anticompetitive. If Microsoft had actually used its short-run monopoly power to prevent its competitors from distributing their products, for instance, significant relief would have been in order. But it is surely far less obvious that consumers were harmed when Microsoft added high-quality browsing capability to Windows – in part in response to Netscape's announced intention to transform its market-leading browser into a software platform that would compete with Windows. The problem is not vigorous enforcement in clear cases, but hasty enforcement that aims to fine-tune performance in difficult cases – and particularly when complaints originate with competitors who have an obvious interest in hobbling the market leader. A recognition of the limitations of administrative and judicial processes and the attendant problems of delay and error make clear the great value of humility and restraint – virtues that, sadly, have recently been in short supply in the antitrust enforcement agencies with which I am familiar.