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MICROSOFT'S INTERNET EXPLORATION: PREDATORY OR COMPETITIVE?

Thomas W. Hazlett†

In May 1998 the U.S. Department of Justice (“DOJ”) accused Microsoft of violating the Sherman Antitrust Act by vigorously competing against Netscape’s Navigator software with Microsoft’s rival browser, Internet Explorer. The substance of the allegation revolves around defensive actions taken by Microsoft to protect the dominant position enjoyed by Microsoft’s Windows operating system. The DOJ’s theory is that, were it not for Microsoft’s overly aggressive reaction to Netscape, Navigator software would have been more broadly distributed, thus enabling competition to Windows. This competition would have come directly from Java, a computer language developed by Sun Microsystems and embedded in Netscape software, allowing applications to run on any underlying operating system. Fearing the spread of Java would render a Windows monopoly moot, the DOJ argues, Microsoft engaged in predatory behavior to pre-empt Netscape and, therefore, Java. This set of allegations can most usefully be analyzed under a four-part test for predation examining *opportunity, intent, conduct, and effect*. The analysis hereunder shows that while Microsoft’s aggressive actions have likely injured specific competitors, the “browser jihad” featured as Exhibit A in the DOJ’s antitrust case is a dramatic illustration of the pro-consumer consequences of robust market rivalry.

I. THE GOVERNMENT’S CASE: PREDATION

“To protect its valuable Windows monopoly against such potential competitive threats [from Netscape and other new software products], and to extend its operating system monopoly into other software markets, Microsoft has engaged in a series of anticompetitive activities.”¹

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This paper is part of a larger research project on Antitrust in the Age of Microsoft being conducted jointly with Professor George Bittlingmayer of U.C. Davis. No project funding or consulting work by either researcher is associated with the parties involved in *United States v. Microsoft*, although Prof. Hazlett has previously served as an expert witness for the U.S. Department of Justice.

¹ Complaint at para. 5, *United States v. Microsoft Corp.*, (D.D.C. May 18, 1998) (No. 98-1232).

In *United States v. Microsoft Corp.*, the U.S. Department of Justice argues Microsoft's dominance in operating systems—over eighty percent of Intel-based personal computers (“PCs”) in the U.S. run on Microsoft Windows software²—was threatened by the emergence of Netscape's Navigator, a popular software application for surfing the World Wide Web. Navigator is designed to run on various operating systems, and includes Java programming language enabling other applications to run irrespective of the underlying operating system. The Java language's operating system indifference posed a threat to the dominance of Microsoft Windows, which rested largely on the ability of Windows users to access thousands of compatible applications. Were Netscape browsers to become ubiquitous, PC users could run applications in Java and not much care whether their Netscape software sat on top of Windows, Mac OS, Unix, OS/2, Solaris, Linux or another operating system.

The DOJ's case reduces to the charge of predation. While the complaint includes much language about “leveraging” and “tie-ins,” where Microsoft is accused of using its operating system market power to invade and dominate ancillary markets (most importantly, the browser market), and a brief section alleging Microsoft generally suppresses innovation in software, these allegations do not add up to a coherent theory of anti-competitive behavior. The monopoly-extension allegation, i.e., leveraging Windows' market position to eliminate Netscape's Navigator browser in favor of Microsoft's browser, Internet Explorer, is a vertical allegation. Such cases have been discredited in instances where the customer is known to use both the monopolized good and the ancillary good in fixed proportions.³ That is, the monopolist over Product A has no anti-competitive interest in expanding to take over the market for Product B, where buyers of a unit of A (say, a PC operating system) also demand a unit of B (say, a web browser).

Simply put, all monopoly profits can be extracted by setting the price of A. (The producer of A may choose to integrate into the production of B if it can offer a lower price, either through lower cost production or by eliminating a monopoly price mark-up. Lower prices for the complementary good B raise demand for A, increasing sales and profits. Of course, such actions are efficient and benefit consumers). Since operating system users are typically willing to pay in excess of marginal cost (which is zero) for a web browser, the fixed-proportions assumption is reasonable, and the vertical foreclosure argument moot. As for the allegation that Microsoft's aggressive behavior in the “browser wars” has retarded entry into software and internet-related markets, the financial

² See *id.* at para. 2.

³ See ROBERT H. BORK, *THE ANTITRUST PARADOX* (1978).

tidal wave pushing massive investment into internet and computer software markets has obliterated that aspect of the case.⁴

Both supporters and opponents of the government's case agree its essence is the allegation of predatory conduct. Robert H. Bork, a former D.C. Circuit Court of Appeals Judge and consultant to Netscape, offered this conclusion when the complaint was filed:

The case against Microsoft is not an attack on vertical integration; that is not the objection to the coupling of Microsoft's browser, the Internet Explorer [T]he Microsoft case concerns a monopolist's horizontal attempt to preserve its monopoly by destroying a potential rival.⁵

An August 1999 paper by economist David S. Evans—of National Economic Research Associates, the economic consulting firm retained by Microsoft to assist with the antitrust litigation—comes to the same conclusion.⁶ While noting the original complaint did not contain the words “predation” or “predatory,” the actual case pursued by the DOJ turned out to be “all about predation.”⁷ Evans concludes the rest of the allegations amount to a sideshow: “[T]he tying and foreclosure claims make only token appearances in the Government's Proposed Findings of Fact.”⁸

II. THE SIMPLE ECONOMICS OF PREDATION

Predation, which encompasses predatory pricing and other anti-competitive actions such as foreclosure, is distinguished from “honestly industrial” economic behavior by its net effect on consumers. In competitive situations, firms take actions which injure other firms, such as low-

⁴ The Complaint read:

Microsoft's conduct adversely affects innovation, including by: (a) impairing the incentive of Microsoft's competitors and potential competitors to undertake research and development, because they know that Microsoft will be able to limit the rewards from any resulting innovation; (b) impairing the ability of Microsoft's competitors and potential competitors to obtain financing for research and development.

Complaint at para. 37, *United States v. Microsoft Corp.*, (D.D.C. May 18, 1998) (No. 98-1232). In the years following the initial public offering of Netscape (August 1995), a spectacular shift occurred in the financial markets, with venture capitalists showering money on “dot.com” start-ups and Wall Street investors clamoring to bid on stock issued in Initial Public Offerings (IPOs) of internet-related businesses. See discussion *infra* Parts III.D, IV.

⁵ Robert H. Bork, *White Paper, ZDNN* (July 29, 1998) <<http://www.zdnet.com/zdnn/stories/news/0,4586,2123665,00.html>>.

⁶ David S. Evans, *Antitrust on Internet Time: Whatever Happened to the Government's Case in United States v. Microsoft?* (September 17, 1999) <<http://www.microsoft.com/presspass/ofnote/nera/09-17nera.htm>>.

⁷ *Id.* at I.B.5.

⁸ *Id.* at I.A.

ering prices, introducing innovative products, or aggressively advertising the advantages of their products, by enticing customers to switch to preferred alternatives. There exists a harm to *competitors* in such markets, but not to *competition*. Indeed, the competitive process is adjudged to be working well where consumers' options improve and inefficient firms wither, perhaps exiting the market altogether.

Predatory actions diverge from competitive performance because, even while short-term benefits to consumers may be tangible, ultimately predation leads to higher prices and—on net—consumers lose. The standard episode involves predatory pricing. Assume a monopolist, *M*, supplies a market with a single product and charges monopoly prices *PM*, prices in excess of average or marginal cost *MC*, which for convenience we take to be equal.⁹ Assume an equally efficient entrant *E* begins to compete with *M*. Suppose *M* responds to the competition by slashing the output price to a very low level *PP*, below even marginal cost ($PP < MC$). Suppose further that such losses motivate the new competitor to abandon the market entirely, perhaps due to bankruptcy.¹⁰

Now the monopolist may be in position to raise prices back to *PM*, realizing a stream of monopoly profits ($PM - MC$) for some period in the future. Provided this monopoly market position is secure (i.e., entry barriers block new competitors), the predator *M* will then recoup the losses expended in the predatory rivalry. Hence, predation is an investment sunk by an incumbent firm in anticipation of future returns. The difference between an ordinary, pro-competitive investment is that the returns to predation flow from higher prices to consumers, whereas standard investments improve customer options via lower prices and/or greater product quality.

⁹ This implies constant returns to scale. It also conveniently allows us to assume that the perfectly competitive price (CP) would be equal to both average and marginal cost ($CP = MC$).

¹⁰ It is important to the predation story that the firm's productive assets actually be eliminated from the competitive market. If a firm simply goes bankrupt, the liquidated assets may be redeployed by a successor firm, thus constraining the next move by the predator. Assets may be rendered non-competitive by the predator firm buying them in a merger or a bankruptcy liquidation.

FIGURE 1
A STYLIZED EPISODE OF PREDATORY PRICING

Phase I: <u>Ultra-competition</u>	Key rival(s) Exits	Phase II: <u>Recoupment</u>
intense rivalry very low prices producers absorb operating losses		monopoly prices high profits entry barriers block new entry predatory investment (losses in I) yield of supra-competitive return

Experts in law and economics generally agree predatory conduct is theoretically possible, but a skepticism reigns over whether predatory practices are commonly employed. Indeed, an ongoing debate involves whether courts have ever successfully identified predation.¹¹ Interestingly, a case Robert Bork singled out in his classic antitrust text¹² as the sole example of a U.S. Supreme Court foreclosure case, *Lorain Journal Co. v. United States*,¹³ has recently been convincingly demolished as a bona fide case of predation.¹⁴ In the most recent predation case to come before the Supreme Court, the Court noted predatory pricing is “rarely tried, and even more rarely successful.”¹⁵ The degree of difficulty in accurately pinpointing and remedying predation is high, because actions which are plainly favorable to consumers—e.g., lowering prices—must be distinguished from tactics that ultimately hurt consumers. Moreover, the execution of predation takes place over time, and the inevitable changes in underlying market dynamics make comparison of effects on consumers problematic. Hence, both in identifying and in fixing predation, regulators aim at a difficult—and moving—target.

The analysis becomes more difficult still when the long-run losses are anticipated, not observed (as in the Microsoft case, where Netscape/Java has not been driven from the market and competition proceeds apace). Importantly, the *attempt* to predate typically carries benefits

¹¹ See Frank H. Easterbrook, *Workable Antitrust Policy*, 84 MICH. L. REV. 1696, 1701 (1986); Frank H. Easterbrook, *Predatory Strategies and Counterstrategies*, 48 U. CHI. L. REV. 263, 305-07 (1981); John S. McGee, *Predatory Pricing Revisited*, 23 J.L. & ECON. 289, 289-92 (1980). See also James C. Miller, III & Paul Butler, *Predation: The Changing View in Economics and the Law*, 28 J.L. & ECON. 495 (1985).

¹² See BORK, *supra* note 3, at 344-46.

¹³ 342 U.S. 143 (1951).

¹⁴ John E. Lopatka & Andrew N. Kleit, *The Mystery of Lorain Journal and the Quest for Foreclosure in Antitrust*, 73 TEX. L. REV. 1255, 1305 (1995).

¹⁵ *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209 (1993) (quoting *Matsushita Elec. Indus. Co., v. Zenith Radio Corp.*, 475 U.S. 574, 589 (1986)).

which, were they to last, would clearly make consumers better off.¹⁶ Hence, courts and regulators should refrain from too hastily “protecting” consumers. In general, actions to constrain competition—the gist of a legal action prosecuting allegedly predatory behavior—carry with them the danger of suppressing unambiguously pro-consumer market forces. Hence, a delicate line.

III. A FOUR-PART TEST FOR PREDATION

How should we evaluate the predatory conduct case against Microsoft? I propose to use a four-part evaluation of predatory allegations based upon the following elements: *Opportunity*, *Intent*, *Conduct*, and *Effect*. Each of the elements is necessary for the presence of predation. *Opportunity* involves an appraisal of market power and long-run entry barriers; unless a firm has a reasonable expectation of charging monopoly prices for a lengthy time beyond the initial, ultra-competitive phase of competition, then it is not profitable to pursue such a strategy. Regulators would be well advised to let the spontaneous forces of the market, and disgruntled shareholders, police corporate managers where “recoupment” is unlikely to be realized.

Intent refers to the strategic designs of the alleged predator. A company may be left in a more profitable position due to the exit of firms without predatorily causing the elimination of rivals. For instance, poor business decisions or natural disasters may eliminate rivals. On the other hand, firms may intend to eliminate rivals by providing superior products at lower prices. This strategic mission is, by itself, pro-competitive; it only becomes predatory when price increases ultimately harm consumers. The best evidence of intent reveals conduct causally linking the (pro-consumer) short-run effects of the predatory competition to the long-term (anti-consumer) consequences resulting from price increases.

Conduct is what the company actually does to compete too vigorously. The key is to distinguish aggressive rivalry, which routinely targets rivals for harm, from behavior which is ultimately anti-consumer. The classic example is pricing below marginal cost: despite the fact that low prices are good for customers, why would a firm intentionally lose money on units if not to drive rivals out of business and then raise prices?¹⁷ It turns out a pro-efficiency rationale for such behavior exists; indeed, virtually every retailer distributes some products “below cost” as a marketing tool, helping to bring product information to new customers.

¹⁶ This is the thrust of William J. Baumol’s useful article on predatory pricing. See William J. Baumol, *Quasi-Permanence of Price Reductions: A Policy for Prevention of Predatory Pricing*, 89 YALE L.J. 1 (1979).

¹⁷ See Phillip Areeda and Donald F. Turner, *Predatory Pricing and Related Practices Under Section 2 of the Sherman Act*, 88 HARV. L. REV. 697 (1975).

But where there are no plausible, efficiency-enhancing explanations for such behavior, predatory conduct becomes a leading candidate. An extreme example would involve burning down a competitor's facility. There are no efficiency justifications (output is unambiguously reduced), and the gain to the surviving firm is more than offset by losses to consumers in the form of higher prices and unrealized gains from trade.

The *Effect* of the allegedly predatory episode is most important. Are customers injured? Do they pay higher prices or enjoy lower-quality products? Negative effects registered on market competitors are relevant only insofar as they can be tied to higher prices. Without evidence of tangible losses suffered by buyers, the risk is that legal attacks on alleged predatory conduct will turn into intra-industry squabbles, and regulators will confuse the protection of competition with the protection of competitors. In fact, competition is very hostile to competitors, and a robust marketplace will by definition feature disgruntled firms, frustrated former competitors, and opportunistic litigants.

I now present an analysis of the May 1998 complaint filed in *United States v. Microsoft Corp.* under this four-part test for predation.

A. OPPORTUNITY

Is it possible that Microsoft, after investing in a "jihad" to deter Netscape/Java, would be left in a position to recoup losses from its resulting (retained) monopoly position? The government argues Microsoft thought it possible and even likely, as Microsoft's operating system is a monopoly protected by substantial barriers to entry: "PC manufacturers . . . have no commercially reasonable alternative to Microsoft operating systems for the PCs they distribute."¹⁸ The DOJ's complaint only superficially discusses the crucial issues regarding how long this position will be maintained and what Microsoft would have to do to maintain it. These omissions are critical to the government's case.

The DOJ argues competition from Netscape/Java is being nipped in the bud to protect Microsoft's future monopoly profits in the PC operating system software market.¹⁹ Among the actions taken, and cited by the DOJ as specific examples of anti-competitive behavior, are Microsoft's free distribution of its Internet Explorer browser both on the Net (as a stand-alone upgrade for Windows machines) and bundled within Windows 95 and Windows 98.²⁰ For instance, the complaint notes: "But Mr. Gates did not stop at free distribution [of Internet Explorer]."²¹

¹⁸ Complaint at para. 2, *United States v. Microsoft Corp.*, (D.D.C. May 18, 1998) (No. 98-1232).

¹⁹ *See id.* at para. 6-8.

²⁰ *See id.* at para. 13-19.

²¹ *See id.* at para. 17.

Microsoft assertedly plans to enjoy additional monopoly profits in the future by giving away software it could charge for today.²²

While Microsoft's large market share and extreme profitability seem to lend credence to the government's position, the existence of long-run entry barriers to competing with the Windows operating system is belied by the DOJ's own argument. For the monopoly "solution" proffered in the complaint—Java embedded in Netscape Navigator—itsself became a viable threat to Microsoft by accessing personal computers using Windows. That success was unrivaled by any software application in history—some thirty-eight million users of Netscape in just eighteen months.²³ Indeed, Netscape's ability to successfully interface with the software of its arch-rival was a key to its success, as even Netscape's former CEO, James Barksdale, has conceded:

I don't want anybody saying we're against Microsoft, we don't appreciate what they've done. They created companies like ours. If they didn't have that operating system with their set of plug-ins and their set of platforms, our business wouldn't be here.²⁴

Indeed, the very nature of Microsoft's operating system business is to make computers run applications. As innovative applications are developed by non-Microsoft vendors, demand for Microsoft operating system software increases. Moreover, any incompatibility with Microsoft Windows reduces what the Department of Justice cites as Microsoft's most important barrier to entry: the wide availability of useful applications software. Hence, it is not surprising Microsoft has sought to encourage widespread access to Windows by independent software developers. Its policies in this respect are most fruitfully compared, not to some ideal, theoretical construct but to its most long-lived direct competitor, Mac OS. Apple actually pursued a strategy similar to the one the government alleges in the Microsoft case, when, in the early to mid-1980s, it attempted to exploit its early lead in technology and high market share.²⁵ It pursued a "premium price" strategy to realize high profit margins, and closed its system to many outside developers including computer hardware makers. Despite pleas from both internal and exter-

²² Microsoft has pledged that Internet Explorer will be forever free, but of course the price of Windows—with which Internet Explorer is bundled—may rise. At trial, the DOJ's economic expert speculated that Microsoft would in fact substantially raise operating system software fees in the future.

²³ See MICHAEL A. CUSUMANO & DAVID B. YOFFIE, *COMPETING ON INTERNET TIME: LESSONS FROM NETSCAPE AND ITS BATTLE WITH MICROSOFT* 10 (1998).

²⁴ PAUL ANDREWS, *HOW THE WEB WAS WON* 290 (1999).

²⁵ See JIM CARLTON, *APPLE: THE INSIDE STORY OF INTRIGUE, EGOMANIA, AND BUSINESS BLUNDERS* 38-61 (1997).

nal parties (including, most ironically, Microsoft CEO Bill Gates) to liberally license its advanced graphical user interface so as to become an industry standard, it settled on a low-volume, high-margin business plan that ultimately proved disastrous for company shareholders.

Microsoft adopted a radically different vision, aggressively partnering with computer makers and using low-price strategies to achieve high market share. As this policy has developed, it has become clear Microsoft can do relatively little to seal itself off from threats to its operating system dominance; its pursuit of market share forces it to include a very wide range of compatible applications and complements. Its priority of MS-DOS/Windows ubiquity mandated it "create companies like" Mr. Barksdale's. Moreover, with web functionality so deeply integrated in Windows, this vulnerability of operating system market share becomes permanently tenuous. As Windows users feed the growth of the Net, the growth of the Net in turn allows competitive applications and operating systems—or programs (like Java) which perform the functions of operating systems—to gain access to vast numbers of computer users. The evolution of web-based computing, bringing Net-wide availability of applications, has spontaneously drawn PC operating systems into a larger, more competitive environment. While the government looks at Microsoft's market share in operating system software as high and safely secured, the underlying reality is Microsoft finds itself severely constrained in determining both the price of Windows and the functionality it offers.

A standard way economists gauge market power is to examine where a firm sets its prices in relation to its costs. In evidence gleaned from trial testimony and elsewhere, it is safe to assume the average price charged for Windows 95 or 98 during the alleged period of predation (approximately 1995-present) is about fifty dollars.²⁶ During this timeframe, the typical PC cost about \$1500. The mark-up by Microsoft for its PC operating system is, therefore, in the neighborhood of three to four percent. Noting the PC itself is useless without an operating system, and recalling the DOJ's claim that there is no reasonable substitute for Windows in the PC operating system market, the question must be asked: Why does Microsoft price Windows so low?

If, in fact, Microsoft were safely able to predict continued dominance of the PC operating system it would demonstrably price Windows much higher so as to maximize profits. Economists evaluate such pricing decisions in terms of elasticity of demand, and can formally relate the price/marginal cost margin to elasticity of demand for the firm by use of

²⁶ This is the wholesale price to original equipment manufacturers (OEMs) where the great bulk of sales take place. Few consumers buy PCs without operating system software preloaded.

the Lerner Index.²⁷ In this case, the elasticity faced by Microsoft is about negative thirty, a level which would easily categorize the firm demand curve as constrained by highly competitive substitutes.²⁸

Microsoft does enjoy very high market share, selling much more PC operating system software than its direct competitors. But the unanswered question in the DOJ complaint is: Why? The answer is straightforward: at a higher price, Microsoft expects it would soon invite competition, lose sales, and realize lower profits. This is powerful market evidence that the safely protected long-run monopoly profits scenario implicit in the government's predation case is a chimera. When setting prices to maximize company value (i.e., the discounted present value of profits), Microsoft demonstrates it does not operate on market power assumptions nearly so generous as touted by the government. The government, which emphasizes the credibility of its case by basing it so heavily on the statements of Microsoft executives themselves, ought to give at least equal weight to the actions of Microsoft in pricing its product. Given that the opportunity to extract monopoly mark-ups in operating system software is rejected by Microsoft, the government's case that Microsoft predated to maintain monopoly pricing in the future is severely compromised.

B. INTENT

The DOJ complaint dwells on the issue of intent. Indeed, the case constructed relies heavily on three strategic goals purportedly pursued by Microsoft: (1) a "browser war" against Netscape;²⁹ (2) "leveraging" the Windows monopoly to advance (1)³⁰; and, thereby, (3) eliminating

²⁷ The Lerner Index, the standard rule for analyzing market power from observed pricing markups, is defined as: $P = MC/[1 + (1/E^d)]$, where P = output price, MC = marginal cost, and E^d = firm's elasticity of demand. See ROBERT S. PINDYCK & DANIEL L. RUBINFELD, MICROECONOMICS, 347-48 (4th ed. 1998).

²⁸ See *id.*

Given an estimate of the firm's elasticity of demand, the manager can calculate the proper markup. If the firm's elasticity of demand is large, this markup will be small (and we can say that the firm has very little monopoly power). If the firm's elasticity of demand is small, this markup will be large (and the firm will have considerable monopoly power).

Id. at 349-50. (Note that, while demand elasticities are always negative, as price and quantity demanded vary inversely, the authors are speaking in absolute value terms; "large" elasticities correspond to larger negative numerical estimates.) The textbook goes on to give estimates of firm demand elasticities in different markets, the most competitive example being the retail food business (supermarkets). There firm elasticities are "often as large as -10," and therefore "a typical supermarket should set prices about 11 percent above marginal cost." *Id.*

²⁹ The DOJ cites an internal Microsoft document which refers to the Netscape-Microsoft competition in browserware as a "browser war" and a "jihad." Complaint at para. 10, *United States v. Microsoft Corp.*, (D.D.C. May 18, 1998) (No. 98-1232).

³⁰ The Complaint, citing Microsoft executive James Allchin's memo of January 2, 1997, alleged:

“competition on the merits” between Internet Explorer and Netscape Navigator.³¹ The evidence for these charges consists largely of public statements, internal memos, and email messages by Microsoft executives. As the New York Times reported the government’s closing arguments, “Government lawyers say their strongest hand is the copious documentary evidence they subpoenaed from Microsoft: thousands of E-mail messages and other internal corporate records from the last five years.”³²

What constitutes a smoking gun? Intent is a little tricky, since a corporation is a complex entity and a large number of executives may be writing many things for various purposes, not all of which will determine, reflect, or even influence strategic corporate policy. Even the statements of high company executives caught in the act of setting corporate policy must be interpreted with care. Start with the classic death threat; the DOJ complaint repeatedly stresses statements by Microsoft employees about planning to wage a “war” or “jihad” against Netscape, cutting off the company’s “air supply.”³³ Yet the act of “attempted murder,” let alone mere threats of bodily harm, does not constitute an economic crime. All market rivalry is reducible to an attempt to steal

Microsoft needed to begin “leveraging Windows from a marketing perspective” if it was to defeat Netscape. Allchin complained that without leveraging Windows from a marketing standpoint: “We do not use our strength which is that we have an installed base of Windows and we have a strong OEM shipment channel for Windows.” Allchin emphasized: “I am convinced we have to use Windows[.] [T]his is the one thing they don’t have . . . We have to be competitive with features, but we need something more [—] Windows integration. If you agree that Windows is a huge asset, then it follows quickly that we are not investing sufficiently in finding ways to tie IE and Windows together.” Using Microsoft’s code name, Memphis, for the next version of Windows, Allchin concluded that, “Memphis must be a simple upgrade, but most importantly it must be a killer on OEM shipments so that Netscape never gets a chance on these systems.” (MS7 005526).

Id. at para. 114(c).

³¹ The Complaint repeatedly refers to Microsoft’s intent to subvert “competition on the merits.” *Id.* at para. 36. For instance:

[T]he Complaint challenges only Microsoft’s concerted attempts to maintain its monopoly in operating systems and to achieve dominance in other markets, not by innovation and other competition on the merits, but by tie-ins, exclusive dealing contracts, and other anticompetitive agreements that deter innovation, exclude competition, and rob customers of their right to choose among competing alternatives.

Id.

³² Joel Brinkley, *Last Arguments Are Offered in Microsoft Case*, N.Y. TIMES, Sept. 22, 1999, at C1.

³³ *Id.* at para. 10. The Complaint stated: “To respond to the competitive threat posed by Netscape’s browser, Microsoft embarked on an extensive campaign to market and distribute Microsoft’s own Internet browser, which it named ‘Internet Explorer’ or ‘IE.’ Microsoft executives have described this campaign as a ‘jihad’ to win the ‘browser war.’” *Id.* The DOJ also cited Microsoft’s Paul Maritz, Microsoft’s Group Vice President, Platforms Group: “We are going to cut off their air supply. Everything they’re selling, we’re going to give away for free.” *Id.* at para. 16.

market share from competitors, starve rivals, and induce exit. Purely by itself, the threat is evidence of *competitive* intent, and can be used to help establish the absence of cartelistic behavior outlawed by §1 of the Sherman Act.³⁴ At an operational level, targeting visible, successful rivals for extinction is often an excellent way to focus company personnel and strategy; gauging company progress by the amount of market share “stolen” from competitors is an efficient means by which to track market success.

Microsoft has obligingly served as a target for the death threats of its rivals in opposing campaigns which—despite the implausibility of predatory intent—mirror the browser “jihad” launched by Microsoft. For instance, America Online, in 1994 (as now) the leading provider of online services and internet access in the United States with several million subscribers, braced itself for the launch of Microsoft Network (now called MSN, then code named “Marvel”) by having AOL vice-president Ted Leonsis rally the troops in the following manner:

AOL would electrify its defenses to keep from becoming the lunch of the T-Rex from the Pacific Northwest. Microsoft was now the official enemy.

Why? “Marvel is designed as an ‘AOL Killer,’” warned Leonsis. “And the presumption of victory is to Microsoft.” Microsoft wanted to drive AOL out of business, take jobs from AOL employees, and food from their children’s plates. It was big . . . and easy to hate. The number one priority was to create a warlike atmosphere against Microsoft, while girding AOL in the process.³⁵

. . . .

“Someday,” declared Ted Leonsis to the hundreds of AOL employees gathered at the Sheraton Premiere ballroom in Tysons Corner, Virginia, on November 11, 1994, “your children will ask you what you did in the war.”³⁶

. . . .

With the crowd now cheering and whooping, bright lights spinning and the music of Irish rock band U2 blasting over the speakers, Leonsis wheeled out a huge wooden cutout of a dinosaur. “Come sign it,” urged Leonsis. “Make your pledge that you will help destroy the

³⁴ 15 U.S.C. § 1 (1999).

³⁵ KARA SWISHER, AOL.COM 107 (1998).

³⁶ *Id.* at 106.

beast.” Hundreds of AOL employees converged on the stage, pens in hand. “Death to Marvel,” one scrawled.³⁷

Interestingly, while Netscape began its existence mindful of the shadow cast by the giant of the PC software market, it first set its sights elsewhere. Its initial mission, after being formed in the spring of 1994, was to seize the momentum in browser software from the market leader, NCSA Mosaic.³⁸ This organization distributed, at no charge, over the Internet, a popular web browser developed by the National Center for Supercomputing Applications at the University of Illinois. Jim Clark, the former Stanford University professor who founded Silicon Graphics before creating Netscape, raided NCSA's former and current employees (including the colorful twenty-three-year old code wizard, Marc Andreessen) to create a new firm initially called Mosaic Communications. He immediately took dead aim at the market leader:

Clark and Andreessen had a clear idea of how they wanted to develop their business. First, trounce the immediate enemy, NCSA Mosaic. Next, keep an eye on Microsoft, and if it came after them, force the giant company to fight on the unfamiliar turf of the Internet, turf that Mosaic Communications would define and control. But first things first. NCSA Mosaic must die. The Castro Street company [Mosaic Communications] would win by building a *better* browser – and *faster*, before people got too comfortable with the NCSA model.³⁹

The motive driving Netscape to “build a better browser” was, of course, the lure of profits. But the fledgling firm knew well the path to competitive success in software would not be smooth. A big splash quickly establishing a product as the favorite to establish a market standard would seize a decisive advantage over rivals. Firms who promoted their product cautiously, carefully extracting maximum revenues, would be vulnerable to more aggressive competitors due to network effects. Once customers become familiar with, and gain human capital complementary with, a given software product, some degree of “lock-in” occurs. And, as more customers use the standard, there is positive feedback; it becomes a safer bet for customers to invest in complementary human capital. Hence, an upward spiral in market penetration, as the industry

³⁷ *Id.* at 108.

³⁸ See JOSHUA QUITTNER & MICHELLE SLATALLA, SPEEDING THE NET: THE INSIDE STORY OF NETSCAPE AND HOW IT CHALLENGED MICROSOFT 108-09 (1998).

³⁹ *Id.* (emphasis in original).

tips in favor of a popular technology efficiently exploiting economies of scale.⁴⁰

Monopoly solutions are not foreordained, as multiple standards can co-exist over time. But, where products are close substitutes and network effects are strong, there is a slippery-slope where aggressive marketing efforts may tumultuously alter the positions of rivals. This sort of landscape leads firms to employ bold strategies for market dominance, aiming at the destruction of a competitor through saturation sales campaigns to amass market share, signaling customers that the superior product is likely to be the one whose virtual network is growing rapidly relative to rivals.⁴¹ The mass distribution of Netscape's browser free over the Internet, starting in late-1994, was one such notable campaign, a campaign which overwhelmed—and buried—NCSA Mosaic. The “carpet-bombing” of America with AOL software—some 250 million free copies were distributed by AOL through 1996⁴²—was another classic campaign to surge past rivals and create critical mass. AOL rose, somewhat incredibly, from just five million subscribers in 1994 to over seventeen million in 1999, to dominate, by a large margin, the country's Internet Service Provider (ISP) sector.⁴³

Predatory intent is not simply animus towards rivals. Every truly competitive company aims to displace its competitors and to leverage its assets:⁴⁴

In fact, start-ups frequently boast of exploiting technological niches, obtaining an ‘unfair advantage’ over their

⁴⁰ See CARL SHAPIRO & HAL VARIAN, INFORMATION RULES 273-75 (1999).

⁴¹ The strategic nature of such all-or-nothing competition is commonplace in Silicon Valley. See LARRY DOWNES & CHUNKA MUI, UNLEASHING THE KILLER APP: DIGITAL STRATEGIES FOR MARKET DOMINANCE (1998); GARY KAWASAKI, HOW TO DRIVE YOUR COMPETITION CRAZY: CREATING DISRUPTION FOR FUN AND PROFIT (1995).

⁴² See SWISHER, *supra* note 35, at 99.

Thus began what has become one of the riskiest and most innovative branding campaigns in the digital age – the carpet-bombing of America with free AOL disks. The marketing plan ultimately sent out more than 250 million disks bearing AOL software to the mass market and was the principal tool in making AOL one of the best known names in cyberspace.

Id. at 99.

⁴³ The number two ISP is MSN, with about 2 million subscribers.

⁴⁴ Having achieved a very large base of subscribers, AOL's top management tried to figure out how to generate additional revenues. They decided to begin charging content providers for the privilege of reaching their network of online users, thus using their dominance in supplying online access to extract payments for advertising and e-commerce.

Instead, why not help those who were already in those businesses and, in the process, get them to pay AOL for that aid? After years of building the AOL brand and attracting millions of customers, it was time to *leverage* the asset – or “harvest” it. (The term soon became widespread at AOL.)

SWISHER, *supra* note 35, at 277 (emphasis added).

competitors, and profiting from 'barriers to entry.' These terms are all considered positive even by those who champion innovation. 'Everyone leverages their assets,' explains Ken Wasch, the president of the Software Publishers Association, which has been critical of Microsoft.⁴⁵

Conversely, firms known for their cordiality to competitors, or those reluctant to seize advantages by leveraging assets, are scarcely champions for consumers.

The DOJ's interpretation of the phrase "competition on the merits" highlights the misuse of internal corporate communications in adducing predatory intent.⁴⁶ The complaint is breathless in repeatedly unveiling what DOJ lawyers evidently believe to be a smoking gun:

[A]s Microsoft's Christian Wildfeuer wrote in February 1997, Microsoft concluded that it would "be very hard to increase browser share on the merits of IE 4 alone. It will be more important to leverage the OS asset to make people use IE instead of Navigator. (MS 004346). Thus, Microsoft began, and continues today . . . to deprive customers of a choice between alternative browsers, and to exclude Microsoft's Internet browser competitors.⁴⁷

The DOJ asserted: "Microsoft's conduct with respect to Internet browsers . . . will be . . . to preclude competition on the merits. . . ."⁴⁸

The complaint cites Microsoft's Senior Vice President James Allchin's comments from January 2, 1997:

You see browser share as job 1 I do not feel we are going to win on our current path. *We are not leveraging Windows from a marketing perspective We do not use our strength—which is that we have an installed base of Windows and we have a strong OEM shipment channel for Windows.* Pitting browser against browser is hard since Netscape has 80% marketshare [sic] and we have [less than] 20% *I am convinced we have to use*

⁴⁵ Scott Herhold, *Microsoft Antitrust Case Splits Silicon Valley*, SAN JOSE MERCURY NEWS, Oct. 11, 1998.

⁴⁶ See Complaint, 12, *United States v. Microsoft Corp.*, (D.D.C. May 18, 1998) (No. 98-1232).

⁴⁷ *Id.* at para. 12.

⁴⁸ *Id.* at para. 38.

Windows this is the one thing they don't have . . . (MS7 005526).⁴⁹

Allchin's remarks prompted this characterization by the DOJ: "Microsoft executives have repeatedly recognized the significant advantage that Microsoft (and only Microsoft) receives by tying its Internet browser to its operating system, rather than having to compete on the merits."⁵⁰

Here the DOJ disconnect is particularly apparent, for the Microsoft executive has explicitly noted what other email messages—inherently cryptic, by their very nature incomplete communications—exclude: the embedded base problem making "competition on the merits" problematic *even for a product equal or superior to the market leader*. The problem is, where customers face non-trivial switching costs (e.g., learning a new software package), it is difficult to challenge an established product. This is precisely why Netscape feared it had to strike quickly, "before people got too comfortable with the NCSA model."⁵¹ Surely Microsoft faced a more formidable task in taking on the wildly popular Netscape browser.

Just as the DOJ alleges Microsoft enjoyed "lock-in" among its users who had invested heavily in learning Windows-compatible programs, Microsoft—now the entrant into a software market—faced the much vaunted barrier to entry in reverse. How could Microsoft surmount natural reluctance to adopt a new technology? Many Netscape users would be unlikely to switch to even a somewhat better software package simply because they had learned to use, and like, Netscape.⁵² Under such circumstances, "competition on the merits" would be problematic because of the positive network effects (barriers to entry in the DOJ lexicon) enjoyed by the market leader. Seen in this context, Microsoft's strategy to bundle its browser with Windows is easily explained as a way to overcome the disadvantages of Netscape's embedded base: Purchasers of new computers could access Internet Explorer easily and try it out, lowering switching costs, pumping demand. Microsoft's concurrent tactics—spending aggressively to upgrade the quality of Internet Explorer,

⁴⁹ *Id.* at para. 23 (emphasis in complaint).

⁵⁰ *Id.*

⁵¹ QUITTNER & SLATALLA, *supra* note 38, at 109.

⁵² I am one such user. Although I understand that recent head-to-head third-party ratings overwhelmingly favor Internet Explorer over Netscape Navigator, I continue to use Navigator 4.5 on both my office and home PCs. I have used Internet Explorer 4.0, but find myself more comfortable - and less bothered by pop-up ads - on Navigator. This brand loyalty is not unusual, in my personal experience, among academics who got accustomed to Netscape's browser early-on through liberal (zero-priced) site licenses aggressively distributed to universities.

and pricing it at zero—reinforced this effort. All three Microsoft policies increased the value of their product for users.

The DOJ complaint implies Microsoft executives, forlorn about “competition on the merits,” believed they needed an anti-competitive tool to keep customers from gaining access to their rival’s browser. The primary tactic that the Government singled out for condemnation was Microsoft’s inclusion of Internet Explorer in Windows 95, preventing computer makers (by threatening to withdraw the Windows license) from removing either the Internet Explorer software or start-up screen icon.⁵³ Rather than removing software or taking away consumer options, Microsoft was actually forcing OEMs to include extra software—additional Windows functionality—on computers. The allegation of anti-competitive behavior made by the DOJ rests on the disincentive this extra browsing software had on computer makers. As long as Internet Explorer came pre-loaded, why bother with Netscape?

One reason for PC manufacturers to include Netscape’s browser would be consumer demand, while one reason to exclude it would be that it cost too much. These are precisely the rational trade-offs firms are supposed to make in an efficient world. Prior to being forced by Microsoft’s competition to lower its price to zero in January 1998, Netscape was charging forty-nine dollars per copy in selected markets where it could impose fees.⁵⁴ Netscape’s January 1998 policy shift re-instated its original policy of free online distribution, which had created a tidal wave of support for the new product. Prices were imposed only as the firm wagered that its market power was sufficient to warrant such. It was a risky strategy that backfired. It allowed Microsoft Internet Explorer enormous marketing advantages during 1996-97. Netscape, even with a quality product, considerable “first-mover” advantages, excellent brand name capital, and the “lock-in” of a huge embedded base, hemorrhaged market share. It soon became apparent that the “freebie model” was the optimal policy, not just for introducing Netscape and seizing momentum to overwhelm NSCA Mosaic, but to capture the lucrative returns to scale associated with web site development. As usage of Netscape browsing software largely drives traffic to Netscape’s “Netcenter” web site, the company’s sacrifice of browser market share in favor of retail software revenue soon proved unprofitable.⁵⁵

⁵³ Microsoft also imposed other restrictions, including the rule that while other software could be pre-loaded—including Netscape Navigator—no icons could be more prominently displayed on the start-up screen than the standard-issue icons placed there by Microsoft.

⁵⁴ QUITTNER & SLATALLA, *supra* note 38, at 109.

⁵⁵ In their recent book on the economics of the Net, Carl Shapiro and Hal R. Varian write: “In some cases, especially for software with zero marginal cost, you can go beyond free samples and actually *pay* people to take your product. As we see it, there is nothing special about zero as a price, as long as you have multiple revenue streams to recover costs.” SHA-

Despite the DOJ's overarching reliance on internal memos, the evidence presented merely uncovers a Microsoft plot to aggressively move product. The DOJ complaint details this explicitly, but seems to miss its significance: "[A] presentation to Microsoft CEO Bill Gates on January 5, 1997, on how to respond to the Java threat emphasized 'Increase IE share' as a key strategy."⁵⁶

Importantly, nothing in the DOJ's evidence file links the alleged predator's attack on Netscape to an anti-consumer result. Such memos do materialize in antitrust cases from time to time. One instance involved the case of *Leza Coleman v. Sacramento Cable Television*,⁵⁷ a 1994 California class action brought against a monopoly cable firm which had used a discriminatory pricing scheme to help destroy two fledgling entrants, thus restoring and maintaining monopoly pricing.⁵⁸ In that case, the CEO of the incumbent firm alerted company executives to the possibility that competition from the second such entrant, Pacific West, would result in lower prices over the long run.⁵⁹

The key memo, "dated January 25, 1988 . . . bemoaned the problem of 'revenue exposure' (price cuts due to competition) and estimated the dollar loss if the second competitor got a foothold in the market: \$16,550,000 over 30 months. The memo concluded: 'Taking Pac West out of the picture early has significant value.'"⁶⁰ The firm proceeded to selectively slash prices, giving away free cable to some, free color televisions to others—but only on those streets where the competitive entrant offered cable service.⁶¹ Both competitors were soon discouraged from continuing to invest in fixed plant to serve additional homes, and the incumbent promptly raised prices back to monopoly levels (those prevailing elsewhere) upon its rivals' exit from the market.⁶²

PIRO & VARIAN, *supra* note 40, at 274. They go on to specifically relate this tactical approach to the browser war:

Start with Netscape. The key is that placements of Navigator help Netscape earn revenues from its other products. For example, Netscape's Web site is one of the most heavily accessed pieces of real estate on the Net, in large part because many of the 65 million users of Navigator have never changed the default setting on their browsers.

Id. at 293.

⁵⁶ Complaint at para. 8, *United States v. Microsoft Corp.*, (D.D.C. May 18, 1998) (No. 98-1232).

⁵⁷ California Superior Court, County of Sacramento; No 524077 [final judgment rendered in June 1994]. The author testified as an expert witness in the case, retained by the plaintiffs.

⁵⁸ *Id.*

⁵⁹ Thomas W. Hazlett and George Bittlingmayer, *Befuddled by "Internet Time:" The Government's Pointless Lawsuit Against Microsoft*, THE WKLY. STANDARD, July 5-12, 1999, 23, 24.

⁶⁰ *Id.* at 23-24.

⁶¹ *Id.*

⁶² *Id.*

This behavior, and other evidence in *Leza Coleman*, serve as a model for “smoking gun” intent. The basic facts of the case fit neatly into the four-part test for predation.⁶³ The defendant firm clearly enjoyed monopoly profits and benefited from long-run barriers to entry, including municipal franchise barriers (opportunity).⁶⁴ When challenged by upstart competitors, it devised a strategy to temporarily cut prices, a policy explicitly linked to a plan to enable high prices post-competition (intent).⁶⁵ It undertook actions having no efficiency justification, including the pricing of particular units below marginal cost (conduct).⁶⁶ Finally, it punished consumers with price increases once rivals were vanquished, while maintaining high prices wherever it had deterred competition (effect).⁶⁷ Notably, actual competitors were present, not predicted (as in the case of Netscape/Java developing into a quasi operating system), and temporary price cuts to benefit customers were actually revoked.⁶⁸ The DOJ presented one of these indicia of predation as evidence in the Microsoft case.

There is, however, a curious tie between *Leza Coleman* and *United States v. Microsoft, Corp.*; the economic expert testifying on behalf of Sacramento Cable Television (“SCT”) was MIT Professor Franklin Fisher—the same expert the Government retained to testify against Microsoft.⁶⁹ Fisher’s testimony in *Leza Coleman* exonerated the defendant of any anti-competitive intent or effect, despite crushing competitors and raising prices: “As regards the behavior of SCT . . . it seems to me that their behavior was, in fact, competitive behavior and ought not to be characterized as anti-competitive Companies should not be compelled to hold a price umbrella over inefficient competitors. They’re also not compelled to be stupid and not notice when the inefficient competitor goes out of business.”⁷⁰ Professor Fisher went on to explain so long as prices exceeded incremental costs a firm’s actions were legal and threats to rivals were of no moment. “A company takes an action[,]” testified Fisher. “It is profit maximizing on its own bottom. It may also have the effect of destroying or eliminating competition. In that case, you found

⁶³ See the discussion of *Leza Coleman* in Thomas W. Hazlett, *Predation in Local Cable TV Markets*, 40 ANTITRUST BULL. 609, 610-25 (1995).

⁶⁴ *Id.* at 614, 626-30. On market power in the cable television industry, see THOMAS W. HAZLETT & MATTHEW L. SPITZER, PUBLIC POLICY TOWARD CABLE TELEVISION: THE ECONOMICS OF RATE CONTROLS (1997).

⁶⁵ See Hazlett, *supra* note 63, at 630-31

⁶⁶ *Id.* at 609-13.

⁶⁷ *Id.* at 623-25.

⁶⁸ *Id.*

⁶⁹ HAZLETT & BITTLINGMAYER, *supra* note 59.

⁷⁰ *Id.* at 24.

documents in which the company says, 'Yes, we are going to destroy or eliminate competition.' That strikes me as irrelevant."⁷¹

C. CONDUCT

Much of the analysis used by courts and legal theorists in predatory pricing cases focuses on the "pricing-below-cost" test. Specifically, where firms possess the ability to recoup short-term losses (i.e., opportunity to predate), pricing units below marginal cost⁷² is often characterized as presumptively anti-competitive. The logic stems from the assumption of rational profit-maximizing behavior on the part of the firm. Because units sold at prices below marginal cost would save the company money if simply not produced at all, the action begs for an explanation. The strategy of temporarily flooding the market with low-priced product so as to force out a rival and raise prices post-exit is seen to fill the void.

In its complaint, the Government alleges the "free give-away" of Internet Explorer was anti-competitive.⁷³ In addition, the complaint argues Microsoft illegally foreclosed Netscape from various channels of product distribution by signing exclusive contracts with Internet Service Providers (ISPs) and Internet Content Providers (ICPs).⁷⁴ The two ISPs cited by the DOJ as entering into exclusive distribution of Microsoft's Internet Explorer were AOL and CompuServe, a subsidiary of AOL.⁷⁵ It is exceptionally problematic for the DOJ that AOL purchased Netscape in March 1999;⁷⁶ according to the Government's complaint it is now foreclosing *itself* by continuing to use Microsoft's Internet Explorer as the default browser software distributed to its seventeen million subscribers. Perhaps almost as damaging to the government's case is the fact that the complaint also singled-out three ICPs for entering anti-competitive agreements with Microsoft: CBS Sportsline, Hollywood Online, and Disney.⁷⁷ Just one year after the complaint was filed, internet web traffic

⁷¹ *Id.* In a case of bizarre lawyering, Microsoft counsel only attempted to introduce the previous writings and testimony of Franklin Fisher after he had left the witness stand where he had testified for nine days in both the case-in-chief and rebuttal phases. Microsoft attorneys withdrew their request after David Boies, representing the United States, handed them a copy of the relevant section of the Federal Rules of Evidence.

⁷² "Average variable cost" or "incremental cost" typically serve as proxies for marginal cost, since marginal costs are virtually impossible to calculate. See Areeda & Turner, *supra* note 17.

⁷³ Complaint at para. 16-17, *United States v. Microsoft Corp.*, (D.D.C. May 18, 1998) (No. 98-1232).

⁷⁴ *See id.* at para. 27-33.

⁷⁵ *See id.* at para. 31.

⁷⁶ *See id.* at para. 34.

⁷⁷ Complaint at para. 89, *United States v. Microsoft Corp.*, (D.D.C. May 18, 1998) (No. 98-1232).

rankings (see Table 1) establish that such exclusive agreements are not likely to have any material impact on the ability of consumers to access rival browser software.

TABLE 1: MOST POPULAR WEB SITES (MAY 1999)

Percent of total users visiting sites	
AOL	40.2%
Yahoo!	30.0%
MSN	24.6%
Lycos	18.0%
Go	13.6%
Excite	
GeoCities	
Microsoft	
AltaVista	
Blue Mountain Arts	
Amazon	
EBay	
AT&T	
Snap	
Time Warner	

While Microsoft's Microsoft Network ("MSN") was the third most popular web site, of the three partners suspected of advancing Microsoft's Internet Explorer monopoly strategy via exclusive cross-links, only Disney's GO site was among the 15 most popular Net content providers as of May 1999. In fact, the most popular web portals belonged to AOL, the arch-rival of Microsoft as owner of Netscape and competitor to MSN, and Yahoo!, an Internet start-up which strictly adheres to an open access policy with software providers and service providers, publicizing its avoidance of exclusive relationships.⁷⁸

⁷⁸ Their annual report states:

Since the formation of Yahoo!, we have been relentless in building Yahoo! into the only place anyone in the world would have to go to find and get connected to anything or anybody. . . Yahoo! is a leader in delivering the widest choice of content and services available to Internet users.

. . . .

We have always been very focused on acquiring and retaining as large and as broad a global audience as possible. By strategic choice, we have remained independent with regard to the content or merchant services we aggregate on behalf of our worldwide users. Users highly value choice, and our unique position is that of the independent, open aggregator of anything and everything users could want to find and get connected to.

The allegation that Microsoft engaged in predatory conduct by seeking to foreclose Netscape's browser is dubious, since Microsoft clearly has an efficiency defense. By establishing large market share for its product Microsoft is creating the network effects prompting consumers to place additional value on the product, inducing users to invest in learning the skills associated with product use. Exclusive agreements between various firms in the vertical chain of production and distribution are often observed, and have a variety of efficiency implications, just as does vertical integration—itsself a form of exclusive dealing and foreclosure.⁷⁹ Importantly, the exclusive agreements sought and gained by Microsoft—were they intended to vanquish Netscape—missed their mark. AOL and CompuServe are now connected to Netscape by common ownership, and—even counting either of the above as Microsoft Internet Explorer loyalists—Netscape is roughly even with Microsoft in terms of browser market share. Indeed, counting by usage, Netscape reportedly maintained a sizeable lead over Microsoft right through the “jihad”: “Recent data indicate that Netscape Navigator's share of usage is 54 percent, with Microsoft's Internet Explorer weighing in at 33 percent. (Cyberdog, for the Macintosh, is a distant third with around 5 percent of hits.)”⁸⁰

The allegation that Microsoft foreclosed competition through exclusive agreements with ISPs and ICPs is, in light of market developments, implausible. Indeed, at trial the government was forced to argue that the AOL/Netscape merger had no effect on the issues of the case, thus logically eliminating the problem of an exclusive contract between AOL and Microsoft as part of a campaign to destroy Netscape.⁸¹ (If an exclusive alliance between AOL and Microsoft creates foreclosure, then formation of the reverse alliance—AOL buying Netscape—undoes it.) The other contractual “foreclosure” allegations, never impressive in light of the small market shares involved, quickly faded. The Government was forced back to the traditional predation analysis, attempting to show that Microsoft's conduct was presumptively anti-competitive because the company purposely lost money while aggressively promoting its “non-revenue” web browser.⁸²

There are two gaping holes in the Government's argument. First, it is clear the marginal costs of software are very close to zero;⁸³ hence,

⁷⁹ See Ronald H. Coase, *The Nature of the Firm*, 4 *ECONOMICA* 386 (1937). For a further discussion of vertical restrictions, see Richard A. Posner, *The Rule of Reason and the Economic Approach: Reflections on the Sylvania Decision*, 45 *U. CHI. L. REV.* 1, 17 (1977).

⁸⁰ SHAPIRO & VARIAN, *supra* note 40, at 290.

⁸¹ *United States v. Microsoft Corp.*, (D.D.C. May 18, 1998) (No. 98-1232).

⁸² Franklin Fisher, the DOJ economist, repeatedly referred to IE as a “non-revenue” item.

⁸³ The DOJ's economic expert in the 1995 consent decree litigation, Nobel Laureate Ken Arrow, stated: “The software market is peculiarly characterized by increasing returns to

giving away Microsoft Internet Explorer as a free add-on to Windows is "profitable on its own bottom" and economically efficient. Second, there is a very compelling pro-consumer rationale for pricing below unit cost (even paying people to adopt) in browserware. By popularizing a branded standard, building demand for additional software (e.g., operating systems and applications) and e-commerce (where Microsoft participates in a wide range of revenue-producing activities), and enhancing web site traffic to Microsoft.com, the distributor of Internet Explorer gains with each person who adopts it.

Market valuations suggest that popular web sites are worth about \$200 to \$1000 per monthly user.⁸⁴ As Internet Explorer accesses the Internet through Microsoft's own web portal (which can be changed by the user, but—as noted above—is typically left in the default setting), Internet Explorer has turned out to be a very good investment "on its own bottom." That is because, even accounting for the fixed costs of writing the code and creating the first copy of Internet Explorer, total Microsoft expenditures on IE have been on the order of \$500 million. Yet, as of mid 1999, Microsoft.com was valued (separate from the company) at about \$8 billion. If even a small fraction of web site traffic is linked to the site, as is extremely conservative to assume, then Microsoft's "free give-away" in the browser war is already an excellent investment without the assistance of future price increases for customers.

With "penetration pricing," software firms efficiently achieve critical mass, establish new products, and create virtual networks.⁸⁵ Frances Cairncross dubs this "the freebie model," and the "give-away model," ironically singling out Netscape's marketing strategy as a classic example:

The freebie model was repeated by Netscape. It grabbed the early lead in the browser market using two ploys. First, Netscape's software was distributed on-line, rather than through retail stores, thus saving the costs of packaging and distribution. Second, by giving its basic product away free, the company kick-started the market. In six months, six million copies of the Netscape Navigator were downloaded, producing enough publicity for Netscape to start charging – and to distribute fifty million

scale. . . Virtually all the costs of production are in the design of the software and therefore independent of the amount sold, so that marginal costs are virtually zero." Declaration of Kenneth J. Arrow in *U.S. v. Microsoft* __ (January 17, 1995).

⁸⁴ For instance, in Spring 1999, Yahoo! has about 30 million users per month, and the company (which is a web site), is worth about \$30 billion.

⁸⁵ Shapiro and Varian specifically apply this concept to the Netscape/Microsoft browser war. See SHAPIRO & VARIAN, *supra* note 40, at 292-4.

browsers in a mere two years. That boosted the market for Netscape's expensive "server" software, which companies use on their host computers to communicate with browsers.

The give-away model makes eminent sense when it costs nothing extra to make more copies of a product. Computer games and browser software cost money to develop but not to manufacture. Distribute them on-line, and the publicity also comes free. And, of course, publicity for the product also attracts more users to the Internet.⁸⁶

To argue that Microsoft's market position renders an otherwise legitimate strategy off-limits is not persuasive. The conduct has the same business rationale for Netscape or Microsoft. That rationale is efficient behavior that ultimately benefits consumers. To constrain Microsoft from responding to competition due to its market position would clearly carry anti-consumer consequences. Should Microsoft be allowed to just match the forty-nine dollar market price for browsers prevailing at the time of Internet Explorer 3.0, going no lower? Should Microsoft be prohibited from enhancing the functionality of its software, capping its performance at the level of an equally-priced competitor? Public policies tempering the aggressiveness of competitive firms can clearly injure the competitive process, "protecting" consumers with high prices and sluggish performance.

D. EFFECT

Any court adjudicating a charge of predation should be keenly interested in evidence related to the effects the allegedly illegal behavior has on the consuming public. As consumer welfare maximization is the appropriate aim of antitrust law,⁸⁷ a pattern of anti-competitive behavior that fails to harm customers is an empty vessel.

The facts of the "browser war" lead inexorably to one conclusion: consumers have benefited enormously from the ferocious rivalry between Netscape and Microsoft. From the very dawn of the "browser market" itself, competition between the combatants has driven innovation, suppressed prices, extended applications, and hurried technical advances to markets now said to operate on "Internet Time."

Before Netscape had even developed its Navigator browser, Netscape's creators operated on the threat posed by Microsoft. It motivated them to innovate well. The tiny start-up was absolutely certain that the

⁸⁶ FRANCES CAIRNCROSS, *THE DEATH OF DISTANCE* 102 (1997).

⁸⁷ See ROBERT H. BORK, *THE ANTITRUST PARADOX* 81-89 (1978).

dominant player in personal computing software would respond, and respond powerfully. To pre-empt Microsoft, Netscape sought to create more than “just” a browser sufficiently useful to beat NCSA Mosaic. It went further, strategically creating an entire platform for non-Microsoft applications. That was the role of Java:

It was a given that Netscape needed to maintain its frantic pace of development to compete with Microsoft. But [Netscape Vice President Marc] Andreessen knew that *maintaining* the pace would not be enough to win the war, not if Microsoft ramped up and assigned hundreds of engineers to write its own version of a browser. To beat Microsoft under those circumstances, Netscape would have to increase the pace and go even faster, releasing subsequent versions of Navigator as quickly as possible.

Faster? Such a goal was almost impossible in the world of 1995, a world in which software programs like browsers grew bigger and clumsier with each successive release

Java could transform that world, because the language was platform independent . . . It could save a significant amount of development time⁸⁸

Netscape was the first Java licensee, and it ostentatiously set about its innovative foray by forging an alliance with the “ABM crowd”⁸⁹ (led by Sun Microsystems, developer of Java).⁹⁰ Its strategy was to bring a universe of software products onto the PC, to be read not by Windows but by Java. This “cross-platform” capability allowed Netscape to access a multitude of applications and to write new Navigator versions faster, saving the duplicated effort involved in multiple software language interfaces. Hence, the essential development supporting the DOJ’s entire theory of predation against a potential competitor—that rivalry to Windows was made possible on the PC by the universal software applications compatibility embedded in Netscape via Java—was a creation of the “jihad.”

As Netscape sought to preempt Microsoft, Microsoft reacted to Netscape.⁹¹ The software giant raced to build a better browser, spending hundreds of millions of dollars in the process,⁹² and soon achieved quality success. While the 1995 version of Internet Explorer, 1.0, had re-

⁸⁸ QUITTNER & SLATALLA, *supra* note 38, at 225-26 (emphasis in original).

⁸⁹ See CUSUMANO & YOFFIE, *supra* note 23, at 133.

⁹⁰ See *id.*

⁹¹ See QUITTNER & SLATALLA, *supra* note 38, at 263-97.

⁹² Microsoft assembled 800 employees to work specifically on Internet Explorer. See *id.* at 266.

ceived poor reviews and was clearly inferior to Netscape's browser, Internet Explorer 3.0 received generally positive reviews from software magazines when it was released in August 1996.⁹³ Internet Explorer pulled even in ranking "wins" against Netscape Navigator in the second half of 1996, and then won decisively in 1997 and 1998.⁹⁴ Of course, the ever-improving functionality of either browser delivered substantial benefits to millions of consumers, who responded by flocking online in droves.

As Microsoft's browser product improved to be fully competitive with Netscape's software, the company embarked on a campaign to distribute millions of copies of Internet Explorer through bulk agreements with ISPs.⁹⁵ Of course, the DOJ complaint characterizes these agreements as anti-competitive deals pursued by Microsoft to cut off Netscape's "air supply."⁹⁶ But pitting the rival browsers in head-to-head competitions before major ISPs achieved substantial transaction economies. Because companies such as AOL, Netcom and AT&T (owner of AT&T WorldNet) sell online access to customers, they have a vested interest in the availability of low-priced, high-quality complementary products. Web surfing software is highly complementary to ISP output, so much so that the standard online start-up kit includes a browser seamlessly embedded within it. Hence, the ISPs act as de facto consumer agents, selecting browsing software optimized for customer needs. Moreover, due to economies of scale, ISPs naturally bring considerable expertise to the selection process.

At trial, the DOJ introduced testimony from Steve Case, CEO of America Online, purporting to establish Microsoft used its Windows monopoly (and control over new computer start-up screens) to muscle AOL into its March 1996 exclusive agreement to use Internet Explorer software as the default browser provided to its subscribers.⁹⁷ But the story has been told elsewhere, by less interested parties.⁹⁸ This reporting reveals a sharply contrasting tale, one which vividly demonstrates how the aggressive Microsoft marketing efforts led directly to lower prices and better products for millions of consumers. Hence, I quote at some length:

⁹³ See *id.* at 273.

⁹⁴ See STANLEY J. LIEBOWITZ & STEPHEN E. MARGOLIS, WINNERS, LOSERS AND MICROSOFT 219 (1999).

⁹⁵ See Complaint, *United States v. Microsoft Corp.*, (D.D.C. May 18, 1998)

⁹⁶ *Id.* at para. 16, (quoting Paul Maritz, Microsoft's Group Vice President in charge of the Platforms Group).

⁹⁷ *AOL Chief Bolstered Key Allegation In Microsoft Case*, Reuters (Sept. 17, 1998). "The head of America Online, Inc., Wednesday bolstered a key allegation in the government's antitrust case against Microsoft Corp., saying his company opted for the software giant's Internet browser to get a better position in the Windows operating system."

⁹⁸ See SWISHER *supra* note 35, among others.

Case decided to conduct a “bake-off” between Netscape’s Navigator and Microsoft’s Explorer. David Cole, AOL’s Internet head, let an effort in which the entire executive team looked at the two deals from a variety of perspectives—price, technology issues, and simple company rapport.

From the start, Case and most of the AOL executives were still predisposed to Netscape—and, more to the point, against Microsoft. When [Microsoft’s] Brad Chase first visited AOL’s Virginia offices to talk about Explorer, his chances were broadcast quickly to him.

“I went up to the receptionist and signed in and she looked at me and said, ‘Microsoft, oooooh,’” he recalled.

Luckily for Chase, neither Cole nor David Colburn—one of AOL’s top deal-making executives . . . was leaning toward anyone. Given to wearing cowboy boots and a few days’ stubble, Colburn styled himself as a kind of maverick at AOL.

“I basically looked at what was the better deal for AOL, what would give us the most advantages,” he said. “I didn’t care about what the hell Silicon Valley thought, or that Microsoft was the anti-Christ, or that Netscape was so cool. I only thought, Who’s got what we need?”

He quickly found that Netscape did not have what AOL needed, and Microsoft did. On almost every issue, he said, “It seemed like Netscape was taking things off the table, while Microsoft kept putting them on.”

There was price: Netscape insisted that AOL pay millions of dollars for the browser—on a per-user basis, like all of its customers—because it was not in the business of giving its software away to big corporate users. Microsoft—looking to extend browser market share quickly—was offering it to AOL for free

There was technology: Netscape did not want to change Navigator in any substantial way to accommodate AOL, and wanted Navigator to sit on top of AOL, directing users to the Netscape site as they entered the Web. But AOL wanted . . . a customized browser that was seamlessly integrated into the service On the other hand, Microsoft was willing to change the browser in any way that was amenable to its service design, making it easier to customize.

And there was rapport: "Netscape thought we had nowhere else to go," said Colburn. "It was like, 'AOL has to do a deal with us, because (1) we're the leading browser, and (2) Microsoft is its archenemy.'" Microsoft, again, seemed to bend over backward to get the AOL business. There was even a full-scale press of Case by Gates himself. "I went after the AOL business," said Gates in a later interview.⁹⁹

Another recent book adds some interesting detail on what followed the "bake-off":¹⁰⁰

Netscape later rebuffed opportunities to reengage AOL. As much as half of Microsoft's early market share gains in browsers came from its deal with AOL. Nonetheless, [Netscape executive] Ram Shriram told us that four months after AOL signed its deal with Microsoft, Netscape could have recovered half the market share it was about to lose:

AOL came to us again. AOL's stock was tanking, and it was getting sued by the attorney generals [sic] of various states. . . They were keen to come back to the table and forge a partnership with us. . . Only two people went on this trip to go see Steve Case—me and Barksdale. Jim and I went there trying to figure out how to make a new AOL user interface with the Netscape browser. (Despite the Microsoft contract), they had some deal that stated, if the desktop got diluted with lots of icons, they were not required to keep Microsoft as the only default. . . We both came back from that trip and pitched it to Andreessen, the engineering team, and Homer. But we got a very tepid response back at the ranch. . . Netscape was saying, "We're really not interested. Our focus is not on consumers, so we're not terribly interested in working with you." We lost another opportunity to take charge of another 10 to 12 million browsers.¹⁰¹

Netscape was soon forced to respond to Microsoft. It reduced its price for Navigator from forty-nine dollars to zero in January 1998, and took the bold step of actually publishing its source code on the web. This risky move, revealing company secrets, was taken to allow Naviga-

⁹⁹ SWISHER *supra* note 35, at 136-37.

¹⁰⁰ See CUSUMANO & YOFFIE, *supra* note 23.

¹⁰¹ *Id.* at 115-18.

tor users the opportunity to customize solutions, creating value for individuals and the network (which expands as a result). It also assured users high prices would not be imposed in the future (the product itself was already on the Net, ready to substitute for any high-priced Netscape package in the future). The measure was aimed directly at Microsoft, which guards its source code as a proprietary capital asset. In addition, Netscape continued to add functionality to its browser, including integrated email software and a suite of communications services.¹⁰²

The browser war continues. Netscape, now safely absorbed into an AOL empire capitalized at about \$100 billion as of September 1999, is alive and well.¹⁰³ Its market share is reduced, but it continues to be highly competitive, and perhaps more popular in terms of usage, than Microsoft. Moreover, absolute usage has continued to climb for both browsers throughout the competition; a diminished share of a rapidly expanding online marketplace has led to substantial increases in output.¹⁰⁴ Meanwhile, the frenzy on Wall Street is over software start-ups, e-commerce firms, Internet infrastructure providers, Net telephony suppliers—the entire panoply of firms thriving on the expansion of online services.¹⁰⁵ At the center of this tectonic plate shift in capital formation stands the consumer interface bringing millions of individuals and businesses to the Net: browser software. Indeed, the Internet IPO craze was itself ignited by the most successful initial public offering in history as of August 8, 1995: the IPO of Netscape Communications, which managed to become capitalized at \$4.4 billion in just one day.¹⁰⁶ (Microsoft, after its IPO in 1986, was worth a mere \$519 million.)¹⁰⁷ One wonders how when an intense struggle between two firms has been so visibly connected to dynamic economic changes producing vast new efficiencies.

IV. CONCLUSION

*“Microsoft is going to try to be technical and precise and the government’s going to paint in broad brushes—and they’ll pass each other in the night as they usually do.”*¹⁰⁸

After the case of *United States v. Microsoft* concluded, the parties framed the case for Judge Jackson in two disparate summations.¹⁰⁹ As

¹⁰² *See Id.*

¹⁰³ *Id.*

¹⁰⁴ *Id.*

¹⁰⁵ *Id.*

¹⁰⁶ *See* QUITTNER & SLATALLA, *supra* note 38, at 248.

¹⁰⁷ *Id.* at 248.

¹⁰⁸ Joe Wilcox, *Final Arguments in Microsoft Antitrust Trial*, CNET News.com, (Sept. 21, 1999) <<http://www.news.cnet.com/news/0-1003-202-121650.html>> (quoting Joe Sims, an antitrust lawyer with Jones, Day, Reavis & Pogue).

¹⁰⁹ *Id.*

one antitrust expert noted, rather than meet the government's allegations head-on, Microsoft attempted to bob and weave, challenging the evidence and raising issues of doubt.¹¹⁰ Instead, they might have chosen to directly confront the government's case by telling *Microsoft's story*, the story of how—motivated by the fear and greed they are rightfully accused of—they took extraordinary measures to confront a competitor and win the browser war.

They might have elected to agree, *arguendo*, with the government's allegation it initially met with Netscape executives and threatened to squash the upstart company like a bug.¹¹¹ This was the prized exhibit showcased in the government's summation.

Mr. Boies then recounted what he called a pattern of actions Microsoft took to protect its Windows dominance and extend it to the Internet, beginning with a now-famous June 21, 1995, meeting in which Microsoft is alleged to have illegally offered to carve up the Internet-browser market with Netscape. The meeting, and the events that followed, he said, "provide insight into Microsoft's soul."¹¹²

Imagine instead of quibbling about the Netscape witnesses' rendition of this meeting, which Microsoft witnesses vehemently contest, Microsoft assumed them to be true—and told the rest of the story with a "broad brush." For all of Microsoft's ferocious audacity and anti-competitive intent, Netscape's fledgling entrepreneurs, after being threatened by the world's mightiest software giant, felt sufficiently potent to reject the offer and leave the room under their own power. Just three months later, in fact, their daring move was warmly embraced by the kindest affection American capitalism has to offer, as they launched the most successful IPO in U.S. financial history (opportunistically using the ubiquitous publicity from a \$200 million Microsoft Windows 95 promotional budget as a booster rocket).¹¹³ Having amassed vast personal wealth, these executives struggled for the next three years to compete with the Microsoft juggernaut, which foreclosed distribution channels and gave away free rival software, and upgraded its product to the point where it was winning all the independent ratings.¹¹⁴ Seeing its market share drop from eighty percent to perhaps as low as forty-five percent, the company

¹¹⁰ *Id.*

¹¹¹ Netscape CEO James Barksdale testified: "I have never been in a meeting in my thirty-three-year business career in which a competitor had so blatantly implied that we should either stop competing with it or the competitor would kill us." ANDREWS, *supra* note 24, at 290.

¹¹² John R. Wilke & Sarah Lueck, *As Trial Closes, U.S. Says Microsoft Stifled Innovative Rivals*, WALL ST. J., Sept. 22, 1999, at A4.

¹¹³ For an excellent account of the Netscape IPO, see QUITTNER & SLATALLA, *supra* note 38, at 238-51.

¹¹⁴ *See id.*; ANDREWS, *supra* note 24.

finally elected to sell its equity shares to America Online for a mere \$10 billion.¹¹⁵

In the interim, due to the bloody nature of the browser “jihad,” customers saw prices slashed and functionality mushroom. Concurrently, complementary sectors—including computers, microprocessors, e-commerce, online services, communications infrastructure, and networking—experienced an investment boom of historic proportions premised largely on the massive expansion in PC web browsing. Entry into software and software-related markets became a mad dash, with venture capital funds swelling and “dot.com” start-ups flooding the financial markets—turning the DOJ’s May 1998 prediction Microsoft’s browser war would discourage investment and freeze new entry on its head.

What the government has advanced as compelling evidence of predation turns out to be a case of mistaken identity. The DOJ has confused the fundamentally raucous nature of pro-consumer competition in a dynamic market featuring important network effects with an antitrust violation. This is why it is so curious that Microsoft avoided the “broad brush” in favor of scoring “technical points” at trial. The big picture was surely Microsoft’s best defense. In a systematic search for signs of predation by scanning opportunity, intent, conduct and effect, the case filed against Microsoft in May 1998 is seen to be unconvincing in every one of the four test areas jointly necessary to establish anti-competitive action.

Software experts surmise Microsoft products have a standard life cycle. The first version issued is typically quite a mess, hurried to market, full of bugs. It’s really just a start. The second edition has often eliminated many of the bugs, and works—but is still not considered polished. Finally, with the 3.0 version, the software has been thoroughly debugged and has been upgraded to be user-friendly. This is the model that proceeds to amass market share—just as Internet Explorer 3.0 was the breakthrough innovation in Microsoft’s browser “jihad.”

By this standard, investors in the Redmond, Washington computer firm can look to the future with some optimism. The district court trial has just concluded, and the bugs in Microsoft’s presentation were glaring, crashes frequent. Look for the company’s defense to run much smoother at the D.C. Court of Appeals. By the time oral arguments are heard at the U.S. Supreme Court, Microsoft’s defense will be the “killer app” for antitrust analysis in the New Economy.

115 *Id.*

