

U.S. v. MICROSOFT: CUI BONO?

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INTRODUCTION

The government's May 1998 antitrust filing against Microsoft represents the most ambitious antitrust initiative in a generation, easily comparable to the IBM and AT&T cases.¹ Indeed, the case against Microsoft is more ambitious. The Department of Justice (DOJ) filed the IBM and AT&T cases when faith in antitrust was strong, when breaking up General Motors and major oil firms represented serious policy options.² In recent years, however, activist trust-busting has fallen into disrepute, and the large-firm monopolization case has become a rarity. Thus, DOJ's case against Microsoft represents a potential shift in policy, a possible return to the antitrust activism of the 1960s and 1970s, especially in light of DOJ's April 2000 brief urging Judge Thomas Penfield Jackson to impose divestiture on Microsoft.³ The case will influence antitrust for a broad spectrum of industries. Arguably, it will also shape other types of policies governing high tech industry.

At this important juncture, we do well to distinguish the narrow legal case from the broader policy issues. The legal case against Microsoft revolves around two economic questions: (1) is Microsoft a "monopoly"? and (2) have its business practices thwarted the development of better and cheaper products? Judge Thomas Penfield Jackson has offered affirmative answers to both questions. He believes that

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¹ See U.S. v. Microsoft, Civil Action No. 98-1232, Complaint, May 18, 1998; U.S. v. International Business Machines, Docket No. 69 Civ. 200 (DNE) Southern District of New York, January 17, 1969; U.S. v. AT&T, 552 F. Supp. 131 (D.D.C. 1982) (civil action no. 74-1698) November 20, 1974.

² See *In re Exxon Corp. et al.*, FTC Docket 8934 (seeking divestitures in petroleum). The Department of Justice had been eyeing General Motors in the early 1960s. "GM was then [1963] widely suspected of trying to hold its market share down, so as not to rouse the dogs of antitrust." Carol J. Loomis, *Dinosaurs? (Three Firms in Decline)*, *FORTUNE*, May 3, 1993, at 36. The subject still got serious consideration in the early 1970s. See LAWRENCE J. WHITE, *THE AUTOMOBILE INDUSTRY SINCE 1945* (1971). For a history of divestiture efforts, see William E. Kovacic, *Failed Expectations - The Troubled Past and Uncertain Future of the Sherman Act as a Tool for Deconcentration*, 74 *IOWA L. REV.* 1105-1150 (1989).

³ See U.S. v. Microsoft, Civil Action No. 98-1232 (TPJ) Plaintiffs' Proposed Final Judgment, April 28, 2000.

Microsoft is a monopoly and that its practices have hurt consumers.⁴ I disagree. But even if Judge Jackson is right, the case might still be a mistake. "Has Microsoft been bad?" represents the beginning of a policy inquiry. In the end, this antitrust initiative requires a persuasively positive answer to another question: "Will suing Microsoft do any good?" Will this case and others like it serve the public interest?

As did Senators in ancient Rome, we can get closer to the heart of the matter by asking, "cui bono?" – for whose benefit? The interplay of private interest illuminates the public interest.

For the Microsoft case, we can ask "cui bono?" in at least four ways:

- * Who benefits from antitrust?
- * Who benefits from Microsoft's large market shares for desktop operating systems and applications?
- * Who benefits from Microsoft's browser war with Netscape?
- * Who benefits from the case against Microsoft?

As pertinent as these questions may be, antitrust economists as a group do not have a good record in providing answers. In a recent article on the use of expert witnesses, Judge Richard Posner pointed to antitrust economics as an example of field with no professional consensus. "A perfectly respectable economist might be an antitrust 'hawk,' another equally respectable economist a 'dove.' . . . [A] judge or jury would have little basis for choosing between them."⁵ The economics profession has generated more heat than light on the question of antitrust policy in practice.

I propose to regain some of our lost honor by following the example of seventeenth century English scientist Robert Boyle⁶ by attempting to set aside philosophical and theoretical questions on which interested parties are unlikely to reach a consensus and focusing instead on an aggressive empiricism. What do we really know? What can we demonstrate with the facts?

I. WHO BENEFITS FROM ANTITRUST?

Who should benefit from antitrust? From the early days of the Sherman Act and throughout the twentieth century, the aim of antitrust

⁴ U.S. v. Microsoft, Findings of Fact, Civil Action 98-1232 (TPJ), November 5, 1999; U.S. v. Microsoft, Conclusions of Law, Civil Action 98-1232 (TPJ), April 3, 2000.

⁵ Richard A. Posner, *The Law and Economics of the Economic Expert Witness*, 13 J. ECON. PERSP. 91, 96 (1999).

⁶ See generally *THE EARLY ESSAYS AND ETHICS OF ROBERT BOYLE* (John T. Harwood ed., 1991).

was unclear. The Sherman Act arose at the same time as, and arguably in response to, new methods of production and new forms of economic organization. The “trusts” embodied much that was both feared and revered in these new methods and forms, and public debate was openly schizophrenic about the “trust and corporation question.” Antitrust was supposed to protect consumers against the high prices of alleged monopolists, but it also was supposed to protect “small dealers and worthy men,” in the words of Justice Peckham in *Trans-Missouri*.⁷ The aim was to square the circle: protect consumers from high prices while protecting competitors from the trusts. It is a pleasure to report that open, public defense of the goal of protecting “small dealers and worthy men” finally fell into intellectual disrepute about twenty years ago, though it still inspires some policy discussions.⁸

Policy analysts – economists and antitrust scholars – compounded the problem of inconsistent goals with willful ignorance of antitrust’s actual effects. The sober verdict of Nobel Laureate George Stigler is instructive. More than any other individual, Stigler shaped modern industrial organization, the branch of economics most relevant for antitrust

⁷ U.S. v. *Trans-Missouri Freight Association*, 166 U.S. 290 (1897) (“Trade or commerce under those circumstances may nevertheless be badly and unfortunately restrained by driving out of business the small dealers and worthy men whose lives have been spent therein, and who might be unable to readjust themselves to their altered surroundings. Mere reduction in the price of the commodity dealt in might be dearly paid for by the ruin of such a class and the absorption of control over one commodity by an all-powerful combination of capital.”); see also Robert Pitofsky, *The Political Content of Antitrust*, 127 U. PA. L. REV. 1051 (1979) (political values should be included in antitrust policy); ROBERT H. BORK, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* 50-89 (1978) (arguing for economic efficiency); Thomas W. Hazlett, *The Legislative History of the Sherman Act Re-examined*, 30 ECON. INQUIRY 263 (1992) (the Sherman Act was passed to satisfy needs of several political groups, including rent-creation for the Republican congress); Robert L. Bradley Jr., *On the Origins of the Sherman Antitrust Act*, 9 CATO J. 737 (1990) (Sherman Act was a diversion for the McKinley Tariff of 1890); Andrew N. Kleit, *Common Law, Statute Law, and the Theory of Legislative Choice - An Inquiry into the Goal of the Sherman Act*, 31 ECON. INQUIRY 647 (1993) (concluding that the aim was to maximize efficiency); THE POLITICAL ECONOMY OF THE SHERMAN ACT: THE FIRST ONE HUNDRED YEARS (E. Thomas Sullivan ed., 1991) (collection of articles with various views); William E. Kovacic and Carl Shapiro, *Antitrust policy: A century of economic and legal thinking*, 14 J. ECON. PERSP. 43 (Winter 2000) (surveying thought but not actual effects of antitrust).

⁸ See *The Goals of Competition Law, Conference on Trade and Competition Policy before the Pacific Economic Cooperation Council*, May 13-14, 1997 (prepared remarks of Debra A. Valentine) (visited June 14, 2000) <<http://www.ftc.gov/speeches/other/dv-speech.htm>> (“Today there is widespread consensus that the purpose of the U.S. antitrust laws is to ensure a competitive market.”); Ernest Gellhorn and William E. Kovacic, *ANTITRUST L. & ECON.* 35 (1994) (“Although mainstream judicial analysis today reflects a goals hierarchy dominated by efficiency, this pattern is not universal.”); Edward S. Herman, *The Threat from Mergers*, *DOLLARS & SENSE*, May/June 1998, at 10-13 (advocating active deconcentration on both efficiency and political grounds).

analysis.⁹ He was also a vocal supporter of spirited antitrust enforcement.¹⁰ In fact, in the early 1950s Stigler advocated that the government divest a “few dozen” of our largest corporations.¹¹ Over time he tempered his views, but in an interview conducted thirty years later, he averred: “I like the Sherman Act.”¹²

Despite his predilection for activist antitrust policy, Stigler concluded in the early 1980s that “there have been no persuasive studies of the effects of the Sherman and Clayton Acts throughout this century.”¹³ Economists had dropped the ball. Many continue to drop the ball. The actual effects of antitrust are *terra incognita*. For example, the influential *Handbook of Industrial Organization*, edited by Richard Schmalensee and Robert Willig, does not deal with empirical studies of antitrust enforcement – either causes or effects. Indeed, it has no index entry for “antitrust.”¹⁴ Ironically, Schmalensee is Microsoft’s chief economic expert.

In the absence of a serious empirical defense of antitrust as actually carried out, a number of economists have advocated elimination or greatly scaled back enforcement of antitrust policy. Former MIT business school dean Lester Thurow, who tends to favor an activist role for government, argues that “the time has come to recognize that the antitrust approach has been a failure. The costs it imposes far exceed any benefits it brings.”¹⁵ Milton Friedman, who typically favors a restrained role for government, recently reflected on his changing views on antitrust at a conference that dealt with the interaction of government and high technology industries, and specifically with the Microsoft case:

My own views about the antitrust laws have developed greatly over time. When I started in this business, as a believer in competition, I was a great supporter of anti-

⁹ Jacob Mincer and Richard Schmalensee, *The Nobel Memorial Prize in Economics: George Stigler’s Contributions to Economics*, 85 SCANDINAVIAN J. OF ECON. 61 (1983).

¹⁰ Stigler was a member of the Attorney General’s National Committee to Study the Antitrust laws, which produced a report advocating stricter enforcement. ATTORNEY GENERAL’S NATIONAL COMMITTEE TO STUDY THE ANTITRUST LAWS (1955) (co-chairmen, Stanley N. Barnes, S. Chesterfield Oppenheim).

¹¹ See George J. Stigler, *The Case Against Big Business*, 45 FORTUNE, May 1952, at 123.

¹² Thomas Hazlett, *Interview With George Stigler*, REASON, Vol. 15, No. 9, January 1984. In contrast, Stigler viewed legislation in other contexts as the outcome of political forces, rather than a disinterested expression of the public interest. See George J. Stigler, *The Economic Theory of Regulation*, 2 BELL J. OF ECON. & MGMT. SCI. 67 (1971).

¹³ George J. Stigler, *THE ECONOMIST AS PREACHER, AND OTHER ESSAYS* 44 (1982).

¹⁴ See HANDBOOK OF INDUSTRIAL ORGANIZATION (Richard Schmalensee & Robert D. Willig eds., 1989).

¹⁵ LESTER C. THUROW, *THE ZERO-SUM SOCIETY* (1980), *quoted in* CATO HANDBOOK FOR CONGRESS: 105TH CONGRESS, (visited June 14, 2000) <<http://www.cato.org/pubs/handbook/hb105-39.html>>.

trust laws, I thought it was one of the few desirable things that the government could do in order to promote more competition. But as you watch what actually happened, you saw that instead of antitrust laws promoting competition, it tended to do exactly the opposite. Because they tended, like so many government activities, to be taken over by the people they were supposed to regulate and control. And so over time, I have gradually come to the conclusion that antitrust does far more harm than good and that we would be better off if we didn't have it at all, if we could get rid of it.¹⁶

In rejecting antitrust policy, Thurow and Friedman rely on the absence of evidence supporting antitrust and an informal assessment of our long experience with actual policy. A few economists and lawyers have tackled the question of antitrust policy's origins and actual effects head on. One of the hosts for this conference, Fred McChesney, has been asking the right questions and getting some surprising answers. His book with Bill Shughart on the *Causes and Consequences of Antitrust* brings together recent scholarship on antitrust as actually carried out.¹⁷ The Sherman Act had its origins, at least in part, in attempting to restrain new competitive forces. But in fact; early enforcement may actually have promoted rather than retarded the formation of the modern large firm. Enforcement reflects political forces; and, in practice, the law may very well have reduced output.

In the Microsoft case, history offers little hope that the government will demonstrably achieve its stated objective of promoting the public good. In fact, the case may generate significant but often overlooked damage. In the past, the actual effect of antitrust enforcement has been precisely the opposite of its intended effects. Antitrust policy encouraged the growth of big business at the turn of the century, and the growth of the ill-fated conglomerate mergers in the 1960s. Sporadic and vitriolic attacks on business carried out in the name of anti-monopoly campaigns unsettled business confidence during Teddy Roosevelt's legendary trust-busting, during Thurman Arnold's tenure as the New Deal's antitrust chief, and at other points.¹⁸

¹⁶ *The Suicidal Impulse of the Business Community, Luncheon Address, Cato Institute Conference on Washington D.C. v. Silicon Valley*, November 21, 1998 (unedited transcript of Milton Friedman) (visited June 14, 2000) <<http://www.cato.org/events/friedman.html>>.

¹⁷ See THE CAUSES AND CONSEQUENCES OF ANTITRUST: A PUBLIC-CHOICE PERSPECTIVE (Fred S. McChesney & William F. Shughart II eds., 1995); Fred S. McChesney, *Law's Honour Lost: the plight of antitrust*, 31 ANTITRUST BULL. 359 (1986).

¹⁸ See George Bittlingmayer, *Stock Returns, Real Activity, and the Trust Question*, 47 J. FIN. 1701 (1992) (offering statistical evidence linking antitrust enforcement and declines in the stock market 1904-44 and summary of historical developments); George Bittlingmayer, *The*

Even without evidence of actual effects, the leaps of logic and speculative forays that formed the basis for policy in the 1950s, '60s and '70s came under attack from legal scholars such as Robert Bork, Richard Posner and Frank Easterbrook.¹⁹ The balance shifted and today even the defenders of an activist policy will often admit, in the words of post-perestroika communists, that "mistakes were made."²⁰ Few today would defend the leading cases in the horror cabinet of antitrust policy – *Brown Shoe*,²¹ *Von's Grocery*,²² *Procter & Gamble*,²³ or the FTC suit claiming that ready-to-eat cereal companies had monopolized shelf space in America's super markets by needlessly proliferating cereal types.²⁴

However, while it is clear from the record that antitrust policy can go too far, the excesses of the past have not silenced the calls for "moderate," "reasonable" enforcement.²⁵ Those calls make the case for the red-wine theory of antitrust. A bottle of antitrust a day hurts, but a glass a day helps. The historical economic evidence and common sense support the first half of the red-wine theory. A bottle a day would be the road to ruin. However, economists have produced little systematic evidence that a glass a day helps.

If consumers don't clearly benefit from antitrust policy, who does? The managers of firms beleaguered by competitors often appeal to the antitrust authorities, and a growing literature points to the use of antitrust to constrain competitors.²⁶ It is perhaps only human to equate damage to one's own livelihood with damage to the public interest. Indeed, the unsavory spectacle of competitors pleading for protection in Washington

Stock Market and Early Antitrust Enforcement, 36 J. LAW & ECON. 1 (1993) (historical and statistical treatment of the antitrust policy and the stock market during the Panic of 1907); George Bittlingmayer, *Antitrust and Business Activity: The First Quarter Century*, 70 BUS. HIST. REV. 363 (1996) (history of the Progressive Era policy struggle and debate, and statistical linking output changes and antitrust).

¹⁹ See ROBERT H. BORK, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* (1978); RICHARD A. POSNER, *ANTITRUST LAW: AN ECONOMIC PERSPECTIVE* (1976); Frank H. Easterbrook, *Workable Antitrust Policy*, 84 MICH. L. REV. 1696 (1986).

²⁰ W. PAUL COCKSHOTT & ALLIN COTTRELL, *TOWARDS A NEW SOCIALISM: INTRODUCTION* (1993) (stating that "important policy mistakes were made" under communist-style socialism) (visited June 14, 2000) <http://ricardo.ecn.wfu.edu/~cottrell/socialism_book/intro.html>.

²¹ *Brown Shoe Co. v. U.S.*, 370 U.S. 294 (1962).

²² *U.S. v. Von's Grocery Co.*, 384 U.S. 270 (1966).

²³ *FTC v. Procter & Gamble*, 386 U.S. 568 (1967).

²⁴ See *FTC v. Kellogg et al.*, Docket No. 8883 (April 26, 1972).

²⁵ Those calls were particularly strong at the end of the Reagan administration. See Thomas Krattenmaker & Robert Pitofsky, *Antitrust Merger Policy and the Reagan Administration*, 33 ANTITRUST BULL. 211 (1988); *Report of the American Bar Association Section of Antitrust Law Task Force on the Antitrust Division of the U.S. Department of Justice*, 58 ANTITRUST L. J. 747 (1989); Stephen Labaton, *Business and the Law: New Leadership's Antitrust Policy*, N. Y. TIMES, October 17, 1988, at D2.

²⁶ William J. Baumol and Janusz A. Ordover, *Use of Antitrust to Subvert Competition*, 28 J. LAW ECON. 247 (1985).

has a long history that predates early 1990s investigations of Microsoft and continues today. In the 1980s, Chrysler urged the Federal Trade Commission to prohibit the joint venture between General Motors and Toyota. It also filed a private suit.²⁷ More recently, Intergraph complained about Intel to the Federal Trade Commission, and those complaints led to an FTC suit against Intel.²⁸

Bureaucrats and lawmakers also benefit from antitrust policy. They gain power and influence, and, perhaps most importantly, valuable experience for post-agency employment.²⁹ State attorneys general can use high-profile cases to generate publicity and often head-line grabbing cash or in-kind settlements.³⁰ Legislators who investigate can hold out the threat of intervention to obtain influence and campaign contributions.³¹ When agencies do act, the legislators can intervene on behalf of constituents.³² Clearly, also, the antitrust bar and economic consultants benefit. During the last years of the Reagan administration and during the Bush administration, the bar led calls for more activist enforcement.³³

The interest of hard-pressed competitors, regulators and the bar in stricter enforcement is clear. The interest of consumers is not. With over one hundred years of antitrust to draw on, we have no persuasive body of evidence that antitrust policy has increased output and raised economic welfare. The systematic evidence favors the finding that antitrust policy has at least been as likely to do harm as good.

II. WHO BENEFITS FROM MICROSOFT'S LARGE MARKET SHARE?

Regardless of the effects of antitrust overall, the antitrust case against Microsoft may still be a good idea. Whether it is depends, in part, on how we interpret Microsoft's large market share. How did Microsoft become so successful?

²⁷ See Peter Dworkin, *Chrysler Drops GM-Toyota Antitrust Suit*, SAN FRANCISCO CHRONICLE, April 13, 1985, at 52.

²⁸ See Christopher Grimes, *FTC Accuses Intel Of Bullying Customers In Trust Suit*, DOW JONES NEWS SERVICE, June 8, 1998.

²⁹ See Brian Gruley, *Government Work Pays - After You Leave*, WALL ST. J., September 13, 1999, at A1 (chronicling the post-government rewards for Reed Hundt, former Federal Communications Commissioner).

³⁰ See James V. Grimaldi, *Microsoft Trial Puts States Back in Seat: Out for Blood, They Must Follow the Feds' Lead*, SEATTLE TIMES, December 26, 1999; Tanya Schevitz, *UC Berkeley Given \$2 Million For Health Care Research / Levi - Strauss antitrust settlement seeds new center*, SAN FRANCISCO CHRONICLE, June 24, 1999, at A25.

³¹ See George Bittlingmayer & Thomas W. Hazlett, *DOS Kapital: Has Antitrust Action against Microsoft Created Value in the Computer Industry?* 55 J. FIN. ECON. 329 (2000).

³² See Roger L. Faith et al., *Antitrust Pork Barrel*, 25 J. L. & ECON. 329 (1982).

³³ See George Bittlingmayer, *The Antitrust Vision Thing: How Did Bush Measure Up?* ANTITRUST BULL., forthcoming.

A high market share seems to imply monopoly or at least some market power. Netscape's CEO, Jim Barksdale, exploited this presumption in Senate hearings in 1998. To Barksdale, Microsoft's nearly exclusive role as provider of operating systems to Intel-processor-based desktop PC's seemed to speak for itself. "That's a monopoly," he concluded.³⁴

Barksdale may have been a gifted CEO of Netscape, but he neglected what any school child should know: a company may have a high market share because its products are better or cheaper. Nefarious exclusion of competitors represents only one method of capturing the market. A high market share could indicate monopoly, or its opposite, competition. In the one case, consumers suffer high prices and inferior products. In the other case, they enjoy low prices and superior products.

The question of how Microsoft got and how it maintains its high market share is central to the case, and also has had an intensely practical aspect. Since Judge Jackson has determined that Microsoft has a "monopoly," he was able to hold it to a stringent standard of behavior.³⁵ The "monopoly" label will also encourage private antitrust suits.

Could Microsoft raise its prices and innovate less? Could it do so and survive very long? We do well to remember the long list of desktop operating systems that have come and gone. These include CP/M (Control Program for Microcomputers), which was a DOS-like operating system that briefly held sway in the early 1980s. Later, Apple's Mac OS gave Microsoft's DOS a run for its money until Microsoft created Windows, a Mac-like shell for DOS. In the early 1990s, Apple founder Steve Jobs created NeXT, and IBM threw its weight behind OS/2. Linux, which is based on Unix, is currently making inroads against Microsoft.³⁶

With the benefit of hindsight, we can explain why Microsoft obtained and continues to hold a large share market share in desktop systems, and we can do so without resorting to allegations of wrong-doing. The contrast with Apple is particularly instructive. Bill Gates seems to have understood what economists now call "network economies." His company charged low prices for the operating system and encouraged producers of computers and peripheral products to compete on price and innovation.³⁷ In contrast, Apple strategy guru Jean-Louis Gasée deliber-

³⁴ Lisa M. Bowman & Maria Seminerio, *Hatch Hearings: Now What?* ZD NET NEWS, March 4, 1998 (visited June 14, 2000) <<http://www.zdnet.com/zdnn/content/zdnn/0303/290925.html>>.

³⁵ U.S. v. Microsoft, Conclusions of Law, Civil Action 98-1232 (TPJ), April 3, 2000.

³⁶ See Shuan Bangay, A HISTORY OF OPERATING SYSTEMS 2000 (visited June 14, 2000) <<http://csshaun.cs.ru.ac.za/osnotes/osnotes002.html>>.

³⁷ See Michael A. Cusumano & Richard W. Selby, MICROSOFT SECRETS: HOW THE WORLD'S MOST POWERFUL SOFTWARE COMPANY CREATES TECHNOLOGY, SHAPES MARKETS, AND MANAGES PEOPLE 174 (1995); Stan J. Liebowitz & Stephen E. Margolis, WINNERS, LOSERS & MICROSOFT: COMPETITION AND ANTITRUST IN HIGH TECHNOLOGY 154-156 (1999).

ately rejected the pursuit of market share and followed a “high-right” strategy, which meant a high-price, low-market-share strategy. Apple also insisted on selling and controlling both the operating system and hardware.³⁸

In retrospect, Apple’s strategy was a blunder. To be sure, Microsoft was not infallible either, as its foray into on-line services with MSN demonstrated, but its focus in the operating system market on a less-than-perfect but cheap and open platform proved to be the right competitive choice. That fundamental fact makes highly ironic the testimony and declarations of the government’s economic experts, who assert that Microsoft is a monopoly and has market power.³⁹ For this assertion, they rely on the ambiguous fact of a high market share, and on the allegation of high switching costs that generate “lock-in.” However, the assertion of switching costs and lock-in are not empirical findings. They are, respectively, assertions of what might be true as fact and what might occur in theory. Under the assumption of high-enough switching costs, we might get stuck, in theory, with an expensive, inferior operating system that is immune to competitive forces.

Some economists have indeed proposed an important role for lock-in generating “market failure,” and in particular market failure that is remediable through the instrument of antitrust. These arguments played an important role in the objection raised by an anonymous group of Silicon Valley companies to Microsoft’s proposal in 1995 to merge with Intuit, the company that sells Quicken and Turbo-Tax (and its Mac variant, MacIntax).⁴⁰ In the current instance, the Department of Justice’s experts presented a speculative case for inefficient lock-in to justify the finding of monopoly. Lock-in allegedly creates a barrier to entry, which in turn creates a monopoly.⁴¹

It turns out, however, that the case for lock-in is speculative even in the most favorable setting. The textbook case of lock-in is based on

Microsoft chair Bill Gates has of course also maintained that his firm favors a low-price, high-volume strategy. See Bill Gates, *Compete, don’t delete*, *ECONOMIST*, June 13, 1998, at 19.

³⁸ JIM CARLTON, *APPLE: THE INSIDE STORY OF INTRIGUE, EGOMANIA, AND BUSINESS BLUNDERS* 108-130 (1997).

³⁹ *U.S. v. Microsoft*, Civil Action No. 98-1232 (TPJ) Direct Testimony of Rick Warren-Boulton, at 20-28; *U.S. v. Microsoft*, Civil Action No. 98-1232 (TPJ), Direct Testimony of Franklin Fisher, May 12, 1998, at 22.

⁴⁰ See Gary Reback et al., *Technological, Economic and Legal Perspectives Regarding Microsoft’s Strategy in Light of the Proposed Acquisition of Intuit, Inc.*, (1995) (visited June 14, 2000) <<http://www.antitrust.org/cases/microsoft/whitep.html>>.

⁴¹ *U.S. v. Microsoft*, Civil Action No. 98-1232 (TPJ), Declaration of Franklin M. Fisher, May 12, 1998, at 2, 4 (dominance of Windows is protected by network effects; network effects create high barriers to competition). *U.S. v. Microsoft*, Civil Action No. 98-1232 (TPJ), Direct Testimony of Frederick R. Warren-Boulton at 3, 22 (“The software ‘lock-in’ phenomenon creates a barrier to entry for new PC operating systems”).

QWERTY, the standard keyboard.⁴² The layout of keys was originally designed to minimize the jamming of typeface, but on modern keyboards, this is no longer a problem. Economic theorists claimed that, as a result of hypothesized high switching costs, we were stuck with an inefficient keyboard despite the existence of other, demonstrably more efficient alternatives.⁴³

As economists Liebowitz and Margolis have shown, however, the QWERTY keyboard is not demonstrably inefficient. The leading competitor, the Dvorak keyboard, does not yield substantial gains in efficiency. It turns out then, that the leading example of the alleged inefficiency created by switching costs and lock-in finds no support in fact.⁴⁴ Liebowitz and Margolis also provide evidence against the view that desktop software markets exhibit lock-in. With lock-in, one would expect inferior products to prevail despite the appearance of better alternatives. However, in category after category, whether spreadsheets, word processing, money management, or desktop publishing, the product with the best reviews attains the highest market share, regardless of which product had the higher market share initially. In some cases, the Microsoft product earned the largest market share – in other cases Microsoft's competitors won.⁴⁵

The states' economic expert, Dr. Frederick Warren-Boulton, pointed to Microsoft's high margins and high market capitalization as signs of market power.⁴⁶ However, in software and other markets characterized by network effects and easy "scalability," we expect winner-take-all outcomes. Competition in such markets results in one successful firm with a high margin and high market value. From a broader economic perspective, the returns to the winner are the returns to all investments made in the desktop computer business, including the failures.

In summary, the economic experts testifying for the DOJ and the states focused on a set of faulty indicators of monopoly: high market share, high margins, high capitalization and the theoretical case for lock-in. Tellingly, they did not focus on the "sine qua non" of monopoly: high prices.

By the best available evidence, Microsoft charges about \$50 for a copy of Windows. It turns out that this number constitutes a very small fraction of the final price of a functioning desktop computer, roughly 2.5 percent on average. Intuitively, such a low price for a crucial component

⁴² See Paul A. David, *Clio and the economics of QWERTY*, 75 AM. ECON. REV. 332 (1985).

⁴³ See W. Brian Arthur, INCREASING RETURNS AND PATH DEPENDENCE IN THE ECONOMY xvii (1994) (influence of the QWERTY example on Arthur's thinking about inefficient paths).

⁴⁴ See LIEBOWITZ & MARGOLIS, *supra* note 38, at 19-46.

⁴⁵ See *id.* at 135-234.

⁴⁶ See Warren-Boulton, *supra* note 37, at 28.

hardly confirms the judgment that Microsoft has a “chokehold” on the market for desktop computing that it mercilessly exploits. Less intuitively, a widely used formula in economics, the so-called Lerner Index, allows us to infer from this low price that Microsoft acts as though it has very little power over price.⁴⁷ In the language of economics, Microsoft acts as though the demand for computers with Microsoft’s Windows operating system is very elastic, which implies the opposite of monopoly power. Plausible calculations would place the “price elasticity of demand” for a Windows-based PC at roughly -30, which indicates a higher level of competition than that faced by the typical branded good.⁴⁸

How do we explain the low price for the operating system and apparent lack of market power? First, as Apple’s high-price strategy for the Mac showed, a high price can be the road to ruin, or least a small market share in desktop computers. Microsoft’s strategy of charging a low price and encouraging competition among producers of personal computers and peripheral products protects it against actual and potential competition. Second, a high price for its operating system would encourage piracy. At, say, \$300 instead of \$50 per copy of Windows, some computer manufacturers might sell computers without operating systems, leaving installation, from whatever source, to the buyers. Third, Microsoft’s new operating systems compete with its own installed base. This is the problem any producer of a durable good faces. Most potential purchasers of Windows 2000 have the option of continuing to use Windows 98 or Windows 95. Finally, Microsoft sells a variety of applications, often for several hundred dollars per copy. Consequently, it has an interest in the widespread adoption of the operating system to which it writes its latest and most powerful application programs. It has an interest in the widespread adoption of personal computers running an inexpensive operating system. As Liebowitz and Margolis showed, Microsoft has gained or lost market share in these application markets on the merits, that is, in competition with other products.

What we see when we move beyond speculation about market share and lock-in is the fact of a low-price, high volume policy that has met customer demand for a de facto standard in operating systems. On the basis of obvious and very straightforward facts, we can explain Microsoft’s past and current behavior and the actual outcome as the result of robust competition. The gains to consumers have been palpable. As computer users, we are better off than we were ten years ago. Users

⁴⁷ William M. Landes and Richard A. Posner: *Market Power in Antitrust Cases*, 94 HAR. L. REV., 937 (1981).

⁴⁸ The most powerful monopoly would have an elasticity of -1; the typical branded good has an elasticity between -2 and -10; and the perfectly competitive firm has an elasticity of minus infinity.

can easily transfer files; and Windows-based users can choose from a large variety of application programs. The assertion that we would be even better off had we followed some alternative course of action invites a speculative morass.

III. WHO BENEFITS FROM MICROSOFT'S BROWSER WAR WITH NETSCAPE?

The browser war between Netscape and Microsoft was carried out only partly with intense price competition. Equally important were various restrictions, alliances and agreements. These turn out to be the actual bone of contention. As the late William Baxter pointed out, charging high prices is not a crime under U.S. antitrust law. "The simple and classical exercise of market power – namely restriction of output and setting prices in excess of marginal cost – is not regarded as a bad act."⁴⁹ Nor is the oxymoron of monopoly and low prices against the law – unless of course prices are too low, which invites the charge of predation. Rather, monopoly together with a variety of possible "bad acts" constitute antitrust crimes. These possible bad acts typically include restrictions on customers – exclusive dealing or bundling, for example. The have in common the arguable effect of harming competitors and hence, derivatively, harming consumers, though it bears emphasis that the second does not flow automatically from the first.

The government's case against Microsoft rests on precisely this combination – an assertion of monopoly and an allegation of bad acts that likely hurt competitors and probably hurt consumers.⁵⁰ Though not explicitly stated, the Microsoft case involves what has come to be called "non-price predation." A company incurs costs or gives up revenues in order to hurt a competitor, in this case Netscape, hoping to make up any losses with higher profits later on.

Specifically, the case rests on the charge that Microsoft attempted to protect its own monopoly operating system against competition from Netscape's Navigator browser through the following practices:

- * Giving away its Internet Explorer browser for free.
- * Offering some customers, such as Intuit, money to adopt its browser.
- * Specifying that OEMs have to install its browser.
- * "Bundling" its browser with Windows.

⁴⁹ See William Baxter, *Substitutes, Complements, and the Contours of the Firm*, in *THE LAW AND ECONOMICS OF COMPETITION POLICY* 27, 30 (Frank Mathewson, Michael Trebilcock, and Michael Walker eds., 1990).

⁵⁰ "Microsoft possesses . . . monopoly power. . . . Collectively, Microsoft's contracts with OEMs, ISPs, and ICPs have unreasonably restrained . . . competition in the market for Internet browsers." Complaint, *supra* note 1, at 1, 11.

- * Agreeing to promote ISP's in return for the ISP's promoting Microsoft's browser exclusively or prominently.⁵¹

These sorts of antitrust charges have been among the most contentious in an already contentious field. Not surprisingly, the legal rules have been vague and unstable.⁵² Economists are also divided about the possible effects of these practices, though their debate has been mostly theoretical, rather than empirical. A folk theorem summarizes the spirit of the discussion: "Given a controversial business practice, both competitive and monopoly explanations exist."

In the current instance, we may be able to clear the thicket by distinguishing between the obvious, first-order consequences of Microsoft's business practices and the less obvious, speculative consequences. In the case of each monopoly charge we have consequences for: (1) some combination of competitors and suppliers of complementary products; and (2) consumers.

On the first charge, giving browsers away certainly lowers the price of browsers. Indeed in this case, Microsoft's zero price for Internet Explorer forced Netscape to give away its browser.⁵³ This was good for consumers in the first instance, and bad for Netscape. The period of the browser war, roughly 1995 to the present, saw a remarkable expansion in the use of the internet.⁵⁴ Computer manufacturers benefited because free browsers and free content made computers more useful. It is of course possible that sharp price competition between the two browsers will ultimately lead to monopoly and high prices for either browsers or operating systems. This has not yet happened, and past and current developments point the other way.

Providing incentives for customers (like Intuit) to adopt a product encourages wider distribution of a particular product. The obvious consequence is a gain for consumers – the product shows up where it might otherwise not. The less obvious consequences are a mixed bag. Given the network nature of much software, and perhaps especially browsers,

⁵¹ Complaint, *supra* note 1, at 5, 6, 7, 9.

⁵² "For most this century, the Supreme Court shed little light on these issues [attempts to monopolize], and lower court decisions reflected considerable disarray." Gellhorn & Kovacic, *supra* note 8, at 154. "The rule of reason approach to tie-ins proved short-lived." *Id.* at 331. "[Existing tying doctrine] has confused the lower courts." *Id.* at 338. "The [Supreme] Court has not addressed substantive exclusive dealing standards in over 30 years." *Id.* at 346.

⁵³ CARL SHAPIRO AND HAL VARIAN, INFORMATION RULES 292 (1999).

⁵⁴ The U.S. had over 50 million households subscribing to internet services in the first quarter of 2000. This represented a 62 percent increase over the same figure two years earlier. See *5 Million US Consumers Go Online in Q1*, INTERNET.COM, May 2, 2000 (visited June 14, 2000) <http://cyberatlas.internet.com/big_picture/geographics/article/0,1323,5911_352761,00.html>.

the use of incentives in promotion may represent part of the competition to become the de facto network standard. The speculative downside is the effect on competitors, like Netscape, which may find themselves pushed out of some distribution channels.

Requiring OEMs to install browsers means that more people will have a browser on their Windows machines. Microsoft insisted that as a condition for licensing its Windows operating system, OEMs provide a second, related piece of software (Internet Explorer) for free.⁵⁵ Consumers have an obvious gain, Netscape loses. OEMs are relegated to what is perhaps their appropriate spot – intensely competitive suppliers of the “commodity” hardware on which the operating system runs. Arguments based on “network economies” favor the maintenance across hardware platforms of a uniform computing environment for operating systems and browsers, which constitute “near-operating system” software on the theory of the case.

“Bundling” or integrating the browser with the operating system offers the prospect of easier-to-use products. Since the extra cost of the bundled browser was zero, consumers come out ahead. Clearly, a browser bundled with Windows makes Navigator’s product less attractive. Beyond that, we move to tenuous ground. We do have some parallels from the past, however. Microsoft has incorporated a string of stand-alone utilities and programs in its operating system, sometimes through acquisition, sometimes through head-to-head competition. It would be difficult to argue that consumers suffered because they no longer had to install separate software programs and wrestle with compatibility problems. The difference this time around has been Netscape’s size and the importance of browsers. Given the difficulty of predicting technical developments, we cannot rule out the possibility that the current distinctions between operating systems, applications and browsers will be radically altered.

Finally, promoting an ISP if it in turn sells a company’s browser provides the obvious benefit of an extra distribution outlet. This will make more business sense if the ISP does not promote a competitor’s product. Indeed, manufacturers often restrict the ability of distributors or retailers to promote competitors’ products. Oil companies insist that their dealers sell only their gasoline; auto manufacturers often restrict the brands their franchisees may sell. Exclusive dealing focuses the attention of one type of distributor (the ISP in this case) on aggressive marketing of a cluster of services. Microsoft’s contracts made life harder for Netscape. It seems doubtful that consumers were worse off. Those who

⁵⁵ Complaint *supra* note 1, at 6.

wanted to use Netscape's browser could load it off the internet for free. Millions did.⁵⁶

Obviousness is often in the eye of the beholder. Yet it would be difficult to argue that consumers were clearly harmed by Microsoft actions in the same way that an economist can argue that sugar price supports harm consumers. On each one of its charges, the government's case moves beyond what economic science can demonstrate persuasively and unambiguously, and heads down the slippery slopes of speculation.

The spectrum of individual charges form the components of an overarching meta-charge, specifically that the various disputed practices were a means to an end: protection of Microsoft's operating system from competition. The core of the case, and perhaps Microsoft's strategy in the browser market, rests on the alleged danger to the Windows operating system that stemmed from Netscape Navigator and Java. In theory at least, Navigator and Java could provide an alternative platform to which applications could be written. This would have meant that developers could produce "write once, run anywhere" programs. A single application could be written for Windows, Apple, Unix or any other operating system for which Netscape had written a version of its Navigator browser.

In practice, these dreams (or fears) are unlikely to be realized. Netscape and Java will not "commoditize" operating systems, as Bill Gates feared in a 1995 memo.⁵⁷ This was clear even before the case was filed in May 1998.⁵⁸ Any doubt has disappeared in the meantime.⁵⁹ Microsoft's Windows operating system and its applications do face threats, but these are likely to come from other operating systems, such as Linux, or competing platforms, such as hand-held computers and communications devices.

Even under the assumption that Netscape and Java could have turned Windows into one of only several desktop operating systems, the theory of the case runs into an obstacle. Assume that Netscape's Navigator could have become the operating system to which software firms write applications and Microsoft Windows becomes one of several com-

⁵⁶ Shapiro & Varian, *supra* note 31, at 292.

⁵⁷ Complaint, *supra* note 1, at 3.

⁵⁸ Darryl K. Taft and Barbara Darrow, *Java: Write Once, Fat Chance*, TECHWEB, November 22, 1997 (visited June 14, 2000) <<http://www.techweb.com/wire/news/1997/11/1122java.html>>; *Java: How portable? JavaSoft's 'write once, run anywhere' goal remains elusive*, ZD NET NEWS, July 28, 1997 (visited June 14, 2000) <<http://www.zdnet.com/pcweek/news/0728/28java.html>>.

⁵⁹ John Clyman, *Does Java Really Matter?* PC MAGAZINE, ZD NET NEWS, November 4, 1998 (visited June 14, 2000) <<http://www.zdnet.com/pcmag/stories/review/0,6755,2159741,00.html>>; Alan Reynolds, *Breaking Windows: The Justice Department wants to break Microsoft's stranglehold on . . . what?* AM. OUTLOOK, Summer 1999 (visited June 14, 2000) <http://www.hudson.org/American_Outlook/articles_sm99/reynolds.htm>.

modity operating systems that include the Mac OS, Unix, Linux, etc. In what way would consumers be better off? We would be trading off Microsoft's low-price, high-market-share operating system for Netscape's high-market-share *de facto* operating system. Why would we be better off today with Marc Andreessen, one of Netscape's founders and its vice-president for Technology, as the operating system monopolist than we are with Bill Gates as the holder of that title? For the sake of consistency, the government's answer would have to be, ironically, that it would have to watch Andreessen like a hawk too. This is good news for antitrust authorities looking for work, but it represents no change for consumers. Indeed, Jim Clark, chair of Netscape, admitted: "I don't doubt, given absolute power, we might be capable of all sorts of low blows and eye-gouging. The nicest people can become despots."⁶⁰ It bears emphasis though that not rough jousting among competitors but the performance of the marketplace for consumers remains the ultimate aim.

IV. WHO BENEFITS FROM THE CASE AGAINST MICROSOFT?

The long string of investigations, case filings and other actions against Microsoft offers what amounts to a natural experiment. A large number of computer companies produce products that are complements to Microsoft's operating systems. These include the producers of micro-processors (such as Intel and AMD), desktop systems (Compaq, Dell, and Gateway), printers (Hewlett-Packard), software (Intuit, Peoplesoft and Sierra On Line) and components and peripherals (Western Digital, Read Rite and Syquest). A somewhat smaller but still substantial number of firms produce items that are substitutes for Microsoft's operating system and software. These include Apple and Motorola (which produces Apple's micro-processors). Some firms, such as Novell, produce products that are both complements to Microsoft's operating system and substitutes for Microsoft's software.

On the government's theory of the current case and preceding actions, all of these firms have been suffering or will suffer in the future from Microsoft's alleged monopoly and alleged monopolizing actions. Alternatively, they will prosper when the government successfully attacks that monopoly and prevents monopolizing actions. Though consumers may be the ultimate intended beneficiaries of the case, in the first instance, the theory of the case holds that its fruits will redound to the benefit of a large number of other firms in the computer industry.

⁶⁰ Jim Clark (with Owen Edwards), *NETSCAPE TIME: THE MAKING OF THE BILLION-DOLLAR START-UP THAT TOOK ON MICROSOFT* 235 (1999).

In a recent work, my co-author Thomas Hazlett and I examined whether financial markets shared the government's view of the case.⁶¹ When the government moved against Microsoft, did the stock prices of the alleged victim firms in the computer industry increase? In addition, when aggressive enforcement against Microsoft suffered setbacks, did the stock prices of alleged victim firms decrease?

For the years 1991-1997, we isolated 54 events involving an anti-trust enforcement action against Microsoft. Of these, 29 involved actions that we could clearly classify as "pro-enforcement." These involved news leaks of an investigation, rulings favorable to the government, Judge Stanley Sporkin's rejection of the 1994 consent decree between the Department of Justice and Microsoft, and the announcement of state-level action, for example. Another 8 involved "anti-enforcement" actions. These involved signing of the 1994 consent decree, attempts to reverse Judge Stanley Sporkin's ruling invalidating the negotiated consent and retreats in DOJ enforcement strategy. We classified the remaining 17 events as ambiguous in its implications for Microsoft and the rest of the industry because the implications of the event were uncertain (a hearing ends without a decision) or because of contaminating events (such as a Microsoft earnings report).

We summarize some of the results from our study in the accompanying table. On average, the announcement of a "pro-enforcement" event led to a -0.45 percent decline over one day and -1.16 percent decline over three days in the value of Microsoft's stock price. The rest of the computer industry moved in the same direction, declining on average -0.26 percent over one day and -0.53 percent over three days. In dollar terms, the losses to the rest of the industry amounted to \$1.2 billion per event. Over 29 events, this implies a cumulative decline of about \$35 billion. However, these estimates likely understate the effects of antitrust action if markets learned about or suspected impending enforcement actions in the days and weeks before the news announcement.

By the same token, "anti-enforcement" actions resulted in substantial increases in Microsoft's stock price, 2.65 percent over one day and 2.34 percent over three days. The rest of the industry moved in the same direction, on average 0.59 percent over one day and 1.15 percent over three days. Again, these movements imply substantial upward re-valuations of Microsoft's stock and the stock of other companies in the computer industry.

⁶¹ George Bittlingmayer & Thomas W. Hazlett, *DOS Kapital: Has Antitrust Action against Microsoft Created Value in the Computer Industry?* 55 J. FIN. ECON. 329 (2000).

TABLE 1
AVERAGE RETURNS FOR MICROSOFT AND THE REST OF
THE COMPUTER INDUSTRY AT ANNOUNCEMENTS OF
ENFORCEMENT ACTIONS IN THE *WALL STREET JOURNAL*
OVER ONE AND THREE DAYS SURROUNDING
THE ANNOUNCEMENT

	1-day Microsoft	Industry	3-day Microsoft	Industry
Pro-enforcement n=29	-0.45%	-0.26%	-1.16%	-0.53%
Ambiguous n=17	0.85%	-0.13%	0.33%	-0.26%
Anti-enforcement n=8	2.65%	0.59%	2.34%	1.15%
All Events n=54	0.42%	-0.09%	-0.16%	-0.18%

Note: The returns used here are adjusted for movements in the general market. "n" refers to the sample size, in this case the number of days classified as "pro-enforcement," "ambiguous," or "anti-enforcement."

Source: Bittlingmayer and Hazlett, "DOS *Kapital*: Has Antitrust Action against Microsoft Created Value in the Computer Industry?" *Journal of Financial Economics*, 55 J. FIN. ECON. 329 (2000).

These results provide an arresting finding. In the judgment of financial markets, the primary immediate victims of Microsoft's alleged monopolization, who are also the primary immediate intended beneficiaries of the DOJ's enforcement actions against Microsoft, suffered when DOJ or the states proceeded more aggressively or experienced clear victories. Conversely, the stock value of the intended beneficiaries increased when DOJ or the states retreated or experienced setbacks.

Our study's results were based on the period January 1991 through December 1997. Events since then show that aggressive enforcement actions and good news for the Department of Justice continue to hurt the computer industry. For example, a June 23, 1998 decision of a three-judge appeals court panel lifted the preliminary injunction that kept Microsoft from bundling its browser and operating system.⁶² The business press widely attributed a run-up in tech stock prices to the decision.⁶³ More recently, Judge Penfield Jackson's April 3, 2000

⁶² U.S. v. Microsoft, Opinion of the Court of Appeals, USDC No. 94-1564, USCA No. 97-5343, June 23, 1998.

⁶³ Bill Barnhart, *Dow Surges as Yen Fears Subside Treasury Bonds Rise; Computer-Technology Stocks Continue Rally*, CHICAGO TRIBUNE, June 24, 1998, at 6 ("A federal appeals panel overturned a lower- court ruling that enjoined Microsoft from requiring personal-computer manufacturers to provide the Microsoft Internet browser . Semiconductor stocks and Internet-related stocks boomed."); Tim Smart, *Tech Stocks' Rally Leads Dow Up 117*, WASH. POST, June 24, 1998, at C10. ("Stocks soared yesterday, led by a powerful rally in technology issues ignited by a court ruling favorable to Microsoft in the government's ongoing antitrust case against the software giant.")

Conclusions of Law and the revelation that the Department of Justice and state attorneys general would seek a divestiture also coincided with strong declines not only in Microsoft stock, but the whole technology sector.⁶⁴ Part of the coincidental decline may represent the increased threat that other successful firms will themselves come under antitrust scrutiny and face divestiture. Part may reflect the sentiment that with a divestiture for Microsoft on the table, an anti-business sentiment will emerge across a broad range of policies.⁶⁵

It bears emphasis that neither the results of our original study nor subsequent events speak to the question whether Microsoft is a monopoly or has sought a monopoly in ways that hurt consumers. Microsoft may well have taken actions that hurt consumers – as well as actions that helped them. However, these stock market movements do speak to the question whether federal action has helped or hurt other firms in the computer industry – the very same firms who are Microsoft's alleged immediate victims. Consequently, it also has a bearing on the question whether federal action has helped consumers – Microsoft's alleged ultimate victims. The relevant issue is not whether we can imagine that consumers were hurt but whether actual policy yields improvements. In the judgment of financial markets, it has not.

V. CONCLUSION

The antitrust case against Microsoft has the ingredients of a potential mistake. The defendant corporation is a large and habitually aggressive player, and the rise of the computer industry has inspired hopes as well as fears in business and across broad segments of society. Most importantly, however, an aggressive legal attack on Microsoft serves the private interests of a number of players: Microsoft's competitors, Senators and representatives from states in which those competitors have a major presence, state attorneys general with political ambitions, antitrust

⁶⁴ U.S. v. Microsoft, Conclusions of Law, Civil Action. 98-1232 (TPJ), April 3, 2000; Eileen Glanton, *Nasdaq plummets on Microsoft woes, but Dow soars*, Associated Press Newswires, April 3, 2000. ("Microsoft devastated the Nasdaq composite index, falling sharply as Wall Street anticipated a federal judge's antitrust ruling against the software company. The plunge in Microsoft set off another stampede away from technology stocks and sent investors searching for blue-chip issues."); Adam Shell, *Microsoft Dives, and Tech Stocks Follow*, USA Today, April 25, 2000, at 1A ("Technology stocks faced a new assault Monday as software giant Microsoft plunged 16% on fresh reports that the company may face a court-ordered breakup."); Patrice Hill, *Microsoft Antitrust Case Lowers Nasdaq, Might Hurt Clinton Administration*, KRTBN Knight-Ridder Tribune Business News: The Washington Times, April 27, 2000 ("The Justice Department's antitrust case against Microsoft has been pummeling Microsoft and other popular technology stocks, raising both political and economic risks for the Clinton administration, analysts say.")

⁶⁵ James Glassman, *Is Government Strangling the New Economy?*, WALL ST. J. INTERACTIVE EDITION, April 6, 2000 (op-ed piece) ("investors, jarred by the Microsoft decision, have suddenly woken up to these threats of government intervention").

officials eager for the limelight and remunerative post-agency employment, the antitrust bar, and economists and others who would serve as experts and pundits for this and other cases. The question, "cui bono?" is easily answered when we confine ourselves to the private interests of the parties directly involved. Indeed, the case provided the occasion for a delightful gathering on the Cornell campus in April 1999.

Prosecutors and the courts are likely to make a mistake when influential private interests point in one direction and the diffusely represented common good in another. History does not offer much encouragement. No evidence in the century-long record of antitrust enforcement supports the view that sporadic episodes of large-firm monopolization charges and forced divestiture benefit the public. Indeed, the evidence going back to the trust-busting of Teddy Roosevelt and others supports the conclusion that "trust-busting" hurts the business climate.

The experience with Microsoft suggests that the same conclusion still holds for recent periods and less extreme swings in policy. Very little in the decade of antitrust action against Microsoft supports the view that stepped-up enforcement against this particular large firm offers benefits to the public. To be sure, for the analyst standing at a blackboard, the effect of Microsoft's practices on consumers is ambiguous — Microsoft may or may not have hurt consumers. This hardly provides bedrock for the prosecution. Moreover, the real test is actual enforcement. In keeping with a century's worth of evidence, aggressive enforcement appears to have generated palpable damage. Arguably, the case has harmed the investment climate and prospects of precisely those firms it was intended to help by generating uncertainty about the future of the computer industry and about the role of government in it.