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INJURY TO COMPETITION/CONSUMERS IN HIGH TECH CASES

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INTRODUCTION

This conference examines two related questions: (1) What competitive injury must be proven to establish a Sherman Act violation? and (2) How does one prove the requisite injury? These questions are important—their resolution is not only of considerable theoretical interest, but may also determine the outcome of an antitrust prosecution or litigation.

The other conference participants are distinguished antitrust enforcement officials, economists and private practitioners. I approach both questions from a practical perspective informed by my years in private practice and government service. In particular, I draw on my experience in the *United States v. Microsoft Corp.* antitrust litigation, where I served as lead trial counsel to the nineteen plaintiff states and the District of Columbia, to consider both these questions in the context of a high tech case.

I. INJURY TO COMPETITION—THE TEST

A. *Relevance*

The issue of injury to competition arises most typically in rule of reason cases under section 1 of the Sherman Act.¹ Indeed, in such cases, it is central to the court's analysis since, as the Supreme Court has stated, the "criterion to be used in judging the validity of a restraint on trade is its impact on competition."² A plaintiff suing for damages has the burden of showing an "*actual* adverse effect on competition as a whole in

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¹ 15 U.S.C. § 1 (2000).

² Nat'l Collegiate Athletic Ass'n. v. Bd. of Regents, 468 U.S. 85, 104 (1984).

the relevant market.”³ The ultimate determination as to the “reasonableness” of a restraint turns on the weighing of anticompetitive harm against its legitimate business justifications.⁴

The significance of an inquiry into injury to competition is less clear in section 1 per se cases. Per se restraints, like price fixing, are considered so inimical to competition that their adverse effects are presumed as a matter of law.⁵ Accordingly, no balancing of competitive effects is required.⁶ As a leading treatise notes, such arrangements “are condemned per se without proof of harm to competition.”⁷

Similarly, most section 2 cases do not turn on injury to competition.⁸ The anticompetitive consequences of monopoly—the antithesis of competition—are generally self-evident.⁹ There are two elements of the offense of monopolization: (1) the possession of monopoly power; and (2) its willful acquisition or maintenance by means other than superior products, business acumen, or historic accident.¹⁰ Neither necessitates a rule of reason inquiry.¹¹ To be sure, some nexus must be demonstrated between the alleged exclusionary acts and the acquisition or maintenance of monopoly power. Once monopolization is established, however, no additional showing of consumer injury is required. Thus, courts in section 2 cases sometimes *do* assess

³ *Capital Imaging v. Mohawk Valley Medical Assoc.*, 996 F.2d 537, 543 (2d Cir. 1993).

⁴ *See, e.g., SCFC ILC, Inc. v. Visa USA, Inc.*, 36 F.3d 958, 963 (10th Cir. 1994).

⁵ *See Nat'l Collegiate Athletic*, 468 U.S. at 100.

⁶ *See, e.g., Bus. Elec. Corp. v. Sharp Elec. Corp.*, 485 U.S. 717, 723 (1988) (stating that “certain categories of agreements . . . have been held to be *per se* illegal, dispensing with the need for case-by-case evaluations”); *Broad. Music, Inc. v. CBS*, 441 U.S. 1, 17–20 (1979) (finding that blanket licensing was not subject to per se invalidation).

⁷ PHILLIP E. AREEDA, ROGER D. BLAIR & HERBERT HOVENKAMP, II *ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION* ¶ 337c (2000).

⁸ 15 U.S.C. § 2 (2000).

⁹ *See* PHILLIP E. AREEDA & HERBERT HOVENKAMP, III *ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION* ¶ 631 (1996). (“[W]e worry about monopoly because of its generally evil result or potentialities: reduced output and higher prices, diminished incentives for innovation, and fewer alternatives for suppliers and customers.”).

¹⁰ *See United States v. Grinnell Corp.*, 384 U.S. 563, 570–71 (1966).

¹¹ *See MCI Communications Corp. v. AT&T*, 708 F.2d 1081, 1139 (7th Cir. 1983).

a restraint's impact on competition—particularly where it does not fall into one of the traditional per se categories and its effects are uncertain.¹²

Injury to competition should not be confused with antitrust injury. While the proofs may overlap, antitrust injury is a standing concept rather than an element of the offense. The extent to which antitrust injury must be established, if at all, depends on the nature of the lawsuit—whether for damages or equitable relief and whether brought by a private litigant or the United States government. A private litigant (including the states) is entitled to sue for injunctive relief “against threatened loss or damage by a violation of the antitrust laws.”¹³ This standard is “notably different” from that of proof of actual injury to “business or property” required to recover damages.¹⁴ The standard also differs from the statutory provision, which has no “loss or damage” requirement, that authorizes the United States to seek equitable relief to prevent or restrain violations of the Sherman Act.¹⁵ These distinctions are summarized well by Professors Areeda, Blair, and Hovenkamp:

[W]here the defendant's conduct is illegal without proof of market effects, the government prevails merely by proving the conduct. The private plaintiff must show in addition that the violation caused it actual injury of the kind that the antitrust laws were designed to prevent or—in the case of equity relief—the threat of such injury.¹⁶

B. *Proof of Actual Consumer Harm Not Required*

Notwithstanding its significance, there is no comprehensive discussion in the case law of what is necessary to establish injury to competition or, as it is sometimes called, injury “to the

¹² See *United States v. Microsoft Corp.*, 253 F.3d 34, 58 (D.C. Cir. 2001) (“[T]o be condemned as exclusionary, a monopolist's act must have an ‘anticompetitive effect.’”), *cert. denied*, 122 S. Ct. 350 (2001); see also *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 224–29 (1993) (dealing with predatory pricing); *Aspen Skiing Co., v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 605 (1985) (discussing exclusionary conduct).

¹³ 15 U.S.C. § 26 (2000).

¹⁴ *Hawaii v. Standard Oil Co.*, 405 U.S. 251, 260 (1972); see also *Cargill, Inc. v. Montfort of Colo., Inc.*, 479 U.S. 104, 111 (1986).

¹⁵ 15 U.S.C. § 4 (2000).

¹⁶ AREEDA, BLAIR & HOVENKAMP, *supra* note 7, ¶ 330c.

competitive process."¹⁷ A typical formulation, stated by the Supreme Court in *National Society of Professional Engineers v. United States*¹⁸ is that a court may conclude that contracts or other conduct unreasonably restrain trade based "either (1) on the nature or character of the contracts, or (2) on surrounding circumstances giving rise to the inference or presumption that they were intended to restrain trade and enhance prices."¹⁹

The ultimate beneficiary of the antitrust laws is, of course, the consumer.²⁰ There appears to be no requirement of proof of actual harm to consumers, however, beyond that of injury to competition. The Supreme Court went on to state in *National Society of Professional Engineers* that "[u]nder either branch of the test, the inquiry is confined to a consideration of impact on competitive conditions."²¹ To be sure, courts sometimes do discuss actual consumer harm but only as one means of proving injury to competition, not as a separate requirement necessary to establish a violation.²²

Proof of actual consumer harm is not required because it is inferred from injury to competition. That competition benefits consumers is a central tenet of modern economic theory and a bedrock principle of the Sherman Act. As Professor Franklin M. Fisher, a government economic expert, testified at the *Microsoft* trial: "The economics of antitrust policy is based upon the proposition that competition ends up, in one way or another, always being good for consumers. That proposition is the central proposition of microeconomics, and, therefore, in my view, the

¹⁷ *Nynex Corp. v. Discon, Inc.*, 525 U.S. 128, 135 (1998).

¹⁸ 435 U.S. 679 (1978).

¹⁹ *Id.* at 690.

²⁰ See *Reiter v. Sonotone Corp.*, 442 U.S. 330, 343 (1979) (stating that "Congress designed the Sherman Act as a 'consumer welfare prescription'").

²¹ *Nat'l Soc'y of Prof'l Engineers*, 435 U.S. at 690.

²² See, e.g., *Aspen Skiing Co., v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 605 (1985) ("[I]t is relevant to consider [alleged exclusionary conduct's] impact on consumers and whether it has impaired competition in an unnecessarily restrictive way."); *FTC v. Ind. Fed'n of Dentists*, 476 U.S. 447, 460-61 (1985)

Since the purpose of the inquiries into market definition and market power is to determine whether an arrangement has the potential for genuine adverse effects on competition, 'proof of actual detrimental effects, such as a reduction of output,' can obviate the need for an inquiry into market power, which is but a 'surrogate for detrimental effects.

Id. (quoting PHILLIP E. AREEDA, VII ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION ¶ 1511 (1986)).

central proposition of all economics.²³ Or, as the Supreme Court stated in *Northern Pacific Railway Co. v. United States*:

[The Sherman Act] rests on the premise that the unrestrained interaction of competitive forces will yield the best allocation of our economic resources, the lowest prices, the highest quality and the greatest material progress, while at the same time providing an environment conducive to the preservation of our democratic political and social institutions.²⁴

There are also important policy reasons why a court's hand should not be stayed until measurable consumer harm has been inflicted. The time lag between a violation upstream in the competitive process, the consequent diminution in competition, and its ultimate impact on consumers may be significant. The delay between violation and remediation is likely to be exacerbated by the considerable time often needed for discovery and trial in antitrust cases. Requiring proof of actual consumer injury would risk infliction of severe harm before remedial measures could be implemented and is inconsistent with the statutory provisions authorizing both private and government actions to restrain threatened violations of the antitrust laws.²⁵

Such a requirement would also encourage prospective violators by lengthening the time in which they could reap the benefits of their unlawful conduct. This is especially risky in many high tech markets where, for the reasons described below, network effects enhance the incentives to engage in anticompetitive conduct.²⁶ In those markets, a dominant position achieved or maintained by anticompetitive means can become so entrenched that effective remediation may be impossible—thus making it likely that the predator will retain at least some of the fruits of its predation. Timely relief is of particular importance in these markets.²⁷

²³ Microsoft Trial Transcript at 20, ln. 14–19 (No. 98-1232; 98-1233) (June 2, 1999, A.M. Session), *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000), *vacated*, 253 F.3d 34 (D.C. Cir. 2001), *cert. denied*, 122 S.Ct. 350 (2001).

²⁴ 356 U.S. 1, 4 (1958); *see also Nat'l Soc'y of Prof'l Eng'rs*, 435 U.S. at 695 (“The assumption that competition is the best method of allocating resources in a free market recognizes that all elements of a bargain—quality, service, safety, and durability—and not just the immediate cost, are favorably affected by the free opportunity to select among alternative offers.”).

²⁵ *See supra* notes 13, 15 and accompanying text.

²⁶ *See* CARL SHAPIRO & HAL R. VARIAN, *INFORMATION RULES* 173–186 (1999).

²⁷ *See* Daniel L. Rubinfeld, *Antitrust Enforcement in Dynamic Network*

C. *Anticompetitive Effects: Price, Output, Consumer Choice, and Innovation*

When courts discuss "injury to competition," they most commonly have in mind effects on price or output.²⁸ These effects have been referred to as "the paradigmatic examples of restraints of trade that the Sherman Act was intended to prohibit."²⁹ They are closely related, for power over output implies power over price.³⁰

Any assessment of a restraint's anticompetitive impact, however, will be incomplete if limited to price and output effects. The restraint's impact on consumer choice and innovation must also be considered. As explained below, these effects may be particularly important in understanding the anticompetitive injury inflicted by predatory conduct in high tech markets. Consumer choice and innovation are undoubtedly core values protected by the antitrust laws.

Our free market economy is predicated on the assumption that resources are best allocated when consumers express their preferences by selecting among competing alternatives.³¹ FTC Commissioner Thomas B. Leary has described as one of the two "great" principles of the last antitrust millennium that consumers "should generally be free to make their own choices about the goods and services that they want to buy."³² The

Industries, ANTITRUST BULLETIN, Sept. 22, 1998, available at 1998 WL 16568457 (stating that "early intervention that encourages competition on the merits [in dynamic network industries] is to be preferred to late intervention after the standard has been determined").

²⁸ See, e.g., *Broad. Music, Inc. v. CBS*, 441 U.S. 1, 19-20 (1979) (stating that "in characterizing . . . conduct under the *per se* rule, our inquiry must focus on . . . whether the practice facially appears to be one that would always or almost always tend to restrict competition and decrease output").

²⁹ *Nat'l Collegiate Athletic Ass'n. v. Bd. of Regents*, 468 U.S. 85, 107-08 (1984).

³⁰ See *Wilk v. Am. Med. Ass'n*, 895 F.2d 352, 359 (7th Cir. 1990).

³¹ As Professor Fisher succinctly put it at the *Microsoft* trial, "Giving choice is what competition is about." *Microsoft Trial Transcript* at 28, ln. 2-3 (No. 98-1232; 98-1233) (June 7, 1999, A.M. Session), *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000), *vacated*, 253 F.3d 34 (D.C. Cir. 2001), *cert. denied*, 122 S.Ct. 350 (2001).

³² Thomas B. Leary, *Freedom as the Core Value of Antitrust in the New Millennium*, 68 ANTITRUST L.J. 545, 545 (2000); see also *FTC v. Ind. Fed'n of Dentists*, 476 U.S. 447, 462 (1986) ("[Defendant] is not entitled to pre-empt the working of the market by deciding for itself that its customers do not need that which they demand.").

critical importance of consumer choice in the antitrust framework was underscored by the Supreme Court in *National Collegiate Athletic Ass'n v. Board of Regents*, which stated that “[a] restraint that has the effect of reducing the importance of consumer preference in setting price and output is not consistent with this fundamental goal of antitrust law.”³³ The less choice consumers have in a market, the greater the control suppliers are likely to have over price and output. Indeed, freedom of choice would be a meaningless right if consumers had no alternatives from which to choose. A key goal of antitrust enforcement, therefore, is assuring that anticompetitive conduct does not deprive consumers of a meaningful set of options from which to select goods and services that best meet their needs.³⁴

An equally important goal of antitrust enforcement is protecting suppliers’ freedom to innovate from constraints imposed by rivals’ anticompetitive conduct. Innovation is important because it enhances consumer welfare. For one thing, innovation leads directly to improvements in “quality,” a recognized benefit of the competitive process.³⁵ Perhaps more importantly, innovation determines the future range of options available—i.e. the choices they will have and the prices they will pay.³⁶ A leading treatise observes that “[i]n the long run, technological progress contributes far more to consumer welfare than does the elimination of non-competitive prices. The pace of

³³ *Nat'l Collegiate Athletic*, 468 U.S. at 107; see also ROBERT H. BORK, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* 91 (1993) (“The role of the antitrust laws, then, lies at that stage of the economic process in which production and distribution of goods and services are organized in accordance with the scale of values that consumers choose by their relative willingness to purchase.”).

³⁴ See Neil W. Averitt & Robert H. Lande, *Consumer Sovereignty: A Unified Theory of Antitrust and Consumer Protection Law*, 65 *ANTITRUST L.J.* 713, 713 (1996) (“The antitrust laws are intended to ensure that the marketplace remains competitive, so that a meaningful range of options is made available to consumers”); see also BORK, *supra* note 33, at 91 (“The [antitrust] law’s mission is to preserve, improve, and reinforce the powerful economic mechanisms that compel businesses to respond to consumers.”).

³⁵ See, e.g., *United States v. Brown Univ.*, 5 F.3d 658, 668 (3d Cir. 1993) (stating that “deterioration in quality” is anticompetitive effect for purposes of rule of reason analysis); *Interface Group v. Mass. Port Auth.*, 816 F.2d 9, 10 (1st Cir. 1987) (stating that the “the competitive process . . . aims to bring consumers the benefits of lower prices, better products, and more efficient production methods”).

³⁶ See Rubinfeld, *supra* note 27 (“It is the force of innovation that can lead to higher quality products being offered at lower prices to consumers in the future.”).

technological progress is largely determined by innovative activity. Competition is a spur to cost reduction, to product improvement, and to the development of new products."³⁷

Antitrust enforcement agencies now commonly consider a restraint's effect on innovation when assessing its impact.³⁸ In short, there can be no doubt, as Professor Hovenkamp has written, that "antitrust injury can refer to loss of technical progressiveness, or innovation, just as much as loss of competitive pricing."³⁹

D. Importance of Consumer Choice and Innovation in High Tech Markets

The anticompetitive effects most commonly considered by the courts—higher prices and reduced output—are not always the most accurate indicators of injury to competition. For example, monopoly maintenance cases concern conduct allegedly undertaken to preserve, not create, the power to charge high prices and to restrict output. In such cases, although the monopolist may have achieved its anticompetitive goal, there may be no measurable change in price or output.⁴⁰

Similarly, anticompetitive tactics employed to take advantage of the network effects that create significant entry barriers in many high tech markets may not immediately affect price and output. In such markets, "there is an increased likelihood that a single firm may come to dominate . . . and [] persist in that dominance."⁴¹ The "winner-take-all" aspect of these markets creates huge incentives to immediately

³⁷ See PHILLIP E. AREEDA, HERBERT HOVENKAMP & JOHN L. SOLOW, IIA ANTITRUST LAW ¶ 407a (1995).

³⁸ See FEDERAL TRADE COMMISSION & U.S. DEPARTMENT OF JUSTICE, ANTITRUST GUIDELINES FOR COLLABORATIONS AMONG COMPETITORS § 3.32(c) (April 2000) ("In many cases, an agreement's competitive effects on innovation are analyzed as a separate competitive effect in a relevant goods market."); see also *In re Glaxo plc*, No. C-3586, 1995 WL 382176 (F.T.C. June 14, 1995) (discussing the FTC consent order in a merger challenged on grounds of impact on "innovation markets").

³⁹ HERBERT HOVENKAMP, XIII ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION ¶ 2234b (1999).

⁴⁰ See *Lorain Journal Co. v. United States*, 342 U.S. 143, 153 (1951) (finding exclusionary conduct unlawful without showing of price or output effects).

⁴¹ See Rubinfeld, *supra* note 27.

capture as much market shares as possible.⁴²

With the rewards of success so enormous and the consequences of failure so stark, the temptation to engage in anticompetitive conduct may be great. The imperative to achieve early dominance is even greater in these markets because perception often influences reality—customers wish to acquire the product they perceive as likely to become the industry standard.⁴³ Among the arsenal of potentially exclusionary tactics that may be employed to achieve or maintain market power are below cost “penetration pricing,” tying, announcement of “vaporware,” and strengthening of entry barriers to prevent encroachment of competing technologies from adjacent markets.⁴⁴

The anticompetitive effects of these practices will not be fully reflected by short-term changes in price and output. Indeed, initial changes in price and output may be misleading. Thus, prices may be artificially depressed to build volume in anticipation of recoupment once dominance is achieved. Similarly, in the drive to oust competition, production may be increased to flood the market, particularly where marginal cost approaches zero (as it often does with intellectual property). In any event, output effects are difficult to gauge.⁴⁵ That difficulty is likely to be compounded when the market as a whole is new and expanding, as it often is with high tech products.⁴⁶ Market

⁴² See Paul Krugman, *Create and Destroy*, N.Y. TIMES, Oct. 8, 2000, at WK15 (“[I]nvestors have learned very well the lesson of Microsoft and Intel: that technology markets tend to be winner-takes-all, and a company that gets an early advantage in a new technology may well be able to translate that advantage into a sustained, lucrative monopoly.”); see also SHAPIRO & VARIAN, *supra* note 26, at 177 (stating that the dynamics of a “winner-take-all” market are “driven by the strong desire of users to select the technology that will ultimately prevail—that is, to choose the network that has (or will have) the most users”).

⁴³ See SHAPIRO & VARIAN, *supra* note 26, at 176 (“If your product is seen as failing, those very perceptions can spell doom.”).

⁴⁴ See generally Rubinfeld, *supra* note 27.

⁴⁵ See Franklin M. Fisher, *Antitrust and Innovative Industries*, 68 ANTITRUST L.J. 559, 562 (2000) (“[O]utput reduction is but a deceptively simple way to think about anticompetitive effects. Where products differ as to quality, output has both a quantity and a quality dimension, and defining ‘output reduction,’ at best, requires a sophisticated and often difficult combination of both.”).

⁴⁶ One company’s increased sales in an expanding market may be meaningless measured against a rival’s significant gain in market share. For example, Microsoft’s rapid acquisition of Web browser market share above 50% was found to have created a dangerous probability of monopolization even though the absolute

power is used as a "surrogate for detrimental effects" precisely because of the difficulty in isolating and measuring price and output effects.⁴⁷ As Professor Areeda observes:

"[O]utput" is not always a clear concept. Even when we define it readily, it is usually difficult to observe. Many alleged restraints are experienced before they have had time to work their results. And the longer a restraint has been in effect, the greater is the impact of changes in supply, demand, and other market forces. We are often unable to disentangle the effects of challenged conduct. That is the reason we are so often forced to turn to surrogates for actual effects. The usual surrogate is market power.⁴⁸

By contrast, the impact of anticompetitive practices on consumer choice is likely to be more consequential and immediate.⁴⁹ A company's objective in engaging in exclusionary conduct is, after all, to induce consumers to select its products—not merely by improving its own products, but by impeding its rivals' ability to compete.⁵⁰ Market power may be used anticompetitively to increase rivals' costs, to create or maintain barriers to entry, to make it more difficult for rivals to distribute their products or otherwise to influence consumers' purchasing decisions on some basis besides price or quality.⁵¹

Likewise, a restraint's adverse impact on innovation is of particular concern in high tech markets. Promising avenues of development may be prematurely foreclosed simply because they threaten the market leader's continued dominance.⁵² Skewing

number of Netscape's Web browsers in use had increased. *See United States v. Microsoft Corp.*, 87 F. Supp. 2d 30, 46 (D.D.C. 2000), *aff'd in part & rev'd in part*, 253 F.3d 34 (D.C. Cir. 2001), *cert. denied*, 122 S. Ct. 350 (2001).

⁴⁷ *United States v. Brown Univ.*, 5 F.3d 658, 668 (3d Cir. 1993) (quoting *FTC v. Ind. Fed'n of Dentists*, 476 U.S. 447, 460–61 (1986)).

⁴⁸ AREEDA, *supra* note 22, at ¶ 1503b.

⁴⁹ *See Averitt & Lande, supra* note 34, at 715 ("In certain sectors of the economy—for example, high tech or media-related industries—diversity of options may be far more important to consumers than price competition.")

⁵⁰ *See, e.g., Full Draw Prod. v. Easton Sports, Inc.*, 182 F.3d 745, 755 (10th Cir. 1999) ("The effect of defendants' alleged boycott was . . . to distort and ultimately reduce competition by destroying one source of output . . . and thereby limiting consumer choice to the other source of output . . .").

⁵¹ *See, e.g., Wilk v. Am. Med. Ass'n*, 895 F.2d 352, 360 (stating that the boycott's anticompetitive effects included the fact that "it raises costs to interfere with the consumer's free choice to take the product of his liking" and "impose[s] higher costs" on defendants' rivals).

⁵² *See John J. Flynn, Antitrust Policy, Innovation Efficiencies, and the*

the path of innovation may have a profound impact on the variety, quality, and price of products ultimately available to consumers. Moreover, once a product becomes entrenched as the standard in a market with network externalities, it can be difficult to oust even though a more innovative, superior alternative becomes available.⁵³

E. Injury to Competition—The Proof

Injury to competition can be difficult to establish where it is not presumed as a matter of law from the violation itself. Even effects on price or output—arguably more quantifiable than effects on consumer choice or innovation—can be difficult to prove. Moreover, as seen, price and output effects may be poor indicators of anticompetitive injury in high tech industries. The difficulties of proof are compounded where the violations are ongoing and the anticompetitive injury, while quite real, is largely prospective.

The record in the *Microsoft* case contains extensive evidence of the injury Microsoft Corporation (“Microsoft”) inflicted on the competitive process by a variety of exclusionary practices intended to thwart or eliminate its few actual or would-be competitors in the markets for PC operating systems and Web browsers. Its defenders argue, however, that Microsoft inflicted no real harm because consumers were not injured.⁵⁴ Their argument ignores not only the fundamental principle of economic theory and antitrust law, namely that consumers suffer when

Suppression of Technology, 66 ANTITRUST L.J. 487, 504–505 (1998) (“History has shown that a pattern of technology suppression is particularly likely to occur in an industry characterized by long-term market concentration. Once a dominant position has been gained, the dominant firm maintains its power by practices designed to regulate competing technologies and sustain the incumbent’s monopoly.”).

⁵³ See SHAPIRO & VARIAN, *supra* note 26, at 103–04, 184–85 (discussing impact of lock-in and switching costs).

⁵⁴ See David S. Evans and Richard L. Schmalensee, *Be Nice to Your Rivals: How the Government Is Selling an Antitrust Case Without Consumer Harm in United States v. Microsoft*, DID MICROSOFT HARM CONSUMERS? TWO OPPOSING VIEWS 45, 72 (AEI–Brookings Joint Center for Regulatory Studies et. al. eds., 2000) (“While Microsoft did compete to defend its market position, none of the actions to which the government objects has harmed consumers or is likely to do so.”). This volume contains an informative exchange of views on the economic aspects of the case between economists on the Microsoft side (Dr. Evans and Dean Schmalensee) and those on the government side (Professors Rubinfeld and Fisher).

competition is impaired, but the real evidence—and the court's findings—of actual consumer harm.

To be sure, the government's principal objective at trial was to establish that Microsoft possessed monopoly power and maintained it by improper means. This focus was dictated by the need to prove the essential elements of the offenses alleged—principally monopoly maintenance, attempted monopolization, and per se violations like tying—in a complex case where each side was limited to twelve witnesses on its case in chief.⁵⁵

Nevertheless, as the record demonstrated, consumers were injured by Microsoft's practices. My closing argument summarized that evidence—not because it was necessary to establish Microsoft's liability—but so that the court would appreciate the full impact of Microsoft's anticompetitive conduct when considering what remedies to impose. Moreover, the adverse effects of Microsoft's conduct on consumers was the principal reason my clients—nineteen states and the District of Columbia—were plaintiffs.

Set forth below is a summary of the evidence supporting my argument that Microsoft's conduct hurt consumers in three significant respects: (1) by restricting their choices, (2) by denying them the benefits of price competition, and (3) by impeding the development of new products.⁵⁶ It is followed by relevant excerpts from Judge Jackson's findings of fact.⁵⁷ This evidence and the court's findings provide guidance on how to prove consumer injury. Such proof, even if not essential to establish an element of the cause of action, may be useful in demonstrating both injury to competition and the need for significant relief.

⁵⁵ Additional considerations were that injury to competition was presumed as a matter of law from the nature of the offenses alleged and that the U.S. government did not have to establish an antitrust injury to obtain equitable relief.

⁵⁶ My closing argument appears in *Microsoft*, Nos. 98-1232; 98-1233, 1999 WL 744052 (D.D.C. Sept. 21, 1999).

⁵⁷ See *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9 (D.D.C. 1999), *aff'd in part & rev'd in part*, 253 F.3d 34 (D.C. Cir. 2001), *cert. denied*, 122 S. Ct. 350 (2001). The findings of fact were subjected to a clearly erroneous standard of review. See *United States v. Microsoft Corp.*, 253 F.3d 34, 117 (D.C. Cir. 2001), *cert. denied*, 122 S. Ct. 350 (2001). None of the findings of fact cited *infra* were overturned. *Id.*

II. CONSUMER CHOICE

A. Summary of Evidence

Through its exclusionary conduct, Microsoft intentionally deprived consumers of choice in a variety of ways. By thwarting products that threatened to erode the applications barrier to entry protecting its monopoly operating system, Microsoft achieved its ultimate objective: consumers had no choice but to use Windows to run their desired applications, despite the availability of comparable or superior operating systems.⁵⁸ Moreover, to deter the emergence of competition, Microsoft imposed uniformity on personal computer makers (OEMs) that prevented them from differentiating their products to give consumers more options and other benefits.⁵⁹ Finally, fearing that consumers would prefer Netscape's Web browser, Navigator, to its own, Internet Explorer, if both were equally available, Microsoft used its monopoly power to obtain restrictive contracts with OEMs, Internet service providers (ISPs), and others, making it more difficult for them to obtain Navigator.⁶⁰

⁵⁸ Most of the evidence in the case dealt with Microsoft's exclusionary conduct that was intended to preserve the applications barrier to entry that protected its Windows monopoly. As to Microsoft's obvious success, see the e-mail from Hewlett-Packard to Microsoft stating that "if we had a choice of another supplier, based on your actions in this area, I assure you would not be our supplier of choice." Microsoft Trial Transcript at 14-15 (No. 98-1232; 98-1233) (Sept. 21, 1999, A.M. Session), *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000), *vacated by*, 253 F.3d 34 (D.C. Cir. 2001), *cert.denied*, 122 S. Ct. 350 (2001). In addition, also very telling is the testimony of IBM executive Garry Norris describing the blunt statement of Microsoft's Mark Baber to IBM: "Where else are you going to go? This is the only game in town." Microsoft Trial Transcript at 66-67 (No. 98-1232; 98-1233) (June 7, 1999, A.M. Session), *Microsoft*, 97 F. Supp. 2d 59.

⁵⁹ See, e.g., Microsoft Trial Transcript at 47, 1999 WL 97523 (Nos. 98-1232; 98-1233) (Feb. 25, 1999, A.M. Session), *Microsoft*, 97 F. Supp. 2d 59 ("Microsoft's mandated removal of all OEM boot-sequence and auto-start programs . . . has resulted in significant and costly problems for the HP-Pavilion line of retail P.C.'s."); Microsoft Trial Transcript at 17, 1999 WL 744052 (Nos. 98-1232; 98-1233) (Sept. 21, 1999, A.M. Session), *Microsoft*, 97 F. Supp. 2d 59 ("Gateway wants to have flexibility on anything associated with the Internet. We want Microsoft to provide us with the technology, not make decisions and choices for us or our customers."). In addition, the testimony of IBM and Hewlett-Packard executives asserted that Microsoft's forced removal of their tutorials from the boot-up sequence made their PC's harder to use, caused customer confusion and led to increased service calls. See *Microsoft*, 97 F. Supp. 2d 59; Microsoft Trial Transcript at 38-43, 1999 WL 370326 (Nos. 98-1232; 98-1233) (June 7, 1999, P.M. Session), *Microsoft*, 97 F. Supp. 2d 59.

⁶⁰ See Microsoft Trial Transcript at 62-63, 1999 WL 744052 (Nos. 98-1232; 98-

B. Findings of Fact

That Microsoft's market share and the applications barrier to entry together endow the company with monopoly power in the market for Intel-compatible PC operating systems is directly evidenced by the sustained absence of realistic commercial alternatives to Microsoft's PC operating-system products.⁶¹

[V]endors of Intel-compatible PC operating systems do not view their own offerings as viable alternatives to Windows. Microsoft knows that OEMs have no choice but to load Windows, both because it has a good understanding of the market in which it operates and because OEMs have told Microsoft as much⁶²

If OEMs removed the most visible means of invoking Internet Explorer, and pre-installed Navigator with facile methods of access, Microsoft's purpose in forcing OEMs to take Internet Explorer—capturing browser usage share from Netscape—would be subverted. The same would be true if OEMs simply configured their machines to promote Navigator before Windows had a chance to promote Internet Explorer Therefore, in order to bring the behavior of OEMs into line with its strategic goals quickly, Microsoft threatened to terminate the Windows license of any OEM that removed Microsoft's chosen icons and program entries from the Windows desktop or the "Start" menu. It threatened similar punishment for OEMs who added programs that promoted third-party software to the Windows "boot" sequence⁶³

Promoting non-Microsoft software and services was not the only, or even the primary, purpose of the OEM introductory programs. The primary purpose, rather, was to make the experience of setting up and learning to use a new PC system

1233) (Feb. 10, 1999, A.M. Session), *Microsoft*, 97 F. Supp. 2d 59, (containing testimony of Microsoft executive Cameron Myhrvold that Microsoft prevented ISPs from disclosing the availability of Navigator because it believed that the vast majority of consumers would pick Navigator over Internet Explorer (IE) in a side by side comparison); Microsoft Trial Transcript at 52, 1999 WL 744052 (Nos. 98-1232; 98-1233) (Sept. 21, 1999, A.M. Session), *Microsoft*, 97 F. Supp. 2d 59 ("It seems clear that it will be very hard to increase browser market share on the merits of IE 4 alone. It will be more important to leverage the operating system (OS) asset to make people use IE instead of Navigator.").

⁶¹ *Microsoft*, 97 Supp. 2d at 44.

⁶² *Id.* at 45.

⁶³ *Id.* at 157-58.

easier and less confusing for users, especially novices. By doing so, the OEMs believed, they would increase the value of their systems and minimize both product returns and costly support calls⁶⁴

In addition to tutorials, sign-up programs, and splash screens, a few large OEMs developed programs that ran automatically at the conclusion of a new PC system's first boot sequence. These programs replaced the Windows desktop either with a user interface designed by the OEM or with Navigator's user interface. The OEMs that implemented automatically loading alternative user interfaces did so out of the belief that many users, particularly novice ones, would find the alternate interfaces less complicated and confusing than the Windows desktop.⁶⁵

When Gates became aware of what the OEMs were doing, he expressed concern to Kempin, the Microsoft executive in charge of OEM sales. On January 6, 1996, Gates wrote to Kempin: "Winning Internet browser share is a very very important goal for us. Apparently a lot of OEMs are bundling non-Microsoft browsers and coming up with offerings together with Internet Service providers that get displayed on their machines in a FAR more prominent way than MSN or our Internet browser." Less than three weeks later, Kempin delivered his semi-annual report on OEM sales to his superiors. In the report, he identified "Control over start-up screens, MSN and IE placement" as one interest that Microsoft had neglected over the previous six months⁶⁶

In an effort to thwart the practice of OEM customization, Microsoft began, in the spring of 1996, to force OEMs to accept a series of restrictions on their ability to reconfigure the Windows 95 desktop and boot sequence. There were five such restrictions, which were manifested either as amendments to existing Windows 95 licenses or as terms in new Windows 98 licenses⁶⁷

The several OEMs that in the aggregate represented over ninety percent of Intel-compatible PC sales believed that the new restrictions would make their PC systems more difficult

⁶⁴ *Id.* at 162.

⁶⁵ *Id.* at 163.

⁶⁶ *Id.* at 163-64.

⁶⁷ *Id.* at 164.

and more confusing to use, and thus less acceptable to consumers. They also anticipated that the restrictions would increase product returns and support costs and generally lower the value of their machines⁶⁸

Microsoft was willing to sacrifice some goodwill and some of the value that OEMs attached to Windows in order to exclude Netscape from the crucial OEM distribution channel. Microsoft's restrictions succeeded in raising the costs to OEMs of pre-installing and promoting Navigator. These increased costs, in turn, were in some cases significant enough to deter OEMs from pre-installing Navigator altogether⁶⁹

The market for Intel-compatible PCs is, by all accounts, a competitive one. Consequently, any OEM that tries to force an unwanted, low-quality shell on consumers will do so at its own peril. Had Microsoft's sole concern been consumer satisfaction, it would have relied more on the power of the market—and less on its own market power—to prevent OEMs from making modifications that lead to consumer disappointment.⁷⁰

By refusing to offer those OEMs who requested it a version of Windows without Web browsing software, and by preventing OEMs from removing Internet Explorer—or even the most obvious means of invoking it—prior to shipment, Microsoft forced OEMs to ignore consumer demand for a browserless version of Windows By ensuring that Internet Explorer would launch in certain circumstances in Windows 98 even if Navigator were set as the default, and even if the consumer had removed all conspicuous means of invoking Internet Explorer, Microsoft created confusion and frustration for consumers, and increased technical support costs for business customers By constraining the freedom of OEMs to implement certain software programs in the Windows boot sequence, Microsoft foreclosed an opportunity for OEMs to make Windows PC systems less confusing and more user-friendly, as consumers desired. By taking the actions listed above, and by enticing firms into exclusivity arrangements with valuable inducements that only Microsoft could offer and that the firms reasonably believed they could not do without, Microsoft forced those consumers who otherwise would have elected Navigator as their browser to either pay a substantial price (in the forms of

⁶⁸ *Id.* at 165.

⁶⁹ *Id.* at 168–69.

⁷⁰ *Id.* at 178.

downloading, installation, confusion, degraded system performance, and diminished memory capacity) or content themselves with Internet Explorer⁷¹

III. PRICE

A. *Summary of Evidence*

Because it was not seeking damages, the government was not required to establish the amount by which Microsoft had overcharged consumers. Nevertheless, there was abundant evidence in the record that the source of Microsoft's enormous profits was—not surprisingly—its ability to exact monopoly rents for Windows.⁷²

That Microsoft could set prices unfettered by normal competitive constraints is evident from key memoranda reflecting Microsoft's deliberations on the pricing of Windows 98, which are devoid of any reference to competitors' prices.⁷³ Indeed, Joachim Kempin, the Microsoft executive responsible for Windows sales to OEMs, conceded that in setting the price of Windows 98, the only price of interest to him was the price of Windows 95.⁷⁴ The full extent of Microsoft's power over prices was apparent from its ability to increase the price of Windows 95—an obsolete product—in support of the Windows 98 product launch.⁷⁵

Dr. Frederick R. Warren-Boulton, a government economic

⁷¹ *Id.* at 327–29.

⁷² Dr. Frederick R. Warren-Boulton, one of the government's expert economists, testified that Microsoft's profits were an "astonishing" thirty eight and one-half percent of revenue, by far the highest of any Fortune 500 company. Microsoft Trial Transcript at 11, 1998 WL 812320 (Nos. 98-1232; 98-1233) (Nov. 23, 1998, A.M. Session), *Microsoft*, 97 F. Supp. 2d 59.

⁷³ With respect to the Government Exhibit 1371 (the "Windows Launch Review"), Dr. Warren-Boulton testified that Microsoft's ability to charge \$89 for the Windows 98 upgrade—substantially more than the presumably profitable \$49 it also considered—was clear evidence of its monopoly power. See Microsoft Trial Transcript at 24–25, 1998 WL 831135 (Nos. 98-1232; 98-1233) (Dec. 1, 1998, P.M. Session), *Microsoft*, 97 F. Supp. 2d 59.

⁷⁴ Microsoft Trial Transcript at 97–99 (Nos. 98-1232; 98-1233) (Feb. 25, 1999 P.M. Session), *Microsoft*, 97 F. Supp. 2d 59.

⁷⁵ As Professor Fisher pointed out, an obsolete product normally declines in value when a newer version is introduced. See Microsoft Trial Transcript at 45–46, 1999 WL 10209 (Nos. 98-1232; 98-1233) (Jan. 12, 1999, P.M. Session), *Microsoft Corp.*, 97 F. Supp. 2d 59.

expert, estimated that Windows prices were “significantly” more than 5% above competitive levels.⁷⁶ Mr. Kempin himself described Windows prices as “high.”⁷⁷ Indeed, e-mail of other top Microsoft executives (including Bill Gates) demonstrated that Microsoft’s exclusionary conduct was motivated by its desire to prevent Netscape, Sun, and others from pursuing strategies that would “commoditize” Windows—i.e., force Microsoft to slash prices for Windows as if it were a commodity.⁷⁸

B. Findings of Fact

OEMs believe that the likelihood of a viable alternative to Windows emerging any time in the next few years is too low to constrain Microsoft from raising prices or imposing other burdens on customers and users Microsoft knows that OEMs have no choice but to load Windows, both because it has a good understanding of the market in which it operates and because OEMs have told Microsoft as much Secure in this knowledge, Microsoft did not consider the prices of other Intel-compatible PC operating systems when it set the price of Windows 98.⁷⁹

Microsoft’s actual pricing behavior is consistent with the proposition that the firm enjoys monopoly power in the market for Intel-compatible PC operating systems. The company’s decision not to consider the prices of other vendors’ Intel-compatible PC operating systems when setting the price of Windows 98, for example, is probative of monopoly power. One would expect a firm in a competitive market to pay much closer attention to the prices charged by other firms in the market. Another indication of monopoly power is the fact that Microsoft raised the price that it charged OEMs for Windows 95, with

⁷⁶ Microsoft Trial Transcript at 26–27, 1998 WL 803824 (Nos. 98-1232; 98-1233) (Nov. 19, 1998 A.M. Session), *Microsoft*, 97 F. Supp. 2d 59.

⁷⁷ Microsoft Trial Transcript at 42–48, 1999 WL 744052 (Nos. 98-1232; 98-1233) (Sept. 21, 1999, A.M. Session) (citing Govt. Ex. 365), *Microsoft*, 97 F. Supp. 2d. In this e-mail, Mr. Kempin also noted that Windows prices had increased while prices of all other PC system components had decreased sharply. *See id.*

⁷⁸ *See* Microsoft Trial Transcript at 42–43, 1999 WL 10209 (Nos. 98-1232; 98-1233) (Jan. 11, 1999, A.M. Session), *Microsoft*, 97 F. Supp. 2d 59 (citing Bill Gates’ “Internet Tidal Wave” memorandum, Govt. Ex. 20) (“[Netscape is] pursuing a multi-platform strategy where they move the key API into the client to commoditize the underlying operating system.”); Microsoft Trial Transcript at 42–43, 1999 WL 10209 (Nos. 98-1232; 98-1233) (Jan. 11, 1999, A.M. Session), *Microsoft*, 97 F. Supp. 2d 59.

⁷⁹ *Microsoft*, 97 F. Supp. 2d at 45–46.

trivial exceptions, to the same level as the price it charged for Windows 98 just prior to releasing the newer product. In a competitive market, one would expect the price of an older operating system to stay the same or decrease upon the release of a newer, more attractive version⁸⁰

Finally, it is indicative of monopoly power that Microsoft felt that it had substantial discretion in setting the price of its Windows 98 upgrade product (the operating system product it sells to existing users of Windows 95). A Microsoft study from November 1997 reveals that the company could have charged \$49 for an upgrade to Windows 98—there is no reason to believe that the \$49 price would have been unprofitable—but the study identifies \$89 as the revenue-maximizing price. Microsoft thus opted for the higher price.⁸¹

An aspect of Microsoft's pricing behavior that, while not tending to prove monopoly power, is consistent with the fact that the firm charges different OEMs different prices for Windows, depending on the degree to which the individual OEMs comply with Microsoft's wishes.⁸²

IV. INNOVATION

A. *Summary of Evidence*

The government did not seek to controvert the obvious fact that software companies are innovative. Indeed, as the government's own economists testified, even monopolists have incentives to innovate. The government did contend, however, that Microsoft used its market power to stifle innovative products and technologies developed by its rivals that threatened its Windows monopoly.⁸³

The adverse impact of Microsoft's predatory conduct on innovation in the market for Web browsers was described by knowledgeable witnesses, including market participants and

⁸⁰ *Id.* at 52.

⁸¹ *Id.* 53.

⁸² *Id.*

⁸³ As Judge Wyzanski observed, even though a monopolist does not opt for the quiet life, "creativity in business as in other areas, is best nourished by multiple centers of activity." *United States v. United Shoe Mach. Corp.*, 110 F. Supp. 295, 347 (D. Mass. 1953), *aff'd per curiam*, 347 U.S. 521 (1954).

outside experts.⁸⁴ Corroborative testimony by additional witnesses recounted similar predatory conduct directed by Microsoft with like effect on other innovative technologies, such as Intel's NSP and Sun's Java.⁸⁵ The most pernicious impact of Microsoft's conduct, however, was described as its deterrent effect on companies contemplating the development of products likely to be perceived by Microsoft as threatening to its dominance.⁸⁶

B. Findings of Fact

Microsoft pressured the major OEMs to not install NSP software on their PCs until the software ceased to expose APIs. NSP software could not find its way onto PCs without the cooperation of the OEMs, so Intel realized that it had no choice but to surrender the pace of software innovation to Microsoft. By the end of July 1995, Intel had agreed to stop promoting its NSP software. Microsoft subsequently incorporated some of NSP's components into its operating-system products. Even as late as the end of 1998, though, Microsoft still had not implemented key capabilities that Intel had been poised to offer

⁸⁴ See, e.g., Microsoft Trial Transcript at 34-35, 47-48, 1998 WL 852605 (Nos. 98-1232; 98-1233) (Dec. 9, 1998, A.M. Session), *Microsoft*, 97 F.2d 59 (containing the testimony of government technical expert, Professor David J. Farber, stating that Microsoft's tying of IE to Windows without technical justification had hurt consumers by stifling the initiative of other companies to innovate in the browser space); Microsoft Trial Transcript at 59-60, 1998 WL 735842 (Nos. 98-1232; 98-1233) (Oct. 21, 1998, P.M. Session), *Microsoft*, 97 F. Supp. 2d 59 (containing the testimony of Netscape CEO James Barksdale that overall browser innovation had been delayed by one to two years as a result of Microsoft's predatory conduct).

⁸⁵ See, e.g., Microsoft Trial Transcript at 46-47 (Nos. 98-1232; 98-1233) (Nov. 9, 1998), *Microsoft*, 97 F. Supp. 2d 59 (containing the testimony of Steven D. McGeady of Intel stating that, had it not been stifled by Microsoft, Intel's Native Signal Processing technology "would have allowed a lot more innovation in both software and hardware that would have . . . brought new media capabilities to the PC more quickly over time"), Trial Testimony of James A. Gosling at ¶¶ 70-74 (Nos. 98-1232; 98-1233) *Microsoft*, 97 F. Supp. 2d 59 (stating that Microsoft's actions "threaten to fragment the Java technology," thereby undermining "the potential of this technology to reduce the barriers to developing new operating systems").

⁸⁶ See, e.g., Trial Testimony of James Barksdale at ¶ 8 (Nos. 98-1232; 98-1233), *Microsoft*, 97 F. Supp. 2d 59; Microsoft Trial Transcript at 30-31, 1999 WL 11491 (Nos. 98-1232; 98-1233) (Jan. 12, 1999, A.M. Session), *Microsoft*, 97 F. Supp. 2d 59 (containing the testimony of Professor Fisher); Microsoft Trial Transcript at 25 (Nos. 98-1232; 98-1233) (June 2, 1999, A.M. Session) (containing the testimony of Professor Fisher), *Microsoft*, 97 F. Supp. 2d 59.

consumers in 1995.⁸⁷

Microsoft's interactions with Netscape, IBM, Intel, Apple, and RealNetworks all reveal Microsoft's business strategy of directing its monopoly power toward inducing other companies to abandon projects that threaten Microsoft and toward punishing those companies that resist.⁸⁸

Microsoft threatened to terminate the Windows license of any OEM that removed Microsoft's chosen icons and program entries from the Windows desktop or the "Start" menu. It threatened similar punishment for OEMs who added programs that promoted third-party software to the Windows "boot" sequence. These inhibitions soured Microsoft's relations with OEMs and stymied innovation that might have made Windows PC systems more satisfying to users.⁸⁹

Not only did Microsoft prevent Navigator from undermining the applications barrier to entry, it inflicted considerable harm on Netscape's business in the process. By ensuring that the firms comprising the channels that lead most efficiently to browser usage distributed and promoted Internet Explorer to the virtual exclusion of Navigator, Microsoft relegated Netscape to more costly and less effective methods of distributing and promoting its browsing software. After Microsoft started licensing Internet Explorer at no charge, not only to OEMs and consumers, but also to IAPs, ISVs, ICPs, and even Apple, Netscape was forced to follow suit. Despite the fact that it did not charge for Internet Explorer, Microsoft could still defray the massive costs it was undertaking to maximize usage share with the vast profits earned licensing Windows. Because Netscape did not have that luxury, it could ill afford the dramatic drop in revenues from Navigator, much less to pay for the inefficient modes of distribution to which Microsoft had consigned it. The financial constraints also deterred Netscape from undertaking technical innovations that it might otherwise have implemented in Navigator.⁹⁰

Had Microsoft not been committed to protecting and enhancing the applications barrier to entry, it might still have developed a high-performance JVM and enabled Java developers to call

⁸⁷ *Microsoft*, 97 F. Supp. 2d at 81.

⁸⁸ *Id.* at 105.

⁸⁹ *Id.* 157-58.

⁹⁰ *Id.* at 302-03.

upon Windows APIs. Absent this commitment, though, Microsoft would not have taken efforts to maximize the difficulty of porting Java applications written to its implementation and to drastically limit the ability of developers to write Java applications that would run in both Microsoft's version of the Windows runtime environment and versions complying with Sun's standards. Nor would Microsoft have endeavored to limit Navigator's usage share It is not clear whether, absent Microsoft's interference, Sun's Java efforts would by now have facilitated porting between Windows and other platforms enough to weaken the applications barrier to entry. What is clear, however, is that Microsoft has succeeded in greatly impeding Java's progress to that end with a series of actions whose sole purpose and effect were to do precisely that.

[B]y pressuring Intel to drop the development of platform-level NSP software, and otherwise to cut back on its software development efforts, Microsoft deprived consumers of software innovation that they very well may have found valuable, had the innovation been allowed to reach the marketplace. None of these actions had pro-competitive justifications.⁹¹

Most harmful of all is the message that Microsoft's actions have conveyed to every enterprise with the potential to innovate in the computer industry. Through its conduct toward Netscape, IBM, Compaq, Intel, and others, Microsoft has demonstrated that it will use its prodigious market power and immense profits to harm any firm that insists on pursuing initiatives that could intensify competition against one of Microsoft's core products. Microsoft's past success in hurting such companies and stifling innovation deters investment in technologies and businesses that exhibit the potential to threaten Microsoft. The ultimate result is that some innovations that would truly benefit consumers never occur for the sole reason that they do not coincide with Microsoft's self-interest.⁹²

⁹¹ *Id.* at 329.

⁹² *Id.* at 330-31.