Who Suffered Antitrust Injury in the Microsoft Case?

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I. Introduction

In *United States v. Microsoft Corp.*,¹ the United States District Court for the District of Columbia ("District Court") held that the software giant violated sections 1 and 2 of the Sherman Act by crushing a competitive threat to the monopoly held by its Windows operating system. The District Court pointed to various means Microsoft used to prevent Netscape's Navigator web browser and Sun Microsystems's Java technology from developing into a competitor of Windows as a platform for which developers could write software applications.² The remedy was essentially the one proposed by the government:³ imposing on Microsoft a variety of conduct restrictions⁴ and ordering it split into two firms, one limited to operating systems software and the other to applications software.⁵ After this symposium, the United States Court of Appeals for the District of Columbia Circuit ("D.C. Circuit") issued its decision, affirming most of the District Court's findings with respect to monopoly maintenance, but reversing the holdings on attempted monopolization and tying and on the remedy.⁶ The D.C. Circuit's decision does not substantially affect our analysis of the antitrust injury issues likely to ensue in private litigation, but we refer to particularly important aspects of the decision occasionally in footnotes.

Most of the popular and scholarly discussions of *Microsoft* have focused on whether the defendant violated the law and, if so, whether the remedial

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² *Id.* at 39-54.
³ *See, e.g.*, *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59, 62 (D.D.C. 2000) (Memorandum and Order), *aff'd in part, rev'd in part per curiam, en banc*, 253 F.3d 34 (D.C. Cir. 2001), *cert. denied*, 122 S. Ct. 350 (2001) ("Plaintiffs won the case, and for that reason alone have some entitlement to a remedy of their choice."). The litigation against Microsoft was the consolidation of a case brought by the United States and one pursued by nineteen states. *Microsoft*, 87 F. Supp. 2d at 35. For simplicity, we refer to the plaintiffs in these cases as "the government."
⁵ *Microsoft*, 97 F. Supp. 2d at 64-65 (Memorandum and Order).
order was appropriate. Never far from the surface in all of these discussions, however, has been the prospect of private antitrust suits that would inevitably follow a government victory. Indeed, numerous consumer class actions were filed against Microsoft in the wake of the District Court’s issuance of its findings of fact. Should the District Court’s decisions on liability stand, Microsoft can expect to face other suits by a variety of actors, including competitors, original equipment manufacturers (“OEMs”), internet businesses, and perhaps others.

In this article, we offer a preliminary analysis of some of the issues that would frame the private damage litigation. We have to be selective because there are so many potential classes of plaintiffs, each with many possible theories of recovery. As a further complication, Judge Thomas Penfield Jackson’s findings and conclusions naturally focus on the existence of violations and only incidentally on their effects on particular actors; still less do they discuss other causal factors that may have affected the fortunes of various actors. Consequently, there are numerous gaps in the findings that private plaintiffs will have to fill in order to recover treble damages. To make our task manageable, we will focus on the prospects of consumers, OEMs, and competitors, particularly Netscape (now owned by America Online), for recovering treble damages. More specifically, we will consider how the antitrust injury doctrine might shape any future damage models for these potential plaintiffs.

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8 See, e.g., Antitrust Class Actions Filed Against Microsoft, TECH LAW JOURNAL, Dec. 1, 1999, at http://techlawjournal.com/atr/19991201.htm. The United States District Court for the District of Maryland recently dismissed a number of consumer class actions based on federal antitrust law. In re Microsoft Corp. Antitrust Litig., 127 F. Supp. 2d 702 (D. Md. 2001). Some state class actions have been dismissed as well. See MICROSOFT CORPORATION, CLASS ACTION LAWSUITS, at http://www.microsoft.com/presspass/legal/cal/ (last modified Feb. 19, 2001) (listing states that have granted motions to dismiss); see also Howard M. Erichson, Coattail Class Actions: Reflections on Microsoft, Tobacco, and the Mixing of Public and Private Lawyering in Mass Litigation, 34 U.C. DAVIS L. REV. 1, 6-9 (2000) (noting class actions filed against Microsoft). Microsoft recently proposed to settle more than 100 class actions by providing computers and software to public schools in low-income neighborhoods, but the outcome of the proposed resolution was unclear at the time of this writing. See Steve Lohr, Microsoft Aims To Settle Suits By Equipping 12,500 Schools, N.Y. TIMES, Nov. 21, 2001, at C1.

9 Sun Microsystems is another potential antitrust plaintiff. Its recent settlement of copyright litigation with Microsoft specifically reserved antitrust claims, “including such claims as may be based in whole or in part on some or all of the facts underlying any of the claims released and dismissed in” the copyright case. Sun Microsystems, Inc. & Microsoft Corp., Settlement Agreement and Mutual Limited Release, ¶ 17(b) (Jan. 23, 2001), http://www.sun.com/2001-0123/audiocast/announcement.html.
This focus on antitrust injury conveniently allows us to bypass a number of difficult issues, including Illinois Brick's prohibition of most suits by indirect purchasers in federal court\(^\text{10}\) and the problems of certifying class actions in those state courts that permit indirect purchaser suits.\(^\text{11}\) However, it does allow us to discuss broader policy issues raised by the treble damage action. This Symposium asks whether the treble damage action is effective as a deterrent. The antitrust injury doctrine reminds us that effectiveness does not mean imposing an arbitrarily high penalty; it means insuring the penalty is at the right level, given the goals of the antitrust laws. That question requires courts deciding damage issues to measure the plaintiffs' damage theory against the goals of antitrust.

We begin in Part II with a brief overview of the antitrust injury doctrine and some related rules affecting antitrust damages. We emphasize the importance of the measure of the effect of a practice on competition in defining the scope of antitrust injury. The most reliable measure is the immediate effect of the practice on output and prices. But the liability ruling in Microsoft is based on a more elusive ground—harm to the competitive process measured by reduced innovation. If that rationale is upheld, it will affect the definition of antitrust injury. In Part III, we survey the actions of Microsoft, both anticompetitive and procompetitive, as found by the District Court. Finally, in Part IV, we examine how the antitrust injury doctrine might apply to the various effects that Microsoft's actions had on consumers, OEMs, and Netscape.

II. Antitrust Injury and the Meaning of Harm to Competition

A court's determination of antitrust liability does not necessarily mean anyone can recover treble damages.\(^\text{12}\) Any action under section 4 of the Clayton Act must overcome a variety of additional hurdles. First, like all damage actions, antitrust suits must meet the applicable standards of proof of individual harm.\(^\text{13}\) Moreover, even if an actor had suffered provable harm as a result of the offense, it must meet the requirements of antitrust injury and standing.\(^\text{14}\) Antitrust law has set limits on the scope of liability because actions that violate antitrust law may have both efficient and inefficient consequences, and those consequences may be felt, directly or indirectly, by a multitude of economic actors. The antitrust injury doctrine requires that private harms be linked to the inefficiency associated with a practice.\(^\text{15}\)

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\(^{10}\) Ill. Brick Co. v. Illinois, 431 U.S. 720, 729 (1977); see also supra note 8.


\(^{12}\) Ind. Grocery Co. v. Super VaIu Stores, 864 F.2d 1409, 1419 (7th Cir. 1989) (holding that a per se violation "does not by itself bestow on any plaintiff a private right of action for damages").


\(^{15}\) Atl. Richfield Co. v. USA Petroleum Co., 495 U.S. 328, 344 (1990) ("The antitrust injury requirement ensures that a plaintiff can recover only if the loss stems from a competition-reducing aspect or effect of the defendant's behavior.").
trust standing imposes a further limitation, restricting the right to sue to those who are best situated to recover, taking into account the public interest in efficient antitrust enforcement.\textsuperscript{16} Although the standing inquiry involves the weighing of a number of factors, antitrust injury is not one of them; antitrust injury is an essential element of any private antitrust case.\textsuperscript{17}

Our focus in this Part is on the antitrust injury inquiry. The doctrine traces its origin to \textit{Brunswick, Inc. v. Pueblo Bowl-O-Mat, Inc.},\textsuperscript{18} in which the Supreme Court required treble damage plaintiffs to prove "antitrust injury, which is to say injury of the type the antitrust laws were intended to prevent and that flows from that which makes defendants' acts unlawful. The injury should reflect the anticompetitive effect either of the violation or of the anticompetitive acts made possible by the violation."\textsuperscript{19}

The doctrine expresses the Court's recognition that complex business practices—even ones that overstep antitrust prohibitions—have a variety of dimensions only some of which are matters of antitrust concern. To assure that antitrust damages are linked to the goals of antitrust, the antitrust injury doctrine requires that the asserted harm be "attributable to an anti-competitive aspect of the practice under scrutiny."\textsuperscript{20} The doctrine "ensures that the harm claimed by the plaintiff corresponds to the rationale for finding a violation of the antitrust laws in the first place, and it prevents losses that stem from competition from supporting suits by private plaintiffs for either damages or equitable relief."\textsuperscript{21}

Identifying antitrust injury necessarily involves, first, identifying the harm to competition associated with the practice—the reason for imposing liability—then determining whether the alleged private harm has the requisite causal link to the rationale for liability. The first step in this process is critical because the court's definition of harm to competition will in part determine which private harms it will find to be linked to the anticompetitive aspect of the practice at issue. We believe that the most reliable measure of harm to competition is the effect of the practice on price and output.\textsuperscript{22}

\begin{footnotesize}
\begin{enumerate}
\item See, e.g., \textit{In re Lower Lake Erie Iron Ore Antitrust Litig.}, 998 F.2d 1144, 1166 (3d Cir. 1993) (observing that "antitrust injury is more than a component to be factored in a standing analysis, it must be present in every case"); T.O. Bell v. Dow Chem. Co., 847 F.2d 1179, 1182 (5th Cir. 1988) ("Proving antitrust injury is a necessary requirement for proving standing; the former cannot stand alone from the latter."); see also Cargill, Inc. v. Monfort of Colo., Inc., 479 U.S. 104, 110 n.5 (1986) ("A showing of antitrust injury is necessary, but not always sufficient, to establish standing under § 4 because a party may have suffered antitrust injury but may not be a proper party under § 4 for other reasons.").
\item \textit{Id.} at 489 n.14.
\item \textit{Id.} at 342. The Court added that "procompetitive or efficiency-enhancing aspects of practices that nominally violate the antitrust laws may cause serious harm to individuals, but this kind of harm is the essence of competition and should play no role in the definition of antitrust damages." \textit{Id.} at 344 (citation omitted).
\item See NCAA v. Bd. of Regents of Univ. of Okla., 468 U.S. 85, 104-07 (1984) ("Restrictions on price and output are the paradigmatic examples of restraints of trade"); Town of Concord v. Boston Edison Co., 915 F.2d 17, 22 (1st Cir. 1990) (explaining that a practice harms
\end{enumerate}
\end{footnotesize}
cause antitrust is intended to protect consumers, it makes sense to ask up front whether the practice harms consumers by restricting output and raising prices.\textsuperscript{23} If such an effect is present, then harm to the plaintiff is antitrust injury if it is causally linked to that effect.

By this measure of harm to competition, a successful cartel's overcharge to the purchaser is obviously antitrust injury because it has the necessary causal link to the output restriction and the price increase.\textsuperscript{24} Exclusionary practices can also impose antitrust injury if, for example, they succeed in reducing output and increasing prices to consumers, either by raising the costs of rivals or by driving them from the market entirely. In such cases, consumers who pay the overcharge suffer antitrust injury, as do the violator's rivals because the exclusion of their output from the market is the mechanism of the overcharge.\textsuperscript{25} It bears emphasis, however, that this sort of anticompetitive exclusion must be distinguished from the sort of exclusion inflicted by competition itself, which plainly does not stem from any output restriction. \textit{Brunswick} shows that competitors harmed simply by an increase in output (or the maintenance of existing output) do not suffer antitrust injury, even if the increase is the result of an unlawful practice.\textsuperscript{26} Likewise, in \textit{Atlantic Richfield}, the Court stated that

\begin{quote}
[\textit{w}\text{hen a firm, or even a group of firms adhering to a vertical agreement, lowers prices but maintains them above predatory levels, the business lost by rivals cannot be viewed as an \textquote{anticompetitive} consequence of the claimed violation. . . . This is not antitrust injury; indeed, \textquote{cutting prices in order to increase business often is the very essence of competition}.}]
\end{quote}

In sum, not all injuries caused by an antitrust violation are antitrust injury; they must also be caused by a reduction in competition.

\textsuperscript{23} As one court observed, \textit{\textquote{antitrust injury occurs only when the claimed injury flows from acts harmful to consumers}}. Rebel Oil Co. v. Atl. Richfield Co., 51 F.3d 1421, 1445 (9th Cir. 1995); see also Am. Ad Mgmt., Inc. v. Gen. Tel. Co. of Cal., 190 F.3d 1051, 1055 (9th Cir. 1999) (\textquote{The antitrust laws do not provide a remedy to every party injured by unlawful economic conduct. It is well established that the antitrust laws are only intended to preserve competition for the benefit of consumers}); Alberta Gas Chems. Ltd. v. E.I. Du Pont de Nemours & Co., 826 F.2d 1235, 1241 (3d Cir. 1987) (\textquote{Mindful that antitrust law aims to protect competition, not competitors, we must analyze the antitrust injury question from the viewpoint of the consumer}).

\textsuperscript{24} Of course, an undercharge by a buyers' cartel would impose the same sort of antitrust injury. See Knevelbaard Dairies v. Kraft Foods, Inc., 232 F.3d 979, 988-89 (9th Cir. 2000).


Harm to competition might be defined more broadly than the effect of the practice on price and output. Some have suggested that competition is harmed where a practice interferes with a market process that is necessary to effective competition or "competition on the merits." For example, "trader freedom" is sometimes said to be a measure of true competition. Such a definition of harm to competition would, of course, lead to a broader scope of antitrust injury. For example, a trader whose freedom was impaired by an illegal exclusive contract or by some other form of coercion might argue that it suffered antitrust injury.

One might justify the focus on harm to the competitive process if courts could confidently identify essential elements of that process. For example, if impeding one element of the competitive process would predictably lead to reduced output within a reasonably short time, it would make sense to prohibit a practice having that effect. It might also make sense to impose a deterrent penalty even at a relatively early stage of the offense. But it is extraordinarily difficult to separate harmful from neutral and beneficial practices based upon some aspect of their nature that is predicted to lead to an output restriction in the long run. When a practice immediately reduces output, that effect is a reliable guide in conducting the damage inquiry. However, when the effect on output is predicted to occur in the future, penalizing the practice threatens to deter beneficial conduct. Consequently, we suggest that courts should proceed cautiously in identifying practices that harm the competitive process, particularly when they provide immediate benefits to consumers.

Predatory pricing is a useful illustration of the importance of defining the relevant harm to competition in the analysis of antitrust injury. Even under the narrower definition of harm to competition—the effect on price and output—true predatory pricing that successfully excludes a competitor causes antitrust injury both to consumers who pay an overcharge and to the excluded competitors who lose profits as a result of being driven from the market. But what about unsuccessful predatory pricing—price-cutting that

28 The D.C. Circuit in Microsoft apparently endorsed the broader definition of harm to competition by affirming the holding of monopoly maintenance, even though the government did not present direct proof that Microsoft's conduct actually reinforced its monopoly power. United States v. Microsoft Corp., 253 F.3d 34, 78-79 (D.C. Cir. 2001) (per curiam) (en banc). This "edentulous" standard of causation imposes liability for bad acts, not for proven effects on competition.

29 See Sullivan v. Nat'l Football League, 34 F.3d 1091, 1101 (1st Cir. 1994) ("[O]verall consumer preferences in setting output and prices is more important than higher prices and lower output, per se, in determining whether there has been an injury to competition." (citing NCAA v. Bd. of Regents of the Univ. of Okla., 468 U.S. 85, 107 (1984))).

30 Kiefer-Stewart Co. v. Joseph E. Seagram & Sons, Inc., 340 U.S. 211, 213 (1951) (condemning maximum resale price fixing because it "cripple[s] the freedom of traders and thereby restrain[s] their ability to sell in accordance with their own judgment"). In Khan v. State Oil Co., 93 F.3d 1358, 1364 (7th Cir. 1996), the United States Court of Appeals for the Seventh Circuit opined that the Supreme Court "may ... think that interfering with the freedom of a dealer to raise prices may cause antitrust injury," even though it "does not impair any interest that the antitrust laws interpreted in light of modern economics could be thought to protect." On review, the Supreme Court held that maximum resale price fixing is not illegal per se and so did not address the antitrust injury issue. State Oil Co. v. Kahn, 522 U.S. 3, 18 (1997).
meets the standards of predation but does not actually exclude a competitor? Under the narrower definition of harm to competition, losses a rival suffers during the predatory campaign should not be viewed as flowing from a reduction in competition. In actual litigation, regardless of the standard for predation adopted, predatory pricing looks very much like procompetitive price-cutting, particularly from the consumer’s perspective.\textsuperscript{31} As the Supreme Court observed in \textit{Brooke Group, Ltd. v. Brown \& Williamson Tobacco Corp.}, “[a]lthough unsuccessful predatory pricing may encourage some inefficient substitution toward the product being sold at less than its cost, unsuccessful predation is in general a boon to consumers.”\textsuperscript{32} The Court thus subordinated predatory pricing’s short-run resource misallocations to the immediate benefit to consumers in lower prices and higher output. One court has therefore inferred that “[b]ecause below-cost pricing is a ‘boon to consumers,’ the losses inflicted on [the plaintiff] by the pricing are not the stuff of antitrust injury.”\textsuperscript{33}

The analysis of antitrust injury from unsuccessful predatory pricing changes if harm to competition is defined more broadly to include harm to the competitive process. Some have argued that the losses a targeted rival suffers during a predatory pricing campaign are antitrust injury because the injury is connected to the resource misallocation associated with below-cost pricing.\textsuperscript{34} Indeed, in \textit{Brunswick} itself, the Court wrote that “[t]he short-term effect of certain anticompetitive behavior—predatory below-cost pricing, for example—may be to stimulate price competition. But competitors may be able to prove antitrust injury before they actually are driven from the market and competition is thereby lessened.”\textsuperscript{35} The rationale is that predatory pricing harms the competitive process, even though it does not immediately re-

\textsuperscript{31} See, e.g., Frank H. Easterbrook, \textit{Predatory Strategies and Counterstrategies}, 48 U. CHI. L. REV. 263, 266 (1981) (“[I]t is exceedingly difficult to distinguish ‘predatory’ strategies from ordinary competition.”); see also Stearns Airport Equip. Co., Inc. v. FMC Corp., 170 F.3d 518, 527 (5th Cir. 1999) (noting that the “central difficulty with [predatory pricing] actions is that the conduct alleged is difficult to distinguish from conduct that benefits consumers”); United States v. AMR Corp., 140 F. Supp. 2d 1141, 1196 (D. Kan. 2001) (“[I]dentifying [price predation based on measures other than cost] in the particular case without chilling aggressive, competitive pricing is far beyond the capacity of any antitrust tribunal.”).


\textsuperscript{33} Rebel Oil Co. v. Atl. Richfield Co., 51 F.3d 1421, 1444 (9th Cir. 1995). “Predatory pricing schemes that fail at the recoupment stage may injure specific competitors . . . , but do not injure competition (i.e. they do not injure consumers) and so produce no antitrust injury.” Advo, Inc. v. Phila. Newspapers, Inc., 51 F.3d 1191, 1200 (3d Cir. 1995).

\textsuperscript{34} Roger D. Blair \& Jeffrey Harrison, \textit{Rethinking Antitrust Injury}, 42 VAND. L. REV. 1539, 1561-1565 (1989) (arguing that unsuccessful predatory efforts cause “antitrust injury” even though consumers have not suffered).

\textsuperscript{35} Brunswick, Inc. v. Pueblo Bowl-O-Mat, Inc., 429 U.S. 477, 489 n.14 (1977). The Court added: “Of course, the case for relief will be strongest where competition has been diminished.” \textit{Id.}; see also Amarel v. Connell, 102 F.3d 1494, 1508 (9th Cir. 1997) (“Losses a competitor suffers as a result of predatory pricing is a form of antitrust injury because predatory pricing has the requisite anticompetitive effect against competitors.” (quotation omitted)); \textit{In re Air Passenger Computer Reservation Sys.}, 727 F. Supp. 564, 568-69 (C.D. Cal. 1989) (“[W]hen defendants engage in predatory pricing or other anticompetitive acts in an attempt to gain a monopoly, the competitor who is being driven out of the market is the party with standing.”).
duce output because it may lead to harm to consumers at some point in the future.

The problem of defining harm to competition also dominates the analysis of practices that allegedly harm innovation—a critical issue in Microsoft. In 1999, a district court observed that "no court yet has addressed" the question of "whether private plaintiffs may sue for an artificial constraint on innovation."\(^{36}\) This year, however, a different district court suggested that "[s]ince businesses compete through both lower prices and superior performance, a firm's stifling of innovative products would cause antitrust injury."\(^{37}\) In theory, of course, the latter statement must be true, if the defendant actually stifles innovation. Suppression of innovation by agreement among competitors could be tantamount to a cartel's output restriction, if the innovation forgone would have resulted in lower product prices. Exclusion of an innovation by anticompetitive means could be tantamount to exclusion of a more efficient competing firm. The issue becomes far more problematic, however, if the claim is that the defendant's acts tend to harm innovation. Perhaps even more than predatory pricing, harm to innovation is easily claimed but difficult for courts to identify. As we argue elsewhere, because economists do not have a determinate theory of the process of innovation, claims of harm to innovation are intrinsically more speculative than other forms of asserted monopolization.\(^{38}\) If a court were to condemn a practice as tending to harm innovation, the problems of sorting out and proving antitrust injury would be challenging.

A final implication of antitrust injury has particular importance in Microsoft. If a practice has both procompetitive and anticompetitive effects, any damage theory must disaggregate them.\(^{39}\) According to one commentator,

> unless the plaintiff provides disaggregated damage proof, it may be impossible for the finder of fact to tailor its damage award to address only those injuries that flow from conduct it has determined to be anticompetitive. Disaggregation thus facilitates the application of the antitrust injury doctrine as a substantive limitation on the recovery of antitrust damages.\(^{40}\)

Thus, if the defendant has harmed the plaintiff by both legitimate competitive practices and by inefficient practices, the plaintiff's damage theory must

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\(^{37}\) In re Microsoft Corp. Antitrust Litig., 127 F. Supp. 2d 702, 711 (D. Md. 2001) (concluding that the plaintiffs could not establish antitrust standing).


\(^{39}\) See, e.g., MCI v. AT&T, 708 F.2d 1081, 1162 (7th Cir. 1983) ("When a plaintiff improperly attributes all losses to a defendant's illegal acts, despite the presence of significant other factors, the evidence does not permit a jury to make a reasonable and principled estimate of the amount of damage."); see also City of Vernon v. S. Cal. Edison Co., 955 F.2d 1361, 1371-72 (9th Cir. 1992); United States Football League v. Nat'l Football League, 842 F.2d 1335, 1378-79 (2d Cir. 1988).

\(^{40}\) M. Sean Royall, Disaggregation of Antitrust Damages, 65 ANTITRUST L.J. 311, 323 (1997).
sort out the effects. Similarly, if some practices actually benefited the plaintiff, those effects must be subtracted from any harm.

### III. Microsoft's Conduct and Its Effects

The discussion to this point has shown that to constitute antitrust injury, the plaintiff's harm has to be causally connected to a reduction in competition, however it is defined. Thus, identifying antitrust injury requires an assessment of the effects of the defendant's conduct not only on the plaintiff, but also on others and on competition generally. Though much of what Judge Jackson had to say in the findings of fact and conclusions of law dealt with harms that Microsoft's conduct inflicted on others, he also identified beneficial effects. Many questions remain, but the District Court's findings and conclusions allow at least a preliminary assessment of their net effects on both competition and specific economic actors.

#### A. The Competitive Context

Judge Jackson held that Microsoft has monopoly power in the world market for Intel-compatible PC operating systems largely because it has a dominant market share that is protected by network effects or "the applications barrier to entry." Developers want to write applications for the most widely-used operating system, and users want to buy the operating system for which the most applications are available. Consequently, far more applications have been written for Windows than for other operating systems, and users tend to choose Windows and stay with it—a phenomenon that disadvantages smaller competitors and new entrants.

Netscape's Navigator web browser threatened to undermine the applications barrier, according to the District Court, by providing a new form of platform to which applications could be written. It was a form of "middleware" that exposed applications programming interfaces ("APIs") to which applications could be written instead of to the operating system. Indeed, once an application was written to Navigator, it would run regardless of the operating system, a fact that led Bill Gates famously to worry that Net...
scape threatened "to commoditize the underlying operating system." Sun Microsystems's Java technology was also a form of middleware because it purportedly allowed developers to write programs that would run on any operating system, so long as the computer could read Java bytecode or carried a Java virtual machine to interpret the Java instructions for the operating system. This prospect also threatened Microsoft, in part because each copy of Netscape's browser included a Java virtual machine.

B. Microsoft's Actions

Microsoft responded to the competitive threat posed by Netscape and Java in a variety of ways. Some of the responses, both the court and the government acknowledge, were lawful and beneficial to consumers. For example, Microsoft introduced its Internet Explorer ("IE") browser and devoted enormous resources to improving it. In these efforts it was successful: most computer journalists that have reviewed the competing browsers have found that IE is as good as or better than Navigator. Moreover, Microsoft included IE with Windows at no increment in cost and provided it free as an upgrade through other channels. The District Court specifically found that these actions by themselves had beneficial effects. Netscape was selling a fairly rudimentary browser in 1995 for a positive price; after Microsoft's actions, browsers were free.

The District Court, however, held that some of Microsoft's attacks on the new platform threat were unlawful. The first effort to subvert Netscape, according to the court, was Microsoft's "market division proposal" to Netscape. In a 1995 meeting, Microsoft officials tried to convince Netscape to develop its browser only for non-Windows operating systems, leaving the Windows 95 market to Microsoft. Microsoft offered to provide preferential access to technical information if Netscape agreed to the terms, but it threatened to delay or deny access to necessary technical information if Net-

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48 Id. at 19-20 (Findings of Fact ¶¶ 69, 72).
49 Id. at 20 (Findings of Fact ¶¶ 73, 74).
51 Microsoft, 65 F. Supp. 2d at 21 (Findings of Fact ¶ 76).
52 Id. at 35 (Findings of Fact ¶ 135).
54 Microsoft, 65 F. Supp. 2d at 35 (Findings of Fact ¶¶ 136-137).
55 Id. at 46 (Findings of Fact ¶ 186) ("As an abstract and general proposition, many if not most consumers can be said to benefit from Microsoft's provision of Web browsing functionality with its Windows operating system at no additional charge.").
57 Microsoft, 65 F. Supp. 2d at 22-24 (Findings of Fact ¶¶ 79-89).
scape did not agree.\textsuperscript{58} Netscape declined the proposal and suffered the delay in obtaining the technical information.\textsuperscript{59}

The District Court found that when Microsoft's attempt to co-opt Netscape failed, Microsoft set out to thwart the middleware menace by limiting consumers' access to Navigator, most significantly by choking off the best channels for distribution of Netscape—through OEMs and Internet access providers ("IAPs").\textsuperscript{60} Microsoft constricted the OEM channel by a variety of methods. First, it "bound" Windows and IE both contractually and technologically and did not provide either a version of Windows without IE or a ready means of removing IE.\textsuperscript{61} The early licenses of Windows 95 prohibited OEMs from deleting IE before they shipped new computers to consumers.\textsuperscript{62} Microsoft later "bound" IE to Windows 95 by placing its code in files that provided the traditional functions of an operating system.\textsuperscript{63} Those shared files could not then be deleted without crippling Windows.\textsuperscript{64} Microsoft did, however, allow users to disable access to IE in Windows 95 by using the "Add/Remove Programs" control panel.\textsuperscript{65} With the introduction of IE 4.0 and Windows 98, however, Microsoft included the browsing code in more shared files\textsuperscript{66} and eliminated the users' ability to delete access to IE in this way.\textsuperscript{67}

Second, Microsoft imposed restrictions on OEMs' ability to customize the Windows desktop or the initial "boot" sequence to facilitate users' access to Navigator.\textsuperscript{58} OEMs could not, for example, remove the IE icon and other ways of launching IE\textsuperscript{69} or alter the boot sequence to promote Navigator before the user reached the Windows desktop.\textsuperscript{70} They were not allowed to install programs promoting Navigator that would launch automatically after

\textsuperscript{58} Id. at 23 (Findings of Fact ¶ 84).
\textsuperscript{59} Id. at 24-25 (Findings of Fact ¶¶ 90-92). The D.C. Circuit reversed the District Court's conclusion that Microsoft attempted to monopolize the browser market through this offer and other acts, holding that the government failed to define the browser market or show that it was protected by entry barriers. United States v. Microsoft Corp., 253 F.3d 34, 80-84 (D.C. Cir. 2001) (per curiam) (en banc).
\textsuperscript{60} Microsoft, 87 F. Supp. 2d at 39.
\textsuperscript{61} Id. at 39, 49-50. The practice was relevant to the claim that Microsoft illegally maintained monopoly power in operating systems, id. at 39, the claim that Microsoft attempted to monopolize the browser market, id. at 45, and the tying claim, id. at 49-51. The court found that the practice harmed competition without a justification. Microsoft, 65 F. Supp. 2d at 46 (Findings of Fact ¶ 186) ("No consumer benefit can be ascribed, however, to Microsoft's refusal to offer a version of Windows 95 or Windows 98 without Internet Explorer, or to Microsoft's refusal to provide a method for uninstalling Internet Explorer from Windows 98.").
\textsuperscript{62} Microsoft, 87 F. Supp. 2d at 40-41.
\textsuperscript{63} Id. at 41.
\textsuperscript{64} Id.
\textsuperscript{65} Id. at 42.
\textsuperscript{66} Id. at 43.
\textsuperscript{67} Id.
\textsuperscript{68} Id. at 39. This conduct was relevant to the monopoly maintenance and attempted monopolization claims and, to a limited extent, the tying claim.
\textsuperscript{70} Id.; see also id. at 51 (Findings of Fact ¶ 209).
the initial Windows boot sequence or to add icons for Navigator that were bigger than IE's. Microsoft also extended carrots to OEMs who favored IE and brandished sticks at those who favored Netscape. For example, if OEMs set IE as the default browser, they paid reduced royalties and received marketing assistance. If they favored Netscape, they faced loss of assistance and subsidized competition from Microsoft-friendly OEMs.

Microsoft constricted the IAP channel in comparable ways. First, it gave free licenses to IAPs for IE and its so-called Access Kit. A few large IAPs who agreed to promote IE over Navigator won places in the Windows 95 Referral Server, through which users could subscribe to the IAP by clicking on the Internet Connection Wizard on the Windows 95 desktop. A few online services, including America Online ("AOL"), that agreed to promote IE exclusively won still more conspicuous promotion by placement on the Windows desktop. Microsoft also favored ten large IAPs who tried to persuade existing subscribers to switch to software that was bundled with IE.

Microsoft indirectly hindered distribution of Navigator through the OEM and IAP channels in its dealings with Apple, Internet content providers ("ICPs"), and independent software vendors ("ISVs"). It threatened to abandon Microsoft Office for the Macintosh operating system, a critical application for Apple, unless Apple made IE the default browser for the Macintosh. Microsoft also gave free IE licenses and other benefits to induce some ICPs and ISVs not to write applications to Netscape's APIs.

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71 Id. at 52 (Findings of Fact ¶¶ 211, 213).
72 Id. (Findings of Fact ¶ 213).
73 Microsoft, 87 F. Supp. 2d at 39.
74 Microsoft, 65 F. Supp. 2d at 58-60 (Findings of Fact ¶¶ 230-238).
75 Id. at 58-59 (Findings of Fact ¶¶ 232, 236-37).
76 Microsoft, 87 F. Supp. 2d at 41. The conduct was relevant to the monopoly maintenance and attempted monopolization claims.
77 Microsoft, 65 F. Supp. 2d at 62-63 (Findings of Fact ¶¶ 250-51). The D.C. Circuit reversed this finding of liability on the grounds that offering services at an attractive but nonpredatory price was not anticompetitive. United States v. Microsoft Corp., 253 F.3d 34, 67-68 (D.C. Cir. 2001) (per curiam) (en banc).
78 Microsoft, 65 F. Supp. 2d at 63-64 (Findings of Fact ¶¶ 253-58). These IAPs could not promote Navigator or provide Navigator to customers who did not specifically request it, and their distribution of Navigator could not exceed a given percentage of their total browser distribution, usually twenty-five percent. Id.
79 Id. at 68-77 (Findings of Fact ¶¶ 272-306). The District Court used the term "Internet access provider" to encompass online services and Internet service providers. Id. at 5 (Findings of Fact ¶ 15).
80 Id. at 64-65 (Findings of Fact ¶¶ 259-60).
81 Microsoft, 87 F. Supp. 2d at 42-43. These measures related to the monopoly maintenance and attempted monopolization claims.
82 Microsoft, 65 F. Supp. 2d at 85-89 (Findings of Fact ¶¶ 341-56).
Finally, Microsoft took a number of steps to hinder the portability of programs written in Java, particularly through its own, Windows-specific, implementation of Java. Microsoft tried to persuade ISVs to use Microsoft's Java technology, by offering benefits, but also by making the Microsoft Java implementation superior. The District Court also held that Microsoft persuaded Intel to abandon technology that would have helped cross-platform Java implementations.

C. Competitive Effects

The first step in the analysis of antitrust injury is to determine the extent to which the defendant's conduct harmed or enhanced competition. This issue turns out to be unusually complicated in Microsoft. First, whether the known effects constitute a harm to competition depends to a large extent on which definition of harm to competition one adopts. As we argued above in our discussion of antitrust injury, the most tangible indicator of harm to competition is an immediate reduction in output and an increase in prices. Others suggest that harm to some aspect of the competitive process can constitute harm to competition. Judge Jackson appeared to apply both definitions at different points in both the findings of fact and the conclusions of law, but he primarily relied on the latter definition. This standard is apparent in his statements that Microsoft was a "predacious" monopolizer that did "violence ... to the competitive process," and that Microsoft "mounted a deliberate assault upon entrepreneurial efforts ... [and] placed an oppressive thumb on the scale of competitive fortune."

Whatever the legal definition, however, it is factually difficult to sort out the effects of Microsoft's good and bad practices in either the near or long term. Just as the District Court found that some of Microsoft's responses to the platform threat were legitimate and some not, it found that some of Microsoft's actions were beneficial to competition and others harmful.

1. Prices and Output

Although the District Court made some findings about the effects of Microsoft's conduct on price and output, Judge Jackson did not rely on them in his conclusion that Microsoft had reduced competition. We survey those findings here because they are crucial to proof of some types of harm. To summarize at the outset, while the findings are unclear about whether and to

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84 Microsoft, 87 F. Supp. 2d at 43. This conduct relates primarily to the monopoly maintenance charge.
85 Microsoft, 65 F. Supp. 2d at 96-97 (Findings of Fact ¶¶ 387-90).
86 Id. at 98-101 (Findings of Fact ¶¶ 395-402).
87 Id. (Findings of Fact ¶¶ 396, 404-06). The District Court also suggested that some other firms, like Intel, were coerced into abandoning efforts to expose their own APIs, which would have made them platform competitors. See, e.g., id. at 25-26 (Findings of Fact ¶¶ 94-101).
88 See, e.g., Robert H. Lande, Consumer Choice as the Ultimate Goal of Antitrust, 62 U. Prry. L. Rev. 503, 504 (2001) ("[T]he antitrust laws aim to permit and preserve a sufficient, although not a perfect, array of options from which consumers may choose.").
89 Microsoft, 87 F. Supp. 2d at 44.
90 Id.
what extent Microsoft’s prices exceed a competitive price, they clearly do not hold that Microsoft has charged a higher price for Windows as a result of the actions at issue in the case. To the contrary, the District Court found that Microsoft has charged less than a rational competitive firm would charge, particularly for the browser, as part of its overall strategy to gain usage share. Only if Microsoft was so successful in this strategy that it deterred entry of better and less expensive platforms could one find an overcharge—a conclusion that Judge Jackson was unwilling to reach.

Even though the District Court held that Microsoft had monopoly power, it did not specifically hold that Microsoft charged a monopoly price for Windows. The District Court found that “[i]t is not possible with the available data to determine with any level of confidence whether the price that a profit-maximizing firm with monopoly power would charge for Windows 98 comports with the price that Microsoft actually charges.”\(^9\) Instead, it rested its determination of monopoly power on Microsoft’s market share and the existence of an applications barrier to entry, which denied consumers a reasonable alternative to Windows.\(^9\)

The failure to find that Microsoft was charging a monopoly price was not fatal to the finding of monopoly power, according to the District Court because “if [Microsoft] wished to exercise [its] power solely in terms of price, it could charge a price for Windows substantially above that which could be charged in a competitive market.”\(^9\) Moreover, this power was not effectively constrained by competitors’ prices,\(^9\) the threat of piracy,\(^9\) its own installed base,\(^9\) or more long-term threats.\(^9\) Microsoft thus could raise prices without attracting immediate new entry\(^9\) or inducing OEMs to switch to other suppliers.\(^9\)

The District Court offered two explanations for Microsoft’s failure to charge a monopoly price. First, it speculated that Microsoft’s strategy might be to “stimulate the growth of the market for Intel-compatible PC operating systems by keeping the price of Windows low today.”\(^10\) This explanation would be consistent with Microsoft’s observed behavior in software markets generally.\(^10\) More important, it suggested that Microsoft chose to exercise its monopoly power in part by inducing OEMs to consent to burdensome

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\(^9\) Microsoft, 65 F. Supp. 2d at 18 (Findings of Fact ¶ 65).
\(^9\) Id. at 10 (Findings of Fact ¶ 34).
\(^9\) Id. (Findings of Fact ¶ 33); see also id. at 5, 15-16 (Findings of Fact ¶¶ 18, 54, 55).
\(^9\) Id. at 16 (Findings of Fact ¶ 55).
\(^9\) Id. (Findings of Fact ¶ 57).
\(^9\) Id. (Findings of Fact ¶ 58).
\(^9\) Id. (Findings of Fact ¶ 59).
\(^9\) Id. at 10-11 (Findings of Fact ¶ 36).
\(^9\) Id. at 15-16 (Findings of Fact ¶ 54).
\(^10\) Id. at 18 (Findings of Fact ¶ 65). The District Court added that “[b]y pricing low relative to the short-run profit-maximizing price, thereby focusing on attracting new users to the Windows platform, Microsoft would also intensify the positive network effects that add to the impenetrability of the applications barrier to entry.” Id.

restrictions—a point that becomes crucial in the evaluation of whether OEMs suffered antitrust injury, as we will see below. The District Court’s observation recognizes the fallacy of double counting—that a monopolist cannot both charge a monopoly price and impose costly restrictions on its customers. It did not, however, quantify the cost of the restrictions, nor did it find that the restrictions were purely exclusionary. Judge Jackson found that the restrictions tended to reinforce the applications barrier but not necessarily in an inefficient way.

The District Court never conceded that Microsoft was charging a competitive price. It found that Microsoft increased the price of Windows 95 when it introduced Windows 98; charged $89 for the Windows 98 upgrade as the “revenue-maximizing price,” even though it had found in an internal study that a price of $49 would have been profitable, and charged different prices to different OEMs. In each of these instances, it concluded Microsoft’s pricing behavior was consistent with monopoly power. But because it did not indicate what a competitive price for Windows might be, it is impossible to find that the price was monopolistic. The District Court’s hesitancy to pinpoint a competitive price is understandable: in software markets, because of the necessarily high costs of research and development and low costs of production, no firm can survive by setting its price at marginal cost. How much higher a price can be than marginal cost and still be considered “competitive” is uncertain in practice if not in theory.

The crucial point about these findings, however, is that they were made in the context of the District Court’s inquiry into whether Microsoft possessed monopoly power, not its inquiry into whether Microsoft illegally maintained its power. The government did not allege—and indeed could not allege, consistently with its 1995 Microsoft consent decree—that Microsoft had acquired its monopoly power unlawfully. The same network effects that create the applications barrier to entry also cause markets to tip toward a single dominant supplier that obtains an early lead. There was nothing in

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102 Microsoft, 65 F. Supp. 2d at 18 (Findings of Fact ¶ 66).
104 Microsoft, 65 F. Supp. 2d at 17 (Findings of Fact ¶ 62).
105 Id. (Findings of Fact ¶ 63).
106 Id. (Findings of Fact ¶ 64).
108 In upholding the decree, the D.C. Circuit stated:
   The government believes that Microsoft’s initial acquisition of monopoly power in the operating systems market was the somewhat fortuitous result of IBM choosing for its PCs the operating system introduced by Microsoft (“MS-DOS”), which, with Microsoft’s successful exploitation of that advantage, led Microsoft to obtain an installed base on millions of IBM, and IBM-compatible, PCs.
the record to suggest that the market’s tilt toward Windows was the result of monopolistic practices; indeed, the court found that “Windows 95 enjoyed unprecedented popularity with consumers,” suggesting that the attractiveness of the product was the decisive factor. Some have contended in other litigations that Microsoft’s monopoly power was achieved unlawfully—a point we return to below—but the government and Judge Jackson are not among them.

Nor can we find, based upon the District Court’s opinions, that Microsoft’s actions enhanced the price of the browser. On the contrary, the findings explicitly recognize that “Microsoft sought to increase the product’s share of browser usage by giving it away for free. In many cases, Microsoft also gave other firms things of value (at substantial cost to Microsoft) in exchange for their commitment to distribute and promote Internet Explorer, sometimes explicitly at Navigator’s expense.” In the same vein, the District Court observed:

Despite the opportunity to make a substantial amount of revenue from the sale of Internet Explorer, and with the knowledge that the dominant browser product on the market, Navigator, was being licensed at a price, senior executives at Microsoft decided that Microsoft needed to give its browser away in furtherance of the larger strategic goal of accelerating Internet Explorer’s acquisition of browser usage share. Consequently, Microsoft decided not to charge an increment in price when it included Internet Explorer in Windows for the first time, and it has continued this policy ever since. In addition, Microsoft has never charged for an Internet Explorer license when it is distributed separately from Windows. Thus, the District Court unequivocally recognized that IE is free in all channels of distribution. It even found that the real price of IE may be negative if one takes account of advertising, free services, and subsidies Microsoft has provided to promote IE.

110 Microsoft, 65 F. Supp. 2d at 10 (Findings of Fact ¶ 8).
112 Microsoft, 65 F. Supp. 2d at 35 (Findings of Fact ¶ 136).
113 Id. (Findings of Fact ¶ 137); see also id. at 62 (Findings of Fact ¶ 250) (“Microsoft licensed the [IE Access Kit] including Internet Explorer, to IAPs at no charge.”).
114 The D.C. Circuit reversed the District Court’s holding that Microsoft illegally tied the browser to the operating system. United States v. Microsoft Corp., 253 F.3d 34, 96 (D.C. Cir. 2001) (per curiam) (en banc), cert. denied, 122 S. Ct. 350 (2001). In a confusing passage on “price bundling,” the D.C. Circuit said that the interpretation of the District Court opinion we offer in the text is not entirely clear, noting “the tension between Findings of Fact ¶¶ 136-37, which Microsoft interprets as saying that no part of the bundled price of Windows can be attributed to IE, and Conclusions of Law, at 50, which says the opposite.” Id.
115 Microsoft, 65 F. Supp. 2d at 36 (Findings of Fact ¶ 139) (“Not only was Microsoft willing to forego an opportunity to attract substantial revenue while enhancing (albeit temporarily) consumer demand for Windows 98, but the company also paid huge sums of money, and sacrificed many millions more in lost revenue every year, in order to induce firms to take actions that would help increase Internet Explorer’s share of browser usage at Navigator’s expense.”); see also id. at 58 (Findings of Fact ¶ 231) (“First, Microsoft rewarded with valuable consideration those large-volume OEMs that took steps to promote Internet Explorer. For example,
The District Court did find that "[t]he fact that Microsoft ostensibly priced Internet Explorer at zero does not detract from the conclusion that consumers were forced to pay, one way or another, for the browser along with Windows." It continued: "licensees, including consumers, are forced to take, and pay for, the entire package of software and . . . any value to be ascribed to Internet Explorer is built into this single price." Notice that the District Court did not say that the price is higher as a result of the inclusion of IE; to do so would contradict its finding that IE has always been included in Windows at no increment in price. Instead, it suggested that the "binding" was unlawful even though there was no increment in price because the consumer was forced to take something of value.

Thus, the District Court did not hold that Microsoft's conduct has yet increased prices or reduced output, the most tangible forms of consumer harm. It did, however, identify other forms of immediate consumer harm. The District Court stated, for example, that Microsoft injured some consumers by failing to provide them with Windows without a browser because some wanted no browser and some only wanted Navigator; to the District Court, these consumers were hurt because the inclusion of IE unnecessarily consumed system resources, hindered the performance of Navigator, and created confusion.

2. Innovation

Despite its conclusion that Microsoft had benefited consumers by reducing prices, the District Court held that Microsoft's actions had caused "serious and far-reaching, consumer harm by distorting competition." The primary distortion was harm to innovation—principally the deterrence of the evolution of a competing platform. Interestingly, the District Court did not

Microsoft gave reductions in the royalty price of Windows to certain OEMs, including Gateway, that set Internet Explorer as the default browser on their PC systems. In 1997, Microsoft gave still further reductions to those OEMs that displayed Internet Explorer's logo and links to Microsoft's Internet Explorer update page on their own home pages. That same year, Microsoft agreed to give OEMs millions of dollars in co-marketing funds, as well as costly in-kind assistance, in exchange for their carrying out other promotional activities for Internet Explorer.; id. at 37 (Findings of Fact ¶ 141) ("[H]ad Microsoft not viewed browser usage share as the key to preserving the applications barrier to entry, the company would not have taken its efforts beyond developing a competitive browser product, including it with Windows at no additional cost to consumers, and promoting it with advertising. Microsoft would not have absorbed the considerable additional costs associated with enlisting other firms in its campaign to increase Internet Explorer's usage share at Navigator's expense."). The District Court found that Compaq paid lower prices because it favored IE, id. at 59 (Findings of Fact ¶ 234), and Gateway paid higher prices because it favored Navigator, id. (Findings of Fact ¶ 236). The court also found that Microsoft charged a lower price to IAPs for inclusion in the Microsoft Referral Server than it could have. Id. at 63-64 (Findings of Fact ¶ 255).


117 Id. (emphasis added).

118 Id. (arguing that the purpose of prohibiting tying "is not, as Microsoft suggests, simply to punish firms on the basis of an increment in price attributable to the tied product").

119 Microsoft, 65 F. Supp. 2d at 102 (Findings of Fact ¶ 410).

120 Id. (Findings of Fact ¶ 409).
hold that Microsoft entirely suppressed innovation. Indeed, it found that Microsoft was highly innovative and had every incentive to innovate despite its monopoly power.121 The District Court recognized that a major part of Microsoft’s campaign to build market share was by innovation in its browser technology.122 This innovation in turn spurred Netscape to improve Navigator “at a competitive rate”.123

The inclusion of Internet Explorer with Windows at no separate charge increased general familiarity with the Internet and reduced the cost to the public of gaining access to it, at least in part because it compelled Netscape to stop charging for Navigator. These actions thus contributed to improving the quality of Web browsing software, lowering its cost, and increasing its availability, thereby benefitting consumers.124

These improvements in Navigator’s browser occurred despite its lost revenues from being forced to price at zero and its higher costs from being relegated to less efficient channels of distribution.

Despite these improvements, however, Microsoft’s actions prevented Netscape from making at least some improvements in its browser. They “deterred Netscape from undertaking technical innovations that it might otherwise have implemented in Navigator.”125 Most important, the District Court concluded that Microsoft had harmed consumers indirectly by skewing innovation away from platform competition.126 Microsoft’s successful reduction in Netscape’s usage share—even though Netscape’s installed base doubled in absolute terms—had convinced developers that Netscape would never be the standard Web browser, and that applications would have to be written to Windows APIs:127 “Navigator’s installed base may continue to grow, but Internet Explorer’s installed base is now larger and growing faster. Consequently, the APIs that Navigator exposes will not attract enough developer attention to spawn a body of cross-platform, network-centric applications large enough to dismantle the applications barrier to entry.”128 As a consequence,

[the actions that Microsoft took against Navigator hobbled a form of innovation that had shown the potential to depress the applications barrier to entry sufficiently to enable other firms to compete effectively against Microsoft in the market for Intel-compatible PC operating systems. That competition would have conduced to consumer choice and nurtured innovation.129

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121 Id. at 17-18 (Findings of Fact ¶ 61).
122 Id. at 35 (Findings of Fact ¶ 135).
123 Id. at 102 (Findings of Fact ¶ 408) (“The debut of Internet Explorer and its rapid improvement gave Netscape an incentive to improve Navigator’s quality at a competitive rate.”).
124 Id.
125 Id. at 94-95 (Findings of Fact ¶ 379).
126 Id. at 103 (Findings of Fact ¶ 411).
127 Id. at 94 (Findings of Fact ¶¶ 374, 378).
128 Id. (Findings of Fact ¶ 378).
129 Id. at 103 (Findings of Fact ¶ 411) (emphasis added). The D.C. Circuit affirmed liability for monopoly maintenance on the ground of harm to innovation. United States v. Microsoft
The conclusion is the same: Microsoft successfully deflected any possible effort by developers to write applications to the emerging Navigator and Java platforms. Although Microsoft was highly innovative and benefited consumers (and presumably harmed Netscape) by its innovations, its unlawful actions also harmed both consumers and Netscape by deterring—to an indeterminate extent—innovations that might have threatened its operating system monopoly.

IV. Who Suffered Antitrust Injury in Microsoft?

Up to this point, we have identified the standards for antitrust injury and examined Microsoft's conduct, both beneficial and harmful, as it was depicted by the District Court. We now turn to an examination of whether consumers, OEMs, and competitors have suffered antitrust injury. Although we cannot resolve anything definitively, an examination of the issue of antitrust injury can perhaps indicate where most of the critical factual issues remain. Antitrust injury frames the damage inquiry by identifying the sorts of harms that bear the necessary connection to the anticompetitive aspect of Microsoft's conduct.

A. Consumers

The most straightforward way in which consumers could suffer antitrust injury would be by paying an illegal overcharge. Of course, even if such an overcharge occurred, consumers would have to avoid the Illinois Brick rule, which bars the indirect purchaser from recovering for an overcharge.138 Most consumers acquired Windows indirectly, primarily from OEMs, whose injury we discuss in the next part. Already, some consumer class actions have been dismissed in federal court, largely on Illinois Brick grounds.139 Nevertheless, any passed-on overcharge would constitute antitrust injury, so the issue of whether consumers have suffered such an overcharge remains an important issue in state indirect purchaser suits.140 More important, resolution of the issue is important in framing the overall inquiry into competitive and private harm.

Proof of an overcharge based upon the current findings would require a conclusion that Microsoft's illegal actions caused a higher monopoly price than would otherwise have been the case. Only the increment in the monopoly price attributable to illegal activity would constitute an overcharge.141 As

141 Berkey Photo v. Eastman Kodak Co., 603 F.2d 263, 297 (2d Cir. 1979) ("[A] purchaser may recover only for the price increment that 'flows from' the distortion of the market caused by the monopolist's anticompetitive conduct."). For criticism of the Berkey standard, see James R. McCall, The Disaggregation of Damages Requirement in Private Monopolization Actions, 62 No-
Microsoft thus inhibited the evolution of Navigator into a competitor that might have eventually threatened the Windows monopoly. Judge Jackson specifically refused to find that “absent Microsoft’s actions, Navigator and Java already would have ignited genuine competition in the market for Intel-compatible PC operating systems.” He did hold, however, that “Microsoft has retarded, and perhaps altogether extinguished, the process by which these two middleware technologies could have facilitated the introduction of competition into an important market.” In addition, Judge Jackson found that Microsoft’s restrictions on OEMs’ alterations in the boot sequence of Windows hampered innovation that might have benefited consumers.

AOL’s acquisition of Netscape did not, in Judge Jackson’s view, appreciably change the likely effect of Microsoft’s actions on platform competition. AOL agreed with Microsoft to use IE technology as the basis for its default browser in return for placement on the Windows desktop. That deal accounted for a substantial part of Netscape’s drop in usage share. AOL later acquired Netscape. Nevertheless, the acquisition was not, according to the District Court, of much competitive significance in the operating system market. AOL made the deal, not in order to compete with Microsoft in the browser market, but to use Netscape’s Netcenter web portal to funnel users to AOL. The District Court found that AOL apparently has no plans or much incentive to develop Navigator as a platform. Its acquisition of Netscape was justifiable solely on the grounds of its usage share and will remain so even if that share continues to decline.

Thus, the District Court found that AOL would likely not switch to Navigator and try to develop it as a platform even after expiration of the AOL-Microsoft deal:

Even if, despite the absence of signs to that effect, AOL drops Internet Explorer and adopts Navigator with a mind to reviving Navigator’s usage share after January 1, 2001, Navigator’s transformation into a platform attractive enough to threaten the applications barrier would be a chimerical aspiration, especially considering Microsoft’s increasing influence over network-centric standards. In any event, nothing that happens after January 1, 2001 will change the fact that Microsoft has succeeded in forestalling for several years Navigator’s evolution in that direction.

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130 Microsoft, 65 F. Supp. 2d at 103 (Findings of Fact ¶ 411).
131 Id.
132 Id. at 50, 60 (Findings of Fact ¶¶ 203, 241).
133 Id. at 72 (Findings of Fact ¶¶ 288-89).
134 Id. at 75 (Findings of Fact ¶ 299).
135 Id.
136 Id. at 75-76 (Findings of Fact ¶ 302).
137 Id. at 97 (Findings of Fact ¶ 383).
we have seen, the District Court’s opinion stopped short of saying that Microsoft charged a monopoly price of any kind, and it did not suggest that Microsoft’s illegal conduct has increased prices over a lawful monopoly level. Indeed, the repeated references in the record to Microsoft’s provision of IE at no charge in Windows and in the Referral Server suggest that prices, to this point at any rate, may have been lower because of the illegal campaign. Judge Jackson stated, for example, that Microsoft “expended wealth and forsworn opportunities” in ways that were not profit-maximizing except as a means of exclusion, and consequently were predatory. He found that, even though Netscape was charging for Navigator in 1995, Microsoft chose to offer its browser for free, sacrificing “the opportunity to make a substantial amount of revenue from the sale of Internet Explorer . . . in furtherance of the larger strategic goal of accelerating Internet Explorer’s acquisition of browser usage share.” This characterization of Microsoft’s actions sounds very much like predatory pricing—a practice that the Supreme Court has recognized is beneficial to consumers in the short run.

Thus, for consumers to prove an overcharge, they must apparently take one of two paths. First, they could try to prove that Microsoft indeed gained monopoly power illegally before 1995. As we pointed out above, the government did not make such an allegation; indeed, it indicated in its settlement of an earlier case that Microsoft had not illegally acquired its monopoly. In the Caldera litigation, however, a private plaintiff contended that Microsoft had acquired its operating system monopoly illegally by excluding DR-DOS, a competitor of its earlier MS-DOS operating system. While that case was settled without a decision on the merits, some consumer class plaintiffs have made similar allegations about exclusion or “technologically superior and lower cost” competing operating systems like DR-DOS and IBM’s OS/2. If Microsoft did acquire its monopoly illegally, then consumers could allege

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144 Id. at 35 (Findings of Fact ¶ 137).

145 For further discussion of proof of overcharges in monopolization cases, see Antitrust Law Section, AM. BAR ASS’N, PROVING ANTITRUST DAMAGES: LEGAL AND ECONOMIC ISSUES 202-03 (William H. Page ed., 1996).

146 See, e.g., Brooke Group, Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 220, 224 (1993) (“Even if the ultimate effect of the cut is to induce or reestablish supracompetitive pricing, discouraging a price cut and forcing firms to maintain supracompetitive prices, thus depriving consumers of the benefits of lower prices in the interim, does not constitute sound antitrust policy.”). The D.C. Circuit in Microsoft noted, “we know there is no claim of price predation.” United States v. Microsoft Corp., 253 F.3d 34, 96 (D.C. Cir. 2001) (per curiam) (en banc), cert. denied, 122 S. Ct. 350 (2001).


that the present price of Windows represents an overcharge in relation to price that would have prevailed absent the much earlier monopolistic conduct.

Such a task would be complicated. First of all, the District Court found that Microsoft was charging less than it could, in part to spur growth of the PC market.\footnote{United States v. Microsoft Corp., 65 F. Supp. 2d 1, 18 (D.D.C. 1999) (Findings of Fact ¶ 65), aff'd in part, rev'd in part per curiam, en banc, 253 F.3d 34 (D.C. Cir. 2001), cert. denied, 122 S. Ct. 350 (2001).} This finding suggest that the price of Windows may not be higher now than the price of the hypothetical operating system that may have emerged absent Microsoft's actions. Given the winner-take-most character of the market, which the District Court recognized, it is likely that any operating system that succeeded would have gained a measure of monopoly power. If so, it might have charged a higher price than Microsoft is currently charging for Windows. Of course, if Microsoft excluded a better product, consumers could have suffered harm even if the price of Windows is no higher than the price of the excluded operating system. The relevant comparison is between quality-adjusted prices. But quality differences for a product that was never allowed to evolve would likely be difficult to establish.

The second path to proof of an overcharge would lie in the District Court's holding that Microsoft's actions since 1995 have deterred the development of cross-platform technologies that might have eroded the Windows monopoly.\footnote{See, e.g., \textit{id.} at 103 (Findings of Fact ¶ 411).} A consumer plaintiff could allege that, absent Microsoft's illegal activities, Netscape and Java would have emerged as a new platform that would have commoditized the underlying operating system. As we saw in the discussion of innovation, however, the District Court refused to hold that a genuine platform competitor would have emerged absent Microsoft's actions.\footnote{\textit{Id.} (Findings of Fact ¶ 411).} Franklin Fisher, one of the government's economic expert witnesses, when asked whether consumers had been harmed by Microsoft's conduct replied:

\begin{quote}
That's very hard to know. The reason that it's mostly hard—on balance, \textit{I would think the answer was no, up to this point}. The reason for that is that Microsoft has used its power to protect its operating system's monopoly from a threat that might not have materialized by this time anyway. And, in doing that, it has given away a lot of things.\footnote{Transcript of Testimony of Franklin Fisher at 29-30, United States v. Microsoft Corp., 65 F. Supp. 2d 1 (D.D.C. 1999) (Nos. 98-1232, 98-1233) (emphasis added), http://www.microsoft.com/presspass/trial/transcripts/jan99/01-12-am.asp.}

He added that consumers were harmed by Microsoft's discouragement of innovation that threatened the Microsoft monopoly, but added "those effects have only just begun."\footnote{\textit{Id.} at 30.} Even if new evidence would make such a "but for" world plausible, however, it would still be necessary to prove that the competitors would have charged less than Microsoft is currently charging or

\begin{quote}
...
offered greater value. Such a theory is not implausible: if a new technology were to displace Windows as the standard platform, one would expect that it would offer significant advantages. But the problems of proving harm to innovation without resort to speculation are formidable.

Another district court has recently held that consumers would have no standing to sue Microsoft for harms to innovation.\textsuperscript{154} That court recognized that "since businesses compete through both lower prices and superior performance, a firm's stifling of innovative products would cause antitrust injury."\textsuperscript{155} Nevertheless, it held that such claims would have to be brought by some firm that was demonstrably excluded. Consumers' harms, without such a showing, would be impossible to measure:

\begin{quote}
[A]n evidentiary record need not be established to perceive the self-evident proposition that it would be entirely speculative and beyond the competence of a judicial proceeding to create in hindsight a technological universe that never came into existence. It would be even more speculative to determine the relative benefits and detriments that non-Microsoft products would have brought to the market and the relative monetary value of Microsoft and non-Microsoft products to a diffuse population of end users.\textsuperscript{156}
\end{quote}

While we do not necessarily endorse this view of antitrust standing, the court was surely correct that it would be difficult for consumers to prove harm on this theory.

Judge Jackson did specifically find that consumers suffered immediate harm from a loss in system performance in being forced to take a browser that they did not want.\textsuperscript{157} The difficulty with his conclusion lies in establishing that the harm is linked to any anticompetitive effect of Microsoft's conduct. It is not obviously a part of any monopolistic overcharge. It is a cost imposed on consumers, but it is not clear that it had an exclusionary effect. The illegal tie would have been just as effective in excluding Netscape, if not more so, had the inclusion of IE been entirely beneficial to consumers. Moreover, consumers who prefer to have an operating system with no browser at all are not deterred from acquiring one from Netscape, so any harm to them is irrelevant to exclusion. This harm does not constitute antitrust injury.\textsuperscript{158}

B. OEMs

As direct purchasers of Windows, OEMs could claim that they paid an overcharge for Windows. Like consumers, they might attempt to prove that Microsoft acquired monopoly power illegally by its actions before 1995 and that a lower price would now prevail but for that conduct. Alternatively,

\begin{flushleft}
\textsuperscript{155} Id.
\textsuperscript{156} Id.
\end{flushleft}
OEMs could assert that they were forced to pay an overcharge as a result of Microsoft's unlawful maintenance of monopoly power after 1995 by its actions against the platform threat of Netscape and Java. The latter theory would require an OEM to establish the price it would have paid but for Microsoft's exclusionary practices for a "commoditized" operating system as well as the price it would have paid for the middleware that would have commoditized the operating system by replacing it as an applications platform. Then, the OEM would have to establish the proper actual price for purposes of calculating the incremental overcharge. The OEMs' task in all of this would be difficult, for reasons we discussed in the last part—under both overcharge theories, projection of a but-for world would be highly speculative. The OEMs' task would be easier than the task of consumer plaintiffs in one respect: they would not have to overcome or circumvent the *Illinois Brick* hurdle. But it would be more difficult in another respect.

OEMs were participants in some of the schemes the District Court found Microsoft implemented to exclude platform competitors. This fact complicates the determination of the actual price OEMs paid for Windows, and therefore the calculation of any overcharge. OEMs performed many services for Microsoft, some of which were unlawfully exclusionary in the District Court's view and some of which were legitimately competitive. Microsoft compensated OEMs for these services in various ways, by offering royalty discounts, in-kind assistance, and marketing allowances. The District Court suggested that one of the reasons Microsoft did not charge a higher monopoly price was that it exerted its monopoly in part by inducing OEMs to accept restrictive and exclusionary licensing terms. Thus, it found that "Microsoft expends a significant portion of its monopoly power, which could otherwise be spent maximizing price, on imposing burdensome restrictions on its customers—and in inducing them to behave in ways—that augment and prolong that monopoly power." As we pointed out earlier, this observation recognizes the fallacy of double counting: Microsoft cannot both charge a monopoly price for Windows and impose costly restrictions on OEMs. Post-Chicago theories of exclusion also recognize that the dominant firm must in effect buy off dealers to induce them to participate in an exclusionary arrangement. The District Court's implication is that the real price

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159 United States v. Microsoft Corp., 253 F.3d 39, 40-41 (D.C. Cir. 2001). Unlawful exclusionary practices can be unilateral, as in the case of predatory pricing, or they can be bilateral, as in the case of exclusive dealing arrangements. Because the OEMs' participation "was not voluntary in any meaningful sense," it would not bar their recovery. Perma Life Mufflers, Inc. v. Int'l Parts Corp., 392 U.S. 134, 139 (1968).

160 The District Court's remedial order prohibited many competitive discounts to OEMs but excepted from the prohibition allowances for legitimate costs of distribution services, such as volume discounts. United States v. Microsoft Corp., 97 F. Supp. 2d 59, 66 (D.D.C. 2000) (Memorandum Order), aff'd in part, rev'd in part per curiam, en banc, 253 F.3d 34 (D.C. Cir. 2001), cert. denied, 122 S. Ct. 350 (2001).

161 *Id.* at 58 (Findings of Fact ¶ 231).

162 *Id.* at 18 (Findings of Fact ¶ 66).

163 *Id.* at 18-19 (Findings of Fact ¶ 66).

164 See Christodoulos Stefanadis, *Selective Contracts, Foreclosure, and the Chicago School View*, 41 J.L. & Econ. 429, 430 (1998) (arguing that anticompetitive foreclosure is possible where an "upstream incumbent convinces a sufficient number of downstream firms to sign exclusive
an OEM paid for Windows was the nominal price of the operating system plus the opportunity cost of succumbing to the exclusionary restrictions.

It bears emphasis that the District Court's point in suggesting that Microsoft may have been imposing costly restrictions on OEMs was not that Microsoft's price reflected unlawfully acquired monopoly power. As noted above, this finding was in the context of its determination that Microsoft possessed monopoly power despite its relatively low prices, not that the monopoly power was illegally acquired. Nevertheless, the District Court's observation is important if OEMs could show Microsoft acquired its monopoly illegally before 1995 and therefore was exerting unlawful monopoly power. In that case, its observation indicates that OEMs may have suffered an overcharge even if the nominal price they paid was close to a competitive price: Microsoft may simply have been exacting its monopoly price by imposing restrictive conditions.

The issue becomes more complicated if we assume there was no illegal monopoly power as of 1995, and Microsoft maintained its monopoly power illegally after that point, in part by the restrictions imposed on OEMs. In that case, Microsoft may also have collected an illegal overcharge, if plaintiffs could prove that a middleware competitor would have emerged and driven prices down still further, but for the illegal activity. But in that case, OEMs were one of the primary means by which the monopoly was illegally maintained. As the District Court recognized, OEMs received lower prices in order to induce them to accept the very conditions that deterred the emergence of middleware platform technology. If Microsoft were successful in preventing middleware entry by imposing those OEM restrictions, in theory the compensation that OEMs were paid for participating in that scheme would have to be offset against any overcharge to OEMs.

The offset, of course, would not necessarily be equal to the overcharge. Collective action problems among OEMs might allow Microsoft to impose restrictions that return greater monopoly profit than the costs of imposing the restrictions on OEMs. Moreover, the restrictions on OEMs were not the only means of exclusion. The District Court found that Microsoft imposed exclusionary restrictions in other channels of distribution as well. But the


165 Microsoft, 65 F. Supp. 2d at 18 (Findings of Fact ¶ 66).

166 Id. (Findings of Fact ¶ 66).

167 Analogously, courts have recognized that buyers who are subject to a tying arrangement can recover damages only if they prove that the sum of the prices of the tied and tying products was increased. Midwestern Waffles, Inc. v. Waffle House, Inc., 734 F.2d 705, 719 (11th Cir. 1984); Kypka v. McDonald's Corp., 671 F.2d 1282, 1285 (11th Cir. 1982). Unless this condition is met, the buyer is compensated for any restriction it accepts.

point remains: any implicit payments for accepting the restrictions must reduce the OEMs' injury in fact.

There are other factors that might complicate the calculation of an overcharge to OEMs. For example, Microsoft offered royalty discounts to OEMs that promoted IE, for instance by displaying the IE logo and links to the IE update page on their own home pages. This promotional program was a lawful competitive arrangement, no different in kind from improving the quality of IE, even though it may have bolstered Microsoft's market position. This sort of exclusive provision could not legitimately be considered the source of any illegal overcharge, even if it contributed to enhancing Microsoft's monopoly power.

The District Court did find that some of Microsoft's restrictions were unlawfully exclusionary—but they were not the same for all OEMs. For example, it found that “Compaq committed itself to promote Internet Explorer exclusively for its PC products” and it in fact “stopped pre-installing Navigator on all but [a] very small percentage of its PCs.” In exchange, “Microsoft has guaranteed Compaq that the prices it pays for Windows will continue to be significantly lower than the prices paid by other OEMs.” By contrast, Gateway and IBM refused to promote or distribute IE exclusively, and at least Gateway paid higher prices for Windows than did Compaq. The District Court calculated that other “OEMs would still pay substantially more than Compaq even if they qualified for all of the royalty reductions listed in Microsoft's Market Development Agreements.” Presumably, the difference in price was in compensation for Compaq's accession to Microsoft's exclusionary demands and thus reflected the implicit overcharge, but each OEM's situation would be somewhat different.

It may be difficult to isolate which restrictions were unlawfully exclusionary. Some of the restrictions were exclusionary, if at all, only because they were used too extensively. For instance, Microsoft gave OEMs royalty

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169 Microsoft, 65 F. Supp. 2d at 58 (Findings of Fact ¶ 231).
170 Id. at 58-59 (Findings of Fact ¶ 233).
171 Id. at 59 (Findings of Fact ¶ 234).
172 Id. at 59-60 (Findings of Fact ¶¶ 235-238). The District Court explicitly found that Gateway “refused . . . to stop shipping Navigator with its PCs” and “has consistently paid higher prices for Windows than its competitors.” Id. at 59 (Findings of Fact ¶ 236). It found that IBM refused Microsoft's entreaties to promote and distribute IE exclusively, and though it found that the treatment IBM received from Microsoft was in “stark contrast” to the treatment received by Compaq, it did not explicitly find that IBM paid a higher royalty than Compaq. Id. at 60 (Findings of Fact ¶ 238).
173 Id. (Findings of Fact ¶ 234).
174 This aspect of the findings suggests the possible argument that Microsoft was engaging in selective contracting as a means of exclusion. See Stefanadis, supra note 164. The argument would be that Microsoft persuaded a number of OEMs to accept restrictive terms in return for a guaranteed low price. If enough dealers were thus locked up, Microsoft could deter entry by preventing competitors from achieving minimum efficient scale. Microsoft could then charge a monopoly price to the remaining dealers. It is unclear whether the Stefanadis model would apply to Microsoft's contracts. One condition is that the contracts be offered selectively; if they are offered to all dealers, then it is unclear that the prediction of anticompetitive exclusion holds. In Microsoft, apparently all dealers were offered the exclusive arrangements, but not all accepted. See supra text accompanying notes 73-75.
discounts for making IE the default browser. A "default" by nature implies exclusivity, and purchasing the right to be the default product, assuming such a right has substantial competitive significance, could possibly be deemed exclusionary only if it foreclosed a competitor from an undue share of the market of OEMs selling default status. In theory, then, only some of the royalty discount received for making IE the default browser would be disregarded in calculating actual prices paid, but determining the appropriate proportion might be impossible. Similar problems plague restrictions like the prohibition on changing the Windows boot sequence or installing programs that would launch automatically upon completion of the initial boot sequence. They are not unambiguously anticompetitive.

Further, had OEMs been able to do so, they would certainly have tried to sell exclusive rights to be the browser on the first desktop the consumer saw. Microsoft effectively paid OEMs to keep IE on the desktop and accessible to consumers rather than to make Navigator the sole browser. These restrictions were not explicitly exclusive because they did not prevent OEMs from adding Navigator along with IE. However, the District Court suggested that they were implicitly exclusionary because OEMs wanted to avoid the support costs associated with multiple browsers on a single system. Whether compensation for retaining IE on the desktop should be treated as payment for an anticompetitive service is problematic.

C. Competitors

If Microsoft only imposed an illegal overcharge on OEMs, that action would not harm competitors—indeed, they would benefit because the higher price would presumably allow them likewise to charge a higher price or to sell more of their product. In the case of potential competitors, it would facilitate their entry into the market by making their products relatively cheaper than Microsoft's products. So, for a competitor plaintiff to be successful, it must show that its harm was the result of an illegally exclusionary activity. As we indicated earlier, an unlawfully excluded competitor is entitled to damages because its profit on the excluded output corresponds to an output restriction caused by the offender. However, it is essential for the court to distinguish and segregate this sort of harm from the harms associated with lawful competition.

175 Microsoft, 65 F. Supp. 2d at 58 (Findings of Fact ¶¶ 231, 233).
176 See, e.g., id. at 52 (Findings of Fact ¶ 213).
177 See David McGowan, Innovation, Uncertainty, and Stability in Antitrust Law, 16 BERKELEY TECH. L.J. 729, 802 (2001) ("[C]onsumer indifference [between browsers] would imply a profit opportunity for OEMs, who could sell exclusive preinstallation rights to the highest bidder.").
178 Microsoft, 65 F. Supp. 2d at 54 (Findings of Fact ¶ 217).
179 See id. (Findings of Fact ¶ 217).
180 An OEM could simplify its claim by ignoring the opportunity cost of exclusionary restrictions. It would accordingly use the nominal price paid for Windows as the actual price in calculating the overcharge regardless of any discount received for anticompetitive services, though of course it would still confront the imposing task of establishing the appropriate competitive but-for price.
Rivals whose existing products were excluded would be most likely to recover on this theory. For example, we mentioned Caldera's DR-DOS and IBM's OS/2 in the section on consumer plaintiffs. Caldera's suit has been settled, but presumably IBM or the producer of any other excluded technology could sue, if it were able to overcome problems with the statute of limitations. As we have seen, however, Judge Jackson's findings of fact offer no support for any such theory.

According to Judge Jackson, the competitors most clearly affected by Microsoft's conduct beginning in 1995 are Netscape and Sun Microsystems. We focus here on Netscape, although the issues involving both firms are similar. Again, only harm from anticompetitive exclusion is compensable as antitrust injury. For example, Judge Jackson found that Microsoft's actions "compelled Netscape to stop charging for Navigator," but that this effect "contributed to improving the quality of Web browsing software, lowering its cost, and increasing its availability, thereby benefiting consumers." Consequently, the lost revenue from charging for Navigator cannot be the measure of antitrust injury. The private harm that would be most directly linked to the harm to competition alleged by the government would be profits Netscape lost as a result of being excluded as a platform competitor.

The District Court held that Microsoft had hampered the development of Navigator, both limiting its success in its current market and preventing it from evolving into a platform competitor. Further, it unequivocally held that Microsoft had harmed Netscape by raising its costs and changing the relative usage shares of Navigator and IE: although Netscape's installed base doubled between 1996 and 1998, from 15 million to over 33 million, Microsoft's base increased much faster. The District Court found that Netscape's total usage share had dropped from seventy percent to below fifty percent, while Microsoft's share had increased from five percent to around fifty percent, and that "these trends will continue."

On the issue of causation, Judge Jackson said:

This reversal of fortune might not have occurred had Microsoft not improved the quality of Internet Explorer, and some part of the re-

181 The District Court identified other competing, middleware threats, including those posed by Notes, distributed first by Lotus and then by IBM, Intel's Native Signal Processing software, and the multimedia playback technologies of Apple and RealNetworks. Microsoft, 65 F. Supp. 2d at 21-22 (Findings of Fact ¶ 78). But the principal rivals in the court's view were Netscape's Navigator and Sun's Java. Id. (Findings of Fact ¶ 77).

182 Just as Microsoft's attack on Netscape's browser enhanced efficiency in some respects, so did its attack on Sun's Java technologies. Microsoft's Java development undermined Java's cross-platform promise by relying on "native calls" to Windows code. While these actions may have blunted Java's threat as a competitor, they also made programs written in Microsoft's Java implementation run faster. Id. at 97 (Findings of Fact ¶ 389). The tradeoffs between the two effects should be accounted for in any damage calculation.

183 Id. at 103 (Findings of Fact ¶ 408).

184 Id. at 93-94 (Findings of Fact ¶¶ 372, 378).

185 Id. at 94 (Findings of Fact ¶ 378).

186 Id. at 93 (Findings of Fact ¶ 372).

187 Id. (Findings of Fact ¶ 373).
versal is undoubtedly attributable to Microsoft’s decision to distribute Internet Explorer with Windows at no additional charge. The relative shares would not have changed nearly as much as they did, however, had Microsoft not devoted its monopoly power and monopoly profits to precisely that end.188

The District Court thus recognized that (1) Netscape’s share may not have declined at all if IE had remained an inferior product,189 and (2) Netscape’s share would have declined to some extent even if Microsoft had only attacked Netscape by lawful competitive means, like improving its browser and offering it at no separate charge.190 Nevertheless, it found that Microsoft’s illegal actions have caused Netscape’s share to decline far more than it would have in the absence of those actions.191 Thus, the District Court invited segregation of three causal factors: illegal exclusionary conduct (E); the improvements in Microsoft’s browser (L); and the zero price of Microsoft’s browser (F). It seemed to have found the causal relationships to be something like this:

![Usage Share Diagram]

S

50%

70%

1995 1998 Time

In this diagram, S refers to Netscape’s usage share, and the subscripts indicate causal factors at work in the share. Had Microsoft only engaged in exclusionary practices without improving its product, Netscape’s share (designated $S_E$) would have remained constant at around seventy percent, because IE would have been so inferior, no one would use it. Had Microsoft only competed lawfully, Netscape’s share ($S_{LF}$) would have declined to some extent, because at least some consumers would prefer it. But the present (and future) declines (shown as $S_{ELF}$) are the result of all three causal factors.

According to the District Court, the declines were both a manifestation and a cause of competitive harm to Netscape. First, although competition from Microsoft led Netscape to improve its browser, the zero pricing and the denial of access to the most efficient means of distribution “inflicted considerable harm on Netscape’s business” and “deterred Netscape from undertaking technical innovations that it might otherwise have implemented in Navigator.”192 These declines may also have prevented Netscape from devel-

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188 Id. at 89 (Findings of Fact ¶ 358).
189 Id. at 93-94 (Findings of Fact ¶ 375).
190 Id. at 94 (Findings of Fact ¶ 376).
191 Id. (Findings of Fact ¶ 376).
192 Id. at 94-95 (Findings of Fact ¶ 379).
oping its browser into a platform that would rival Windows, at least for several years, if not permanently. Presumably, Netscape’s development as a platform would have been slowed to some extent by lawful competition alone; but it was slowed for several years by all three causal factors.

The most ambitious theory of damages that Netscape might offer would be its lost profits as a successful platform competitor of Microsoft. Indeed, if Bill Gates’s fear that Netscape would commoditize the underlying operating system had actually come true, the browser would be the dominant platform to which applications would be written. This theory, of course, faces the initial difficulty that the District Court did not find that Netscape would have actually become an effective platform competitor by the time the case was decided. Nevertheless, the District Court said that Microsoft had at least delayed that possibility by persuading developers that Netscape would not be a standard to which applications could be written. In principle, Netscape could prove that it would have become a platform competitor. If so, it might claim the difference between its profits as a platform competitor and its present profits.

This theory faces a number of practical difficulties. First, the District Court’s refusal to find anything specific about the prospects of the Netscape platform shows that any such theory is speculative. There seems to be no way for any better proof to be developed that such a counterfactual sequence of events would have occurred with any confidence. Netscape, as plaintiff, would also certainly be met by the testimony of its chief executive, James Barksdale, that the company never believed Navigator could displace Windows as a platform. Further complicating matters, any theory of damages would have to account for the effects of lawful competition in delaying the development of the Netscape platform. All of the causal factors must be segregated and supported by evidence that meets the appropriate standard of proof. If Microsoft’s lawful competition alone had caused a drop in usage share, it presumably would have delayed evolution of Navigator into a platform, to some extent. In addition, the time frame would have to recognize that any structural or injunctive relief in the government case would presumptively remove any obstacles to the evolution of the browser—once Microsoft’s thumb is removed from the competitive scales, Netscape could resume its evolution.

Most important, it would be problematic for Netscape to claim monopoly profits. The reliance of the government’s case on network effects suggests the possibility that Netscape might claim that the market would have

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193 In oral arguments on appeal, the D.C. Circuit expressed concern about the proof of causation. United States v. Microsoft Corp., 253 F.3d 34, 78-80 (D.C. Cir. 2001) (per curiam) (en banc), cert. denied, 122 S. Ct. 350 (2001). The only evidence that Netscape would have developed into a platform competitor is Bill Gates’s apparent fear that it would do so. Nevertheless, the D.C. Circuit affirmed the District Court’s holding on monopoly maintenance, applying (for liability) an “edentulous” theory of causation. Id.

194 Microsoft, 65 F. Supp. 2d at 103 (Findings of Fact ¶ 411).

tipped to its platform. The entire theory of the government's case is that competition would be introduced into the operating system market but for Microsoft's illegal actions. It would be incongruous (and perhaps inconsistent with antitrust injury) to claim monopoly profits from successfully displacing Microsoft as a monopolist.

If Netscape were unable to prove that it would have displaced Microsoft as the standard platform, it could still perhaps argue that it lost profits as a result of its drop in usage share. A loss in usage share is not by itself anticompetitive and so would not necessarily constitute antitrust injury standing alone. But one might argue that this decline is linked to a reduced probability of the entry of platform competition. Even if it cannot be proven that entry would have occurred with sufficient certainty to justify damages for Netscape as a platform competitor, the decline in usage share might be sufficiently linked to prospective anticompetitive effects to provide a basis for damages. Once again, however, it would be crucial to segregate the effects of Microsoft's legal and illegal competitive actions in calculating damages.

V. Conclusion

Now that the D.C. Circuit has affirmed the District Court's determination that Microsoft illegally maintained its monopoly of operating systems, albeit on somewhat different grounds, the prospect of private lawsuits is all the more real. Future courts will have to grapple with complex issues of antitrust injury for several different categories of private plaintiffs. Moreover, Microsoft is the most important monopolization case of the last two decades. An examination of the competitive harms to various actors as a result of Microsoft's actions sheds light on the role and meaning of antitrust injury generally.