



Consumer Federation of America

Testimony of Dr. Mark Cooper

Director of Research

On

Competition in the Evolving Digital Marketplace

Subcommittee on Courts and Competition Policy

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Mr. Chairman and Members of the Committee,

My name is Dr. Mark Cooper. I am Director of Research of the Consumer Federation of America (CFA). I appreciate the opportunity to appear before you today to share our views on “Competition in the Evolving Digital Marketplace.” CFA has long recognized the importance of digital industries to consumers and the economy. We began analyzing the digital industries in the late 1980s, before most analysts were paying much attention, and we concluded that, allowed to develop to their full potential, they would be an extremely consumer-friendly and citizen-friendly place.¹ Informed by that analysis, we have fought hard to preserve the competitiveness and openness of this space.²

Over the past two decades it has become clear that the challenge of ensuring that high technology markets, particularly digital technology-based sectors, remain vigorously competitive is one of the most important and difficult tasks facing antitrust and competition authorities;

- important because these sectors are vital to the future economic wellbeing of the U.S.,
- difficult because these sectors have a tendency to be dominated by a very small number of platforms.

I mention both antitrust and competition authorities because U.S. policy has long recognized the need for both. It is only a slight simplification to say that antitrust policy keeps markets competitive and competition policy keeps network open. The Interstate commerce Act (ICA) was passed in 1887; the Sherman Act in 1890; and the Mann Elkins Act, which pulled telecommunications and telegraphy industries under the ICA, was passed in 1910. Thus, for a century the two primary transportation and communications network industries of the industrial age were subject to both antitrust and regulatory oversight over interconnection and carriage. The vital importance of the means of communications and transportation networks to the flow of commerce and the inherent tendency of these industries to exhibit market power justified the dual oversight. In fact, the importance of nondiscriminatory access to the means of

¹ Mark Cooper, *Expanding the Information Age for the 1990s: A Pragmatic Consumer Analysis* (Consumer Federation of America, January 11, 1990).

² Mark Cooper, “The Importance of Open Networks in Sustaining the Digital Revolution,” in Thomas M. Lenard and Randolph J. May (Eds.) *Net Neutrality or Net Neutering* (New York, Springer, 2006); “Accessing the Knowledge Commons in the Digital Information Age,” *Consumer Policy Review*, May/June 2006; “Open Communications Platforms: The Physical Infrastructure as the Bedrock of Innovation and Democratic Discourse in the Internet Age,” *Journal of Telecommunications and High Technology Law*, 2:1, 2005; *Open Architecture as Communications Policy* (Stanford Law School, Center for Internet and Society: 2004); *Cable Mergers and Monopolies: Market Power In Digital Media and Communications Networks* (Washington, D.C.: Economic Policy Institute, 2002); “Antitrust As Consumer Protection In The New Economy: Lessons From The Microsoft Case,” *Hastings Law Journal*, 52: 4, April 2001; “Open Access To The Broadband Internet: Technical and Economic Discrimination In Closed, Proprietary Networks,” *University of Colorado Law Review*, Vol. 69, Fall 2000; *Keeping the Information Superhighway Open for the 21st Century* (Consumer Federation of America, December 1999); *Creating Open Access to the Broadband Internet: Overcoming Technical and Economic Discrimination in Closed, Proprietary Network* (Consumer Federation of America, December 1999); *The Consumer Harm Caused By The Microsoft Monopoly: The Facts Speak For Themselves And They Call For A Stern Remedy* (Consumer Federation of America, November 1999); *Transforming the Information Superhighway into a Private Toll Road: Ma Cable and Baby Bell Efforts to Control the High-Speed Internet* (Consumer Federation of America, October 1999); *Economic Evidence in the Antitrust Trial: The Microsoft Defense Stumbles Over the Facts* (Consumer Federation of America, March 18, 1999); *The Consumer Cost of the Microsoft Monopoly: \$10 Billion of Overcharges and Counting* (Consumer Federation of America, Media Access Project and U.S. PIRG, January 1999); *The Consumer Case Against Microsoft* (Consumer Federation of America, October 1998); *The Meaning of the Word Infrastructure* (Consumer Federation of America, June 30, 1994); *Protecting the Public Interest in the Transition to Competition in Network Industries.*, June 14, 1994; *Developing the Information Age in the 1990s: A Pragmatic Consumer View* (Consumer Federation of America, June 8, 1992)

communications and commerce is deeply embedded in the DNA of capitalism, stretching back half a millennium in common law to the earliest days of capitalist enterprise. Mobility of people, goods and ideas was recognized as indispensable to economic activity and democracy.

The importance of these principles was demonstrated quickly for the telephone network. A mere decade after the first patent for the telephone was granted, it had already demonstrated its vital nature to the public interest. As an Indiana Court argued in 1886:

The telephone has become as much a matter of public convenience and of public necessity as were the stagecoach and sailing vessel a hundred years ago, or the steamboat, the railroad, and the telegraph have become in later years. It has already become an important instrument of commerce. No other known device can supply the extraordinary facilities which it affords. It may therefore be regarded, when relatively considered, as an indispensable instrument of commerce. The relations which it has assumed towards the public make it a common carrier of news – a common carrier in the sense in which the telegraph is a common carrier – and impose upon it certain well-defined obligations of a public character. All the instruments and appliances used by the telephone company in the prosecution of its business are, consequently, in legal contemplation, devoted to a public use.³

With the convergence of communications and commerce on the digital broadband network and the continuous reminder that the threat of the abuse of market power has not diminished, the need to ensure that digital industries remain open and competitive is greater than ever.

The Market Power Problem in Digital Industries

The small numbers problem in the digital industries arises from supply-side and demand side economies of scale that push these platform industries toward “winner-take-most” outcomes. Once these markets tip, they tend not to flip, with the dominant firm protected by economies of scale and switching costs that lock in the incumbent.

The “natural” economic processes that produce these outcomes do not mean that these markets are immune to the abuse of market power. On the contrary, the market power that inevitably results from dominant position of the platform is just as likely, perhaps even more likely, to be abused than market power in traditional industries. Experience shows winners are not satisfied to allow the underlying economic fundamentals that created their advantage to be the sole source of their dominance; they immediately engage in conscious, anticompetitive tactics to reinforce and extend their market power and their ability to do so is greater than in traditional industries. The exercise of market power undermines the benign economic processes that gave rise to their victories. The notion of a “benign monopolist” in the economy is just as bogus as the idea of a “benevolent despot” in the polity.

³ *Hokcett v. Indiana*, 1886, cited in James B. Speta, “The Vertical Dimension of Cable Open Access,” *Colorado Law Review*, 71 (2000), 975.

Thus, although the defenders of the “winner-take-most” point of view have a positive story to tell,⁴ antitrust and competition authorities are continually confronted with the severe, negative consequences of the abuse of market power in “winner-take-most” markets. That is what I focus on in my testimony today.

The problem of market power that I describe in my testimony is not a hypothetical or merely theoretical concern; it is the reality of these markets. In the Appendix, I provide consumer-oriented analyses of recent examples of abuse of market power in high technology industries from three products that have huge impacts on consumer pocketbooks – telecommunications, PC operating systems, and video markets.

Interfaces as Choke Points

Market power centered in a dominant platform is a constant threat, not only to undermine competition between platforms, but also to distort competition for applications and services. The exercise of vertical leverage magnifies the problem of market power in these industries because of the strong technological complementarities between the platform and the applications and services that ride on the platforms. The ability to distort and undermine competition is particularly great in these industries because the dominant platform owner controls the functionalities on which complementary applications and service rely. They can easily foreclose or degrade the quality of products that compete with the applications and services the platform owner offers or wants to dominate and control.

- Telecommunications carriers can stifle competition by denying or degrading access to their networks.
- Microsoft can make using Navigator a “jolting experience;”
- Comcast can undermine the quality of video content distributed with peer-to-peer technologies and choke off the growth in Internet TV.

Incompatibilities, refusals to interconnect, or discrimination in access to the platform are essentially toll booths placed at key interfaces in the network, at which and behind which rents are collected. These toll booths, controlled by platform sponsors, diminish the shared value of the network in an effort to increase the returns of the sponsor at the expense of consumers, rivals and competition. At these choke points, platform owners control and distort the flow of innovation.

⁴ The “winner-take-most” story goes as follows. High technology industries exhibit positive feedback loops that sustain change and productivity growth that are orders of magnitude larger than typified the industrial age. Advances in technology support more advances in technology. Standardized and pre-installed bundles of embedded knowledge (software) appear to have allowed the rapidly expanding capabilities of hardware to become accessible and useful to consumers with little expertise in computing. As more and more people use the product, the value to each increases in these network industries where people communicate with one another. Even where there is no direct communications, there can be network effects. There may be indirect benefits in virtual networks in which two consumers never actually come face-to-face or computer-to-computer. Support services, maintenance and repair, as well as libraries of applications become more readily available. Larger numbers of users seeking specialized applications create a larger library of applications that become available to other users, and secondary markets may be created. By increasing the number of units sold, the cost per unit falls dramatically. Cost savings apply not only to initial production costs, but also to service and maintenance costs. As the installed base of hardware and software deployed grows, learning and training in the dominant technology is more valuable since it can be applied to more users and uses.

These toll booths are artificial in two respects. First, as a matter of technology, these industries tend toward compatibility, interconnection and the free flow of commerce. Because these industries are knowledge-based and dynamic and there is immense value in access to the broadest network possible, they tend to solve problems of incompatibility and interconnection very quickly, unless platform sponsors prevent them from doing so. Without artificial barriers created by platform sponsors, platforms will be opened quickly by innovation. Second, these toll booths are an effort to shift cost recovery from the platform that lies behind the interface to the complementary applications, goods and services that ride atop it. Rather than charge a fair price for the basic functionality that the platform provides, they want to tax the value that the complements create.

Entrepreneurial Conduct

Conduct and its intent should remain a central concern of antitrust authorities in digital industries, notwithstanding the claim that “winner-take-most” competition justifies all tactics to eliminate the competition. The entrepreneur is not passive in the positive or negative aspects of the lock-in process. Diffusion agents or technology sponsors can use a wide range of actions to advance their technology. Precisely because certain characteristics of the process lend themselves to intervention by “sponsors,” there is ample room for self-interested action that furthers the private sponsor’s interest at the expense of the public interest. Thus, a critical step is to look at actual firm behavior.

One of the most important observations about the origins of a positive feedback process is its openness in the early stages of development. In order to stimulate the complementary assets and supporting services, and to attract the necessary critical mass of customers, the technology must be open to adoption and development by both consumers and suppliers. This openness captures the critical fact that demand and consumers are interrelated. If the activities of firms begin to promote closed technologies, this is a clear sign that motivation may have shifted. While it is clear in the literature that the installed base is important, it is not clear that an installed base must be so large that a single firm can dominate the market. As long as platforms are open, the installed base can be fragmented and still be large. A standard is not synonymous with a proprietary standard. Open platforms and compatible products provide a basis for network effects that is at least as dynamic as closed, proprietary platforms and much less prone to anti-competitive conduct. The market outcome that most vigorously challenges the proprietary “winner-take-most” model is a model that centers on open standards.

Firms seek to capture network effects and economies of scale and accomplish technological “lock-in.” After capturing the first generation of customers and building a customer and applications base tied to a dominant platform, it becomes difficult, if not impossible, for later technologies to overcome this advantage. Having gained a controlling position, firms may seek to implement isolating mechanisms.

Sponsors have a variety of tools to create economic and entry barriers that are counterproductive. What was once the establishment of an installed base now becomes defense of market dominance that reduces competition and reinforces the “lock-out” of competing technologies. A dominant firm may create barriers to entry through exclusive deals, refusal to deal with complements or competitors, retaliation for dealing with competitors, withdrawal of

platform support for complements or competitors, price discrimination and rebating, manipulation of standards, lock-in contracts for core products or complements, including long terms and minimum commitments, “preannouncement” of features to freeze customers, and the exercise of property rights through restrictive licensing patents and copyrights.

Traditional marketing practices that tie products and predatory pricing remain a concern. Bundling, which may play a key role in creating the critical mass for positive externalities during the early period of adoption of a technology that provides the benefit of convenience for consumers throughout the product life cycle, can also play a role in exploiting customers. Over the past two decades, the anticompetitive potential of bundling has been explored and documented in detail. Firms can use bundling to defend or extend their market power, leading to further inefficiencies in the market. Under a wide range of assumptions, the dynamic ability of bundling to undermine competition has been demonstrated through a number of mechanisms including inducing exit, creating barriers to entry, relaxing price competition, distorting investment, retarding innovation, and extending market power into new markets.

The Harm of Abuse of Market Power

Once the economic inevitability and superiority of a “winner-take-most” model is questioned, we confront the motivation to monopolize. In spite of theoretical claims that monopolists have little motivation to engage in such activities, there is ample evidence that these anti-competitive behaviors may be attractive to a new economy monopolist for a variety of reasons. The projection of market power from the base platforms that are less competitive up through the market for complements harms the public in a number of ways. First, it tends to preserve market power by undermining potential entrants and increasing the applications barrier to entry. Second, the platform sponsor slows and distorts innovation by driving it toward applications, goods and services that fit into the business model of the incumbent platform operator. Third, vertical market power provides the platform owner with better tools to extract surplus from consumers with price discrimination and bundling.

Technological “lock-in” may short-circuit the innovation process. With the reinforcement of network effects, small advantages gained early in the process turn into substantial leads in the marketplace. The feedback process can lock in the wrong technology, especially when helped along by the anticompetitive tactics of the platform sponsor. Once an inferior technology is “locked-in,” superior technologies may be “locked-out.”

Market power in the core product can be preserved by conquering neighboring markets, raising cross-platform incompatibilities, raising rivals’ costs, or preventing rivals from achieving economies of scale. Profits may be increased in the core product by enhanced abilities to price discriminate. By driving competitors out of neighboring markets, new monopolies may be created or the ability to preserve market power across generations may be enhanced by diminishing the pool of potential competitors.

The reward for successful anti-competitive activity is the ability to impose pricing patterns on the public that exploit market power and allow the dominant firm to control the direction and pace of innovation to protect its interest. The introduction of, and the reliance upon, price discrimination after the initial round of positive growth is a crucial factor. Price

discrimination allows firms to manage the cannibalization process. That is, introducing later versions of a product does not eliminate the ability to extract consumer surplus, as long as price discrimination occurs. Given the threat of lock-in and the advantages of being a dominant firm, the second generation of discrimination may rely on much subtler forms of discrimination. This second generation of discrimination is difficult to detect and root out.

Advertising and distribution will shift in nature from an open and expansive focus to a proprietary emphasis, while control over the product cycle can impose immense costs through forced upgrades. Indirect costs through greater and accelerated demands on hardware may actually be several times larger than the direct costs of hardware and software. In high tech industries, compulsory and coercive upgrading policies are a concern, as they exploit switching costs to extract consumer surplus.

The Consumer Benefit of Digital Disintermediation⁵

One of the most powerful effects and benefits of the explosion of digital technologies is “digital disintermediation.” Digital technologies reduce, even eliminate, the need for intermediaries. Transaction costs are reduced by the elimination of the need for brick and mortar and the ability of producers to deal directly with consumers. The most revolutionary effect is to enable consumers to deal with consumers and become producers.⁶ Digital disintermediation lowers the cost of products that can be fully digitized by 50% to 75%. Even where products cannot be digitized, the transaction cost savings are substantial and the efficiency gains of matching consumer needs to industry output are huge.

The reduction in transaction and production costs is the result of economic efficiency and it triggers a battle royal over costs and rents that are eliminated.⁷ Incumbent middlemen will try to defend their rents. Platform owners that provide the tools for digital disintermediation will seek to capture the savings as excess profits, but in competitive markets the bulk of these costs savings should be passed through to consumers. The elimination of the “middleman” should put the cost savings into consumers’ pockets.

Policy Implications

Five broad areas of policy conclusions flow from this analysis of the pervasive problem of abuse of market power in digital industries, yielding clear advice for those responsible for competition and consumer protection.

- Vigorous enforcement of antitrust and competition policies that ensures nondiscriminatory access to critical networks remains central to economic progress and fairness.
 - ❖ Because the numbers are so small, public policy must make sure we get the maximum number of competitors possible.

⁵ Mark Cooper, “Structured Viral Communications the Political Economy and Social Organization of Digital Disintermediation,” forthcoming in *Journal on Telecommunications and High Technology Law*;

⁶ Mark Cooper, “From Wifi to Wikis and Open Source: The Political Economy of Collaborative Production in the Digital Information Age” *Journal on Telecommunications and High Technology Law*, 5:1, 2006; “The Economics of Collaborative Production in the Spectrum Commons,” *IEEE Symposium on New Frontiers in Dynamic Spectrum Access Networks*, November 2005

⁷ Mark Cooper, “Round #1 in the Digital Intellectual Property Wars: Economic Fundamentals, Not Piracy, Explain How Consumers and Artists Won in the Music Sector,” *Telecommunications Policy Research Conference*, September 2008.

- ❖ Test the limits of minimum efficient scale and
- ❖ Act swiftly against artificial barriers to entry and support policies to lower real barriers to entry.
- Value potential and intermodal competition highly, but don't assume they are effective until that is demonstrated.
 - ❖ Don't let intermodal competitors be gobbled up by intramodal incumbents.
 - ❖ Make sure intermodal competition is working before it is allowed to justify a reduction in the number intramodal competitors.
- Vertical leverage is a critically important concern for antitrust and competition authorities.
 - ❖ Scrutiny of abuse of vertical leverage should focus on the vital interfaces that control the flow of applications, goods and services in digital networks.
 - ❖ Claims of technological integration should be scrutinized carefully.
- Maximize consumer sovereignty and welfare gains.
 - ❖ Act swiftly against artificial switching costs.
 - ❖ Support policies to lower switching costs.
 - ❖ Recognize the anticompetitive and anti-consumer harms of bundling.
 - ❖ Resist the call of disintermediated incumbents to "save" their antiquated, oligopoly business models.
 - ❖ Promote transparency, but recognize that the extremely complex nature of digital technologies creates a severe problem of information asymmetry.
- Demand empirical evidence; do not rely on economic theories.
 - ❖ Define markets narrowly, recognizing that geography still matters in many of these industries which are still place-based. Reject unsupported theories and require real world proof of demand elasticity and cross-product substitutability.
 - ❖ Carefully scrutinize claims of efficiency when they are invoked to excuse potentially anticompetitive practices or mergers. They should not be a magic wand that blesses every merger or suspect business practice.
 - ❖ The presumption should be in favor of competition, allowing commerce and communications to flow while complaints are investigated.

Excerpt from

“Anticompetitive Problems of Closed Communications Facilities,”

in Mark Cooper (Ed.), *Open Architecture as Communications Policy*
(Center For Internet and Society, Stanford Law School, 2004)

BROADER IMPLICATIONS OF VERTICAL LEVERAGE IN COMMUNICATIONS NETWORKS

One of the most interesting ways to appreciate the harm that abuse of vertical leverage can do is to listen to what the big firms say when they find themselves on the wrong side of the lever. The analysis in this section relies on a variety of analyses and complaints from participants in the sector including AT&T as a long distance carrier, before it became a cable owner,⁸ AOL as an ISP, before it became a cable owner,⁹ analyses prepared by experts for local¹⁰ and long distance telephone companies,¹¹ when they were not effectuating mergers of their own, Wall Street analyses of the business models of dominant, vertically integrated cable firms,¹² and observations offered by independent ISPs¹³ and small cable operators.¹⁴

Current theoretical literature provides an ample basis for concerns that the physical layer of the communications platform will not perform efficiently or in a competitive manner without a check on market power. In this layer, barriers to entry are substantial, and go far beyond simple entrepreneurial skills that need to be rewarded.¹⁵ At the structural level, new entry into these physical markets is difficult. AOL argued that the small number of communications facilities in the physical layer could create a transmission bottleneck that would lead

⁸ AT&T in Canada before it became the nation's largest cable company. See AT&T Canada Long Distance Services, *Comments of AT&T Canada Long Distance Services Company*, REGULATION OF CERTAIN TELECOMMUNICATIONS SERVICE OFFERED BY BROADCAST CARRIERS, the Canadian Radio-television and Telecommunications Commission, Telecom Public Notice CRTC 96-36: (1997). The AT&T policy on open access after it became a cable company was first offered in a Letter from David N. Baker, Vice President, Legal & Regulatory Affairs, Mindspring Enterprises, Inc., James W. Cicconi, General Council and Executive Vice President, AT&T Corp., and Kenneth S. Fellman, Esq., Chairman, FCC Local & State Government Advisory Committee, to William E. Kennard, Chairman of FCC (Dec. 6, 1999), available at <http://www.fcc.gov/mb/atmindspringletter.txt>. Virtually no commercial activity took place as a result of the letter, which was roundly criticized. Subsequently their activities were described in Peter S. Goodman, *AT&T Puts Open Access to a Test: Competitors Take Issue with Firm's Coveted First-Screen Presence*, WASH. POST, Nov. 23, 2000, at E1. AT&T in the U.S. in situations where it does not possess an advantage of owning wires, see *AT&T Corp., Reply Comments*, DEPLOYMENT OF WIRELINE SERVS. OFFERING ADVANCED TELECOMMS. CAPABILITY CC Docket No. 98-147 (1998); see *AT&T Corp., Reply comments*, OPPOSITION TO SOUTHWESTERN BELL TEL. CO. SECTION 271 APPLICATION FOR TEX., APPLICATION OF SBC COMMUNICATIONS INC., SOUTHWESTERN BELL TEL. CO., & SOUTHWESTERN BELL COMMUNICATIONS SERVS., INC. D/B/A SOUTHWESTERN BELL LONG DISTANCE FOR PROVISION OF IN-REGION INTERLATA SERVICES. IN TEXAS (2000), at http://gullfoss2.fcc.gov/prod/ecfs/comsrch_v2.cgi;

⁹ *America Online, Inc., Comments*, TRANSFER OF CONTROL OF FCC LICENSES OF MEDIAONE GROUP INC., TO AT&T CORP., CS Docket 99-251 (filed Aug. 23, 1999) (providing, at the federal level, AOL's most explicit analysis of the need for open access); *America Online Inc., Open Access Comments of America Online, Inc.*, before the DEPARTMENT OF TELECOMMUNICATIONS AND INFORMATION SERVICES, SAN FRANCISCO, October 27, 1999 (on file with author).

¹⁰ Jerry A. Hausman, et al., *Residential Demand for Broadband Telecommunications and Consumer Access to Unaffiliated Internet Content Providers*, 18 YALE J. ON REG. (2001);

¹¹ John B. Hayes, Jith Jayaratne, and Michael L. Katz, *An Empirical Analysis of the Footprint Effects of Mergers Between Large ILECS*, citing “Declaration of Michael L. Katz and Steven C. Salop,” submitted as an attachment to PETITION TO DENY OF SPRING COMMUNICATIONS COMPANY L.P. IN AMERITECH CORP. & SBC COMMUNICATIONS, INC., FOR CONSENT TO TRANSFER OF CONTROL, CC Dkt. No. 98-141 (filed Oct. 15, 1998) and PETITION TO DENY OF SPRING COMMUNICATIONS COMPANY L.P. IN GTE CORPORATION AND BELL ATLANTIC CORP. FOR CONSENT TO TRANSFER OF CONTROL, CC Docket. No. 98-184 (filed Nov. 23, 1998) (on file with author).

¹² Sanford C. Bernstein and McKinsey and Company, *Broadband!*, January, 2000 (on file with author); Merrill Lynch, *AOL Time Warner*, February 23, 2000; Paine Webber, *AOL Time Warner: Among the World's Most Valuable Brands*, March 1, 2000; Goldman Sachs, *America Online/Time Warner: Perfect Time-ing*, March 10, 2000 (on file with author).

¹³ Earthlink, the first ISP to enter into negotiations with cable owners for access, has essentially given up and is vigorously seeking an open access obligation. See Notice of Ex Parte, Presentation Regarding the Applications of America Online, Inc. & Time Warner Inc. for Transfers of Control CS Docket No 00-30 (filed Oct. 18, 2000), available at http://gullfoss2.fcc.gov/prod/ecfs/comsrch_v2.cgi; NorthNet, Inc., An Open Access Business Model For Cable Systems: Promoting Competition & Preserving Internet Innovation On A Shared, Broadband Communications Network, Ex Parte, *Application of America Online Inc. & Time Warner, Inc. for Transfers of Control*, F.C.C., CS-Docket No. 0030, October 16, 2000

¹⁴ See *American Cable Association, Comments*, In Re Implementation of the Cable Television Consumer Protection & Competition Act of 1992, Development of Competition in Video Programming Distribution: Section 628(c)(5) of the Communications Act: Sunset of Exclusive Contract Prohibition, CS Docket No. 01-290 (filed Dec. 3, 2001) available at http://gullfoss2.fcc.gov/prod/ecfs/comsrch_v2.cgi.

¹⁵ See Legal Rights Satellite Org., *Communications Convergence of Broadcasting and Telecommunications Services* (arguing that there were barriers to entry into physical facilities), at <http://www.legal-rights.org/Laws/convergence.html> (last visited Jan. 17, 2003):

directly to the problem of vertical leverage or market power. “[A] vertically integrated broadband provider such as AT&T will have a strong incentive and opportunity to discriminate against unaffiliated broadband content providers.”¹⁶

Problems caused by vertical integration are particularly troubling in communications markets because a communications provider with control over essential physical facilities can exploit its power in more than one market. Whether we call them essential facilities,¹⁷ choke points¹⁸ or anchor points,¹⁹ the key leverage point of a communications network is controlling access to facilities.

The key, after all, is the ability to use “first mile” pipeline control to deny consumers direct access to, and thus a real choice among, the content and services offered by independent providers. Open access would provide a targeted and narrow fix to this problem. AT&T simply would not be allowed to control consumer’s ability to choose service providers other than those AT&T itself has chosen for them. This would create an environment where independent, competitive service providers will have access to the broadband “first mile” controlled by AT&T – the pipe into consumers’ homes – in order to provide a full, expanding range of voice, video, and data services requested by consumers. The ability to stifle Internet-based video competition and to restrict access to providers of broadband content, commerce and other new applications thus would be directly diminished.²⁰

Experts for the local telephone companies, in opposing the merger of AT&T and MediaOne, made this point arguing that “the relevant geographic market is local because one can purchase broadband Internet access only from a local residence”²¹ and that “a dominant market share is not a necessary condition for discrimination to be effective.”²² “[A] hypothetical monopoly supplier of broadband Internet access in a given geographic market could exercise market power without controlling the provision of broadband access in neighboring geographic markets.”²³

The essential nature of the physical communication platform was the paramount concern for AT&T long distance in determining interconnection policy for cable networks in Canada.²⁴ AT&T attacked the claim made by cable companies that their lack of market share indicates that they lack market power, arguing that small market share does not preclude the existence of market power because of the essential function of the access input to the production of service.²⁵ AT&T further argued that open access “obligations are not dependent on whether the provider is dominant. Rather they are necessary in order to prevent the abuse of market power that can be exercised over bottleneck functions of the broadband access service.”²⁶

AT&T maintained that the presence of a number of vertically integrated facilities owners does not solve the fundamental problem of access that nonintegrated content providers face, pointing out that since independent content providers will always outnumber integrated providers, competition could be undermined by vertical

¹⁶ Hausman, et al., *Residential Demand for Broadband*, at 129, 134.

¹⁷ Langlois, *Technology Standards*, at 195.

¹⁸ Mark Cooper, *Open Access to the Broadband Internet: Technical and Economic Discrimination in Closed, Proprietary Networks*, 71 U. COLO. L. REV. 1013 (2000).

¹⁹ Bernstein, *Broadband!*, at 18, 21. [T]he current set of alternatives for reaching customers with broadband connections is inadequate. At least for the time being, cable is closed, meaning that much of the value is, in effect, ceded to the platform rather than captured by the content/applications providers. . . [B]roadband access platforms are the anchor points for much of the value at stake and vehicles for accessing new revenue streams. Furthermore, access is currently a bottleneck, and access winners have the potential to leverage their privilege positioned to ensure long-term value creation.

²⁰ That is exactly what AOL said about AT&T, when AOL was a nonaffiliated ISP. See *AOL, Transfer of Control*, at 13.

²¹ Hausman, et al., *Residential Demand for Broadband*, at 135.

²² *Id.* at 156.

²³ *Id.* at 135.

²⁴ AT&T Canada Long Distance Services, *Comments of AT&T Canada Long Distance Services Company*, REGULATION OF CERTAIN TELECOMMUNICATIONS SERVICE OFFERED BY BROADCAST CARRIERS, the Canadian Radio-television and Telecommunications Commission, Telecom Public Notice CRTC 96-36: (1997), at 12. Each of these pronouncements made by regulators, policy makers and individual members of the industry reflects the strongly held view that access to the underlying facilities is not only necessary because of the bottleneck nature of the facilities in question, but also because it is critical for the development of competition in the provision of broadband services. AT&T Canada LDS shares this view and considers the control exercised by broadcast carriers over these essential inputs is an important factor contributing to the dominance of broadcast carriers in the market for access services.

²⁵ *Id.* at 8-9. By contrast, the telephone companies have just begun to establish a presence in the broadband access market and it will likely take a number of years before they have extensive networks in place. This lack of significant market share, however, is overshadowed by their monopoly position in the provision of local telephony services. [I]n any event, even if it could be argued that the telephone companies are not dominant in the market for broadband access services because they only occupy a small share of the market, there are a number of compelling reasons to suggest that measures of market share are not overly helpful when assessing the dominance of telecommunications carriers in the access market. . . . *Id.* at 9 (emphasis in original).

²⁶ *Id.* at 24.

integration. In order to avoid this outcome, even multiple facilities owners must be required to provide non-discriminatory access.²⁷ This also applies in the ISP arena. AOL also believed that the presence of alternative facilities did not eliminate the need for open access.²⁸

Two or three vertically integrated facilities in the broadband arena will not be enough to ensure vigorous competition. It is also important to note the consensus that cable is the dominant and preferred technology.²⁹ Cable's advantages are substantial, and DSL is not likely to be able to close the gap.³⁰

Content discrimination has been the focal point of concern in relation to high-speed Internet services. Content discrimination involves an integrated provider "insulating its own affiliated content from competition by blocking or degrading the quality of outside content."³¹ It benefits the vertically integrated entity "by enhancing the position of its affiliated content providers in the national market by denying unaffiliated content providers critical operating scale and insulating affiliated content providers from competition."³²

AT&T identified four forms of anticompetitive leveraging—bundling, price squeeze, service quality discrimination, and first mover advantage.³³ It describes the classic vertical leveraging tools of price squeezes and quality discrimination as content discrimination. The experts for the local telephone companies identified a similar series of tactics that a vertically integrated broadband provider could use to disadvantage competing unaffiliated content providers.

First, it can give preference to an affiliated content provider by caching its content locally. Such preferential treatment ensures that affiliated content can be delivered at faster speeds than unaffiliated content.

Second, a vertically integrated broadband provider can limit the duration of streaming videos of broadcast quality to such an extent that they can never compete against cable programming . . .

Third, a vertically integrated firm such as AT&T or AOL-Time Warner could impose proprietary standards that would render unaffiliated content useless. . . Once the AT&T standard has been established, AT&T will be able to exercise market power over customers and those companies trying to reach its customers.³⁴

Even after AT&T became the largest cable TV company in the U.S., its long distance division criticized local telephone companies for abusing their monopoly control over their telephone wires. AT&T complained about bottleneck facilities, vertical integration, anticompetitive bundling of services, and the distortion of competition when it opposed the entry of SBC into the long distance market in Texas.³⁵ These are the very same complaints AOL made about AT&T as a cable company at about the same time.³⁶ AOL expressed related concerns about the

²⁷ *Id.* at 12. Because there are and will be many more providers of content in the broadband market than there are providers of carriage, there always will be more service providers than access providers in the market. Indeed, even if all of the access providers in the market integrated themselves vertically with as many service providers as practically feasible, there would still be a number of service providers remaining which will require access to the underlying broadband facilities of broadcast carriers.

²⁸ AOL, *Comments, Transfer of Control*, at 14.[A]n open access requirement] would allow ISPs to choose between the first-mile facilities of telephone and cable operators based on their relative price, performance, and features. This would spur the loop-to-loop, facilities-based competition contemplated by the Telecommunications Act of 1996, thereby offering consumers more widespread availability of Internet access; increasing affordability due to downward pressures on prices; and a menu of service options varying in price, speed, reliability, content and customer service. Another indication that the availability of alternative facilities does not eliminate the need for open access policy can be found in AOL's conclusion that the policy should apply to both business and residential customers. If ever there was a segment in which the presence of two facilities competing might alleviate the need for open access requirement, the business segment is it. AOL rejected the idea. *Id.* at 1-2.

²⁹ Mark Cooper, "Breaking the Rules," attached to Petition to Deny of Consumers Union, Consumer Federation of America and Media Access Project, Applications for Consent to Transfer of Control of Licenses, MediaOne Group, Inc. Transferor to AT&T Corp., Transferee, CS 99-251 (filed August 23, 1999) (on file with author).

³⁰ Bernstein, *Broadband!*, at 30, 33, 50-51.

³¹ Hausman et al., *Residential Demand for Broadband*, at 158.

³² *Id.* at 159.

³³ *AT&T Canada, Comments of AT&T Canada, supra* note 50.

³⁴ Hausman et al., *Residential Demand for Broadband, supra* note 52, at 160-62.

³⁵ *AT&T Corp., Reply comments, Opposition to Southwestern Bell Tel. Co. Section 271 Application for Tex., Application of SBC Communications Inc., Southwestern Bell Tel. Co., & Southwestern Bell Communications Servs., Inc. d/b/a Southwestern Bell Long Distance for Provision of In-Region InterLATA Services in Texas (2000)*, at http://gullfoss2.fcc.gov/prod/ecfs/comsrch_v2.cgi.

³⁶ *AT&T Canada, Comments of AT&T Canada*, at 15-16.

The dominant and vertically integrated position of cable broadcast carriers requires a number of safeguards to protect against anticompetitive behaviour. These carriers have considerable advantages in the market, particularly with respect to their ability to make use of their underlying network facilities for the delivery of new services. To grant these carriers unconditional forbearance would provide them with the opportunity to leverage their existing networks to the detriment of other potential service providers. In particular, unconditional forbearance

manipulation of technology and interfaces, complaining about “allowing a single entity to abuse its control over the development of technical solutions – particularly when it may have interests inconsistent with the successful implementation of open access... It is therefore vital to ensure that unaffiliated ISPs can gain access comparable to that the cable operators choose to afford to its cable-affiliated ISP.”³⁷

Long distance companies and competitive local exchange carriers have similar concerns about the merging local exchange carriers. Their experts argued in the proposed SBC-Ameritech and Bell Atlantic-GTE mergers that large size gave network owners an incentive to discriminate. “The economic logic of competitive spillovers implies that the increase in [incumbent local exchange carrier (ILEC)] footprints resulting from these proposed mergers would increase the ILECs’ incentive to disadvantage rivals by degrading access services they need to compete, thereby harming competition and consumers.”³⁸

Wall Street analysts point out that the key to controlling the supply side is controlling essential functions through proprietary standards.³⁹ Independent ISPs point out that cable operators like AOL use control over functionalities to control the services available on the network.⁴⁰ Cable operators have continued to insist on quality of service restrictions by unaffiliated ISPs, which places the ISPs at a competitive disadvantage.⁴¹ Cable operators must approve new functionalities whether or not they place any demands on the network.

Price squeeze and extraction of rents are apparent in the implementation of closed platforms. Thomas Hazlett and George Bittlingmayer cite Excite@Home executive Milo Medin describing the terms on which cable operators would allow carriage of broadband Internet to AOL (before it owned a wire) as follows:

I was sitting next to [AOL CEO] Steve Case in Congress during the open access debates. He was saying that all AOL wanted was to be treated like Excite [@]Home. If he wants to be treated like us, I’m sure he could cut a deal with [the cable networks], but they’ll take their pound of flesh. We only had to give them a 75 percent equity stake in the company and board control. The cable guys aren’t morons.⁴²

In the high speed Internet area, conduit discrimination has received less attention than content discrimination. This is opposite to the considerable attention it receives in the cable TV video service area. Nevertheless, there are examples of conduit discrimination in the high speed Internet market.

In implementing conduit discrimination, the vertically integrated company would refuse to distribute its affiliated content over competing transmission media. In so doing, it seeks to drive consumers to its transmission media and weaken its rival. This is profitable as long as the revenue gained by attracting new subscribers exceeds the revenue lost by not making the content available to the rival. Market size is important here, to ensure adequate profits are earned on the distribution of service over the favored conduit. Although some argue that “the traditional models of discrimination do not depend on the vertically integrated firm obtaining some critical level of downstream

of the broadband access services provided by cable broadcast carriers would create both the incentive and opportunity for these carriers to lessen competition and choice in the provision of broadband service that could be made available to the end customer . . . The telephone companies also have sources of market power that warrant maintaining safeguards against anticompetitive behaviour. For example, telephone companies are still overwhelmingly dominant in the local telephony market and, until this dominance is diminished, it would not be appropriate to forebear unconditionally from rate regulation of broadband access services.

³⁷ America Online Inc., *Open Access Comments of America Online, Inc.*, before the DEPARTMENT OF TELECOMMUNICATIONS AND INFORMATION SERVICES, SAN FRANCISCO, October 27, 1999 (on file with author, at 8.

³⁸ Hayes, et al., *Empirical Analysis*, at 1.

³⁹ See Bernstein, *Broadband!*, at 57. Thus, the real game in standards is to reach critical mass for your platform without giving up too much control. This requires a careful balance between openness (to attract others to your platform) and control over standards development (to ensure an advantaged value-capture position). Of course, the lessons of Microsoft, Cisco, and others are not lost on market participants, and these days no player will willingly cede a major standards-based advantage to a competitor. Therefore, in emerging sectors such as broadband, creating a standards-based edge will likely require an ongoing structural advantage, whether via regulatory discontinuities, incumbent status, or the ability to influence customer behavior.

⁴⁰ Bernstein, *Broadband!*, at 57.

⁴¹ Hausman et al., *Residential Demand for Broadband*, at 133.

⁴² Thomas W. Hazlett & George Bittlingmayer, *The Political Economy of Cable “Open Access*, (AEI-Brookings Joint Center for Regulatory Studies, Working Paper No. 01-06, 2001), available at http://www.aei.brookings.org/publications/working/working_01_06.pdf, at 17 n.47 (quoting Jason Krause & Elizabeth Wasserman, *Switching Teams on Open Access?*, THE INDUSTRY STANDARD, Jan. 24, 2000, available at <http://www.thestandard.com/article/display/1,1153,8903,00.html>).

market share,”⁴³ in reality, the size of the vertically integrated firm does matter since “a larger downstream market share enhances the vertically integrated firm’s incentive to engage in discrimination.”⁴⁴

AT&T has been accused of conduit discrimination in the high speed Internet market.²³⁰ The AOL-Time Warner merger has also raised similar concerns. The significance of AOL’s switch to cable-based broadband should not be underestimated. This switch has a powerful effect on the hoped-for competition between cable modems and DSL.⁴⁵ Although telephone companies are reluctant to admit that their technology will have trouble competing, their experts have identified the advantages that cable enjoys.²³² Fearing that once AOL became a cable owner it would abandon the DSL distribution channel, the FTC required AOL to continue to make its service available over the DSL conduit.

The focal point of a leveraging strategy is bundling early in the adoption cycle to lock in customers. AOL has also described the threat of vertically integrated cable companies in the U.S.⁴⁶ Once AT&T became the largest vertically integrated cable company selling broadband access in the U.S., it set out to prevent potential competitors from offering bundles of services. Bundles could be broken up either by not allowing Internet service providers to have access to video customers, or by preventing companies with the ability to deliver telephony from having access to high-speed content. For the Wall Street analysts, bundling seems to be the central marketing strategy for broadband.⁴⁷

AOL argued that requiring open access early in the process of market development would establish a much stronger structure for a pro-consumer, pro-competitive market.⁴⁸ Early intervention prevents the architecture of the market from blocking openness, and thus avoids the difficult task of having to reconstruct an open market at a later time.⁴⁹ AOL did not hesitate to point out the powerful anticompetitive effect that integrating video services in the communications bundle could have. AOL argued that, as a result of a vertical merger, AT&T would take an enormous next step toward its ability to deny consumers a choice among competing providers of integrated voice/video/data offerings – a communications marketplace that integrates, and transcends, an array of communications services and markets previously viewed as distinct.⁵⁰

Wall Street saw the first mover advantage both in the general terms of the processes that affect network industries, and in the specific advantage that cable broadband services have in capturing the most attractive early adopting consumers.⁵¹ First mover advantages have their greatest value where consumers have difficulty switching or substituting away from the dominant product.⁵² Several characteristics of Broadband Internet access are conducive to the first mover advantage, or “lock-in.”

⁴³ Hausman et al., *Residential Demand for Broadband*, at 156 (footnote omitted). The ACA provides the calculation for cable operators.

⁴⁴ Hausman et al., *Residential Demand for Broadband*, at 156 (footnote omitted).

⁴⁵ Bernstein, *Broadband!*, at 12-14; Merrill Lynch, *AOL Time Warner*, at 33.

⁴⁶ AOL has argued: At every key link in the broadband distribution chain for video/voice/data services, AT&T would possess the ability and the incentive to limit consumer choice. Whether through its exclusive control of the EPG or browser that serve as consumers’ interface; its integration of favored Microsoft operating systems in set-top boxes; its control of the cable broadband pipe itself; its exclusive dealing with its own proprietary cable ISPs; or the required use of its own “backbone” long distance facilities; AT&T could block or choke off consumers’ ability to choose among the access, Internet services, and integrated services of their choice. Eliminating customer choice will diminish innovation, increase prices, and chill consumer demand, thereby slowing the roll-out of integrated service; AOL, *Comments, Transfer of Control*, at 11.

⁴⁷ Goldman Sachs, *America Online/Time Warner*, at 14, 17. AOL Time Warner is uniquely positioned against its competitors from both technology and media perspectives to make the interactive opportunity a reality. This multiplatform scale is particularly important from a pricing perspective, since it will permit the new company to offer more compelling and cost effective pricing bundles and options than its competitors. Furthermore, AOL Time Warner will benefit from a wider global footprint than its competitors” “. . . [W]e believe the real value by consumers en masse will be not in the “broadband connection” per se, but rather an attractively packaged, priced, and easy-to-use service that will bundle broadband content as an integral part of the service.

⁴⁸ AOL, *Comments, Transfer of Control*.

⁴⁹ Jonathan Krim, *FCC Rules Seek High-Speed Shift; Phone Firms Would Keep Cable Rights*, WASH. POST, Feb. 15, 2002, at E1 (on the higher cost of addressing problems *ex post*).

⁵⁰ AOL, *Comments, Transfer of Control*, at 9-10.

⁵¹ Merrill Lynch, *AOL Time Warner*, at 38 (“If the technology market has a communications aspect to it, moreover, in which information must be shared [spreadsheets, instant messaging, enterprise software applications], the network effect is even more powerful.”); Bernstein, *Broadband!*, *supra* note 54, at 26: “Thus, if the MSOs can execute as they begin to deploy cable modem services in upgraded areas, they have a significant opportunity to seize many of the most attractive customers in the coming broadband land grab. These customers are important both because they represent a disproportionate share of the value and because they are bell weathers for mass-market users.”

⁵² Merrill Lynch, *AOL Time Warner*, at 38 (“If the technology market has a communications aspect to it, moreover, in which information must be shared [spreadsheets, instant messaging, enterprise software applications], the network effect is even more powerful.”); Bernstein, *Broadband!*, *supra* note 54, at 26: “Thus, if the MSOs can execute as they begin to deploy cable modem services in upgraded areas, they

The local telephone companies have outlined a series of concerns about lock in.⁵³ High-speed access is a unique product.⁵⁴ The Department of Justice determined that the broadband Internet market is a separate and distinct market from the narrowband Internet market.⁵⁵ There are switching costs that hinder competition, including equipment (modems) purchases, learning costs, and the inability to port names and addresses. Combining a head start with significant switching costs raises the fear among the independent ISPs that consumers will be locked in. In Canada, AT&T argued that the presence of switching costs could impede the ability of consumers to change technologies, thereby impeding competition.⁵⁶

have a significant opportunity to seize many of the most attractive customers in the coming broadband land grab. These customers are important both because they represent a disproportionate share of the value and because they are bell weathers for mass-market users.”

⁵³ Hausman, et al., *Residential Demand for Broadband*, at 164. “Due to the nature of network industries in general, the early leader in any broadband Internet access may enjoy a “lock-in” of customers and content providers – that is, given the high switching costs for consumers associated with changing broadband provider (for example, the cost of a DSL modem and installation costs), an existing customer would be less sensitive to an increase in price than would a prospective customer.”

⁵⁴ Hausman, et al., *Residential Demand for Broadband*, at 136-48; Bernstein, *Broadband!*, 54, at 8; *AT&T Canada*, at 12. “AT&T Canada notes that narrowband access facilities are not an adequate service substitute for broadband access facilities. The low bandwidth associated with these facilities can substantially degrade the quality of service that is provided to the end customer to the point where transmission reception of services is no longer possible.”

⁵⁵ Amended Complaint of the Dep’t of Justice at 6, *U.S. v. AT&T Corp.*, 2000 WL 1752108 (D.C. Cir. 2000) (No. 1:00CV01176), available at <http://www.usdoj.gov/atr/cases/indx4468.htm>.

⁵⁶ *AT&T Canada*, Comments of AT&T Canada, at 12. The cost of switching suppliers is another important factor which is used to assess demand conditions in the relevant market. In the case of the broadband access market, the cost of switching suppliers could be significant, particularly if there is a need to adopt different technical interfaces or to purchase new terminal equipment for the home or office. Given the fact that many of the technologies involved in the provision of broadband access services are still in the early stages of development, it is unlikely that we will see customer switching seamlessly from one service provider to another in the near-term.

Excerpt from
“Antitrust as Consumer Protection in the New Economy:
Lessons from the Microsoft Case”
Hastings Law Journal, 52: 4, April 2001

Contrary to the claims of a headline in the *New York Times* Book Review, Microsoft did not lose this case “by defending too much too often.”⁵⁷ It did not lose because of a remarkably inept defense,⁵⁸ or because of allegations that crucial pieces of evidence were rigged,⁵⁹ or because of an irrational or biased judge.⁶⁰ It lost because its acts were simply indefensible. The intent and effect of its behavior was so blatantly anti-competitive and the economic assumptions necessary to excuse it so narrow and unrealistic, that not even a conservative judge—Ronald Reagan’s first judicial appointee⁶¹—could do anything but find Microsoft guilty by a reasonable interpretation of the antitrust rules (see Exhibit I-1). In fact, numerous conservative antitrust thinkers have recognized that a knee jerk defense of Microsoft is wrong, because it risks destroying all reasonable rules of a productively competitive marketplace,⁶² and warned allowing such behavior will undermine the fundamental competitive dynamic that drives progress in our capitalist economy.⁶³

EXHIBIT I-1

THE CASE AGAINST THE MICROSOFT MONOPOLY

	<u>FACT</u> (Paragraph No.)	<u>LAW</u> (Page No.)
MARKET STRUCTURE		
MONOPOLY POSITION	18-21,33-35	4,5
BARRIERS TO ENTRY		
Hardware	19,20,22-27,54-55	4,6
Software	30,36-43,141,166	4,5,6
CONDUCT		
UNDER THE TABLE		
Abrogation Of Contracts	390,394	18
Intimidation	106,129,236,355	6,10
Market Division	88,105	10,22
Patent Infringement	390,394	
Reverse Bounty	139,260,2951	6,20
Predation	107,137-139,147	6,10,16,21,22
CONTRACT PROVISIONS		
Exclusive Deals	143,147,230-234, 247,259-260	10,15,37,38

57. Adam Liptak, *Microsoft Lost Its Antitrust Case by Defending Too Much Too Often*, NY TIMES ON THE WEB, Feb. 4, 2001, at <http://www.nytimes.com>.

58. See Rajiv Chandrasekaran, *U.S., 19 States Discuss Possible Sanctions Plan for Microsoft*, WASH. POST, Feb. 15, 1999, at A1 (using the word “stumbling” to describe the presentation of Microsoft’s defense); see also James V. Grimaldi, *Some Observers Say Microsoft Has Blown Its Case with Blunders*, SEATTLE TIMES, Feb. 9, 1999, available at <http://archives.seattletimes.nwsour.com>.

59. The most striking example of tainted evidence was the presentation of a videotape which purported to show that the browser could not be removed without impairing the function of the operating system. The witness presenting the video could not account for discontinuities on the tape. JOHN HEILEMANN, *PRIDE BEFORE THE FALL* 181-86 (2001). Microsoft never did sort out what had occurred, so it is unclear whether this was an honest mistake or deception. Another incident, having to do with a survey that Microsoft had commissioned to support its case, presented the court with a direct effort to mislead. Microsoft appears to have developed a survey of browser users which was purposefully intended to provide an after the fact defense of its behavior. *Microsoft Rigged Survey?*, CNNFN, (Jan. 14, 1999), at <http://cnfn.cnn.com/1999/01/14/technology/microsoft/>. When one of Microsoft’s outside witnesses relied on this data in court, rather than the actual data on which Microsoft’s executives relied, the Judge was quite blunt in his rebuke. See *Microsoft*, 84 F. Supp. 2d at 101.

60. Interviews granted during the trial and public statements since have resulted in the appeals court asking parties to comment on the judge’s behavior.

61. KEN AULETTA, *WORLD WAR 3.0*, at 42 (2001).

62. Robert Bork, *The Most Misunderstood Antitrust Case*, WALL ST. J., May 22, 1998, at A16; Dan Oliver, *Necessary Gateskeeping*, NAT’L REV., May 4, 1998, at 43.

63. Kenneth Starr, Progress and Freedom Foundation and the Brookings Institution, Remarks, in *Microsoft Antitrust Case and Computer Industry Competition*, (C-SPAN television broadcast, Feb. 22, 2001).

	287-290,293-297,305-306,317-321, 326-326,332,337,339-340,350-352	
Preferred Desktop Location	139,272,301	17, 20
Secret Price	64,118,236-238,324	6,10,11
Indirect Sales	10,19,103	4,6,10
Quality Impairment	90-92,128-129,160, 330,339-340	6,11
Resource Denial	240,357,379,396-406	31
Incompatibility/Integration	129,387-396,404-406	18,19
Disabling	160,170-172	11,31,32
Desupporting	90,122,128-129, 192,405-406	10,18
BUNDLING		
OS Tying	159, 170,198	4,11,12,31
Imitation	133-134,166	10,18,19,22
PERFORMANCE		
RETARDING INNOVATION		
Chilling Effect on Investment,	379, 397,412	
Developer Time and Money		
Delay or Prevent Development	411, 132,395-396	10,18,19
Netscape's Navigator	81-88,408-410	22
IBM's OS2/Smartsuite	116-118,125-130	10
Sun's JAVA	397-403	18
Real Networks	111-114	10
Apple's Quicktime	104-110	10
Intel's Native Signaling	94-103	6
Processing		
Undermining Compatibility	390-396, 407	6,18,19
DENIAL OF CONSUMER CHOICE		
Deny Products Consumer Needs		247, 410
Delaying Release of Products	167-168	11
Deny Consumers User-Friendly		210-216 11
Force New Versions in New PC		57, 66 6
Deny or Delay Non-Microsoft	90-91,93	10,11
Thwart Responses to Demand	225-229	11,14
Forcing Consumers to Buy	133,143,203-20611	
In Inconvenient Ways	239-240,247,309-311, 357,359-360	10,15
DEGRADATION OF QUALITY		
Impair MS Functionality	173, 174	11
Reducing the Availability	407	18,19
Impair the Nonms Functionality	92,128-129, 160,171-172, 330,339,340	6,10,11,17,32
DIRECT INCREASES IN CONSUMER COST		
Short Term Revenue	57, 62-63	6
Price Discrimination/Secret Price	64,118,236-238,324	4,6,10,11
Undermining Long	66	6
Term Competition		
MONOPOLISTIC PRICING PRACTICES		
Hidden Price/Indirect Sales	10,18-19,58,103	4,6,10
Overcharges	62-63,66	6
Cross-Subsidy/Predation	107,137-139,261-262	10,21,22
Excess Profits	66,379	6
INDIRECT INCREASES IN CONSUMER COSTS		
Raising Consumer	203-206, 239-240,247	11
Transaction Cost		
Raising Hardware Costs		
Upgrade Policy	57,66	6
Excess Functionality	173-174,210-216	6,11,32

Microsoft attacked the fundamentals of antitrust, hiring the Dean of the Massachusetts Institute of Technology business school and a bevy of consultants⁶⁴ to present a theory that asked the court to abandon its traditional view of competition and accept the proposition that markets will inevitably be dominated by very few, very large companies. They claimed that competition does not take place within markets; the struggle is for the entire market. Market domination is benign because firms enjoy the benefits of network effects and virtuous circles of increasing productivity, while the fear of being replaced as the industry leader drives even the dominant firm to innovate and treat consumers just as well as traditional competition for market share in old economy industries⁶⁵. Consequently, Microsoft did not violate the antitrust laws, it was simply the winner-take-all nature of the industry that made it act this way and gave it market dominance. By this definition virtually no act could violate the antitrust laws in this industry.⁶⁶

Evidence at trial revealed that precisely the opposite was true. Because the nature of the industry was not sufficient to entrench its monopoly, Microsoft resorted to repeated, well-documented and protracted campaigns of anti-competitive behaviors to squash its competition. If network externalities would have been sufficient to entrench Microsoft, the immense amount of managerial time and effort and the hundreds of millions, if not billions, of dollars it burned up foreclosing the market to competing products was wasted. It should not have needed to use all these business strategies; it could have relied on just delivering a better product in a networked industry.⁶⁷

The trial also showed that Microsoft's claims to pursuing consumer friendly business tactics that serve the public were contradicted by its actions. If expanding demand for Windows by promoting a complementary product was Microsoft's concern, it did not have to spend hundreds of millions of dollars making sure the dominant browser was Explorer, not Navigator. Since innovation would be the key to any such "system" effects, Microsoft should never have slowed its own products or prevented other products from getting to market, since all innovation stimulates demand for Windows. Microsoft should not have cared which brand was used. It should certainly not have spent so much effort on forcing Navigator out of the Mac market.

If bundling were important to expanding demand by creating convenience and lowering costs, Microsoft should not have cared which complements were bundled, since the better they all worked, the greater the demand, but it repeatedly sought to prevent any product, other than its own, from being bundled on new PCs. If improved functionality and ease of use through integration of complement products were critical to stimulating demand, Microsoft should never have threatened to or actually withheld access to interfaces or jolted non-Microsoft products since they needed to function well to expand demand.

64. In the courtroom, Richard Schmalensee analyzed the market structure of the software industry. See Report of Direct Testimony of Richard Schmalensee, *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9 (D.D.C. 1999) (Nos. CIV. A. 98-1232, 98-1233) (relying on the empirical work of Bernard J. Reddy et al., *Why Does Microsoft Charge So Little for Windows?*, NAT'L ECON. RESEARCH ASSOCS., Oct. 8, 1998. David S. Evans et al., *The Rise and Fall of Leaders in Personal Computer Software*, NAT'L ECON. RESEARCH ASSOCS., Jan. 7, 1999, and Kenneth G. Elzinga & David E. Mills, *PC Software* (Sept. 1998) (all prepared with support from Microsoft)).

65. STAN J. LIEBOWITZ & STEPHEN E. MARGOLIS, *WINNERS, LOSERS & MICROSOFT: COMPETITION AND ANTITRUST IN HIGH TECHNOLOGY* 154-57 (1999) [hereinafter LIEBOWITZ & MARGOLIS, *LOSERS*].

66. As Schmalensee wrote in the *American Economic Review*, the month after the trial ended: Economists tend to define predatory acts as, roughly, acts that are rational only if they chasten or eliminate competitors. Courts, aware of the cost of discouraging competition, tend to require more, including short-term losses from the acts at issue and plausible expectation of future recoupment of those losses. Clear evidence of intent may help a court decide whether a particular act was predatory. In Schumpeterian industries, however, with "winner take most" markets, neither the basic definition above nor evidence of intent is economically useful. If there can be only one healthy survivor, the incumbent market leader must exclude its competition or die. Any strategy that does not exclude competition will not result in survival. There is no useful non-exclusion baseline, which the traditional test for predation requires. Moreover, if near-monopoly is inevitable, welfare is not generally increased by restraining the ferocity of competition for that position, particularly if competition is channeled in directions that benefit consumers, such as innovation or low prices. As to intent, in a struggle for survival that will have only one winner, any firm must exclude rivals to survive. The intent to exclude is the intent to survive. In a "winner take most" market, evidence that A intends to kill B merely confirms A's desire to survive. Richard Schmalensee, *Antitrust Issues in Schumpeterian Industries*, 90 Am. Econ. Rev. 192, 193-94 (2000).

67. As the *Economist* pointed out, the picture of a new form of beneficial monopoly, relying on network effects to dominate in a positive way, could not hide the reality of plain vanilla monopoly power. If network effects did in fact assure monopoly power, the Microsoft monopoly in the operating-systems market would not have been illegal. Under the Sherman Act, monopoly is lawful. It is actions to defend or extend monopoly that break the law. On the view that bad standards are strongly self-reinforcing, no such monopoly-defending action would have been needed. . . . New paradigm or old, the law has no quarrel with "natural monopolies." It is precisely because network effects were not enough to entrench Microsoft's monopoly—deliberate steps to stifle competition were required too—that the company may face draconian penalties. *Antitrust on Trial*, *ECONOMIST*, Nov. 13, 1999, at 84. A liberal, journalistic version of the same conclusion can be found in Robert Kuttner, *Bill Gates, Robber Baron*, *BUS. WK.*, Jan. 19, 1998, at 20.

If Microsoft were seeking to increase revenues by steering customers through its browser to its portal, it should never have given AOL equal standing with MSN on the boot screen at no charge or allowed OEMs to direct customers to their portals, as long as they used Explorer, not Navigator.

If a pleasing consumer experience is important to expanding demand, Microsoft would have heeded the entreaties of OEMs to simplify and modify boot sequences, when they faced the wrath of dissatisfied consumers, instead of paying them to put up with consumer hassles. It would not have compromised the stability of the operating system with excessive integration.

Microsoft illegally eliminated competition to defend and extend its monopoly and imposed a heavy price on the public. Consequently, application of traditional antitrust rules will achieve exactly the reverse of what Microsoft claimed it would—it will promote innovation by allowing potential competitors, who would otherwise be quickly eliminated by the giant's anti-competitive behaviors, to have a fair chance to enter the market and eventually discipline the price and the quality of Microsoft's products.

Market Dominance

Microsoft has dominated the operating system category for sixteen years and still does. No other firm has come close to replicating either Microsoft's market share or its period of dominance. Five generations of Intel-based PCs have seen no change in the dominant firm.

Microsoft is the only firm to achieve a market share exceeding 90%, first in the operating system and then in the office suite. It is the only firm to achieve the generally accepted monopoly level of 65-70% in more than one software market.

Microsoft is the only firm to dominate more than one category on the list. It dominates four of the five simultaneously and has never relinquished domination once it conquers a market.

Microsoft is the only firm on the list that purchased, rather than created, the basic programs in virtually every category it dominated.

In the one area where Microsoft has not achieved dominance, personal finance programs, it attempted to buy the industry leader but was rebuffed by the Department of Justice. The reason it has failed to dominate this area is also revealing. Schmalensee recognized that personal finance software is not as heavily subject to network externalities.⁶⁸ Microsoft is less able to leverage its market power over the operating system to conquer this market, perhaps that is why it failed.

When Schmalensee analyzed the installed base of users, he gave a similarly distorted view.⁶⁹ He simply left out Microsoft's base. He identified approximately twenty-three million non-Microsoft users, split roughly equally between Mac and others.⁷⁰ The suggestion is that the non-Microsoft market is large enough to provide a base for competition. This approach is misleading, since the Microsoft installed base is at least twelve times as large as the combined competition, and could be as much as twenty times as large depending on what one assumes about the life-span of computers (see Exhibit III-2). It is approximately twenty-five times as large as the next largest competitor. It is over thirty times as large as the next largest PC-based competitor. Given the huge advantage in economies of scale attendant on such a base, it is extremely difficult for entrants to build a business on the basis of the non-Microsoft installed base.⁷¹ A realistic analysis of industry leadership contradicts the Microsoft view. There is no "serial" in Microsoft's monopoly.

(2) Barriers to Entry

As unconvincing as the market structure analysis was, the second prong of the Microsoft argument was even weaker. Microsoft's defenders claimed that its dominant market position and extremely high market share do not

68. *Id.* at 39.

68. *Id.* at 39.

69. *Id.* at 50-55.

70. *Id.* at 54.

71. The discussion of the number of available programs is similarly distorted. Schmalensee/NERA identify thousands of programs available for competing operating systems. Mac is identified with about 12,000 programs in 1998. See Report of Direct Testimony of Richard Schmalensee at 5e. Windows had twice as many programs available five years ago. See Declaration of David Sibley at 14, *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9 (D.D.C. 1999) (Nos. CIV. A. 98-1232, 98-1233) (citing a figure of 25,000 for 1993).

constitute a basis for the exercise of market power because entry and exit in the software industry are extremely easy. Switching costs, compatibility problems and network effects are not substantial entry barriers.⁷²

Microsoft executives knew full well that each of the problems that Schmalensee/NERA dismissed is actually a “huge” barrier. Through their words and deeds Microsoft’s senior executives demonstrated that they believed the opposite of what the experts said and acted in exactly the opposite manner in the market. Microsoft’s witnesses asked the court to disregard their words and deeds and believe that Microsoft executives did not understand their own market.

In a December 1997 memorandum, the Senior VP responsible for pricing to Microsoft’s most important customers—computer manufacturers (original equipment manufacturers or OEMs)—concluded that Microsoft’s high prices were protected by a variety of barriers to entry.⁷³ Although computer manufacturers had an incentive to compete in operating systems because of Microsoft’s high prices, they faced problems of consumer switching costs.⁷⁴ Software vendors were stymied by compatibility problems.⁷⁵ Even Intel could not compete in operating systems,⁷⁶ since Microsoft could respond to such a threat by using its deep pockets to buy a chip manufacturer and bolt its operating system onto the CPU, leveraging control of compatibility to defend and extend its monopoly.⁷⁷ So much for the claim that a brilliant computer science major in his garage can displace Microsoft;⁷⁸ not even the combination of Intel, Compaq, Sun and Netscape can overcome these barriers to entry.⁷⁹

Corporate Conduct

Microsoft’s defense of its conduct relies on a claim that it just competes very hard in every product market it enters.⁸⁰ Its experts place a great deal of emphasis on product quality. Microsoft’s domination of product lines is attributed to the fact that, while it starts behind in most products, it develops equal quality and then wins the market.⁸¹ The whole market tips to Microsoft, once their product is superior.⁸² In particular, *Losers* claims that by 1996 Internet Explorer had pulled equal with Netscape Navigator.⁸³

As with the evidence on market structure, the direct evidence on conduct refutes the claims of Microsoft experts with great specificity. Contradicting the theory, this was the very moment at which Microsoft executives

72. Report of Direct Testimony of Richard Schmalensee, at 55-63.

73. Government Exhibit #365: Memorandum from Joachim Kempin to Bill Gates, dated Dec. 16, 1997, United States v. Microsoft, 84 F. Supp. 2d 9 (D.D.C. 1999) (Nos. CIV. A. 98-1232, 98-1233); see also Mary Jo Foley, *Who is Microsoft’s Secret Power Broker?*, ZDNET, Feb. 1, 1998 (describing Joachim Kempin by saying “he has the final sign-off on all Microsoft licensing contracts with all hardware makers . . . and he is the Microsoft official around whom swirls most of the current Microsoft vs. DOJ fireworks”).

74. Government Exhibit #365: Memorandum from Joachim Kempin to Bill Gates, dated Dec. 16, 1997, United States v. Microsoft, 84 F. Supp. 2d 9 (D.D.C. 1999) (Nos. CIV. A. 98-1232, 98-1233). Our high price could get a single OEM or a coalition to fund a competing effort. While this possibility exists I consider it doubtful even if they could get a product out that they can market it successfully, leapfrog us and would not deviate them from their own standard. Could they convince customers to change their computing platform is the real question. The existing investments in training, infrastructure and applications in windows computing are huge and will create a lot of inertia.

75. *Id.* SUN and its coalition with Java. For the next 2-3 years the barriers are huge. . . . In addition there is the compatibility barrier. . . . [Netscape] may come from the browser side, but I consider them too weak to succeed alone—so they are only dangerous if they team up with SUN. Again compatibility and yet another platform are the biggest inhibitors.

76. *Id.* This could be an INTEL led and funded coalition—say with Compaq and Netscape. I am convinced they have been thinking about this for some time. They could buy SUN SOFT or start a skunk work project on their own. If they decide to sell the Operating System for \$1 and the CPU for \$200 they will get the OEMs on their side. The customer inertia argument remains and that will prevent them to build momentum easily.

77. *Id.* Our reaction could be to buy National semiconductor or AMD or both and own the CPU and the SW business—while both stocks are taking a dive. We would sell SW at \$100 and CPU at cost +1. How sure are we of our partnership and how fast could we react if needed? We could bring compatibility to another platform better than anybody else and we would have the money to fund the fabrication capacity.

78. Report of Direct Testimony of Richard Schmalensee, *supra* note, at 47.

79. In this regard, the fact that Microsoft has successfully prevented Intel from developing its NSP software as disclosed in the trial is a very important element of the overall case. Intel could not, over Microsoft’s objection, even bring a new piece of software to market in a field that Microsoft did not dominate. The chances it could bring a competing system to market are even smaller. See *Microsoft*, 84 F. Supp. 2d at 94-103.

80. Report of Direct Testimony of Richard Schmalensee, at 127.

81. *Id.*

82. See LIEBOWITZ & MARGOLIS, *LOSERS*, at 165-1733.

83. *Id.* at 217-23.

were redoubling their efforts to use their “other factor” leverage to drive Netscape from the market.⁸⁴ Competing on quality was not at all what Microsoft had in mind. Foreclosing the market was. Microsoft went to great lengths to bring that result about.

The evidence at trial focuses on Microsoft’s battle to prevent Netscape/Java from becoming a threat to the Microsoft monopoly through insertion into the middle of the market,⁸⁵ although the evidence indicates that the abusive business model affected many markets over the course of at least a decade.⁸⁶ The CEO of the company made it clear that the browser was a competitive threat to Microsoft’s dominant position.

A new competitor “born” on the Internet is Netscape. Their browser is dominant, with 70% usage share, allowing them to determine which network extensions will catch on. They are pursuing a multi-platform strategy, where they move the key API into the client to commoditize the underlying operating system.⁸⁷

As Microsoft saw it, Netscape/JAVA could weaken its hold on the market because they were able to insert themselves between the Windows operating system and the applications that ran on top of it. They are “middleware.” They offer independent software vendors (ISVs) the possibility of writing applications that can work with many operating systems. They do this by making available to programmers the applications programming interfaces (APIs). When APIs are exposed, programmers can “call” them to develop new applications.

Because they hope to be compatible with numerous operating systems and hope to support many applications, these “middleware” programs make consumers indifferent to which operating system is used. This threatens to weaken Microsoft’s hold on the market. In its terms, it “commoditizes” its core product. If a competitor can create a stock of compatible applications, he can advertise that the new operating system can run all the existing programs, undermining the economic leverage of Windows. If the installed base of platforms and browsers are out there, the Windows operating system could be bypassed. By capturing the browser market, Microsoft precluded that possibility. The campaign against Netscape simultaneously extended the monopoly into the browser market and defended the monopoly in the operating system market by preserving the barrier to entry.

Microsoft’s first response to the growth of the Internet and the development of the browser as a threat to its operating monopoly appears to have been to attempt to divide the market or gain a mutual non-aggression agreement.⁸⁸ That is, it sought to convince a competitor to go in one direction, while it went in another. There are at least four examples in the evidence in which Microsoft sought to divide the market. Microsoft attacked Intel’s contemplation of developing software applications, denying consumers functionalities for years.⁸⁹ Apple software efforts were also the object of Microsoft efforts to divide markets.⁹⁰ IBM was a particular target for Microsoft efforts to seal off its market.⁹¹

If the market division proposal was turned down, Microsoft threatened to go into the competitors’ line of business more vigorously. While the attack on Netscape was the central focus of the case, other instances also involved major players in the industry.⁹² Using the operating system as the core of its market power,⁹³ Microsoft erects barriers to entry. It freezes out competitors with incompatibilities,⁹⁴ builds in features to impede or disable

84. See *Microsoft*, 84 F. Supp. 2d at 51 (quoting messages from James Allchin to Paul Maritz). I don’t understand how IE [Internet Explorer] is going to win. The current path is simply to copy everything that Netscape does packaging and product wise. . . . We are not leveraging Windows from a marketing perspective and we are trying to copy Netscape and make IE into a platform. We do not use our strength—which is that we have an installed base of Windows and we have a strong OEM shipment channel for Windows. I am convinced we have to use Windows—this is the one thing they don’t have . . . We have to be competitive with features, but we need something more—Windows integration.

85. See *id.* at 28-29.

86. See generally JENNIFER EDSTROM & MARLIN ELLER, *BARBARIANS LED BY BILL GATES* (1998); WENDY GOLDMAN ROHM, *THE MICROSOFT FILE* (1998); RANDALL E. STROSS, *THE MICROSOFT WAY* (1997); JOHN WALLACE & JIM ERICKSON, *HARD DRIVE* (1992).

87. Government Exhibit #20: Memorandum from Bill Gates, *The Internet Tidal Wave*, dated May 26, 1995, *United States v. Microsoft*, 84 F. Supp. 2d 9 (D.D.C. 1999) (Nos. CIV. A. 98-1232, 98-1233) [hereinafter *Internet Tidal Wave*].

88. *Microsoft*, 84 F. Supp. 2d at 30-31.

89. *Id.* at 34.

90. *Id.* at 36.

91. *Id.* at 28-43.

92. *Id.* at 34-44.

93. EDSTROM & ELLER, *supra* note 86, at 207.

94. *The World According to Microsoft*, PC WK. ONLINE, June 8, 1998.

competing programs,⁹⁵ withdraws support for competitor programs,⁹⁶ and locks customers in with constant imitation of competing products⁹⁷ or promises to imitate them.⁹⁸ These practices make it difficult for competitors to design products that operate well as the operating system is manipulated and changed.⁹⁹ There also have been charges of back room campaigns of intimidation,¹⁰⁰ abrogation of contracts,¹⁰¹ patent infringement,¹⁰² and predatory pricing, in which the profits from the monopoly over the operating system are used to drive competitors out of other software lines.¹⁰³

As was its practice, when Microsoft's overture to divide the market with Netscape was rebuffed, it set out to market a browser of its own using its well-tested strategy of tying applications to its operating system product.¹⁰⁴ There is no evidence that Microsoft's Internet browser was superior in any way to its competitors. The preservation of its operating system monopoly was the driving force in Microsoft's entry into the browser market. This is the core of the case against Microsoft.¹⁰⁵ Being an innovative leader was not how this battle was to be won,¹⁰⁶ leverage and tying were the key,¹⁰⁷ including efforts to undermine the quality of the competing product.¹⁰⁸

95. The practices span at least three generations of operating systems. It began with the "scare message" in Windows 3.1 to makes DR-DOS users "feel uncomfortable and when he has bugs, suspect the problem is DR-DOS and then go out and buy MS-DOS or decide not to take the risk for the other machines he has to buy for his office." ROHM, *supra* note 86, at 89. Windows 95 and Windows 98 have apparently disabled competitors' programs rather than warn about possible incompatibilities. See James Gleick, *Making Microsoft Safe for Capitalism*, 1996 ANTITRUST L. & ECON. REV. 71, 81; *Windows 98 Disables Microsoft Competitors' Software*, CNET, July 4, 1998.

96. ROHM, *supra* note 86, at 69, 70; *Mine All Mine*, TIME, June 5, 1995.

97. See Willow A. Sheremata, *Barriers to Innovation: A Monopoly, Network Externalities, and the Speed of Innovation*, 42 ANTITRUST BULL. 937, 941, 964, 967 (1997) [hereinafter Sheremata, *Barriers to Innovation*].

98. The preannouncement issue received considerable attention during the first federal action against Microsoft. ELLER & EDSTROM, *supra* note 86, at 42-43; WALLACE & ERICKSON, *supra* note 63, at 240-48.

99. EDSTROM & ELLER, *supra* note 86, at 117. ROHM, *supra* note 63, at 187 recounts the complaints about the desktop applications. Gleick, *supra* note 72, at 87 notes a similar phenomenon with respect to the Internet.

100. ROHM, *supra* note 86, at 148, 237, 270.

101. The line between imitation and abrogation of contracts or patent infringement has never been very clear in Microsoft's business model and has resulted in repeated disputes including court cases involving Stac Electronics, ROHM, *supra* note 86, at 147-151, as well as settlements of similar claims including CPM, see JOHN WALLACE, *OVERDRIVE* 41 (1997) and ROHM, *supra* note 86, at 41, and others such as pen-based systems, see ROHM, *supra* note 86, at 93-101, and hardware, see WALLACE & ERICKSON, *supra* note 63, at 390.

102. See ROHM, *supra* note 86, at 93-101, 147-51; Alan Akin, *Microsoft and 3D Graphics: A Case Study in Suppressing Innovation and Competition*, July 16, 1997 (posted on Boycott Microsoft available at <http://www.vcnet.com/bms/features/>); Microsoft's strategy, also known as "embrace and extend," is not new. Gates first mentioned it publicly in *Mine All Mine*, TIME, June 5, 1998.

103. WALLACE, *supra* note 101, at 162-65.

104. *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9, 43 (D.D.C. 1999).

105. *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30, 52-57 (D.D.C. 2000). Microsoft paid vast sums of money, and renounced many millions more in lost revenue every year, in order to induce firms to take actions that would help enhance Internet Explorer's share of browser usage at Navigator's expense. . . . In fact, Microsoft has expended wealth and foregone opportunities to realize more in a manner and to an extent that can only represent a rational investment if its purpose was to perpetuate the applications barrier to entry. Because Microsoft's business practices "would not be considered profit maximizing except for the expectation that . . . the entry of potential rivals" into the market for Intel-compatible PC operating systems will be "blocked or delayed," Microsoft's campaign must be termed predatory.

106. *Id.* at 160. First we need to offer a decent client (O'Hare) that exploits Windows 95 shortcuts. However, that alone won't get people to switch away from Netscape. We need to figure how to integrate Blackbird, and help browsing into our Internet client. . . . We need to move all of our Internet value added from the Plus pack into Windows 95 itself as soon as we possibly can with a major goal to get OEMs shipping our browser preinstalled.

107. *Id.* at 166. If you agree that Windows is a huge asset, then it follows quickly that we are not investing sufficiently in finding ways to tie IE and Windows together. . . most importantly it must be killer on OEM shipments so that Netscape never gets a chance on these systems.*d*

108. *Id.* at 160. Microsoft's executives believed that the incentives that its contractual restrictions placed on OEMs would not be sufficient in themselves to reverse the direction of Navigator's usage share. Microsoft set out to bind Internet Explorer more tightly to Windows 95 as a technical matter. The intent was to make it more difficult for anyone, including systems administrators and users, to remove Internet Explorer from Windows 95 and to simultaneously complicate the experience of using Navigator with Windows 95. As Brad Chase, Vice President for developers and windows marketing, wrote to his superiors near the end of 1995, "We will bind the shell to the Internet Explorer, so that running any other browser is a jolting experience."

Id. at 160.

Integration was a business strategy¹⁰⁹ to foreclose a competitor, including a delay in the release of Windows 98 until Internet Explorer 4.0 was ready to be included with that product, even though it hurt Microsoft's most important customers, the OEMs.¹¹⁰

The trial fully documented a campaign to cut off a potential competitor's air supply by making it difficult to sell, find, or use his products, by shutting down distribution channels, denying advertising and promotion channels, undermining its functionality, denying it resources and causing it to expend resources. Microsoft carried out its war against this and other middleware threats by attempting to ensure that no PC industry participants would in any way support or assist Netscape/JAVA.¹¹¹

At the heart of Microsoft's anti-competitive practices are four categories of abuses. First, Microsoft took steps to prevent competitors from getting the same access to users of computers or services who had entered into an agreement with Microsoft. If OEMs, ISPs, or ICPs were inclined to install other browsers, Microsoft sought to ensure that no browser would have equal placement.¹¹² Second, it sought to foreclose distribution channels to other browsers altogether. Contracting parties were required to ship IE, and dissuaded from shipping competing browsers.¹¹³ Third, it took actions which were intended to ensure IE's quality was superior to browsers operating on Windows machines. Contracts required use of software that gave Microsoft a superior presentation, while the underlying software also disabled competitors.¹¹⁴ Finally, there were conditions to prevent competitors from garnering resources.¹¹⁵

The quality analysis presented by Microsoft defenders is undercut by the trial evidence. It shows that Microsoft may have "won" the trade press reviews not so much because it built a better mouse trap but because it impaired the ability of its competitors to build one.¹¹⁶ At exactly the time that the trade press reviews of Microsoft's browser were catching the reviews of Netscape's browser, Microsoft had launched a campaign to undermine the quality of its competition. Not only did Microsoft manipulate the operating system to give its product an advantage, it denied or slowed access to its operating system to prevent Netscape from improving and delivering its product.¹¹⁷

In addition, the court makes the point that under the weight of the anti-competitive onslaught, Microsoft's competitors were forced to give up. Squeezed out of the market and drained of resources, they could no longer afford to devote resources to the product.¹¹⁸

109.*Id.* at 167.

110.*Id.* Maritz recognized that the delay would disappoint OEMs. First, while OEMs were eager to sell new hardware technologies to Windows users, they could not do this until Microsoft released Windows 98, which included software support for the new technologies. Second, OEMs wanted Windows 98 to be released in time to drive sales of PC systems during the back-to-school and holiday selling seasons. Nevertheless, Maritz agreed with Allchin's point that synchronizing the release of Windows 98 with Internet Explorer was "the only thing that makes sense even if OEMs suffer."

111.*Id.* at 58-85.

112.*Id.* at 59-67.

113.*Id.* at 67-69.

114.*Id.* at 49-53.

115.*Id.* at 51.

116.*Id.* at 111-12.

117.*Id.* at 33-34. Although Netscape declined the special relationship with Microsoft, its executives continued over the weeks following the June 21 meeting to plead for the RNA API. Despite Netscape's persistence, Microsoft did not release the API to Netscape until late October, *i.e.*, as Allard had warned, more than three months later. The delay in turn forced Netscape to postpone the release of its Windows 95 browser until substantially after the release of Windows 95 (and Internet Explorer) in August 1995. As a result, Netscape was excluded from most of the holiday selling season.

Microsoft similarly withheld a scripting tool that Netscape needed to make its browser compatible with certain dial-up ISPs. Microsoft had licensed the tool freely to ISPs that wanted it, and in fact had cooperated with Netscape in drafting a license agreement that, by mid-July 1996, needed only to be signed by an authorized Microsoft executive to go into effect. There the process halted, however. In mid-August, a Microsoft representative informed Netscape that senior executives at Microsoft had decided to link the grant of the license to the resolution of all open issues between the companies. Netscape never received a license to the scripting tool, and as a result, was unable to do business with certain ISPs for a time.

118.*Id.* at 103-04. Not only did Microsoft prevent Navigator from undermining the applications barrier to entry, it inflicted considerable harm on Netscape's business in the process. By ensuring that the firms comprising the channels that lead most efficiently to browser usage distributed and promoted Internet Explorer to the virtual exclusion of Navigator, Microsoft relegated Netscape to more costly and less effective methods of distributing and promoting its browsing software. After Microsoft started licensing Internet Explorer at no charge, not only to OEMs and consumers, but also to IAPs, ISVs, ICPs, and even Apple, Netscape was forced to follow suit. Despite the fact that it did not charge for Internet Explorer, Microsoft could still defray the massive costs it was undertaking to

It is impossible to argue that quality won the day in the browser market. There is no way to know what would have happened in a marketplace where fair competition was taking place, although Microsoft's executives clearly believed that if they did not leverage their market power in the operating system, they would lose the browser war.¹¹⁹

D. Business Case Evidence Before the Court on Monopoly Power and the Benefits of Competition

The second pricing memorandum also provides insight into nature of monopoly rents being collected and the powerful effect that breaking a monopoly can have (see Exhibit IV-5).¹²⁰ The memorandum claims that Intel's CPU price increased over the 1990-1996 period. On a percentage basis, it did not increase as much as Microsoft's, but the increases were substantial, just over 100%. If competition were to break out, prices would tumble for both CPU and OS...

Microsoft contemplates competition breaking out in one of two ways. Intel could bolt OS onto its CPU, squeezing out the rents from OS, but preserving its rents on CPU. Since Intel's costs were put in the \$170 to \$180 range, the implicit cost of a start-up operating system is in the range of \$20 to \$30. This is quite consistent with our conclusion that the cost of Microsoft's ongoing operating system is in the range of \$15 to \$25. If Intel were to take this strategy, it would squeeze out Microsoft's rents and lower the price of CPU+OS by \$70 to \$100.

Alternatively, Microsoft could bundle CPU with its OS, squeezing out CPU rents, but protecting its OS rents. Assuming the startup costs about \$70 to \$75, as previously estimated by Microsoft, it could bring the bundle to market at \$170. This strategy would lower the cost of CPU + OS by \$100 to \$125.

Competition is "ugly" to Microsoft, but if full component competition were to break out across both the products, consumers would achieve savings of almost \$200. The resulting squeeze would push the profits of both companies down to reasonable levels. Implicitly, in this analysis, Microsoft's margins are about twice as large as Intel's. If these rents were squeezed out, each of the firms would see its profit margins reduced to just slightly over the average for the rest of the computer industry.

E. Indirect Consumer Harm

There are a series of additional interrelated effects of the Microsoft monopoly that must be considered in assessing the harm it imposes on the public—severe negative effects on innovation in the industry and indirect costs imposed on consumers.

Stifling Innovation by Chilling Investment in Products That Might Compete with Microsoft's Core Products: The court noted that the repeated pattern of anti-competitive actions has a chilling effect on the companies that would enter the Intel-based PC market.

Delaying and Preventing the Development of Products: The court noted at least six instances in which Microsoft sought to delay the development of competing products. It noted several instances in which it delayed the delivery of its own products to accomplish an anti-competitive outcome.

Denying Consumers Alternatives That Would Better Suit Their Needs: Microsoft imposed strict discipline on companies shipping Windows to prevent them from altering the configuration of Windows and related icons. The court was struck by the extent to which Microsoft was willing to inconvenience consumers to preserve its hold on the market and the inconvenience created by Microsoft's steadfast control of the boot screen. The court took special note of the fact that the OEMs were the ones who actually dealt with the public and they perceived a significant problem in Microsoft's refusal to allow modification of the boot screen. The costs they perceived were substantial.

Denying or Delaying the Introduction of Non-Microsoft Products: By denying or delaying the introduction of non-Microsoft products, Microsoft restricts consumer choice. These tactics were not restricted to the browser. There was a broad range of products that Microsoft slowed or prevented from getting to market.

maximize usage share with the vast profits earned licensing Windows. Because Netscape did not have that luxury, it could ill afford the dramatic drop in revenues from Navigator, much less to pay for the inefficient modes of distribution to which Microsoft had consigned it. The financial constraints also deterred Netscape from undertaking technical innovations that it might otherwise have implemented in Navigator. Microsoft was not altogether surprised, then, when it learned in November 1998 that Netscape had surrendered itself to acquisition by another company.

119. *See id.* at 51.

120. *Id.*

Forcing Consumers to Buy Non-Microsoft Products in Inconvenient Ways: By foreclosing the primary channels of distribution with exclusive contracts and other deals, Microsoft forces consumers of non-Microsoft products to acquire them in time-consuming and inconvenient ways.

Undermining Compatibility: There were also several instances in which Microsoft undermined the ability of software applications or middleware to function properly with the operating system.

Impairing the Functionality of Microsoft Products to Defend Its Own Monopoly: Microsoft was quite willing to undermine the quality of its own and of competing products to preserve its market dominance.

Forced Upgrades and Additional Support Costs: With no competition, Microsoft upgrades, which are sold to the public, become extremely high margin products.¹²¹ Microsoft is able to sell excessive functionality.¹²² Consumers pay for more functionalities bundled into packages of software than they should and they are forced to buy bigger machines.¹²³ Because Microsoft does not face competition, it does not face pressures to provide high quality products and the public is forced to purchase systems that are much buggier than they should be.

Microsoft drives a rapid product cycle¹²⁴ with inefficient software that requires bloated hardware.¹²⁵ Furguson sums up linking the lack of innovation with the distortion of the competitive process to consumer harm.¹²⁶

121. Steve Lohr, *Where Microsoft Wants to Go Today*, N.Y. TIMES, June 5, 1998, at D-1 (“David Rearderman, an analyst at Nationsbank Montgomery Securities, estimates that operating system revenues in 1997 were \$4.6 billion and produced gross profit margins of 90 percent.”); see also Denise Caruso, *Nimbly, Microsoft Has Taken Advantage of Ignorance to Reshape the World*, N.Y. TIMES, Dec. 1, 1997, at D-4 (“In contrast to product-development cycles in old-style manufacturing businesses, like automaking, extensive changes to an operating system—and the subsequent upgrades they force throughout the chain—require no costly retooling of assembly lines and no new raw materials. The main cost is human capital—some months of programmers’ time.”).

122. See Caruso, *supra* note 121. And Microsoft has taken brilliant advantage of that ignorance. Many people, for example, do not understand how Microsoft’s business works or how it has come to dominate the software industry. The key to Microsoft’s success is its strategy of linking its Windows operating systems—the foundation of a PC’s operations—to its productivity applications, to the Internet, to its consumer products, to its programming tools and to hardware manufactures in a tight, interdependent chain. Whenever it makes a significant modification to Windows—as it did in the step from Windows 3.1 to Windows 95, for example—everything in the chain has to change, too. . . . Customers are caught in the competitive spiral, being constantly pressured to upgrade “obsolete” software—though the definition of obsolescence is debatable.

123. Gleick, *supra* note 95, at 83. Anecdotally, it is clear that millions of high-end users have bought the upgrade but that millions of corporate customers have chosen to delay the inevitable heartache, particularly when most existing hardware lacks the speed and memory to run it well. It does not matter. In the long run virtually every desktop computer will run Windows 95 and its successors. New computers shipping now have Windows 95 preinstalled by default. Applications developers have either stopped developing for DOS and Windows 3.1 or soon will.

124. FERGUSON, at 309-10. Microsoft also uses another technique, the forced upgrade cycling of its installed base, which increases its revenues but imposes huge costs on consumers by forcing them to replace their hardware more frequently than necessary. Clearly, the rapid progress of computer hardware technology helps ease the pain of the high rate of obsolescence Microsoft creates, but there is considerable pain nonetheless. The pace of updates and sheer number of new features results in the often bug-ridden bloatware that consumers and businesses are forced into accepting. With each new round of updates, Microsoft generally discontinues or at least deemphasizes sales and support for older versions. . . . The introduction of backward incompatible new features, even if each feature is used by only a small percentage of users, will quickly result in a high fraction of new documents being unreadable by older versions of the application. The whole user base is therefore forced into a kind of perpetual motion machine of rapid version updating. . . . This forced version cycle imposes enormous costs on users that are probably beginning to approach, or even exceed, the size of the benefits discussed earlier. First, users must buy new hardware more frequently. Even larger, however, are the increased installation, service and maintenance costs imposed by this regime.

125. *Id.* at 310. Since there is rapid technological progress in semiconductors, plus genuine competition in the hardware sector, PC costs have been flat to falling. Recently, direct and Internet retailing have further reduced manufacturing and distribution costs to extraordinarily low levels. As a result Microsoft has been able to pursue its strategy without causing unacceptable increases in hardware prices. Nonetheless, even \$599 PCs are probably \$100 more expensive than they would be if Microsoft wrote products more carefully and without artificial feature increases. More important, people would not need to replace their computers as frequently or spend as much money servicing them. These costs affect everyone, but they probably affect poor people and the developing world more than the average business user.

126. *Id.* Furthermore, too much Microsoft software is just *bad*. With some justice, Microsoft can argue that it faces unique challenges—a huge number of users running a very large number of slightly different hardware platforms in an industry with an unusually high rate of technical change. But Cisco routers have most of those characteristics, and they work much better. It is also noteworthy how often freeware outperforms Microsoft’s commercial products. . . . Microsoft’s position as the monopolist purveyor of mediocre software is another source of large, and unnecessary, social costs. Training and recovery from software errors and crashes are, along with rapid version cycling, major contributors to service costs. . . . Conservative estimates are that the cost of maintaining a desktop is several times higher than the cost of purchasing it. Cleaner, simpler, better-designed software could reduce these overhead costs, thereby freeing large numbers of technologists to do useful work. The

Precise estimates of indirect costs such as these are always difficult to make. Ferguson's discussion suggests that hundreds of billions of dollars of consumer savings would result from a restoration of competitive processes in the industry.

generally accepted rule of thumb is that corporations spend three to five times their hardware costs on service. New hardware and software products must be installed, debugged and then serviced; employees must be taught how to use them. These costs increase greatly with the novelty and heterogeneity of systems in use; hence the more upgrade cycling, the higher these costs. Finally, there is Microsoft's effect upon potential and actual innovation. It is abundantly clear that any new entrant who creates a large market or a threat to Microsoft's monopoly platform position will be the object of a brutally effective, often predatory retaliation in which Microsoft will use every unfair advantage it possesses

Excerpt from
The 21st Century Video Market Which Past is Prologue, Consumer-Friendly Digital Disintermediation or Cable Dominated Vertical Integration?
(McGannon Center for Communications Research, Fordham University, 2010)

A. DIGITAL DISTRIBUTION

Wall Street analysts who have been examining the growing competition between Internet video and traditional video distribution¹²⁷ frequently begin by discussing the impact of digital distribution on the music labels and the determination of video content producers to avoid that fate.¹²⁸ Or as Comcast puts it, outside its Application,¹²⁹ they need to make “sure that we get ahead of the steamroller that is the Internet.”¹³⁰ The time frame in which this steamroller is projected to arrive is relatively short and the extent of the potential competition is pervasive.¹³¹ The music labels have suffered a major reduction in the revenues and margins as a result of digital distribution and the concern of the Wall Street analysts is the ability of the video content producers to maintain their rate of profit. This paramount Wall Street concern is only part of a proper economic analysis. Rather, the following key elements (which are given short shrift in these analyses) must also be considered:

- **Consumer Welfare:** In the Wall Street analyses, the question of how consumers have fared is at best given cursory treatment. While the convenience of digital distribution is frequently noted, the direct impact on the consumer pocketbook, consumer surplus in economic terms, receives little attention.
- **Super-Profit Protectionism:** The possibility that the profit margins the music labels were trying to defend with their war against digital distribution were excessive never enters the analysis.
- **Efficiency Gains to Industry:** The efficiency gains in the industry also do not receive the attention they deserve.

Since it is the job of Wall Street analysts to advise investors about the prospect for (preferably supra-normal) profits, these blind spots in their analysis are understandable, but policy makers must have a broader and more complete view. The consumer and public interest impact of technological change, market structure, and alternative business models must be taken into account by policy makers. The investor view must be balanced against the consumer view to ensure a market structure that is efficient, stable and equitable.

1. Avoiding the Nightmare on Elm Street

The juxtaposition of the music and video industry approaches to digital distribution provides the launching point for one recent study entitled *Internet Video: Field of Dreams or Nightmare on Elm Street?* Needless to say, the

¹²⁷ Piper Jaffray, *Internet Video: Field of Dreams or Nightmare on Elm Street?*, November, 2009, p. 5.

¹²⁸ For example, the opening section of the Piper Jaffray analysis is entitled “Music v. Video: Why These Markets are Traveling Down Different Paths.” Similarly, the Title page of Bernstein’s *Web Video: Friend or Foe. and to Whom* (October 7, 2009), starts with an observation about the difference between music and video and links that difference to the proactive behavior of Comcast. See also Tim Arango, “Cable TV’s Big Worry: Taming the Web,” *New York Times*, June 23, 2009 (“What is at stake is perhaps the last remaining pillar of the old media business that has not been severely affected by the Internet: cable television. Aware of how print, music and broadcast television have suffered severe business erosion, the chief executives of the major media conglomerates...have made protecting cable TV from the ravages of the Internet perhaps their top priority.”) (“Arango, Taming the Web”)

¹²⁹ The Application claims “[c]urrently, online video content does not compete directly with MVPD service.... Indeed, online video distribution is presently incremental and complementary to Comcast’s cable business” (at 99). Yet earlier in the Application, online video is referenced as an alternate choice for consumers (at 4). Comcast’s recent SEC 10-K, filed after the Application, lists “online services that Internet video streaming, downloading and distribution” as a competitor. See Comcast Corp., SEC 10-K, p. 6, Feb. 23, 2010. Similar revelations were offered in a previous SEC filing: Comcast Corp. SEC 8-K, p. 16, Dec. 22, 2009. NBC is no different, telling the Commission in 2009 that “The Internet as a distributor of high-quality video programming has reached the tipping point” Reply Comments of NBC Universal, Inc In the Matter of *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, MB Docket No. 07-269, p. 2 (Aug. 28, 2009).

¹³⁰ Jeff Baumgartner, “Comcast Nears ‘TV Everywhere’ Launch,” *Light Reading*, Sept. 9, 2009.

¹³¹ UBS Investment Research, *Can Pay TV Benefit from Online Video?*, p. 9. NBC recently stated that “[t]he Internet as a distributor of high-quality video programming has reached the tipping point.” Reply Comments of NBC Universal, In the Matter of *Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*, MB Docket No. 07-269, Aug. 28, 2009.

music sector is seen as the nightmare on Elm Street. The music industry fate is depicted as follows.¹³² Faced with a consumer rebellion, the music labels tried to lock down content and slow alternative distribution. Finally realizing that they needed a digital distribution model, they ended up the captives of a high tech company (Apple), whose primary interest was in selling hardware and other peripherals. Pricing content to promote penetration, a strategy well known and effective in the Internet space, meant usage charges were kept low and the margins for the record labels were squeezed. An industry that was focused on high margins driven by the “value” of the product had difficulty viewing the world through a low margin, penetration-promoting lens.

The analysts’ buzzwords for what must be avoided by the incumbents in the video industry structure are *arbitrage*, *cannibalization*, and *disintermediation*.¹³³ As used in this context, each of the terms indicates a shifting in the flow of commerce through a distribution channel that yields high profits to the incumbent to a channel that yields a lower rate of profit, or the removal of the flow of commerce from the incumbent’s channel entirely. Each of the players who have leverage in the current supply chain is at risk of having their control over distribution diminished. This is particularly true for the two sectors involved in the Comcast-NBC Universal merger, video content production and multichannel video distribution. For the content owners, the risk is “leakage” of their content into channels that command lower revenues.¹³⁴ For distributors, it is the potential loss of subscribers, who “cut the cord,” reduce their payments for premium content, or resist price increases because they have alternative distributors available to them.¹³⁵

Another motivating factor in reacting to the potential for digital distribution is the potential for piracy of content. Wall Street analysts are divided on the question of piracy. Some see avoiding piracy of content as a primary motivator for developing business models that allow consumers convenient access to content.¹³⁶ Others think the piracy concern is overblown.¹³⁷

When Wall Street analysts are contemplating the array of concerns for the participants in the video product space, they see diversity among the players in the traditional MVPD product space, content firms whose interests are defined by primarily ad-supported (over-the-air) networks versus content firms whose interests are primarily defined by fee supported (cable) networks,¹³⁸ incumbent cable operators versus new entrants,¹³⁹ and cable MSO/broadband ISPs versus content companies,¹⁴⁰ as well as several other sets of players who have little role in the traditional

¹³² Piper Jaffray, *Internet Video*, p. 4. See also Ronald Grover, Tom Lowry and Cliff Edwards, “Revenge of the Cable Guys,” *BusinessWeek*, March 11, 2010 (“Jeff Bewkes and Brian Roberts, the CEOs of Time Warner and Comcast...took a lesson from the music labels, which looked up one day to find that Steve Jobs and Apple had taken control of their inventory.”) (“Grover, Revenge”).

¹³³ Bernstein, *Web TV*, p. 15. UBS Investment Research, *Can Pay TV*, p. 3, 10. Dawn C. Chmielewski and Meg James, “Hulu’s tug of war with TV,” *Los Angeles Times*, May 11, 2009 (“We have to be mindful of the fact that we have a good business that works for all the players,” said Andrew Heller, domestic distribution president for Turner Broadcasting. “We have to find ways to advance the business rather than cannibalize it.”) (“Chmielewski, tug of war”); Deborah Yao, “Cable companies want a way to win with online TV,” *Associated Press*, Feb. 24, 2009 (“There’s pressure on all of us,” [Jeff Gaspin, President of NBC’s Universal Television Group] said, referring to TV networks. “We get paid quite a bit of money from cable operators...It’s important we find ways to do business that protects that business model.”)

¹³⁴ UBS, Investment Research, *Can Pay TV* p. 15. Arango, Taming the Web (“Unlike broadcast television, which relies solely on advertising, cable networks have another revenue stream: fees paid by cable operators... “That stream is so important to every entertainment company that everybody is looking at that and saying, if we are not careful we could start to harm that model,” Mr. Burke [President of Comcast Cable] said.)

¹³⁵ UBS Investment Research, *Can Pay TV*, p. 4. Chmielewski, tug of war (“The appetite for full-length TV shows online was larger than anyone thought or expected,” said Bobby Tulsiani, Forrester Research media analyst. “And now people are starting to wonder, do we even need the cable connections?”) Deborah Yao, “Cable Companies See Customers Cutting Back: ‘The Beginning Of Cord Cutting,’” *Associated Press*, Feb. 8, 2009. (Time Warner Cable CEO Glenn Britt stated in 2009 “We are starting to see the beginning of cord cutting.”)

¹³⁶ Piper Jaffray, *Internet Video*, p. 12. Chmielewski, tug of war (“Hulu was launched in March 2008 as a way of keeping TV programming safely in the hands of its creators and distributors. And by making it free, it could short-circuit piracy.”)

¹³⁷ Bernstein, *Web TV*, p. 12.

¹³⁸ Bernstein, *Web TV*, pp. 9-10. Arango, Taming the Web (“Unlike broadcast television, which relies solely on advertising, cable networks have another revenue stream: fees paid by cable operators”).

¹³⁹ UBS Investment Research, *Can Pay TV*, p. 15. George Szalai, “Opinion: Online Video’s Impact Remains Unclear,” *AdWeek*, July 3, 2009 (““This is a way to stem concern about cable infrastructure being bypassed by free online viewing,” Collins Stewart analyst Thomas Eagan says.”) Grover, Revenge (“The new attack from Silicon Valley was the most serious yet, because it threatened to permanently cut the coaxial connecting the cable companies and their subscribers. “We wake up every day and there is some new competitor out there—a Roku or a Boxee,” says Melinda Witmer, Time Warner Cable’s programming chief.”) Daniel Roth, “Netflix Everywhere: Sorry Cable, You’re History,” *Wired*, Sept. 21, 2009 (“Our goal is to have everyone cancel their cable subscription.” Roku’s Wood says.”)

¹⁴⁰ UBS Investment Research, *Can Pay TV*, p. 28. Arango, Taming (“Last month, Comcast agreed to pay Disney a monthly fee to offer its Internet subscribers ESPN 360, the sports network’s online channel. One analyst, Richard Greenfield of Pali Research, has called that deal “a watershed event for content owners in a broadband world, albeit that event occurred with little to no fanfare.”) See also Comments of the American Cable Association, In the Matter of *A National Broadband Plan for Our Future*, GN Docket No. 09-51, pp. 5-6 (June 8, 2009).

MVPD market.¹⁴¹ The different attitudes toward Internet TV among the various players and the likely longer-term strategies is evident in the availability of content online –

Complete episodes of about 90% of prime-time network television shows and roughly 20% of cable shows are now available online... The online selection of live sports games is spotty as well. This season for example, the National Football League will make Sunday night games available live on the Net, but those amount to only 7% of all regular-season NFL match-ups. Cable and broadcast news shows typically aren't streamed live on the Internet, unless there's breaking news even like Hurricane Katrina.¹⁴²

Each of the parties is likely to leverage its strategic assets to defend its current share of revenues and rents in video distribution, as well as try to capture part of the efficiency gains flowing from digital distribution. Accordingly, the compromise is to replicate the traditional relations in the new product space. Note the distinction between broadcasters, who are more likely to make content available than cable, with the exception of sports and news content, which are marquee must-have categories that provide leverage to attract audiences.

The potential efficiency gains from digital distribution deserve attention because a new technological approach to distribution has a powerful effect on a business in which distribution has been a substantial part of the cost. There are supply-side and demand-side gains.¹⁴³ Advertising can become more efficient.¹⁴⁴ Physical costs are reduced as redundancy of devices¹⁴⁵ is eliminated and economies of scale and scope combine with technological progress to dramatically lower costs.¹⁴⁶

2. Organizing to Prevent Disintermediation

The plight of the music labels plays another ironic role in the Wall Street analysts that highlight one of the key aspects of antitrust analysis. Music labels certainly had an economic interest in preventing the disintermediation that eroded their rents. They reacted slowly and lacked the market power to prevent it. In the video business, content owners and cable operators are reacting more quickly. Content producers can leverage their libraries and “must have” content in a sector that is highly concentrated,¹⁴⁷ a situation that is not unlike the one that existed in the music sector in the late 1990s. However, the real difference is in the market power of the cable operators, who are also the dominant broadband Internet access providers. This is the fundamental difference between the music and video industries. The owners of the dominant distribution network have a direct interest in preventing the disintermediation, and have powerful tools to prevent it.

Indeed, one analyst argues that cable's market power is so much greater in the broadband Internet access business that it should abandon the traditional cable video business altogether and leverage its market power over broadband to the maximum extent possible.¹⁴⁸ It can shed all of the costs of video service, but preserve its share of the rents of video distribution by increasing the price of broadband access service.¹⁴⁹ This economic analysis can be summarized as follows:

¹⁴¹ Most notably the technology sector and device vendors, where massive amounts of storage open up prospects for a new form of distribution of content. UBS Investment Research, *Can Pay TV*, p. 10; Piper Jaffray, *Internet TV*, p. 24.

¹⁴² Nick Wingfield, “Turn On, Tune Out, Click Here,” *Wall Street Journal*, October 3, 2008.

¹⁴³ Various efficiency gains are mentioned primarily from the point of view of increasing profit. Piper Jaffray, *Internet Video*, p. 12, identifies two classical opportunities – expanding supply in the long-tail and increasing demand through greater convenience.

¹⁴⁴ UBS Investment Research, *Can Pay TV Benefit from Online Video?*, p. 10. See e.g. Mike Shields, “MTVN, Quantcast to Laser-Target Web Video Ads,” *Mediaweek*, Feb. 16, 2010.

¹⁴⁵ Bernstein, *Web TV*, p. 17. Declining technology costs run the gamut from bandwidth and multicasting to caching and routers, optical systems and storage.

¹⁴⁶ *Ibid.* See e.g. Saul Hansell, “The Cost of Downloading All Those Videos,” *New York Times Bits Blog*, April 20, 2009. (“The Comcast presentation said that the effect of this is that Docsis 3 will reduce the cost of the C.M.T.S. hardware, which had been about \$20 per home passed, by 70 percent, for customers at current speeds. And it will allow 100-Mbps service at a lower hardware cost than the company had been paying for its then current 6-Mbps service.”)

¹⁴⁷ Piper Jaffray, *Internet Video*, p. 10, 31. Bernstein, *Web TV*, p. 12. See also Jason Kilar, “Doing Hard Things,” Hulu Blog, Feb. 18, 2009; Jim O'Neill, “Hillcrest confirms Hulu blocking Kyle Web TV browser from its online video content,” *Fierce Online Video*, March 22, 2010.

¹⁴⁸ Bernstein, *Web TV*, p. 14. JP Morgan Analyst, Jonathan Chaplin, “The broadband market is a duopoly”

“Providers Face Slowing Growth For Broadband,” *Investor's Business Daily*, Feb. 20, 2008.

¹⁴⁹ Bernstein, p. 15. See also Saul Hansell, “The Problem With Cable Is Television,” *New York Times*, May 1, 2009.

Think of a Comcast that no longer allocates billions to manufacture set-top boxes. Bernstein Research took this thought a step further and actually crunched numbers. Turns out a dumb-pipe Comcast would do just fine competing only in broadband.

That is because the real advantage of cable isn't video, where in each market it competes against two satellite broadcasters and often a telco. It is broadband, where in some markets it has a monopoly and in others a telco competitor. The price a cabler could charge for "raw connectivity" in such a duopoly is determined by the operator with the higher costs. And in this case, it's the telco. Bernstein Research puts the "telco minimum" at \$85 per month, which compares with Comcast's projected 2013 average revenue per user, or ARPU of \$133 per month.

Matching the telco minimum in a dump-pipe scenario would lower Comcast's Arpu by 36%. This, in turn, would boost subscription counts by a conservatively estimated 20%. Costs would drop faster than revenue, however, widening margins and reducing the EBITDA [Earnings before Interest, Tax, Depreciation and Amortization] falloff caused by the abandonment of video.

Meanwhile, once out of the set-top-box and video-on-demand business, Comcast could cut the \$5.2 billion it budgeted for capital expenditures in 2008 by at least half. "Given the reduced capital spending," Bernstein Research concludes, "free cash flow -- the ultimate litmus test of value creation -- would soar. By our estimates, free cash flow would rise by 30% in a dumb pipe scenario."¹⁵⁰

The key to the astronomical rate of profit is the market power of the cable operators, who face little competition. The \$85 per month "dumb pipe-only" price for broadband is substantially more than Comcast charges for broadband today and the increase is twice what it charges for set-top boxes. The increase in the cable margins means that cable operators would capture all of the efficiency gains from the digital disintermediation (if the costs that cable shed are not incurred and recovered by the sellers of video products) or the cost to the consumer would rise substantially (if those costs are recovered from the consumer).¹⁵¹

This Wall Street analysis does not expect the cable operators to actually go down this path. For one, it is too radical,¹⁵² and involves an exercise of market power that would attract a great deal of attention.¹⁵³ However, the analysts do expect cable operators to leverage their market power in other ways.¹⁵⁴ Cable operators are expected to stay in both businesses, but capture a significant part of the efficiency gains that make larger rents available by increasing prices for Internet access and reducing the opportunity for Internet TV to undermine traditional MVPD market power,¹⁵⁵ with tools such as

*usage based pricing¹⁵⁶

*tying traditional video to Internet video,¹⁵⁷

¹⁵⁰ Richard Morgan, "Why Hulu Matters," *The Deal Magazine*, December 11, 2009.

¹⁵¹ Comcast's latest rate card for the Washington DC area reveals non-promotional monthly rates for standard level services as follows – a double play bundle at \$128.35 per month, stand alone cable rate \$56.95 per month and high speed Internet at \$59.95. If Comcast's dumb pipe broadband service is priced at \$85 per month, then even if the set top box costs disappear (or are transferred directly to consumers), it is unlikely that the margins of the video content sellers would not be squeezed, putting severe upward pressure on video monthly fees.

¹⁵² Another analyst points out that video is the primary source of revenue between the two businesses (UBS Investment Research, *Can Pay TV*, p. 10 ("Video revenues per user (ARPU) are far higher for many platforms than voice or data revenues and that gap is growing.") Nonetheless, profit margins are far lower on video services. See e.g. Michelle Ow, "Time Warner Cable Q1 margins led by broadband," SNL Kagan, May 6, 2010 ("Time Warner Cable Inc. continued to reap the benefits of its strong broadband performance in the first quarter as the historically high-margin broadband business ended the period with an estimated 62.8% margin, outpacing phone and video margins by more than twofold.")

¹⁵³ The dramatic increase in the cable operators' rate of profit would attract attention, as would dramatically increasing the price of data only service, which in the case of Comcast is already \$59.95 per month.

¹⁵⁴ Bernstein, *Web TV*, p. 15: "Cable operators won't just stand by and watch – they'll take actions that affect this evolution." Andrew Hampp, "MSOs Fight to Keep TV on the TV, Not the Net," *Ad Age*, June 16, 2008. ("Alexander Dudley, a spokesperson for Time Warner Cable, told Ad Age the company is prepared to go as far as withholding some of the subscriber revenue upon which networks like Comedy Central have built the bulk of their business model.") ("Hampp, Fight")

¹⁵⁵ Ironically, Apple, which is the central player in digital disintermediation in the music space, sees the stranglehold on the set-top box as a barrier to entry, Will Richmond, "Why Apple Still Doesn't Have a TV Strategy," *VideoNuze*, June 7, 2010.

¹⁵⁶ Bernstein, *Web TV*, p. 15. Wachovia Analysts Marci Ryvicker stated "We view usage-based billing, or bandwidth consumption caps, as a significant impediment to not only ZillionTV but also to true over-the-top video providers" *Comm Daily*, April 15, 2009. Dave Burstein, *DSL Prime*, Jan. 21, 2008 ("I believe Time Warner's interest in bandwidth caps has little to do with its own costs and a lot to do with the emergence of movie downloads and streaming television programs over the Internet. The smart people at Time Warner are scared of people watching TV directly over the Internet.")

*locking down content.¹⁵⁸

Estimates of how fast the competitive threat will grow vary from a few years to more than a decade,¹⁵⁹ as do estimates of the magnitude of the threat, which reach as high as one in eight subscribers cutting the cord within a year.¹⁶⁰ However, there is unanimity on one proposition: that the cable operators will actively resist and seek to undermine that competition.

Of course, if they didn't create obstacles to this sort of disintermediation, cablers wouldn't be cablers. Some easy ways to forestall IP video's ascendancy include charging consumers for their Hulu use and increasing the number of commercials embedded in each Hulu episode. Only by taking control of NBCU can Comcast influence such decisions. Comcast's embracing "TV Everywhere," which allows paying subscribers to receive IP video as well as cable video, can be seen as another means to impede the same inexorable end. So, too, is the concept of usage-based pricing -- the objective of which would be to price broadband consumption for downloading IP video in ways that make both the cable company and its customers indifferent to disintermediation.¹⁶¹

If cable/broadband access providers have market power and are not inclined to abandon the video business in exchange for a dump pipe, strategies to deal with the tensions are needed. The strategy that emerges to prevent the dissipation of rents through disintermediation is to discipline the sector. This requires complex collaboration and "leadership"¹⁶² during a crucial moment for action.¹⁶³ The largest cable/broadband operator acquiring one of the leading video content suppliers is an obvious candidate to exercise that leadership. The Wall Street analysts identify the combination of the Comcast-NBC Universal merger and Comcast's Fancast Xfinity-branded "TV Everywhere" initiative as perfect examples of the key strategies.¹⁶⁴ Vertical integration becomes pivotal to block the effects of digital disintermediation, and the emergence of a large firm straddling the production and distribution stages is a critical step in achieving the necessary spirit of collaboration.

With Comcast and Time-Warner moving forward with video paywalls, are the cable companies doing what Hollywood and the music industry couldn't do? That reality is coming sooner than you think... This ain't the music business, apparently... there's still life in old dinosaur methods of content delivery when it comes to movies and teevee shows, and the conglomerates and CEO's that control them aren't too keen on giving up their domination of content delivery just yet... It's simply a browser bound way of locking you out of live streamed or stored content based on a verification ID... namely your cable account's user name and password... It is almost impossible to stop the Comcast juggernaut from taking over NBC and removing content from Hulu and other currently free broadband streaming services or aggregators. TV Everywhere, which has been tested for over a year, can be seen as simply a way for cable companies to continue with the old model of doing business.¹⁶⁵

¹⁵⁷ Bernstein, *Web TV*, p. 15. See also Grover, *Revenge*; George Szalai, "Opinion: Online Video's Impact Remains Unclear," *Adweek*, July 3, 2009. ("The lack of focus on such offers proves that TV Everywhere is mainly defensive for now. "This is a way to stem concern about cable infrastructure being bypassed by free online viewing," Collins Stewart analyst Thomas Eagan says.")

¹⁵⁸ Bernstein, *Web TV*, p. 12. See also Hampp, *Fight*, Chmielewski, *tug of war*.

¹⁵⁹ Contrast Piper Jaffray, *Internet Video*, p. 4, and Richard Morgan, "Why Hulu Matters," *The Deal Magazine*, December 11, 2009 ("Morgan, Why Hulu").

¹⁶⁰ Contrast *Yankee Group Says 1 in 8 Consumes will Ax Their Coax this Year*, April 27, 2010, and Convergence Consulting, *The Battle for the North America (US/Canada) Couch Potato: New Challenges and Opportunities in the Content Market*, April 2010, which puts the number at one in 30 by year-end 2011. See also Mike Robuck, "Report: OTT eating into video market share pie," *CedMagazine.com*, Oct. 9, 2009 ("SNL Kagan's latest report forecasts that over-the-top providers, such as Hulu, will account for 7.1 million homes by 2013, and for more than twice that number in 10 years."). For his part, Comcast's Stephen Burke, President of Comcast cable, states "We don't think that it's a problem now, but we do feel a sense of urgency," Arango, *Taming*.

¹⁶¹ Morgan, *Why Hulu*.

¹⁶² UBS Investment Research, *Can Pay TV*, p. 7.

¹⁶³ UBS Investment Research, *Can Pay TV*, p. 24. See also Grover, *Revenge*; Arango, *Taming*.

¹⁶⁴ Bernstein, *Web Video*, p. 9. Yinka Adegoke, "Web TV could come with a price tag after Comcast-NBC," *Reuters*, Oct. 4, 2009. ("We suspect Comcast believes it needs content to protect its landline distribution platform," Richard Greenfield, analyst at Pali Research, wrote in a note to investors on Friday. "It wants to mitigate the risk of becoming that scary 'dumb' pipe... Hulu was started by NBC and Fox so they could compete with Comcast. So this is a defensive move to some extent by Comcast," said Kaufman Bros. analyst Todd Mitchell. "Hulu will just become another choice of Comcast's pay-TV buffet."). See also Comments of Netflix, Inc, In the Matter of *Preserving the Open Internet, Broadband Industry Practices*, GN Docket No. 09-191, WC Docket No. 07-52, Jan 14, 2010. ("the recent announcement of the proposed merger of Comcast and NBC Universal serves to exacerbate the growing concern that MVPDs will use their control over programming networks to stifle competition, including the growing competition from online video providers like Netflix").

¹⁶⁵ Christian Hokenson, "TV Everywhere Leave VOD Nowhere," *HD Report*, March 18, 2010.

The most direct and obvious way to prevent disintermediation is maintain the flow of content in channels that can be controlled, which is the obvious intent of TV Everywhere: “While a lot is happening on the convergence front (e.g. Google TV, Roku, etc.), with the advent of TV Everywhere, the likelihood that cable programs will not leak out onto the open Internet is lower than ever.”¹⁶⁶

B. THE THREAT TO INTERNET TV

The threat that this merger poses to potential competition from Internet delivered video deserves special attention in the merger review for several reasons.

First, the incipient growth of competition on the Internet holds the greatest promise for breaking the stranglehold of traditional MVPD service providers on the video market that has presented itself in decades.¹⁶⁷ Over the past quarter century there have been a few moments when a technology comes along that holds the possibility of breaking the chokehold that cable has on the multi-channel video programming market, but on each occasion policy mistakes were made that allowed the cable industry to strangle competition. This is the first big policy moment for determining whether the Internet will function as an alternative platform to compete with cable. If policymakers allow this merger to go forward without fundamental reform of the underlying industry structure, the prospects for a more competition-friendly, consumer-friendly multi-channel video marketplace will be dealt a severe setback.

It is only by taking the approach we have outlined that Federal authorities can do more than just preserve the current industry structure, which is riddled with anticompetitive and anti-consumer institutions and practices. Instead, they can improve the terrain of the American video marketplace. This merger is an opportunity to jump-start the industry reform process.

Second, control over broadband Internet access is the cornerstone of the anticompetitive response to the growth of Internet competition and it is the market in which cable operators have the greatest market power. While the technology is new, the tactics being used to prevent it from breaking the market power of a tight oligopoly that control the choke point of distribution are well-known and recognized – concentration, conglomeration, vertical integration. The linking and leveraging of broadband access replicates past moments when policymakers were forced to grapple with how to promote competition, localism and diversity in the video product space.

Third, the anticompetitive harm that the merger could do to the Internet as a competitive platform for MVPD service is a perfect example of the use of vertical leverage that has horizontal effects. Starting here is the perfect antidote to the erroneous claim that because the merger is largely a vertical merger there are no merger related competition issues to be analyzed. The rehabilitation of vertical analysis in antitrust, which has long been overdue, can start in the review of this merger.

The Browser Wars as a Model for the Battle over IMVPD

An easy way to understand the threat to the Internet platform for multi-channel video programming distribution (IMVPD) posed by the Comcast-NBC merger is to recall the Department of Justice case against Microsoft.¹⁶⁸ The case grew out of what was known as the “browser wars” between Microsoft’s Internet Explorer and Netscape’s Navigator. Navigator had entered the new market for web access and grown rapidly as the leading browser, with a commitment to “write once, work anywhere.” Bill Gates, Microsoft CEO, declared that “a threat is born on the Internet.” The threat was the possibility that browsers could provide a platform for accessing the Internet that would work with any operating system, thereby rendering Microsoft’s near monopoly over operating systems much less important. “A new competitor “born” on the Internet is Netscape... They are pursuing a multi-platform strategy... to commoditize the underlying operating system.”¹⁶⁹

¹⁶⁶ Will Richmond, “Yankee Group Cord-Cutting Research Download Available,” *VideoNuze*, May 27, 2010.

¹⁶⁷ The Commission has recognized the Internet as an emerging competitor to traditional MVPDs on numerous occasions. See e.g. *Annual Assessment of the Status of Competition in the Market for Delivery of Video Programming*, MB Docket No. 06-189, Thirteenth Annual Report, 24 FCC Rcd 542, 614 (2009); Dissenting Statement of Commissioner Robert M. McDowell, In the Matter of *The Commission’s Cable Horizontal and Vertical Ownership Limits et al.*, Fourth Report and Order and Further Notice of Proposed Rulemaking, MM Docket No. 92-264, 23 FCC Rcd 2134 (2008); Remarks by Omnibus Broadband Initiative Executive Director Blair Levin, “Owning the Inevitable,” American Cable Association’s 17th Summit, April 20, 2010. (“Over-the-Top Video will eventually emerge as a challenge to the current model of multi-channel distribution of large and increasingly expensive bundles of linear programming.”)

¹⁶⁸ *United States v. Microsoft Corp.*, 84 F.Supp. 2d 9 (D.D.C. 1999).

¹⁶⁹ Government Exhibit #20.

The strategy Microsoft used to undercut this threat was described with the colorful phrase “we will cut off their air supply.”¹⁷⁰ Microsoft set out to saturate the market with its own browsers by bundling them with the operating system software and giving them away for free. It took steps to undermine the quality of the competing browser and reinforced this strategy by offering a number of inducements to computer manufacturers (known as original equipment manufacturers or OEMs), who decide which software to put onto the computer, to pre-load only Internet Explorer.

With access to low cost distribution through the OEM channel secured for Internet Explorer and free distribution, Navigator would be denied revenues and forced to use more expensive ways to try to distribute its product. Starved of cash, Navigator would shrivel. “Microsoft could still defray the massive costs it was undertaking to maximize usage share with the vast profits earned by licensing Windows. Because Netscape did not have that luxury, it could ill afford the dramatic drop in revenues from Navigator, much less to pay for the inefficient modes of distribution to which Microsoft consigned it. The financial constraints also deterred Netscape from undertaking technical innovations that it might otherwise have implemented in Navigator.”¹⁷¹ Free browsers might seem like a good deal for consumers in the short run, but in the long run this strategy of eliminating competition has a heavy cost.¹⁷² It preserves and extends the Microsoft monopoly in the operating system market and undermines innovation and development in browsers or other products that might compete with Microsoft’s core products, keeping the cost of Microsoft’s core product far higher than it should be. It denies consumers alternatives that better suit their needs, and forces consumers to buy products in inconvenient ways, there by imposing high costs on consumers.

2. Internet Multi-channel Video Program Distribution

Comcast’s current strategy is to cut off the air supply of the Internet as a platform for competing with Comcast’s core franchise business, multi-channel video programming distribution (see Exhibit IV-5). It which will

Exhibit IV-5: Strategies to Undermine Nascent Competition on the Internet

Browser Wars Strategy	Attack Internet MVPD Platform
Bundle IE browser and operating system	Bundle online video with physical space video by requiring physical subscription to get access to online video
Raise entry costs through incompatibility	Keep set top box closed, forcing IMVPD to find non-Comcast hardware
Incent OEMs to preload IE not Navigator	Pressure incumbent MVPDs to participate in TV Everywhere, shrinking the market of competing platforms
Degrade the quality of Navigator	Withhold valuable marquee content to undermine the quality or raise the cost of content available on the Internet platform. Pressure content providers to not make their products available on the Internet by offering favorable conditions for physical space distribution to those who deny Internet access to content
Make using Nav. a "jolting experience"	Use the ability to block or degrade the quality of service of specific application and Internet Service Providers, forcing IMVPD to rely on non-Comcast broadband ISP

¹⁷⁰ Rajiv Chandrasekaran, “Microsoft Attacks Credibility of Intel Exec,” *Washington Post*, Friday, November 13, 1998; Page B1, “The Microsoft antitrust trial turned into a tense sparring match over the credibility of a witness from Intel Corp. yesterday, with a lawyer for Microsoft accusing the executive of concocting some of his most colorful testimony and the government producing several documents to support the witness’s claims. On the witness stand was Steven McGeedy, an Intel vice president called by the government. He testified earlier this week that Microsoft Corp. had threatened to withhold crucial technical support from Intel if the chipmaker did not stop developing software that would compete with Microsoft’s products. He also made the dramatic allegation that a senior executive at Microsoft told him of an intent to “extinguish” rival Netscape Communications Corp. and to “cut off Netscape’s air supply. . . . With McGeedy’s credibility hanging in the balance, Justice Department lawyer David Boies set out to rehabilitate his image in the afternoon. On a large screen in the courtroom, he played several segments of a videotaped deposition by McGeedy’s boss, Ron Whittier. On the tape, Whittier said that he recalled the term “smother” being used to describe Microsoft’s strategy at the meeting in question.”

¹⁷¹ *United v. Microsoft Corp.*, 84 F Supp. 2d 9 (D.D.C. 1999)

¹⁷² Mark Cooper, “Antitrust as Consumer Protection in the New Economy: Lessons from the Microsoft Case,” *Hastings Law Journal*, 52:4) April 2001.

impose the similar costs on consumers, allowing Comcast to continue to raise cable prices and retarding the ability of the Internet to support alternative distribution models.

Comcast is proposing to bundle online video with physical space video by requiring physical subscription to get access to online video.

Comcast-NBC will have a much more valuable set of marquee content to raise the cost of and squeeze the profits of content available on the Internet platform.

Comcast has demonstrated the ability to degrade the quality of service of specific application and Internet Service Providers. This could make it far more difficult for an alternative IMVPD to enter the market, as it would have to build its audience on broadband subscribers who are not Comcast subscribers.

The combination of these five strategies, pursued by the largest broadband Internet access provider and the largest cable provider, will suck the air out of the space available for the Internet multi-channel video program distribution.

Just as in the Microsoft case, we should view the ‘the separate categories of conduct... viewed, as a single, well-coordinated course of action’ to see the does ‘the full extent of the violence that would be done to the competitive process itself.’¹⁷³ Just as in the Microsoft case, the nascent character of that competition does not render it less of a cause for concern. Indeed, in the case of cable market power, which has persisted for so many years, nascent or potential competition should be carefully husbanded by antitrust authorities.

Some of the elements of this anticompetitive strategy are already being applied by Comcast to the Internet; all have been used by the company in various forms in the past. Moreover, merger review requires the Department of Justice to make reasonable projections about the potential and likely abuse of market power. Unlike a monopolization case, which must prove past bad behavior and seek to remedy it, merger review is prophylactic, seeking to prevent future abuse.

Digital technology plays two key roles in these strategies to undermine competition that call for heightened scrutiny by antitrust officials. Digital technology gives the dominant incumbent two key assets to undermine competition.

It is pressing content providers to not make their product available on the Internet by offering favorable conditions for physical space distribution to those who deny Internet access to content.

The acquisition of NBC will give it a new set of immensely powerful weapons to strengthen the attack on the Internet.

Comcast-NBC will have a much more valuable set of marquee content to undermine the quality or raise the cost of content available on the Internet platform.

The ability to achieve low cost mass distribution of a critical technology platform (by preloading the operating system in the case of Microsoft, putting up a web site in the case of Internet TV).

Immense power to control network functionality by controlling the critical choke point (controlling the APIs in the case of the browser; controlling access to the consumer in the case of Internet TV).

¹⁷³ United States v. Microsoft Corp., 87 F.Supp. 2d 9 (D.D.C. 1999).