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# Internet Regulation and Consumer Welfare: Innovation, Speculation, and Cable Bundling

by

JOHN E. LOPATKA\* and WILLIAM H. PAGE\*\*

## Introduction

The goal of telecommunications policy has shifted from the control of natural monopoly to the promotion of competition.<sup>1</sup> But the question remains how extensive and persistent the government's regulatory role should be in the operation of communications markets. One might think that regulators could find the answer to this question in antitrust law. But antitrust has itself been torn between interventionist and laissez-faire tendencies.<sup>2</sup> Over the past two decades, the dominant Chicago School approach to antitrust has focused on economic efficiency, a standard that has led to the abandonment or contraction of some categories of liability. More recently, however, post-Chicago theorists have suggested that the particular characteristics of the "new economy," particularly the economics of networks, justify a more interventionist approach. As it happens, telecommunications lies at the heart of the new economy. Couching the inquiry in antitrust terms, therefore, does not resolve the critical policy issues.

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1. Glen O. Robinson, *Regulating the Internet*, 8, available at <http://www.legalessays.com> (1999).

2. See generally William H. Page, *Ideological Conflict and the Origins of Antitrust Policy*, 66 TUL. L. REV. 1 (1991).

These issues have come to the fore in the dispute over regulation of broadband Internet access. The Internet is sometimes viewed as a world of *laissez-faire*, largely distinct from the established regime of telecommunications and mass media regulation.<sup>3</sup> For historical and political reasons, the same standards of content and economic regulation that apply to other media have not been extended to Internet communications. But the contradictions that this dichotomy raises have been unavoidable in the broadband context.<sup>4</sup>

A consumer today who wants a residential, high-speed ("broadband") Internet connection typically has at best a choice between two, roughly comparable media: a cable modem and a special telephone line, called a "digital subscriber line" (DSL). These media, or data transmission pipes, are not universally deployed, and some consumers have only one or neither available.<sup>5</sup> If a consumer does not have the option of a high-speed connection or if he does not value the unique advantages of the connection enough to pay for them, his alternative is a low-speed, narrowband connection over standard phone lines and a dial-up modem. But regardless of the nature of the medium employed, the consumer also needs services, such as those provided by AOL, to access content publicly available on the Internet. There are over 6,000 Internet Service Providers (ISPs) that supply narrowband Internet services, but only a little more than 100 that offer broadband services.<sup>6</sup>

Because federal law treats incumbent local telephone companies as common carriers, any ISP that wants to offer subscribers broadband services over a phone company's DSLs has the right to obtain transmission services from the company at a wholesale rate

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3. Joshua I. Katz, *Broadband Internet Access: AT&T's Fight to Keep Its Cable Wires "Closed,"* 6 B.U. J. SCI. & TECH. L. 17, 17 (2000).

4. See generally Robinson, *supra* note 1.

5. As the FCC recently observed, "As with any technology, particularly in its early stages, deployment of advanced telecommunications capability is not uniform across the nation. Some consumers will gain access to that capability before others." Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, Second Report, F.C.C.R. 20913 (Aug. 21, 2000), 2000 FCC LEXIS 4411 [hereinafter Second Report].

6. See *Internet Service Providers*, in ENCYCLOPEDIA OF EMERGING INDUSTRIES 361 (Susan J. Cindric ed., 2000) (estimating the number of narrowband ISPs); Deployment of Advanced Telecommunications Capability: Second Report B-2 (FCC Aug. 2000), <http://www.fcc.gov/broadband> (listing number of broadband ISPs); BroadbandWeek.com, Directory of Broadband Service Providers, <http://www.broadbandweek.com/directory/service/htm> (last visited Mar. 22, 2001).

and to resell it to subscribers in conjunction with Internet services.<sup>7</sup> Thus, a subscriber potentially could select one of several ISPs for broadband service through a given DSL connection. Not so for service through a cable modem. Cable companies, which typically have local cable television service monopolies, have combined the Internet services and broadband transmission functions and offer only a package of the two components. As a result, the subscriber must use the services of the cable company's proprietary ISP. Of course, if cable broadband were to become dominant, this practice would threaten the existence of independent ISPs.

The cable industry's practice of bundling high-speed transmission and Internet services has come under fire from both ISPs and analysts. Some commentators have called upon the Federal Communications Commission to require cable companies to provide open access, allowing any ISP to provide service to the cable company's subscribers.<sup>8</sup> In effect, such requirements would force cable companies to sell broadband transmission services separately. The FCC has so far resisted these overtures, but it is reconsidering its position.<sup>9</sup> Some local governments have enacted ordinances imposing open access mandates on their cable franchisees, though the laws have not fared well in the courts.<sup>10</sup> Bundling has been examined by

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7. See generally James B. Speta, *Handicapping the Race for the Last Mile?: A Critique of Open Access Rules for Broadband Platforms*, 17 YALE J. ON REG. 39, 68 (2000).

8. See, e.g., Mark A. Lemley & Lawrence Lessig, *The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era* 41 (Stanford Law School John M. Olin Program in Law & Economics, Working Paper No. 207, and School of Law, Boalt Hall U.C. Berkeley Law & Economics Research Paper No. 2000-19) (2000), at <http://papers.ssrn.com/paper.taf?abstractid=247737>; *In re The Provision of Telecommunications Service Via "Cable Internet,"* Petition of the United States Internet Industry Association ("USIIA") to the FCC for Declaratory Rulemaking and Institution of Rulemaking with Respect to Tariffs for Cable Internet Interconnectivity (filed July 7, 2000), available at [http://www.fcc.gov/broadband/usii\\_a\\_petition\\_070700.txt](http://www.fcc.gov/broadband/usii_a_petition_070700.txt).

9. *In re Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*, F.C.C.R. 19287, 2-3 ¶ 4 (Sept. 28, 2000), 2000 FCC LEXIS 5242 [hereinafter *Access Inquiry*] (noting that the "Commission has heretofore taken a 'hands-off' policy with respect to the high-speed services provided by cable operators" and asking several questions to "ascertain whether our hands-off policy" remains the correct approach). The FCC received 112 comments and 29 replies in response to its Notice of Inquiry. See [http://haifoss.fcc.gov/c/s.dll/websql/prod/ecfs/comsrch\\_v2.hts](http://haifoss.fcc.gov/c/s.dll/websql/prod/ecfs/comsrch_v2.hts).

10. See, e.g., *AT&T Corp. v. City of Portland*, 216 F.3d 871, 877 (9th Cir. 2000) (holding the open access ordinance prohibited by the Federal Communications Act); *Comcast Cablevision of Broward County, Inc. v. Broward County*, 124 F. Supp. 2d 685, 698 (S.D. Fla. 2000) (holding ordinance invalid under the First Amendment); *MediaOne Group, Inc. v. County of Henrico*, 97 F. Supp. 2d 712, 716-17 (E.D. Va. 2000) (holding ordinance invalid under the Communications Act and as ultra vires under state law).

antitrust agencies and the FCC in their review of mergers between cable companies and ISPs. Recently, for example, as a condition of approving the merger between AOL and Time Warner, the nation's second largest cable operator, the Federal Trade Commission required the firm to accept certain access obligations; generally, AOL Time Warner will have to offer subscribers service from three unaffiliated ISPs along with service from its proprietary ISP, and it will have to enter into access agreements with any other interested independent ISP unless it has some reason for refusing other than to avoid competition.<sup>11</sup> In approving the transfer of licenses associated with the merger, the FCC endorsed the requirements and imposed certain other conditions intended to encourage AOL Time Warner to enter into contracts with independent ISPs.<sup>12</sup> Moreover, commentators have suggested that bundling by cable operators constitutes monopolization or tying in violation of the antitrust laws.<sup>13</sup>

The question we address specifically is whether government should require open access.<sup>14</sup> But this question is only one aspect of a larger issue: when should the government regulate competitive conduct in the new economy, which is characterized by extraordinary rates of innovation, modest capital requirements, economies of scale in production and consumption, and frequent entry and exit? This question has no simple answer. Richard Posner argues that antitrust doctrine can "take in stride the competitive issues presented by the new economy," but that government institutions—enforcement agencies and courts—"do not have adequate technical resources, and do not move fast enough, to cope effectively with a very complex business sector that changes very rapidly."<sup>15</sup> He concludes pessimistically, "[t]his problem will be extremely difficult to solve; indeed, I cannot even glimpse a complete solution."<sup>16</sup>

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11. See *In re America Online, Inc.*, F.T.C. CS No. C-3989, §§ II.A. 1-2, II.B. 1 (2000) (Decision and Order) [hereinafter Decision and Order].

12. See *In re Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and America Online, Inc., Transferors, to AOL Time Warner Inc., Transferee*, F.C.C. CS No. 00-30 (Jan 22, 2001) (Memorandum Opinion and Order) [hereinafter FCC AOL/Time Warner Order].

13. See, e.g., Lemley & Lessig, *supra* note 8, at 52-55.

14. We are not particularly concerned here with the source of the legal obligation, be it antitrust or regulatory laws, or the implications of open access for other social policies, such as those embodied in the First Amendment. U.S. CONST. amend. I.

15. Richard A. Posner, *Antitrust in the New Economy*, 68 ANTITRUST L.J. 925, 925 (2001).

16. *Id.*

Our guiding principle is that government intervention in a market—including markets in the new economy—is justifiable only if it maximizes the welfare of consumers. Taking into account the relative competence of regulatory institutions and the market in promoting consumer interests, the burden of proof is on those who advocate intervention. On this basis, we do not believe that the case for mandatory open access has been made.

Cable bundling might represent a threat to consumer welfare for two reasons. First, it might have an immediate adverse effect on the prices consumers pay for broadband Internet services or the quality of the services available. The possibility of immediate consumer injury is unquestionably a legitimate concern, and it apparently led the FTC to impose access obligations on AOL Time Warner.<sup>17</sup> If a cable company could leverage local monopoly power in broadband transmission services into the provision of Internet services, consumers would suffer. But given the general absence of rate regulation over cable service,<sup>18</sup> economic theory predicts that even a cable company with market power could not profitably raise prices by bundling transmission and Internet services and would have no incentive to offer inferior services.

A second concern, both more pressing and more elusive, is that bundling might stifle innovation, thereby inflicting a future injury on consumers in the form of valuable inventions forgone. Bundling likely implies a reduction in the number of broadband ISPs, and some commentators predict that a reduction in the amount and an undesirable change in the kind of innovation will inevitably follow.<sup>19</sup> Moreover, these critics contend that, because cable companies will control the architecture of the pipelines, they will have an incentive and the ability to make design decisions, whether innocently or strategically, that favor their proprietary ISPs, thereby compromising the principle of openness that has fostered the extraordinary growth of the Internet. In particular, the threat of strategic design decisions

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17. The FTC challenged the merger of AOL and Time Warner on the ground that it would have immediate anticompetitive effects, primarily in the broadband Internet services, or access, market. See Complaint, *In re America Online, Inc.*, F.T.C. CS No. C-3989, ¶ 25 (filed Dec. 14, 2000) [hereinafter FTC Complaint]. And though it imposed an open access requirement as a remedy, the practice of bundling was not the ostensible basis of its complaint. It is therefore not clear whether the FTC believed that bundling causes immediate anticompetitive effects.

18. See 47 U.S.C. § 543 (Supp. III 1997).

19. Lemley & Lessig, *supra* note 8, at 23-29.

made to injure nonaffiliated ISPs will chill their investments in innovation.

Although future consumer injury is an appropriate concern of competition policy, predictions of future harm, particularly in the form of lost innovation, tend to be inherently speculative.<sup>20</sup> It is often a weak basis for government intervention. Especially when consumers enjoy clear and immediate benefits from a practice, prohibiting it in the name of greater future good is usually unwise.<sup>21</sup> In the context of cable bundling, the theory of impaired innovation is shaky. While consumer benefits from allowing cable companies discretion to bundle are not demonstrably compelling, they are sufficiently predictable to conclude that the presumption in favor of the market, which undergirds antitrust law and telecommunications policy, has not been rebutted, particularly because the costs of any regulatory response would be high.

In reaching our conclusion, we draw lessons from the ongoing government antitrust case against Microsoft.<sup>22</sup> The similarities between cable bundling and *Microsoft* are striking, though there are significant differences as well. For instance, the central claim in *Microsoft* is that a firm with monopoly power in personal computer operating systems anticompetitively bundled Windows with a complementary product, the Internet Explorer (IE) web browser, thereby excluding from the market a rival browser, Netscape's Navigator.<sup>23</sup> To an extent, the cable broadband transmission service is comparable to the operating system—both are seemingly dominant platforms—and the practice of bundling transmission service and Internet service is akin to combining Windows and IE. In both situations, competitors in the complementary market suffer. And the district court found that consumers were harmed largely because

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20. John E. Lopatka & William H. Page, *Monopolization, Innovation, and Consumer Welfare*, 69 GEO. WASH. L. REV. (forthcoming Spring 2001).

21. John E. Lopatka & William H. Page, "Obvious" Consumer Harm in Antitrust Policy: *The Chicago School, the Post-Chicago School, and the Courts*, in POST-CHICAGO DEVELOPMENTS IN ANTITRUST ANALYSIS: UNITED STATES AND EUROPE (Roger van den Bergh et al. eds., forthcoming 2001).

22. See *United States v. Microsoft Corp.*, 65 F. Supp. 2d 1 (D.D.C. 1999) (findings of fact); *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30 (D.D.C. 2000) (conclusions of law); *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000) (remedy). As of this writing, appeal is pending before the United States Circuit Court for the District of Columbia.

23. *Microsoft*, 65 F. Supp. 2d at 40-44. The district court found that Microsoft violated the antitrust laws in several other ways. See, e.g., *Microsoft*, 87 F. Supp. 2d at 39-46. But throughout this Article, we focus on the bundling conduct.

Microsoft's conduct impeded innovation,<sup>24</sup> just as some commentators suggest that cable modem bundling will inhibit innovation in ISPs. We have argued elsewhere that the district court in *Microsoft* erred by failing to recognize that immediate and palpable consumer benefits outweigh speculative claims of consumer harm in the antitrust calculus.<sup>25</sup> In our view, those who advocate compulsory open access make a similar mistake.

## I. The Market for Broadband Internet Access

For present analytical purposes, the relevant industry can be divided into three segments. First, some firms, like cable operators and telephone companies, offer transmission services over information conduits, or pipes, through which data is exchanged between a consumer and an Internet site. The issue of cable bundling pertains to the segment of the transmission system between the outside of a consumer's residence and an aggregation point. Second, ISPs provide consumers with services that link them, or provide access, to Internet sites through data pipes. ISP services vary from the minimal, or mere access, to the extensive, such as e-mail accounts.<sup>26</sup> Third, some firms provide Internet content. Of course, some firms perform multiple functions. Cable companies, for instance, offer both transmission and Internet services. ISPs often provide Internet content as well. Though the categories have fuzzy boundaries, it is helpful to keep them distinct and recognize that vertical integration is common in the industry.

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24. For example, the district court found, "[t]he actions that Microsoft took against Navigator hobbled a form of innovation that had shown the potential to depress the applications barrier to entry sufficiently to enable other firms to compete effectively against Microsoft in the market for Intel-compatible PC operating systems." *Microsoft*, 65 F. Supp. 2d at 103. The court also found, "Microsoft's past success in . . . stifling innovation deters investment in technologies and businesses that exhibit the potential to threaten Microsoft. The ultimate result is that some innovations that would truly benefit consumers never occur for the sole reason that they do not coincide with Microsoft's self-interest." *Id.*

25. See, e.g., Lopatka & Page, *supra* note 20.

26. The terminology in this field is not uniform. For example, in some contexts, the term Internet access provider (IAP) denotes the firm that connects the consumer to the Internet. It subsumes the category of ISP, which then denotes a firm that provides relatively extensive Internet services to consumers. See generally *Internet Service Providers*, *supra* note 6, at 362. The district court in *Microsoft* used the term Internet access provider to refer generally to a firm that provides any level of Internet service, but it used ISP to denote firms that provide minimal service and Online services suppliers (OLSs) to denote firms that provide relatively extensive services. See *Microsoft*, 65 F. Supp. 2d at 5.



No one doubts that broadband connections are becoming an increasingly valuable mode of Internet access.<sup>27</sup> Most fundamentally, they permit consumers to achieve far greater speeds in their Internet connections. They also make possible some services, such as realtime video transfer and interactive gaming, that narrowband connections cannot provide.<sup>28</sup> They offer businesses new opportunities for electronic commerce, which inure to the benefit of consumers. The market for broadband access is growing fast; the only question is how fast. One particularly grand estimate is that the market for high-speed Internet connections and other broadband services will reach 40 million consumers in the next several years.<sup>29</sup>

Narrowband and broadband connections are substitutes on the demand side for some purposes. A particular consumer with lots of time and little interest in advanced services, for example, may be largely indifferent between broadband and narrowband access. Nevertheless, the two kinds of access are probably different enough to justify treating them as separate markets. Products are in the same antitrust market if they are “reasonably interchangeable by consumers for the same purposes.”<sup>30</sup> The federal enforcement agencies define a relevant product market for purposes of merger review by asking whether a hypothetical monopolist of the product could profitably raise prices by 5%.<sup>31</sup> Without any empirical investigation, we assume that under any sensible test, broadband

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27. The FCC now avoids using the term “broadband” in its analysis because of the term’s imprecision. Rather, it denominates as “high-speed” those services with 200 kilobits per second (kbps) or faster in at least *one* direction; it defines “advanced telecommunications capability” and “advanced services” as services offering speeds of 200 kbps or faster in *both* directions. See Second Report, *supra* note 5, at 8. For our purposes, the distinctions are unimportant, and we use these terms as well as “broadband” interchangeably.

28. See, e.g., Martin Peers, *Video on Demand Arrives—Sort Of: Long-Delayed Home Service Delivers Movies Instantly, But Film Choices Are Thin*, WALL ST. J., Jan. 29, 2001, at B1; Anna Wilde Mathews, *Video on Demand Arrives—Sort Of: Studios Have Their Own Movies-on-Demand Plans*, WALL ST. J., Jan. 29, 2001, at B1.

29. See Arik Hesseldahl, *ADSL vs. Cable Modems: The Coming Battle*, ELECTRONIC NEWS, Jan. 4, 1999, at 44, 44 (citing estimate by Sprint). Another, more recent estimate is that there will be some 25 million subscribers to broadband service through either cable modems or DSLs by 2005. See Simon Romero, *D.S.L. Service for Linking to Internet Is Problem Ridden*, N.Y. TIMES, Dec. 28, 2000, at C1.

30. *United States v. E.I. du Pont de Nemours & Co.*, 351 U.S. 377, 395 (1956).

31. See United States Dept. of Justice and FTC Horizontal Merger Guidelines, 4 TRADE REG. REP. (CCH) ¶ 13,104, § 1.11 (1992), available at <http://www.ftc.gov/bc/docs/horizmer.htm> [hereinafter Merger Guidelines].

access represents a separate market, as the FTC alleged in its review of the *AOL/Time Warner* merger.<sup>32</sup>

These tests define markets in a static sense. To ask whether a 5% price increase would induce enough consumers to switch from broadband to narrowband to make the increase unprofitable is to estimate consumer preferences among products with particular qualities at a given point in time. But consumers' tastes and a product's qualities can change. Consequently, a static analysis is an appropriate starting point, but it is incomplete.

In the market for broadband residential transmission services, the two principal competitors are cable operators and local telephone companies offering DSL connections. Each of these methods of broadband connection has a distinct set of technical advantages and limitations. Telephone transmission lines running between switching stations generally have enough capacity for broadband service.<sup>33</sup> But the local loop that connects a consumer's home to the switching office typically does not have broadband capacity. It has been called the "last mile" in the race to provide broadband transmission services to consumers.<sup>34</sup> The telephone network was designed for two-way voice communications, and local loops adequate for that purpose are inadequate for digital transmission of data at high speeds. Phone companies, however, can sometimes employ DSL technology to transform the existing local loop into a high-speed conduit. The technological details are unimportant here, but a few characteristics

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32. See FTC Complaint, *supra* note 17, ¶ 21.

33. A distinction can be drawn between a network's "backbone," which "provides a long-distance, high-capacity, high-speed transmission path for transporting massive quantities of data," and "middle mile" facilities, which "provide relatively fast, large-capacity connections between backbone and last mile." Second Report, *supra* note 5, at 10. For our purposes, the distinction between the backbone and middle mile facilities is unimportant. The capacity of both kinds of facilities appears to be adequate to satisfy the demand for broadband services, though in some geographic areas middle mile facilities may represent a bottleneck. *Id.* at 12, 18, 83-85.

34. More precisely, the "last mile is the link between the middle mile and the last 100 feet to the end-user's terminal. The last mile is analogous to the local road between a larger, divided highway and a traveler's driveway." Second Report, *supra* note 5, at 11. "The last 100 feet is the link between the last mile and the end-user's terminal," which is analogous to the driveway itself. *Id.* This segment of the network includes wiring inside a house or an apartment building, and though it sometimes is a barrier to the deployment of advanced telecommunications capability to small businesses and schools, it is generally not a barrier in residential settings. *Id.* at 29. See Speta, *supra* note 7, at 45; Chip Brookshaw et al., *Last-Mile Alternatives*, INFOWORLD, Sept. 21, 1998, at 90, 92.

are significant.<sup>35</sup> First, the conversion of a local loop to a DSL is costly.<sup>36</sup> Second, the technology works only when the subscriber's residence is fairly close to the central office.<sup>37</sup> The implication is that some telephone customers could not obtain DSL service even at the significant cost conversion always entails.

Cable systems were designed to be one-way networks, in which information flowed out to subscribers. They can, however, be converted to accommodate two-way, high-speed data transmission. Like the upgrade of standard local loops, the conversion of cable systems into two-way networks requires an investment, and cable companies are acting quickly to convert their systems.<sup>38</sup> But the geographical limitations of the technology are not as acute as are those of DSL technology, and the cost of transforming the system appears to be lower.

In operation, DSL technology offers certain advantages over cable.<sup>39</sup> For example, only DSL provides a dedicated link between the provider and each home, which means simultaneous fast Internet and voice/fax capabilities over a single line.<sup>40</sup> Because cable is shared by multiple users, its data security is inferior and its performance deteriorates as the number of cable users increases. But cable has an advantage in that new services are available to all homes passed by an upgraded cable system, whereas they may not be available to some end-users even in upgraded DSL areas.<sup>41</sup> Nevertheless, applying the tests suggested above, these differences generally are not great enough to justify treating cable broadband access and DSL access as separate product markets.<sup>42</sup>

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35. In fact, there are several kinds of DSL technologies. See Second Report, *supra* note 5, at 21-23; Speta, *supra* note 7, at 51-54. The differences are not relevant for present purposes.

36. See Second Report, *supra* note 5, at 21-23 (describing the technical requirements of DSL service).

37. *Id.* at 22. For the most popular kind of DSL service used by residential consumers, the maximum distance is 18,000 feet. For the less popular and more expensive kind of DSL service, maximum distances are even shorter, between 10,000 and 12,000 feet. *Id.*

38. See Second Report, *supra* note 5, at 19-21 (describing the modifications necessary to make cable systems capable of offering high-speed services).

39. Comcast Cablevision of Broward County, Inc. v. Broward County, 124 F. Supp. 2d 685, 688 (S.D. Fla. 2000) (citing *A Staff Report to William E. Kennard, Chairman, FCC on Industry Monitoring Sessions Convened by Cable Services Bureau*, Oct. 1999, BROADBAND TODAY, at 20-21); Speta, *supra* note 7, at 56.

40. See Second Report, *supra* note 5, at 19, 22.

41. See *id.* at 20, 23.

42. In theory, DSL or cable may be so much better than the other for a particular use that a market should be defined for that end use, if the provider can discriminate in the

Apart from the differences in technological limitations, the chief difference between the two modes of transmission lies in their availability. Telephone service is nearly universal, but not all phone lines have been upgraded to DSL capability, and as indicated above, not all phone lines physically can be converted. Cable systems now pass approximately 97% of all television households, and nearly two-thirds of all television households are cable subscribers.<sup>43</sup> In all, the last-mile facilities necessary to provide high-speed Internet access to consumers are being deployed rapidly, and cable operators are in the lead.<sup>44</sup> At the end of 2000, about 3.4 million homes and businesses had broadband access through cable modems, compared with 1.2 million DSL subscribers.<sup>45</sup> But the lead is expected to shrink. One estimate is that by 2005 there will be about 13.8 million cable-modem subscribers and 11.2 million DSL subscribers.<sup>46</sup>

Cable and DSL services are not the only means of broadband transmission. Many phone companies offer more traditional high-speed, circuit-switched services like T1 lines, and they can install fiber optic lines.<sup>47</sup> A variety of fixed wireless service providers, such as cellular telephone companies, personal communications services (PCS) providers, and multipoint distribution service (MDS) providers, are beginning to convert their systems to multimedia and high-speed data applications, and new terrestrial wireless services are being developed to provide at least some broadband access.<sup>48</sup> In addition, broadband access through satellites is in the developmental stage.<sup>49</sup> All of these methods have distinct technical and economic limitations, and none is sufficiently established to have a major effect on the residential access market today. Still, at least some of them unquestionably will affect the market in the future, perhaps as early as the next three to five years.<sup>50</sup>

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price charged for that use. See *Merger Guidelines*, *supra* note 31, § 1.12. But this possibility does not affect the general analysis in this paper.

43. Speta, *supra* note 7, at 54.

44. See Second Report, *supra* note 5, at 85-86.

45. Romero, *supra* note 29.

46. *Id.* A study conducted in early 2001 found that cable's lead had shrunk during the preceding nine months: in April 2000, cable accounted for 65% of the broadband market and DSL accounted for 24%; in January 2001, cable accounted for 51% and DSL accounted for 39%. Michael Robuck, *Despite Problems, DSL Gains Ground on Cable*, ISP WORLD NEWS, Mar. 12, 2001, at [http://www.ispworld.com/bs/BS\\_031201b.htm](http://www.ispworld.com/bs/BS_031201b.htm).

47. See Second Report, *supra* note 5, at 23.

48. See *id.* at 23-28; Speta, *supra* note 7, at 57-58.

49. See Second Report, *supra* note 5, at 28-29; Speta, *supra* note 7, at 60.

50. For example, in August 2000, the FCC concluded, "[a]t this point, many of these [fixed wireless] services are in an earlier stage of deployment than the traditional 'wired'

## II. The Regulatory Framework of Broadband Internet Access

Pursuant to federal statutes as interpreted by the FCC, local phone companies, or local exchange carriers (LECs), have various obligations to unbundle elements of their networks and sell access to them at cost-based rates, to permit other telecommunications carriers to interconnect with their facilities, and to sell DSL service to information service providers, including ISPs, for resale to their customers.<sup>51</sup> Moreover, incumbent companies (ILECs) are required to establish wholesale rates for the resale of their telecommunications services. And the largest ILECs—the Bell operating companies and GTE—are required to provide information service providers interconnection to transport elements of their systems. In general, local phone companies are treated as common carriers, and they have attendant duties to provide all ISPs access to their DSL service at regulated prices.

By contrast, the law does not treat cable companies as common carriers with respect to their “cable services.”<sup>52</sup> And though the FCC is reconsidering its policy, it currently interprets “cable services” to include Internet access and similar information services.<sup>53</sup> As a result, cable operators generally have no present duty to interconnect these services with other information service providers or to permit other providers, such as ISPs, to access their systems. Moreover, cable rates are for the most part unregulated.<sup>54</sup>

Although cable operators have no general obligation under the Communications Act to permit ISPs to interconnect with their systems, both the FCC and the FTC have authority to impose

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services, cable-modem and DSL technology, but significant growth is anticipated over the next three to five years, potentially leading to service to millions of households.” Second Report, *supra* note 5, at 24. The FCC also observed, “there is a real prospect, in the next several years, of significant deployment of advanced telecommunications capability by wireless technologies, both terrestrial and satellite-based.” *Id.* at 87-88.

51. See 47 U.S.C. § 251 (Supp. III 1997). See generally Speta, *supra* note 7, at 62-69; Thomas M. Jorde et al., *Innovation, Investment, and Unbundling*, 17 YALE J. ON REG. 1, 2-4 (2000).

52. 47 U.S.C. § 522(7)(B) (Supp. III 1997).

53. See Access Inquiry, *supra* note 9. See also Speta, *supra* note 7, at 71-75; AT&T Corp. v. City of Portland, 216 F.3d 871, 879 (9th Cir. 2000) (noting that, “[t]hus far, the FCC has not subjected cable broadband to any regulation, including common carrier telecommunications regulation,” and concluding that the regulatory position is within the agency’s discretion).

54. See 47 U.S.C. § 543 (Supp. III 1997). Broadband transmission services provided by fixed wireless systems and satellites are subject to little or no regulation. See Speta, *supra* note 7, at 70, 75.

conditions on the approval of mergers.<sup>55</sup> The FTC invoked its authority under the antitrust laws to require Time Warner, the nation's second largest cable company,<sup>56</sup> to accept open access obligations as a condition of approving its merger with AOL.<sup>57</sup> The FCC imposed additional conditions under its authority to review the transfer of licenses and authorizations associated with mergers involving cable companies and ISPs.<sup>58</sup>

The treatment of the merger illustrates the convergence of regulatory and antitrust standards in the evaluation of transactions in the new economy. Prior to the merger, Time Warner offered subscribers cable broadband access exclusively through Road Runner, its partially owned ISP. AOL is the nation's largest narrowband ISP,<sup>59</sup> but it also offers broadband Internet service over telephone company DSLs. To that extent, Time Warner, through Road Runner, and AOL were competitors in a broadband Internet service market.<sup>60</sup> In some local areas, both Road Runner and AOL broadband services were available. In the broadband market, AOL did not have nearly the dominant position it still has in the narrowband market. But the FTC alleged "AOL is positioned and likely to become the leading provider of broadband Internet access as well."<sup>61</sup>

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55. The approval of the FCC is required for the transfer of licenses and authorizations incident to the merger of firms subject to its jurisdiction. See 47 U.S.C.A. §§ 214(a), 310(d) (West 2000). The FTC has the power to enforce merger laws through Section 5 of the FTC Act, 15 U.S.C. § 45 (1994), and it has direct authority to enforce the primary merger provision, Section 7 of the Clayton Act, 15 U.S.C. § 18 (1994). See 15 U.S.C. § 219(a) (1994).

56. Time Warner serves slightly less than 20% of all cable households. MONTHLY INVESTMENT REV., Sept. 2000, at 8-9.

57. See Decision and Order, *supra* note 11.

58. FCC AOL/Time Warner Order, *supra* note 12.

59. According to one estimate, AOL and CompuServe, which it owns, have 40% of the consumer-subscribers to ISPs; the next largest is Microsoft's MSN, with 4.1%. MONTHLY INVESTMENT REV., Sept. 2000, at 9. The statistics, however, do not distinguish between broadband and narrowband subscribers.

60. The FTC also alleged that the merger would lessen competition in the broadband Internet *transmission*, or transport, services market, even though AOL does not own the DSL transmission facilities over which it provides Internet services. FTC Complaint, *supra* note 17, ¶¶ 27, 31. The FTC view seems to be that AOL is in effect a sales agent for DSL transmission service providers and will have little incentive after the merger to promote DSL service. See Analysis of Proposed Consent Order to Aid Public Comment § III, at <http://www.ftc.gov/os/2000/12/aolanalysis.pdf> (2001) ("AOL's merger with Time Warner will reduce its incentives to promote and market broadband access through DSL in Time Warner cable areas, adversely affecting DSL rollout in those areas and nationally . . .").

61. FTC Complaint, *supra* note 17, ¶ 8.

Prior to but in anticipation of the merger, Time Warner had negotiated a contract with Earthlink, an independent ISP, under which that firm would offer broadband Internet service over Time Warner's cable system in various regions. In reaching a consent agreement resolving its review, the FTC approved the contract and insisted that AOL Time Warner enter into comparable cable system access agreements with two additional non-affiliated ISPs in those regions as a condition of providing its own broadband Internet service;<sup>62</sup> in other operating areas, Time Warner is required to enter into access agreements with three non-affiliated ISPs.<sup>63</sup> All of these contracts must contain a "most favored nation clause:" if an ISP affiliated with the new firm, including AOL and Road Runner, enters into a contract with another major cable system, the non-affiliated ISPs providing service on the AOL Time Warner system are entitled to the terms and conditions contained in it.<sup>64</sup> AOL Time Warner is also required to make available to the non-affiliated ISPs with which it has agreements any advantageous services provided to its affiliated ISPs.<sup>65</sup> Further, the agency demanded a general open access commitment. AOL Time Warner is required to "negotiate and enter into arms' length, commercial agreements with *any* Non-affiliated ISP (in addition to [the ISPs described above]) that seeks to provide Cable Broadband ISP Service," except that the firm can refuse to enter into such a contract based on cable broadband technical limitations or business considerations other than an adverse impact on its own ISP service; it can impose rates, terms, and conditions based on the same considerations, but the determinations must be made "without discrimination on the basis of affiliation."<sup>66</sup>

Finally, the FTC imposed conditions designed to prevent the merged firm from raising prices to subscribers of AOL's DSL broadband services in markets where Time Warner cable broadband services are available: if AOL Time Warner offers broadband services through the DSL facilities of any regional Bell operating company where its cable system is unavailable, it must offer comparable prices and terms to its DSL Internet services subscribers in areas where its cable broadband services are available, though it may make allowances for differences in cost.<sup>67</sup> It must also market

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62. Decision and Order, *supra* note 11, § II.A.

63. *Id.* § II.B.

64. *Id.* § II.C.1.

65. *Id.* § II.C.2, 3.

66. *Id.* § II.E. (emphasis added).

67. *Id.* § IV.A.

and promote DSL services to subscribers where cable broadband services are available to the same extent that it markets and promotes its DSL services where its cable service is unavailable.<sup>68</sup>

The FCC had declined to condition its approval of two earlier mergers on open access obligations,<sup>69</sup> but it imposed such requirements on the AOL Time Warner merger.<sup>70</sup> The FCC endorsed the conditions contained in the FTC consent order, but it concluded that they “may not entirely mitigate AOL Time Warner’s ability to discriminate against unaffiliated ISPs on its cable network through indirect means.”<sup>71</sup> Accordingly, the FCC imposed a set of additional conditions regarding a subscriber’s freedom to choose service from an unaffiliated ISP, the ability of unaffiliated ISPs to use their own first screens, the ability of these ISPs to bill subscribers directly, and the right of these ISPs to the same technical performance provided to affiliated ISPs.<sup>72</sup>

### III. Cable Bundling and Consumer Welfare

The practice of bundling cable broadband transmission and Internet services poses precisely the kinds of policy issues that are at the heart of the new economy. Industries in the new economy share a set of distinctive features. In particular, they are characterized by modest capital requirements relative to the available supply, strong economies of scale in production and consumption, or network effects, and high rates of innovation. As a result, markets are often dominated by a single firm at any given time, and entry and exit occur frequently. In this Part we set out the appropriate standard for evaluation of the cable bundling issue, then analyze the costs and benefits of the practice.

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68. *Id.* § IV.B.

69. The FCC declined to impose an open access condition in approving the AT&T/TCI merger in 1999, AT&T/TCI Order, 14 F.C.C.R. 3160, 3207 ¶ 96, and it later refused to impose the condition in approving the AT&T MediaOne merger, AT&T/MediaOne Order 15 F.C.C.R. 9816, 9866-71 ¶¶ 116-23, though it is considering a petition for reconsideration in the latter case. *See In re Applications for Consent to the Transfer of Control of Licenses and Section Authorizations from MediaOne Group, Inc., Transferor, to AT&T Corp., Transferee*, FCC CS No. 99-251 (filed July 5, 2000). Part of the basis for its AT&T/MediaOne decision was that the merged firm had entered into a consent agreement with the Justice Department to divest its ownership in Road Runner by December 31, 2001.

70. *See* FCC AOL/Time Warner Order, *supra* note 12, ¶¶ 126-27. The FCC found that the circumstances presented in *AOL/Time Warner* “are dramatically different from those permitted in our former cases, and compel a different result.” *Id.* ¶ 54.

71. *Id.* ¶¶ 85-86.

72. *See id.* ¶ 126.



### A. The Analytical Standard

We believe that public policy on cable bundling should maximize the welfare of consumers. At a minimum, justifiable intervention in a market under our standard requires that the relevant economic actors have the ability and incentive to injure consumers, particularly through anticompetitive conduct. Then, intervention is justified only if its full expected costs, including any immediate efficiency losses, any future losses brought about by depressed incentives to increase services or to innovate, and the direct costs of effectuating the regulation, are outweighed by the expected gains to consumers in whatever form. Because the market is more nimble than government in the allocation of resources and (usually) in the destruction of monopolies, the burden of proving that the conditions for intervention are satisfied is on the proponents of intervention.

In accordance with standard economic theory, our analysis assumes that market participants act rationally to maximize their profits, or more generally, their utility.<sup>73</sup> But some commentators assert that cable companies might not act rationally.<sup>74</sup> Though the behavioral law and economics literature has offered interesting evidence of apparently systematic, irrational conduct in some circumstances, it is not nearly developed enough to justify abandoning the rationality assumption as the basis of competition policy.<sup>75</sup> At this stage in its development, it can at best offer unique policy prescriptions in isolated circumstances, none of which are clearly present in the case of cable bundling.<sup>76</sup>

We accord primary weight to immediate effects, good or bad, on consumers. To be sure, any sensible regulatory environment has to be sensitive to long-term effects, particularly those flowing from innovation. But because little is known about the wellsprings of inventive activity, government intervention can rarely be justified solely on the ground that it protects the processes of innovation. At

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73. See generally RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 3-4, 17-18, 460-63 (5th ed. 1998).

74. See Lemley & Lessig, *supra* note 8, at 33 (“[I]t is not necessarily the case that cable companies will do the rational thing.”).

75. See, e.g., *BEHAVIORAL LAW AND ECONOMICS* (Cass R. Sunstein ed., 2000).

76. Lemley and Lessig assert that cable companies might act irrationally in discounting the value of new ideas that diverge from their entrenched business practices. See Lemley & Lessig, *supra* note 8, at 34. Of course, new business directions imply risk, and there is nothing irrational about placing a higher value on less risky conduct. Irrationality requires that the discount rate for the risky choice be higher than objectively warranted. There is no theory or evidence to suggest that cable companies will irrationally discount the value of a new business direction.

one time, scholars argued that practices causing an immediate consumer loss should be left alone in order to stimulate innovation.<sup>77</sup> More recently, commentators insist that practices causing no immediate consumer harm should be prohibited in order to promote innovation. Competition policy has often heard arguments that enforcement should keep the channels of trade open. In the same vein, commentators have recently suggested that “architectural” principles can provide background assumptions that will allow regulators to promote innovation effectively by intervening in network markets. As we show below, however, these arguments should not deflect the analysis from its principal focus on the relevant practice’s immediate effects on consumers.

## B. Costs of Bundling

The costs associated with bundling cable modem services and Internet access might be immediate—higher prices from restricting output or excluding rivals. Or they might be more distant—a long-term reduction in innovation. We consider the possibilities in turn.

### (1) *Immediate Injury*

Competition policy is on its most secure footing when a robust theory predicts that a given practice will have an immediate anticompetitive effect on consumers and yield no more than a trivial gain in productive efficiency. This is the basis for the *per se* rule in antitrust law, which condemns, for instance, a naked price fixing agreement without proof of its effects in the particular case.<sup>78</sup> Prices increase immediately, quantities decline, and any cost savings are inconsequential. And though the market is likely to undermine the agreement eventually, the costs of antitrust enforcement are sufficiently low in relation to the harm done in the meantime that intervention is justified.<sup>79</sup>

But cable bundling is not naked price fixing. It has no predictable, immediate anticompetitive effects on consumers. The intuitive argument that the practice does immediately raise prices is that the cable company is a monopolist that, through bundling, leverages its power in the transmission market into the market for

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77. See, e.g., DOMINICK T. ARMENTANO, *ANTITRUST POLICY: THE CASE FOR REPEAL* 17-23 (1986).

78. See, e.g., *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, 218 (1940).

79. Frank Easterbrook has observed that the “central purpose of antitrust is to speed up the arrival of the long run.” Frank H. Easterbrook, *The Limits of Antitrust*, 63 *TEX. L. REV.* 1, 2 (1984).

Internet services. Instead of paying a monopoly price for transmission alone, the consumer will also have to pay a monopoly price for Internet services.

The intuition is mistaken. First, the argument by its own terms is limited to situations where the firm has monopoly power in a relevant market.<sup>80</sup> This condition does not hold in markets in which DSL service provides effective competition.<sup>81</sup> More importantly, when products are complements used together in fixed proportions to satisfy some ultimate demand, a monopolist of one of the products generally cannot increase its profits by acquiring a monopoly over the other.<sup>82</sup> There is only one monopoly profit to be earned, and a monopolist of either can extract its full measure. In fact, if a monopoly price is set independently for each product, the profits will be less than if a monopoly price is set for only one of them.<sup>83</sup> The provision of cable modem and Internet access services surely meets these criteria, because neither service can be used in variable proportions with the other—both are equally essential for broadband cable Internet access. To this extent, if a cable company has a monopoly of broadband transmission services in an area, it will have no incentive to bundle Internet service with it as a way of increasing

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80. As noted above, broadband transmission is appropriately considered a market separate from narrowband transmission, despite a degree of substitutability between the two. But cable broadband transmission is not sufficiently different from DSL broadband transmission to treat them as separate markets for most purposes. Indeed, the FTC's order in *AOL/Time Warner* depended on the premise that DSL and cable broadband are in the same product market. See FTC Complaint, *supra* note 17, ¶ 25 (alleging that a merger between a provider of cable broadband service and a provider of DSL broadband service would eliminate "existing" competition). Though a cable company is almost always the only supplier of cable service in a given area, in areas where DSL service is available, the cable company does not have a monopoly in broadband transmission service. In areas where DSL service is unavailable, one might argue that the cable operator still has no monopoly power because the phone company could upgrade its lines. But that kind of supply response may well take too long to deter the cable company from exercising monopoly power in the short run. Further, the limitations of the technology may prevent phone companies from installing DSL service from existing switching stations to some phone subscribers, and the cable company may have some market power as a result.

81. Of course, prices charged by duopolists may be higher than prices in perfectly competitive markets. One could say that a duopolist has some market power over prices, even if it is not technically monopoly power. But in this market, the prices charged by one of the duopolists, the local phone company, are more or less rigorously regulated, which affects the predicted result. In any event, the question would be whether the cable duopolist has the incentive and power to increase its supra-competitive profits through bundling. For the reasons set out in the following text, apparently it does not.

82. See, e.g., RICHARD A. POSNER, *ANTITRUST LAW* 173 (1976).

83. See, e.g., ROGER D. BLAIR & DAVID L. KASERMAN, *LAW AND ECONOMICS OF VERTICAL INTEGRATION AND CONTROL* 34 (1983).

prices to consumers. Indeed, the cable company's only incentive to integrate forward would be to provide Internet service more efficiently, thus enhancing demand for cable modem service. To the extent open access enhanced consumer demand, it would be the most attractive strategy.

The general analysis, however, has some well-recognized qualifications. First, if a firm's prices in one market are regulated, so that it is prevented from charging a monopoly price, it may be able to tie its product to one that has unregulated prices, then charge monopoly prices for the tied product.<sup>84</sup> The fundamental reason for the breakup of AT&T was that the Bell companies were able to evade rate regulation through vertical integration,<sup>85</sup> a functional alternative to tying.<sup>86</sup> This use of tying to evade regulation is not necessarily a legitimate target of antitrust law,<sup>87</sup> but it is surely an appropriate concern of regulatory policy. The argument, however, depends upon the existence of rate regulation in the tying product market. Cable rates for transmission services are not generally regulated. Of course, cable service is regulated in other dimensions. For instance, cable operators are required to carry certain local broadcast stations.<sup>88</sup> Professors Lemley and Lessig contend that cable companies may therefore have an incentive to bundle.<sup>89</sup> But there are simply no economic models demonstrating that a monopolist free to charge monopoly prices can increase profits by evading the kind of non-price regulations to which cable companies are subject. So long as the price of the cable modem service is unregulated, cable companies can fully exploit their monopoly power in the price of that service.

Second, if production of the tied product—here, broadband Internet services—is subject to scale economies, and if some consumers desire the tied product without the tying product, the

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84. See, e.g., ROBERT H. BORK, *THE ANTITRUST PARADOX* 376 (1978).

85. See *United States v. AT&T*, 552 F. Supp. 131, 160-68 (D.D.C. 1982), *aff'd sub nom. Maryland v. United States*, 460 U.S. 1001 (1983); William F. Baxter, *Conditions Creating Antitrust Concern with Vertical Integration by Regulated Industries—"For Whom the Bell Doctrine Tolls,"* 52 ANTITRUST L.J. 243, 244 (1983).

86. See BLAIR & KASERMAN, *supra* note 83, at 52-58.

87. See *NYNEX Corp. v. Discon, Inc.*, 525 U.S. 128, 136-37 (1998) (distinguishing for purposes of antitrust law between consumer injury that flows from a lessening of competition and consumer injury that flows from regulatory evasion).

88. See 47 U.S.C. §§ 534, 535 (1994). See generally John E. Lopatka & Michael G. Vita, *The Must-Carry Decisions: Bad Law, Bad Economics*, 6 SUP. CT. ECON. REV. 61, 73-75 (1998).

89. See Lemley & Lessig, *supra* note 8, at 54 n.113.

seller may be able to drive competing sellers of the tied product from the market by depriving them of the level of demand they need to survive through imposition of the tying arrangement. The seller monopolizes the tied product, thereby deriving monopoly profits from buyers that otherwise would not have purchased anything from it.<sup>90</sup> But there is no evidence to suggest that demand for broadband Internet service without cable transmission service—specifically, ISP service in conjunction with DSL transmission service—is insufficient to support independent ISPs. Indeed, given the rapidly burgeoning consumer demand for broadband access, it would be fanciful to believe that a cable operator could foreclose unaffiliated ISPs from the market through bundling. This is particularly true because a cable operator could at best tie up subscribers in its service areas. An unaffiliated ISP could serve consumers across cable service areas, allowing it to achieve any economies of scale that are not local.

Tying arrangements have also been explained as methods of price discrimination, such as by measuring demand through metering use.<sup>91</sup> In such a case, the practice increases the seller's profits relative to what they would be if it sold the products separately at uniform prices. We cannot see how cable bundling could be an effective form of price discrimination, given that Internet services are ordinarily used in fixed proportions with broadband transmission service. But scholars have offered clever and unexpected price discrimination explanations in other instances of tying. In particular, Benjamin Klein has suggested price discrimination theories to explain Microsoft's bundling of Windows and its IE browser<sup>92</sup> and Kodak's policy of refusing to sell copier repair parts to independent service organizations.<sup>93</sup> Perhaps there is a price discrimination explanation for cable bundling. Even so, the welfare implications of price discrimination are ambiguous. Some consumers are likely to gain,

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90. See Michael D. Whinston, *Tying, Foreclosure, and Exclusion*, 80 AM. ECON. REV. 837 (1990). For an interesting application of this "foreclosure" theory of tying to the *Microsoft* case, see STAN J. LIEBOWITZ & STEPHEN E. MARGOLIS, *WINNERS, LOSERS & MICROSOFT* 249-52 (1999) (concluding that the theory probably does not apply).

91. Ward S. Bowman, Jr., *Tying Arrangements and the Leverage Problem*, 67 YALE L.J. 19, 23-24 (1957); Aaron Director & Edward H. Levi, *Law and the Future: Trade Regulation*, 51 NW. U. L. REV. 281 (1956); POSNER, *supra* note 82, at 173-74; BORK, *supra* note 84, at 376-78.

92. See Benjamin Klein, *Microsoft's Use of Zero Price Bundling to Fight the "Browser Wars,"* in *COMPETITION, INNOVATION AND THE MICROSOFT MONOPOLY: ANTITRUST IN THE DIGITAL MARKETPLACE* (Jeffrey A. Eisenach & Thomas M. Lenard eds., 1999).

93. See Benjamin Klein, *Market Power in Antitrust: Economic Analysis after Kodak*, 3 SUP. CT. ECON. REV. 43, 65-71 (1993).

others to lose. Cable bundling as price discrimination would not necessarily imply net consumer injury.

If cable operators are not likely to be able to raise prices by bundling, perhaps they can be expected to inflict an immediate consumer injury by delivering less desirable Internet services. But generally even a monopolist has an incentive to offer what consumers want, because as George Stigler explained, "a monopolist who does not cater to the diversities of his buyers' desires will suffer a substantial decline in profits."<sup>94</sup> In limited circumstances, a monopolist can profit by making both quantity and quality choices that diverge from the competitive norms.<sup>95</sup> Even then, the firm might produce more or less quality than would exist in a competitive market. But in any event there is little reason to expect cable bundling to fall within the special case. Cable companies entering the broadband Internet access market can be expected to offer the Internet services consumers want.<sup>96</sup> The real objection is that these services over time will become less valuable than they would be if bundling were proscribed, because bundling will slow the pace and distort the path of innovation. That claim we address in the next section.

The objections raised by the FTC and the FCC in *AOL/Time Warner* are seemingly based on a prediction of immediate consumer harm. The prospect of injury has more to do with horizontal aspects of the merger than with the general practice of bundling. But the remedy devised for the alleged anticompetitive harm directly attacks bundling, and the case in general illustrates some of the pitfalls government intervention faces in this area. Prior to the merger, Time Warner offered consumers high-speed Internet services exclusively through its proprietary ISP, Road Runner. In some of its service areas, AOL offered competing broadband service over DSLs. To this extent, the merger was horizontal in local broadband Internet service markets, and concentration was undoubtedly high. But the open

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94. George J. Stigler, *A Theory of Oligopoly*, 72 J. POL. ECON. 44, 61 (1964).

95. See, e.g., A. Michael Spence, *Monopoly, Quality, and Regulation*, 6 BELL J. ECON. 417 (1975).

96. Even Lemley and Lessig seem to concede that the cable company may choose "the most efficient" ISP. Lemley & Lessig, *supra* note 8, at 45 n.81. But they assert that consumers might nevertheless be worse off than they would be under competitive conditions. *Id.* The theoretical basis of the assertion is obscure. The cable operator will select a single ISP, rather than offer interconnection to all ISPs at a monopoly price, only if there are efficiencies of short-term or long-term integration. If the cable firm chooses a single ISP under these conditions, the implication is that consumers are indeed best off, at least for the time being.

access remedy imposed went far beyond any lessening of competition brought about by the merger. AOL was a Road Runner competitor only because it—like other ISPs—could use phone company DSLs. As common carriers, phone companies could not enter into exclusive contracts with ISPs. So if AOL stopped competing with Road Runner after the merger and prices increased as a result, the 6,000 other ISPs in the country were free to initiate service over the DSLs in the relevant areas. Converting a local loop to DSL service may be too lengthy a process to defeat an anticompetitive price increase, but there is little reason to believe that initiating Internet service over *existing* DSLs would be.

Further, in many areas served by Time Warner, AOL offered no broadband service. In these Internet services markets, AOL was only a potential competitor. If Time Warner was able to charge non-competitive, relatively high prices for broadband service, it was because upgrading the local loops for DSL capacity represented an entry barrier. The merger had no effect on that condition. In these markets, AOL was only one of many potential competitors, and its elimination had no obvious anticompetitive consequences.

In markets both where AOL was an actual competitor and where it was a potential competitor, therefore, the open access mandates effectively give consumers more broadband ISP options than they would have had absent the merger. In the former, AOL Time Warner will have to offer subscribers the services of at least three unaffiliated ISPs, even though the merger at worst eliminated only one competitor; in the latter, subscribers will be able to choose from among at least four ISPs, whereas if an entry barrier existed, only one ISP, Road Runner, had been available. Relative to the alleged threat to broadband Internet service competition, then, the remedy was excessive.

The FTC also alleged that the merger would lessen competition in the broadband Internet *transmission* market, even though AOL was neither an actual nor potential competitor in that market.<sup>97</sup> Its theory apparently was that AOL was a kind of marketing agent for DSL suppliers. After the merger, AOL would stop promoting DSL service because of its interest in cable transmission.<sup>98</sup>

The theory of competitive harm in the broadband transmission market as well as the theory supporting excessive relief for anticompetitive harm in the Internet services market might make

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97. See FTC Complaint, *supra* note 17, at 14.

98. See *id.*

some sense if AOL was somehow unique—if no other ISP could take the competitive place of AOL, either as a supplier of broadband Internet services or a sales agent for DSL providers. But the assumption is unfounded. True, AOL has a commanding lead in narrowband ISP subscribership.<sup>99</sup> But commercial success does not imply that the firm is some kind of an essential facility. Besides, AOL does not have a large share of broadband subscribers. Cable companies did not view AOL as essential when launching broadband services, and phone companies apparently do not consider AOL to be an essential agent in the sales of DSL service. And if AOL is unique, if it is destined to take over the entire broadband Internet services market, perhaps because the market is subject to network effects, then the merger is neither here nor there. It will dominate with or without the merger, and whether or not AOL Time Warner is compelled to sell access to independent ISPs.

One theory the FTC did not articulate is that, because of economies of scale in the Internet services market, the integration of AOL and Time Warner will leave insufficient demand for independent ISPs to efficiently offer broadband services through other non-Time Warner transmission pipes. This theory is analogous to the anticompetitive explanation for tying noted above that depends on economies of scale in the tied product market.<sup>100</sup> Though the theory is coherent, it does not fit the case. Time Warner has only about 20% of the national market for cable subscribers, and even if broadband Internet service were offered to these subscribers solely through AOL, the amount of the market foreclosed to rival ISPs would seem to be far too small to prevent them from reaching an efficient scale.

(2) *Future Injury: Harm to Innovation*

The strongest objections to cable bundling pertain not to immediate anticompetitive effects, but to the prospect of future consumer harm. Critics claim that the practice results in less and distorted innovation, which otherwise would generate better and cheaper products and services. Fewer firms pursue innovation, and the firms that do, including cable companies themselves, carry on the

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99. *See id.* at 8.

100. *See supra* note 90 and accompanying text. *See also* D. Douglas Bernheim & Michael D. Whinston, *Exclusive Dealing*, 106 J. POL. ECON. 64 (1998) (making a similar argument with respect to exclusive dealing, a functional equivalent to vertical integration).



wrong kind. In fact, the alleged threat to innovation comes from several interrelated sources.

The basic argument seems to be that, because the cable operator has control over the transmission pipe, it will have the ability to modify that pipe in ways that benefit its integrated method of providing Internet service. The principle of “end-to-end” (e2e) design, which has always governed the Internet and is responsible for its phenomenal growth, will thus be compromised.<sup>101</sup> According to this principle, intelligence should be placed at the ends of a network, and the communications protocols, or transmission pipes, should be as general, or “dumb,” as possible.<sup>102</sup> Cable operators will tailor their transmission systems in ways that foreclose rival ISPs. The changes may be made innocently, in the sense that they improve the performance of the cable company’s captive ISP, or they may be made strategically, to thwart competitors and thereby protect the firm’s business. The very risk of strategic actions that render incompatible innovations worthless will deter rival ISPs from innovating. Bundling therefore will reduce the number of ISPs as well as the number of ISPs attempting to innovate, and as a result the amount of innovations in the market will decline. Moreover, the innovations that do occur will not be optimal.

One assumption embedded in the argument is that the total volume of innovation varies in direct proportion to the number of entities engaged in the activity. The more concentrated the market of innovators, the less innovation. Cable bundling likely implies fewer ISPs, though this depends on the alternative to bundling and scale economies in the provision of broadband Internet services. If cable operators were permitted to offer their own Internet service while being required to sell transmission services to rival ISPs, and if this vertical integration produced unique efficiencies that rendered independent ISPs commercially unviable, the market would be no less concentrated without bundling, except during the short term. Further, not much is known yet about economies of scale in the broadband service market, and it could be that precluding bundling altogether would result in no greater number of broadband ISPs. But assuming bundling conduces toward concentration, there is no consensus among economists on the optimal market structure for innovation. Fewer firms might in fact produce more innovation, perhaps because they can engage in research and development more

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101. See, e.g., Lemley & Lessig, *supra* note 8, at 3, 6-7.

102. See *id.*; *AT&T Corp. v. City of Portland*, 216 F.3d 871, 879 (9th Cir. 2000).

efficiently and because the market rewards for successful inventions are more secure. Intellectual property laws are not perfect, and the prospect that competitors may be able to free ride can serve as a deterrent to investing in innovation. Many years ago, Joseph Schumpeter argued that monopoly market positions are most likely to foster innovation.<sup>103</sup> To be sure, that view has been challenged.<sup>104</sup> But no confident prediction can be made that an unconcentrated market will necessarily produce more innovation than a relatively concentrated one.

The more intriguing aspect of the argument is that bundling will deter socially desirable kinds of innovation. Timothy Bresnahan, for instance, contends that “vertical competition” is particularly important in computer-related industries where each horizontal level is highly concentrated.<sup>105</sup> Firms at one level may innovate in ways that allow them to compete with firms at an adjacent level, thereby improving market performance at the adjacent level. But the claim has little application in this setting. It is based on the *Microsoft* case. The threat to Microsoft’s monopoly in personal computer operating systems arose from innovations by producers of complementary products. Netscape’s Navigator browser and Sun’s Java technology, for example, supposedly threatened to tear down the applications entry barrier protecting Microsoft’s position.<sup>106</sup> Applied to cable bundling,<sup>107</sup> the theory would have to be that ISPs are potential competitors of cable *transmission* service providers, for given the atomistic structure of the Internet content market, that is the only adjacent market concentrated at the local level. But no one has suggested how ISPs could possibly develop in ways that would supplant existing methods of broadband transmission. In other words, Microsoft’s browser rival was in fact a platform competitor, but a cable company’s ISP rival is not. It is all well and good to observe that innovation is unpredictable.<sup>108</sup> But this idea has limits.

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103. See JOSEPH A. SCHUMPETER, *CAPITALISM, SOCIALISM AND DEMOCRACY* 87-110 (3d ed. 1942).

104. See, e.g., Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources to Invention*, in *THE RATE AND DIRECTION OF INVENTIVE ACTIVITY* 609 (Nat’l Bureau of Econ. Research ed., 1962), reprinted in *COLLECTED PAPERS OF KENNETH J. ARROW: PRODUCTION AND CAPITAL* 104, 115 (1985).

105. Timothy F. Bresnahan, *New Modes of Competition: Implications for the Future Structure of the Computer Industry* (revised 1998), <http://www.pff.org/microsoft/bresnahan.html> (last visited Mar. 2001).

106. *United States v. Microsoft Corp.*, 65 F. Supp. 2d 1, 103 (D.D.C. 1999).

107. See Lemley & Lessig, *supra* note 8, at 22.

108. See, e.g., *id.*

Indeed, if ISPs could somehow develop into platform competitors, it is not appreciably less likely that ICPs could do the same, and cable bundling has no effect on that highly competitive level of the industry.

Perhaps, though, bundling might forestall improvements in the quality of Internet services available. This suggestion does not depend on changing the transmission pipes to the disadvantage of independent ISPs, but on the cable operator's decision to allow only its own ISP to use its system. A cable operator has an incentive to offer the most valuable Internet services available. The value of any market power in transmission services increases with the demand for complementary products, such as Internet services. But the claim here seems to be that desirable Internet services will never become available, because they would have resulted from the innovative activity of independent ISPs that will in fact not take place. Consumers won't know what they're missing.<sup>109</sup>

To some extent, this argument draws upon the claim already discussed that innovation is inversely related to market concentration. As suggested above, even a monopolist has an incentive to innovate. The court made precisely this finding of fact in *Microsoft*: "The fact that Microsoft invests heavily in research and development does not evidence a lack of monopoly power. Indeed, Microsoft has incentives to innovate aggressively despite its monopoly power."<sup>110</sup> Without doubt, a monopolist may innovate in ways that build upon its embedded business. This is a kind of path dependence, and it is ubiquitous in the economy.<sup>111</sup> But that is not necessarily socially undesirable. The path of innovation taken by the firm may best serve its own interests as well as those of consumers. The relevant question

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109. Analogously, the district court in *Microsoft* found that innovations in the browser market could improve consumer welfare. *Microsoft*, 65 F. Supp. 2d at 49. But the observation is self-evident, and the court offered no support for its further assertion that "competitively driven innovations" were most likely to be productive. *Id.* In any event, Microsoft did not quash the threat of rival browser innovations.

110. *Id.* at 17. The court went on to explain as follows:

First, if there are innovations that will make Intel-compatible PC systems attractive to more consumers, and those consumers less sensitive to the price of Windows, the innovations will translate into increased profits for Microsoft. Second, although Microsoft could significantly restrict its investment in innovation and still not face a viable alternative to Windows for several years, it can push the emergence of competition even farther into the future by continuing to innovate aggressively. While Microsoft may not be able to stave off all potential paradigm shifts through innovation, it can thwart some and delay others by *improving its own products to the greater satisfaction of consumers.*

*Id.* at 17-18 (emphasis added).

111. See generally LIEBOWITZ & MARGOLIS, *supra* note 90, at 52-56.

is whether the monopolist has incentives to innovate in ways that, at the time it is undertaken, predictably will sacrifice consumer welfare. And there is no basis for concluding that a cable operator has such incentives. Indeed, it would appear that any imaginable innovation that would make Internet services more valuable to consumers would enhance the value of cable modem service.

Some commentators point to the behavior of AT&T, which they claim resisted any innovation that would threaten its dominance in the telephone service market.<sup>112</sup> But AT&T is not an apt analogy. To begin with, the harm to innovation AT&T supposedly caused is not altogether clear. The relevant question is not simply what products and services were delayed as a result of its actions. Rather, the proper question compares two states of the world, one in which AT&T hampers the development of incompatible products but develops its own compatible products, and one in which it supports new incompatible products but pursues a different and potentially less aggressive program of innovation itself. On balance, AT&T's conduct may have injured consumers, but that conclusion is not self-evident. AT&T in fact developed a great many products, and one would have to ascertain the number and value of the products that would not have been developed in the relevant "but for" world in order to infer a net loss to innovation.

AT&T is distinguishable on two other grounds as well. First, AT&T was a monopolist in several vertically-related markets, including long distance service, local service, and terminal equipment, and a high proportion of its costs in all of these markets were sunk.<sup>113</sup> In important ways, it was not part of the new economy. Moreover, the scale of the enterprise was immense. It had more to protect from paradigm-shifting innovation than does a cable company, which is smaller and only faces the threat of incompatible innovations in the provision of Internet services, presumably a market with a much lower proportion of sunk costs. With less at stake, a cable operator can be expected to be less resistant to innovations that lead in a new direction. Second, AT&T had an incentive to avoid regulatory constraints on its profits, an incentive that a cable operator does not have. It may have skewed innovation to protect its ability to circumvent regulation. In all, AT&T may well have been *sui generis* in this area as in so many others.

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112. See, e.g., Lemley & Lessig, *supra* note 8, at 9-11.

113. *United States v. AT&T Corp.*, 552 F. Supp. 131, 161-63 (D.D.C. 1982).

The argument that bundling will distort innovation suffers from another flaw, which is illuminated by the comparison to AT&T. It seems to assume incorrectly that a cable ISP would have a monopoly in a market for *innovation* in Internet services, which is the relevant market. AT&T was the only supplier of telephone equipment and services in the United States, and innovation in the relevant product markets was likely to be brought about by participants in national markets, primarily AT&T itself. Similarly, Microsoft has a commanding share of the international market in operating systems, though it does not have nearly the freedom from competitive pressure that the old Bell system enjoyed. But a cable company only has a monopoly in the provision of cable television service in a local region, not the market for broadband Internet service innovations. Within its area, it may well compete for broadband Internet service customers with DSL ISPs, who have an incentive to innovate unimpaired by the cable operator.

Just as important, the cable operator is likely to feel competitive pressure from cable and DSL ISPs outside of its area, each pursuing its own course of innovation. The concepts of franchise and yardstick competition are well known in the regulation of public utilities,<sup>114</sup> and they are pertinent here. Subscribers to a cable company's broadband Internet services will not be satisfied for long if friends and relatives in other areas have better services. The cable industry, viewed nationally, is not excessively concentrated,<sup>115</sup> and there is little reason to expect every cable company to pursue the same kind of innovation.

Further, ICPs are surely potential competitors in Internet services markets, and hence innovation competitors. All large ISPs are already vertically integrated into the Internet content market. Indeed, it is difficult to imagine a service offered by an ISP that could not be obtained by combining simple broadband access with the service offering resident on an independent ICP's server. No cable ISP can afford to block its subscribers' access to ICP sites, because the value of its service is a function of the value to subscribers of Internet content. Innovations in broadband service offerings by ICPs are unimpaired by cable bundling. Finally, competition from existing

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114. See, e.g., *City of Anaheim v. FERC*, 941 F.2d 1234, 1243, 1251 (9th Cir. 1991); *Allegheny Elec. Coop., Inc. v. FERC*, 922 F.2d 73, 77 (2d Cir. 1990).

115. The Herfindahl-Hirschman Index (HHI) for the industry based on number of subscribers in 2000 was about 1200, which is toward the low end of the moderately concentrated range established in the merger guidelines. Merger Guidelines, *supra* note 31, § 1.51(b) (data based on *Broadcasting & Cable Industry Survey*, STANDARD & POOR'S MONTHLY INVESTMENT REV., July 27, 2000).

but incipient alternative broadband suppliers, such as those using terrestrial wireless systems and satellites, is likely to intensify. These firms may not serve as a check on immediate anticompetitive effects, and so they can properly be excluded from the relevant product market now. But cable bundling supposedly threatens to inflict consumer harm in the future, when innovations do not occur, and in the future—perhaps as soon as the next three to five years—these firms are likely to represent serious competitive constraints.<sup>116</sup>

Conceivably, a cable company might want to prevent innovation in Internet services not to thwart competition in broadband transmission or in Internet services, but in some third market in which it is dominant. For example, suppose video streaming over the Internet could become a substitute for one-way video services over cable. The cable company might want to suppress the technology. But this possibility is so remote that it offers little support for the regulation of bundling. First, cable already faces competition in the provision of one-way video services, and so its interest in thwarting another form of competition is not altogether clear. Second, cable has no control over DSL or other broadband transmission technologies, and so if video streaming could become a substitute for cable television, it could presumably be delivered through one or more of them. Third, especially in light of the competing means of broadband transmission, cable companies might well prefer to embrace the development of video streaming rather than resist it. In any event, if cable companies do view this emerging technology as a threat to be thwarted, their optimal strategy would seem to be to alter the transmission system so that it is incompatible; bundling is largely irrelevant. Finally, one would think that the service could be acquired through an ICP, so that any attempt to offer subscribers an exclusive ISP that did not offer video streaming as a way of preventing access to it would be futile.

It is worth noting one way in which cable bundling is a greater potential threat to innovation than the conduct principally at issue in *Microsoft*. Microsoft combined its IE browser with other functions of its operating system and licensed the combination with the contractual and ultimately technological condition that IE not be removed or hidden.<sup>117</sup> But OEMs and consumers were free to install Navigator, as well as any other browser, and Windows is perfectly

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116. See *supra* note 50 and accompanying text.

117. See *United States v. Microsoft Corp.*, 65 F. Supp. 2d 1, 40-43 (D.D.C. 1999).

compatible with rival browsers.<sup>118</sup> As a result, Netscape retained the ability to attract users by making an appreciably better browser than IE. That possibility, in turn, serves as a competitive spur to Microsoft, which has to innovate to stay ahead of Netscape and other rivals in the quality of its browser. By contrast, the combination of cable broadband transmission service and Internet service is a different kind of bundling. A subscriber is not permitted to use the services of an independent ISP along with the cable company's transmission service.<sup>119</sup> This is contractual exclusivity. To the extent that an ISP is barred from offering services to a particular cable operator's subscribers, it cannot win new customers among them no matter how good it makes its service. We explore the significance of this difference below.

In sum, the threat to consumers from impaired innovation brought about by cable bundling is modest. But even a modest threat ought to be avoided if the costs of eliminating it are less than the expected harm. These costs are a function of the expected value of the practice to be restrained and the direct costs of implementing the regulatory solution. We address these issues next.

### C. Benefits of Bundling

#### (1) Integrative and Other Efficiencies

Cable bundling in practice can be divided into two components: the integration in one firm of broadband transmission and Internet services, and the refusal to permit independent ISPs to use the cable company's transmission pipes. As we have already suggested, the efficiencies of the first component are obvious. Transaction costs can be reduced by replacing contractual supply arrangements with a bureaucratic organization. In this market, providing consumers with the ability to obtain both transmission and Internet services from a single supplier may offer a significant savings in *their* transaction costs. DSL broadband customers, for example, have complained

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118. See *id.* at 89 (noting that "Microsoft did not actually prevent users from obtaining and using Navigator").

119. There is no uniform terminology in this area, but one could use different terms to describe the distinctive practices involved. For instance, Klein has distinguished between three related concepts. Klein, *supra* note 92. "Tying" can be used to identify a contractual or technological exclusivity requirement. "Packaging" can refer to the practice of shipping two items together. "Bundling" then refers to the practice of preventing a user from removing some part of a package. Under this typology, Microsoft engaged in packaging and bundling, but not tying. Cable operators, however, engage in packaging and tying.

about dealing with multiple firms.<sup>120</sup> Sometimes, the benefits of ownership integration can be realized through exclusive long-term contracts.<sup>121</sup> But to the extent that integration poses a competitive risk, prohibiting one form of integration and not the other would accomplish little.

The efficiencies associated with the second, or exclusivity, component of bundling are much less clear, though real efficiencies of business practices that injure rivals may often be opaque.<sup>122</sup> No technological barrier prevents a cable company from permitting independent ISPs to use its transmission system. The consent agreement requiring AOL Time Warner to provide open access proves as much. Perhaps cable operators believe that exclusive control of Internet services will facilitate the process of tailoring the transmission pipes in ways that are optimal for the provision of particular services. The implication is that the transmission pipes are universal now, but they may not be in the future. Of course, this efficiency argument flies in the face of the e2e principle, because contrary to that principle, it assumes consumers can benefit when the middle layer of a network becomes less general. But proponents of the e2e principle do not and cannot contend that building intelligence into the transmission pipes is never the most efficient way to provide some ultimate service. Rather, their claim is that *on balance* any sacrifice in efficiency in providing that service is more than offset by facilitating the delivery of other, perhaps unanticipated services.<sup>123</sup> This judgment may or may not be correct. Any standard excludes. If VCR manufacturers design cassettes with a maximum recording capacity of two hours, the producers of three-hour movies will be disadvantaged. But the consumer benefits of a smaller cassette may outweigh the advantages of longer recording time.<sup>124</sup>

The benefits from optimizing the cable transmission system for particular Internet services cannot be used to justify bundling,

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120. See, e.g., Romero, *supra* note 29.

121. See, e.g., POSNER, *supra* note 82, at 196-97, 201-02.

122. See Frank H. Easterbrook, *On Identifying Exclusionary Conduct*, 61 NOTRE DAME L. REV. 972, 975 (1986) (asserting that entrepreneurs often do not know why a practice works, only that it works); Easterbrook, *supra* note 79, at 5-6 (observing that a business is unlikely to have a good explanation for its success).

123. For example, Lemley and Lessig state, “[l]ower-level network layers should provide a broad range of resources that are not particular to or optimized for any single application—even if a more efficient design for at least some applications is thereby sacrificed.” Lemley & Lessig, *supra* note 8, at 6.

124. For a fascinating economic discussion of the battle between the Beta and VHS video recording standards, see LIEBOWITZ & MARGOLIS, *supra* note 90, at 120-27.



however, unless they depend on exclusivity. And without exclusivity, indeed without integration, a cable operator could still have the incentive and would have the ability to alter its transmission system to the advantage of particular ISPs. But perhaps the cable company would confront opposition from disadvantaged ISPs, which it would prefer to avoid. The process of optimization might function more smoothly if independent ISPs are uninvolved. This explanation, however, is not especially compelling.

Another possibility is that cable bundling reduces the costs to consumers of identifying the responsible party when their service fails. As DSL customers have found, determining the culpable supplier when multiple parties provide different parts of the ultimate service can be vexatious.<sup>125</sup> The cable operator has an interest in avoiding the loss of goodwill it might suffer if consumers blame it for service failures caused by an independent ISP.<sup>126</sup> This possible efficiency does require exclusivity. But again the explanation is not overwhelming.

Perhaps the explanation has to do with price discrimination. As noted earlier, it is not obvious to us how cable bundling could be a method of price discrimination, but we cannot dismiss the possibility. If it is, its immediate allocative effects would be indeterminate, but it would increase the profits of the cable operator. These profits may be invested in the development of the service or the building out of the system, thereby benefiting consumers in the long run. This explanation reasonably assumes that the cable operator would earn less profit by charging a monopoly price for unbundled transmission service than by bundling. Whether the additional return leads to socially excessive investment is a separate question, one that cannot confidently be answered.

Once again, *Microsoft* offers a fruitful comparison. The integration of IE into the operating system produced efficiencies.<sup>127</sup> Non-browser related functions share files with browser functionality, and the operating system works better because it can call upon those files. The services used in Internet browsing can be called upon by

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125. See, e.g., Romero, *supra* note 29.

126. This is one of the standard explanations of tying. See, e.g., BORK, *supra* note 84, at 379-81.

127. See William H. Page & John E. Lopatka, *The Dubious Search for "Integration" in the Microsoft Trial*, 31 CONN. L. REV. 1251, 1255-58 (1999). Even the district court found that "many—if not most—consumers can be said to benefit from Microsoft's provision of Web browsing functionality with its Windows operating system at no additional charge." *United States v. Microsoft Corp.*, 65 F. Supp. 2d 1, 46 (D.D.C. 1999).

applications through application programming interfaces (APIs), thus eliminating the need to include those services in each application. The integration therefore creates an efficient and stable platform for independent software vendors (ISVs), and thereby increases the variety of applications available for consumers.<sup>128</sup> Consumers also enjoy the convenience of obtaining browser functionality automatically with the purchase of an operating system.

The specific practice challenged, however, was not the act of integration, but the refusal to allow IE to be deleted or hidden from consumers, and so it is the efficiency of that practice that is at issue.<sup>129</sup> Certainly removal of the files that constitute IE would destroy the efficiencies of integration; removal is the antithesis of integration. For example, because files are shared, the operating system would not work if all files used for web browsing were deleted, and Windows would no longer represent a dependable and uniform platform for ISVs.<sup>130</sup> Merely hiding IE from end users represents less of a threat to these efficiencies than does removal of the files, but the threat is nevertheless real.<sup>131</sup> The necessary modifications to Windows, which would not be fully implemented by Microsoft, might have posed some risk to the functional integrity of the operating system. More importantly, Microsoft's primary interest was in preventing *OEMs*

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128. For example, Stan Liebowitz estimated that the porting costs for software developers associated with a breakup of Windows into three competing operating systems would be at least \$30 billion dollars over a three-year period, and he did not attempt to quantify other costs. Stan J. Liebowitz, *Breaking Windows: Estimating the Cost of Breaking up Microsoft Windows*, 32 UWLAW L. REV. (forthcoming 2001).

129. *Microsoft*, 65 F. Supp. 2d at 46 ("No consumer benefit can be ascribed, however, to Microsoft's refusal . . . to provide a method for uninstalling Internet Explorer from Windows 98."). The court also found that Microsoft could have marketed two versions of Windows, one with IE and one without. *Id.* at 46-47. But that marketing strategy surely would have fragmented the Windows platform.

130. The district court suggested that the efficiencies of a uniform platform would be preserved because independent software producers could include in their programs whatever Microsoft removed from Windows. *Id.* at 48. But such a response is patently less efficient than having the services needed for a multiplicity of applications written once and resident on the operating system. See John E. Lopatka & William H. Page, *Devising a Microsoft Remedy that Serves Consumers*, GEO. MASON L. REV. (forthcoming 2001).

131. The district court in *Microsoft* drew a distinction between merely hiding IE on the one hand and preventing IE from being invoked by deleting only browser-specific code on the other. See *Microsoft*, 65 F. Supp.2d at 46. The latter option would not, by hypothesis, disable the operating system because no shared files would be deleted. But this is merely a semantic difference. An overwhelming proportion of the code necessary for browsing functionality would remain on the system, and deleting the rest of the code, even if that in fact is technologically feasible, in order to prevent browsing is tantamount to hiding the browser.

from hiding IE.<sup>132</sup> Consumers, who were always permitted to install Navigator and use it instead of IE,<sup>133</sup> would surely derive no benefit from having convenient access to IE disabled, when all of the functionality of IE remained on the operating system. Yet OEMs could profit by selling to another firm the exclusive right to have its browser displayed on the desktop. In reality, Microsoft was paying OEMs for the right, by charging relatively lower royalty rates, not to have IE excluded from the desktop, a transaction that presumptively benefited consumers.

(2) *Avoided Costs of Regulation*

An implicit benefit of permitting bundling of cable modem and Internet services is that it avoids the direct and indirect costs of regulation. These costs depend on the kind of regulation imposed, and two fundamental kinds of regulatory mandates are available: integration is forbidden, or integration is permitted but open access is required. Integrative efficiencies forgone are likely to be substantial under the first approach, and a regulation that permits integration but requires open access will unavoidably entail high administrative costs, particularly in the determination of an appropriate price of access, under the second. The price provisions of the *AOL/Time Warner* consent order illustrate some of these potential costs.

The prices AOL Time Warner can charge independent ISPs for use of its cable system are not directly regulated under the consent order. Certainly the competitive benefits of compelled access disappear if the cable company can set rates for transmission services that are too high to allow independent ISPs to compete for subscribers with AOL and Road Runner. The FTC addresses this problem obliquely. First, it requires AOL Time Warner to grant unaffiliated ISPs prices as low as it negotiates with other major cable operators for AOL or Road Runner Internet service provided over their systems.<sup>134</sup> This assumes, of course, that other major cable systems do not insist on providing broadband Internet services solely through their own ISPs, contrary to the central premise of many who object to cable bundling. Put this aside, as well as the provision's invitation to act strategically in selecting other cable systems and negotiating contract terms with them. If ownership integration of

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132. Microsoft never prohibited OEMs from pre-installing Navigator. *Id.* at 54.

133. *Id.* at 89 ("Microsoft did not actually prevent users from obtaining and using Navigator . . .").

134. Decision and Order, *supra* note 11, § II.C.1.

broadband transmission and Internet services is uniquely efficient, then even a cost-based rate for transmission charged to an unaffiliated ISP will not permit that firm to offer subscribers a package price as low as the price the affiliated ISP can offer.<sup>135</sup> The unaffiliated ISPs will founder. If AOL becomes the exclusive ISP on other major cable systems, and it negotiates rates that reflect efficiencies of long-term contractual integration, then those rates are an improper standard for short-run transactions with multiple unaffiliated ISPs on the AOL Time Warner system that do not offer comparable efficiencies. At best, because the costs of transmission can vary across cable systems, the standard is flawed.

Second, the FTC approved the contract between Time Warner and Earthlink negotiated before the merger.<sup>136</sup> The rates specified in that contract became the reference point for contracts with other ISPs. But that contract may reflect Time Warner's desire to win the FTC's approval more than it does an arms-length commercial deal. Its utility as a competitive benchmark is questionable.

Rates for cable broadband transmission service are generally unregulated, though they are constrained by the price of DSL service where available. To the extent the cable operator has monopoly power, it will exploit it one way or another. There are three possibilities. First, if it bundles transmission and Internet services, it will charge subscribers a monopoly price for the package. Second, if it is allowed to offer a package of services to consumers but is also required to sell transmission services separately to independent ISPs, it can charge ISPs a monopoly price, and it has the ability to charge a price calculated to exclude them from the market. In effect, it could place independent ISPs in a "price squeeze." To prevent strategic pricing of this kind by requiring the cable operator to charge independent ISPs the same rates it charges itself is an artificial and potentially inefficient approach. The transfer price of an input between two units of a single enterprise may be an arbitrary number, and if it reflects efficiencies associated with the integration, it is also an improper standard for arms-length transactions. The cable operator could be forced to sell transmission services at incremental cost, but Congress apparently did not intend to hold cable companies to this standard, and such a standard would be inappropriate anyway.

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135. This assumes that the unaffiliated ISP is no more efficient in the provision of Internet services apart from transmission. If it is more efficient, AOL would hardly dominate the narrowband access market.

136. See Decision and Order, *supra* note 11, § II.A.1. The Earthlink contract was signed on November 18, 2000. *Id.* at § I.Y.

An investment in upgrading a cable system to provide broadband capability entails risk, and an operator will have little incentive to invest unless it can charge a price for broadband transmission service that compensates it for that risk.<sup>137</sup> In any event, unless cable companies are to be trusted to avoid strategic pricing, ongoing, direct supervision under some price standard will be required, a horrific prospect the FTC wisely tried to avoid.

The last alternative is to confine the cable company to the provision of transmission services and require it to sell to all comers at non-discriminatory rates. But this solution threatens to increase prices to consumers by prohibiting the realization of integrative efficiencies. As Coase famously pointed out, the decision to produce inputs internally identifies the boundaries of the economic entity known as a "firm."<sup>138</sup> The third alternative thus tampers with the fundamental mechanism by which efficiencies are achieved, the formation of firms.

Our analysis does imply that the relatively young age of the broadband industry is significant in assessing the propriety of government intervention. The analysis compares the competitive threat posed by cable bundling to the cost of intervention. One of the reasons the competitive threat is insubstantial is that various methods of broadband transmission are competing with each other, today principally cable, DSL, and fixed wireless, with satellite farther behind. There is no technological standard. If in the future cable comes to dominate, the calculus changes, and to that extent some kind of regulatory response might be appropriate. We will not speculate on whether intervention would then be justified and what precise form it might take. If cable broadband transmission did become the dominant standard, however, a prohibition on bundling would still seem to be an inappropriate response. A cable company could not anticompetitively leverage its transmission power into the Internet services market, and ISPs would not threaten to erode the cable firm's monopoly power in transmission through innovation. An effective response would have to regulate transmission prices. In any event, the possibility of a different industry structure sometime in the future does not warrant regulatory action today.

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137. See Jorde, *supra* note 51, at 14-17 (arguing that requiring phone companies to sell unbundled network elements at prices set on the basis of total element long-run incremental cost adversely affects incentives to invest in facilities).

138. See Ronald H. Coase, *The Nature of the Firm*, 4 *ECONOMICA* 386, 386 (1937).

#### D. Summary

Comparing cable bundling to Microsoft's bundling highlights four important differences. First, the kind of innovation at risk in *Microsoft* was more specific and significant than that at issue in cable bundling. The innovation allegedly retarded in *Microsoft* had the potential of destroying Microsoft's platform monopoly. By contrast, cable bundling allegedly impairs innovation in the provision of Internet services, but there is no credible reason to think that innovation in the platform, or transmission services, market is affected. Second, the scope of the impact is greater in *Microsoft* than in cable bundling. In *Microsoft*, the relevant market in innovation was roughly coincident with Microsoft's service market. It was worldwide. But in cable bundling, any market power a cable operator has is local, whereas the market in innovation is at least national. Third, the kind of bundling at issue in *Microsoft* was less inherently exclusive than that involved in the cable industry, and to that extent less dangerous. Microsoft's bundling did not prevent consumers from using an alternative browser with Windows if they so preferred. By contrast, a cable company prohibits a subscriber from using a rival ISP in conjunction with its transmission service. Finally, the bundling in *Microsoft* more clearly benefited consumers. Microsoft's bundling stimulated the development of desirable applications and guaranteed consumers easy access to a product many valued. Cable bundling may benefit consumers in both the short and long term, but the benefits are less tangible.

In general, we believe that, given the relative competence of the market and regulatory institutions in promoting consumer welfare, the government presumptively should not intervene when a practice generates obvious and immediate consumer benefits but poses an indistinct threat to innovation. In *Microsoft*, the potential loss from impaired innovation was significant, but the immediate benefits of the practice were demonstrably substantial, and we see nothing to rebut the presumption that intervention was unwarranted. In cable bundling, the consumer benefits are more obscure than in *Microsoft*, but the threat from stifled innovation is less serious. In such a case, the cost of intervention becomes an especially important consideration. A remedy that destroys the efficiencies of integrating transmission and Internet services, such as one that prohibits a cable operator from offering Internet services, would be dramatically disproportionate to the risk to innovation. A remedy that permits integration but requires open access poses the prospect of

extraordinary administrative costs. On balance, we would leave cable bundling to the market.<sup>139</sup>

### Conclusion

The foundation of a sound competition policy is the welfare of consumers. A cable company's practice of bundling broadband transmission and Internet services causes consumers no immediate harm. But some argue that it will impose future consumer injury by deterring innovation. The threat of impaired innovation has become a common justification for intervention in markets. A risk to innovation should be taken seriously in the formulation of public policy, but a claim that innovation is threatened cannot become some kind of a trump card, cutting off all further play. Economists do not fully understand the process of innovation or the conditions that promote optimal invention. Stripped bare, an assertion of impeded innovation is often a claim that innovation will proceed down a path the critic disfavors, not that it will cease or even decline. That claim itself implies an uncertain trade-off in consumer welfare, and whatever its merits, the prospect of future injury must be balanced against any immediate consumer benefits. In a competitive market, where business practices hurt rivals, who are always potential innovators, uncritical deference to claims of impaired innovation can subvert consumer welfare. Though a threat to innovation from cable bundling cannot be dismissed, it is not sufficiently serious to justify regulation.

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139. Professor Speta reaches a similar conclusion, but for somewhat different reasons. See Speta, *supra* note 7, at 87. He finds that the prevalence of direct network externalities—what we would call network effects—justifies the imposition of open access requirements on traditional telecommunications networks, but that the indirect network externalities that characterize broadband platforms eliminate the need for compulsory open access. We are not convinced that the distinction between direct and indirect network effects supports a difference in regulatory approach, and a decision not to impose open access on cable broadband service providers is justified by more than the existence of indirect network effects.