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FOREWORD:
**BEYOND MICROSOFT: ANTITRUST,
TECHNOLOGY, AND INTELLECTUAL PROPERTY**

By Lara J. Glasgow[†] & Alicia N. Vaz[‡]

The “New Economy,” characterized by rapid innovation, globalization of business, and reliance on information technology, has created a new legal challenge for courts and policymakers: balancing intellectual property protection with antitrust laws. A primary purpose of intellectual property rights is to provide creators and inventors with incentives to create. However, granting these rights and allowing those protected by them to limit the use of and control the price for their ideas promotes the often conflicting proposition that authors and inventors have an exclusive right to exclude competition in order to encourage their innovation.¹ Antitrust law, on the other hand, exists to ensure that free market competition will facilitate an efficient allocation of goods and prevent the development of a monopolistic power.

On June 7, 2000, U.S. District Court Judge Thomas Penfield Jackson ruled that the world’s largest software manufacturer, Microsoft Corporation, had violated federal and state antitrust laws.² The court’s opinion, which ordered the breakup of Microsoft into two smaller companies, marked the first federal antitrust decision involving a corporation dedicated to the “New Economy.”³ The decision sent a clear message to the high-technology industry: emerging technology companies are not im-

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1. ROBERT MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 1101-26 (2d ed. 2000).

2. *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000) (final judgment); *see also* *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30 (conclusions of law); *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9 (D.D.C. 1999) (findings of fact).

3. *Microsoft*, 97 F. Supp. 2d at 64-65 (ordering that Microsoft divest itself into an operating system business and an applications business).

mune to attacks on what the government perceives as monopolistic and predatory business conduct.

In the wake of *United States v. Microsoft*, industry analysts and legal scholars have struggled to assess the role of antitrust law as it applies to high technology. Since high technology often carries with it some degree of intellectual property protection, there exists a legal tension between preserving competition and promoting innovation. Striking the balance between these two goals proves especially difficult when dealing with pioneering technologies that do not always fit comfortably into traditional legal frameworks.

The Berkeley Center for Law & Technology and the *Berkeley Technology Law Journal* convened a Symposium this spring in order to examine closely the multiple instances in which antitrust, technology, and intellectual property intersect.⁴ Rather than addressing the *Microsoft* case itself, the Symposium sought to go “Beyond Microsoft” and focus on issues of lasting importance to high-technology firms, policymakers, and judges. The Symposium brought together leading academics, practitioners, and government officials to discuss the application of current antitrust laws in a variety of high-technology industries and to analyze whether current antitrust laws ought to be modified to better serve the underlying policies of both antitrust and intellectual property laws.

In order to share the discussion with a wider audience, the *Berkeley Technology Law Journal* has published selected papers originally presented at the Symposium in this issue. The papers, which are summarized below, are representative of the intricate antitrust issues that arise in high-technology fields. This Symposium issue is designed to provide the legal community with a thoughtful overview of the potential complications that arise when applying long established antitrust law to the rapidly changing universe of technology and intellectual property.

I. THE ROLE OF THE FEDERAL TRADE COMMISSION IN THE NEW ECONOMY

The New Economy is characterized by its dependence on intellectual property. Perhaps more than ever, the products that comprise our market-

4. The full title of the Conference was “Beyond Microsoft: Antitrust, Technology, and Intellectual Property.” The authors would like to thank and recognize the generous support of the following sponsors: the Berkeley Center for Law & Technology, the Institute of Management, Innovation & Organization, and the Competition Policy Center (Institute of Business and Economic Research). For more information and details about the Conference, please visit <http://www.law.berkeley.edu/bclt/events/antitrust>.

place are embodiments of ideas and are protected by patent, copyright, and trade secret doctrines. In his Keynote Address, Federal Trade Commission Chairman Robert Pitofsky argues that the major challenge for conventional antitrust law and for the Federal Trade Commission ("FTC") is to pinpoint the enforcement policies that would best foster innovation and preserve competition in this high-technology renaissance.⁵

Pitofsky isolates several features of the New Economy that distinguish it from traditional markets and place new demands on antitrust enforcement. First, because the initial costs of research and development of a product are particularly high and the variable costs relatively low, providing incentives to innovate, such as the limited monopoly right of a patent, is especially important.⁶ On the other hand, the importance of innovation necessitates preserving competition at the research and development stage.⁷ Finally, the dynamic nature of high technology, as contrasted with other industries, makes it more difficult for any one firm to dominate a particular market share.⁸ The unpredictability of how these and other factors drive the New Economy places new demands on antitrust enforcement officials. Consequently, antitrust enforcement must take special care to ensure that the right balance of competition and protection of innovation is maintained.

In assessing whether the FTC and other government bodies are equipped to handle the demands presented by the New Economy, Pitofsky examines several recent enforcement actions. In each of these actions, involving issues of patent dispute settlements, refusals to license, horizontal and vertical mergers, and private standard-setting agreements, Pitofsky concludes that the FTC has issued orders that are sensitive to the tension between encouraging competition among innovators and protecting the innovators' investments.⁹ Thus, perhaps the dichotomy seen between antitrust and the New Economy is not as stark as some have predicted.

However, in addition to the legal tensions Pitofsky notes, the FTC is also faced with certain institutional challenges as a result of the New Economy. In particular, Pitofsky addresses two main administrative concerns related to the speed of the FTC review process in comparison to the speed of the fast-paced world of high technology and the ability of gov-

5. See Robert Pitofsky, *Antitrust and Intellectual Property: Unresolved Issues at the Heart of the New Economy*, 16 BERKELEY TECH. L.J. 535 (2001).

6. *Id.* at 537.

7. *Id.* at 540-41.

8. *Id.* at 540.

9. *Id.* at 558.

ernment agencies to cope with the highly technical or scientific issues.¹⁰ As such, the harm to consumers might be irreversible by the time a sufficient factual inquiry can even begin.

Pitofsky notes that the ability of the FTC to cope with the challenges of the New Economy is not without hope. With cooperation from other government agencies such as the National Institutes of Health and the Environmental Protection Agency, and by continued awareness of the special needs of an industry reliant on intellectual property protection, the FTC can remain an effective way to maintain the delicate balance between competition and innovation.¹¹

II. ANTITRUST AND E-COMMERCE

One high-technology area that is ripe for the issues Pitofsky outlines in his address is, not surprisingly, the Internet. In particular, the role that anti-trust law should play in regulating Internet transactions is a topic that underscores the competing concerns of preserving competition and encouraging innovation. In her article, Professor Maureen O'Rourke takes the specialized instance of comparison price and product information aggregation websites and assesses how the introduction of competition policy might add to the debate about the appropriate level of property protection the Internet should offer.¹²

The Internet is a global information and communications network that connects millions of computer users worldwide.¹³ The structure of the Internet and the process of hyperlinking enables a consumer to link between different sites to access information through the simple click of a mouse. Further, data aggregators, or search engines, using "spider software," allow a consumer to go to a single website and obtain product and pricing information from several independent e-commerce websites.¹⁴ By using this technology, O'Rourke notes, consumers benefit from not having to go from one site to another to comparison shop.¹⁵ On the other hand, the

10. *Id.* at 560.

11. *Id.* at 562.

12. See Maureen A. O'Rourke, *Property Rights and Competition on the Internet: In Search of an Appropriate Analogy*, 16 BERKELEY TECH. L.J. 561 (2001).

13. Webopedia, *Internet*, at <http://webopedia.internet.com/TERM/I/Internet.html> (last modified Sept. 1, 1996).

14. See Maureen A. O'Rourke, *Fencing Cyberspace: Drawing Borders in a Virtual World*, 82 MINN. L. REV. 609, 623-24 (1998).

15. O'Rourke, *supra* note 12, at 568.

owners of the original content collected by aggregators argue that their property rights in the content are violated.¹⁶

Recent cases, including *Ticketmaster Corp. v. Tickets.com, Inc.*¹⁷ and *ebay, Inc. v. Bidder's Edge, Inc.*,¹⁸ have addressed the issue of whether original content owners have a legitimate protectable property right in information appearing on a website. O'Rourke argues that attention must be paid to antitrust law in order to formulate the proper analytical framework for future litigation involving property rights of this new Internet technology; it is the choice of framework that determines the result of the case.¹⁹ In particular, O'Rourke identifies a sentiment in antitrust law that leans in favor of consumers having unfettered access to price and product comparison information.²⁰ Relying on the theoretical foundation of antitrust law, along with other areas such as nuisance and First Amendment law, O'Rourke advocates for a balancing test that examines the pros and cons of allowing original content website owners to enjoin access from aggregators, including the effects on competition and consumers.²¹

III. THE CASE OF BROADBAND INTERNET ACCESS

The technology that has emerged to collect and disseminate the content on the Internet brings antitrust law into new territory that does not necessarily fit neatly within conventional legal constructs. The same can be said of an even more fundamental aspect of the Internet—namely, the technology that allows access to the Internet in the first place. Indeed, an examination of Internet broadband access reveals how the underlying policies of antitrust and intellectual property laws can become drastically muddled when old laws are ill-fitted to tackle the challenges of new technologies.

The potential of cable broadband providers to undermine the policies of both antitrust and intellectual property law is highlighted in an article

16. *E.g.*, *ebay, Inc. v. Bidder's Edge, Inc.*, 100 F. Supp. 2d 1058, 1064 (N.D. Cal. 2000).

17. No. 99-7654, 2000 U.S. Dist. LEXIS 4553 (C.D. Cal. Mar. 27, 2000).

18. 100 F. Supp. 2d 1058 (N.D. Cal. 2000).

19. O'Rourke, *supra* note 12, at 586. In *Ticketmaster*, for instance, the court focused on the "virtual" nature of a website to find that it could not be trespassed in a traditional legal sense. *Ticketmaster Corp. v. Tickets.com, Inc.*, No. CV99-7654, 2000 U.S. Dist. LEXIS 12987, at *18 (C.D. Cal. Aug. 10, 2000) (unpublished minute order). In *ebay*, by comparison, the court focused on the tangible nature of a computer to find that the aggregator site could be held to trespass. *ebay*, 100 F. Supp. 2d at 1070.

20. O'Rourke, *supra* note 12, at 586.

21. *Id.* at 605.

by Professor Daniel Rubinfeld and Hal Singer.²² In their analysis of the recently approved AOL/Time Warner merger, Rubinfeld and Singer describe the substantial advantage the companies stood to gain, before the FTC placed restrictions on the merged company, within the broadband market. Broadband Internet services require consumers to secure access to several inputs, including content, complementary services, connectivity to the Internet from a broadband service provider, and high-speed transport from the home to the Internet service provider.²³ Where AOL had previously faced prohibitive barriers in entering the broadband portal market because unregulated local broadband cable providers sold only their own portal service, it could now access Time Warner's substantial cable lines and exercise dominance.²⁴

Rubinfeld and Singer argue that the potential for squashing competition through *conduit discrimination*, limiting distribution of affiliated content and services over rival platforms, and *content discrimination*, blocking or degrading the quality of outside content, in the AOL/Time Warner merger was high.²⁵ Indeed, Rubinfeld and Singer demonstrate how both companies have a history of discrimination against their rivals. Due to the potential for competitive harm posed by AOL Time Warner, both in terms of the company's ability to discriminate against competitors in all of the broadband inputs and in terms of the company's ability to take advantage of the FCC's unwillingness to regulate broadband cable providers, Rubinfeld and Singer conclude that the FTC's restrictions on the merger were appropriate.²⁶ Specifically, the FTC required that the combined company open its cable modem platform to unaffiliated portals on nondiscriminatory terms and prohibited the combined company from offering its portal service to any platform that is not already obligated to open access.²⁷ By issuing these conditions, Rubinfeld and Singer conclude that the underlying policies governing antitrust law were kept intact.

In his article, Professor Jim Chen describes the confusion that remains in the wake of the Telecommunications Act of 1996 with regard to broadband Internet access that enables users to navigate the World Wide Web

22. See Daniel L. Rubinfeld & Hal J. Singer, *Open Access to Broadband Networks: A Case Study of the AOL/Time Warner Merger*, 16 BERKELEY TECH. L.J. 631 (2001).

23. *Id.* at 635.

24. *Id.* at 639.

25. *Id.* at 634.

26. *Id.*

27. See *In re Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*, 155 F.C.C.R. 19287, ¶ 14 (2000).

with such speed that enables real-time streaming video.²⁸ Broadband Internet access is currently available through two different technologies, each carrying with it very different degrees of Federal Communications Commission (“FCC”) regulation. Digital Subscriber Line (“DSL”) service, which accounts for 28 percent of the market, is governed by the 1996 Act, while cable broadband, which accounts for 70 percent of the market, escapes any obligation under the 1996 Act.²⁹ As a result, cable broadband providers have gone relatively unregulated, increasing the possibility of monopolization and restraint on competition.³⁰

While the FCC has passed by the opportunity to seize regulatory control over cable access in several media mergers, Chen argues that the authority to regulate this important technological medium can still be found. Chen looks to the language of the Communications Act of 1934, as amended by the 1996 Act, and federal court decisions to conclude that cable broadband should not be classified as a cable service or a telecommunications service, but as an information service.³¹ This classification, along with the FCC’s reliance on its mandate to promote the nation’s “advanced telecommunications capability,” can give the FCC the necessary authority to harmonize the policy pertaining to both DSL and cable broadband.³² Chen argues that this harmonization is essential to the preservation of competition, innovation, and the dynamic development of the New Economy.³³

IV. ANTITRUST AND INTELLECTUAL PROPERTY LAWS: THEIR EFFECT ON INNOVATION

Another issue of increased concern within the legal community is the role of innovation in the New Economy and its relationship to antitrust and intellectual property law. In particular, while the policies underlying both antitrust and intellectual property support a desire to foster social welfare innovation, each takes a different approach to achieve that end. Whereas antitrust attempts to increase innovation and consumer benefits through the preservation of competition, intellectual property laws hope to increase

28. See Jim Chen, *The Authority to Regulate Broadband Internet Access over Cable*, 16 BERKELEY TECH L.J. 677 (2001).

29. See Press Release, FCC, Federal Communications Commission Releases Data on High-Speed Data for Internet Access, at 8, tbl.3 (Oct. 31, 2001), http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/hspd1000.pdf.

30. Chen, *supra* note 28, at 682.

31. *Id.* at 708.

32. *Id.* at 712-13.

33. *Id.* at 715.

innovation by providing inventors with limited monopolies and exclusive control over their work. With renewed emphasis on spending money on research and development of new technologies, the proper way to use law to promote and protect innovation is under great scrutiny.

As Professor David McGowan points out in his article, *Innovation, Uncertainty, and Stability in Antitrust Law*,³⁴ determining the most effective way to apply antitrust and intellectual property laws to innovation is extremely difficult.³⁵ This is because the relationship between market structure and innovation is complicated and often imperfectly understood. McGowan begins his discussion by relaying the legislative history and intent behind the Sherman Antitrust Act³⁶ and the Cellar-Kefauver Amendments to the Clayton Act³⁷ and concludes that Congress failed to resolve conflicts among economic interests affected by the antitrust laws. As a result, courts were left to create a reliable standard.

Analogizing innovation cases of today to the merger cases of the 1960s,³⁸ McGowan reasons that the uncertainty inherent in applying antitrust and intellectual property law to innovation requires skepticism and a delicate hand on the part of courts.³⁹ Specifically, he argues that courts should not attempt to use antitrust law to limit the economic protections implicit in intellectual property laws and that they should be guided by total, rather than consumer, surplus.⁴⁰ A policy that exercises this caution, McGowan argues, avoids the inherent conflicts in antitrust and intellectual property laws and avoids the unfair favoring of small firms over large firms.⁴¹

In her article on innovation in the biopharmaceutical industry, Professor Arti Rai echoes McGowan's sentiment about the uncertainty concerning the roles of antitrust and intellectual property in promoting innova-

34. David McGowan, *Innovation, Uncertainty, and Stability in Antitrust Law*, 16 BERKELEY TECH. L.J. 729 (2001).

35. *Id.* at 733.

36. 15 U.S.C. §§ 1-7 (1994).

37. Clayton Act, ch. 323, 38 Stat. 730 (1914) (codified as amended in scattered sections of 15 U.S.C.); Cellar-Kefauver Act, ch. 1184, 64 Stat. 1125 (1950) (codified as amended in 15 U.S.C. § 18 (1994)).

38. *Brown Shoe Co. v. United States*, 370 U.S. 294 (1962); *United States v. Phila. Nat'l Bank*, 374 U.S. 321 (1963); *United States v. Von's Grocery Co.*, 384 U.S. 270 (1966); *United States v. Pabst Brewing Co.*, 384 U.S. 546 (1966).

39. McGowan, *supra* note 34, at 765.

40. *Id.* at 773.

41. *Id.* at 769.

tion.⁴² Limiting her analysis to the specialized area of the biopharmaceutical industry and focusing primarily on patent protection, Rai identifies as a major point of debate the optimal conditions for encouraging innovation. On one side of the debate are theorists who maintain that allowing concentration in the industry most effectively allocates resources. Granting broad intellectual property rights that provide for monopoly power over a particular area of research enables the rightsholder to coordinate efficient development of the invention.⁴³ On the other side of the debate, competition proponents believe that encouraging the race among competing researchers will yield results that would not occur in a monopolistic environment.⁴⁴

Rai argues that while there is an appeal to the concentration argument, there is a need for the preservation of competition. This is particularly true when the research at issue is far removed, or upstream, from the commercial end product.⁴⁵ However, rather than using antitrust law as the primary enforcer of competition, Rai maintains that patent law is competent to serve in this capacity.⁴⁶ By using the patent laws to restrict the scope of patents on upstream inventions, competition in research innovation can be protected.⁴⁷ Antitrust law can take a secondary role under the “innovation markets theory,” stepping in when there is a threat that a single entity will take control over a fundamental platform technology.⁴⁸

V. CONCLUSION

A recurring theme at the Symposium and throughout the papers published in this issue is the need to revisit the underlying philosophical foundations from which antitrust and intellectual laws have emerged. Specifically, walking the fine line between antitrust and intellectual property demands that academics, legal practitioners, and government officials keep in mind that the two areas of law often have divergent policy justifications, applications of which vary by and within the same industry. When new types of technology are scrutinized within the context of antitrust and intellectual property laws, careful attention should be paid to the proper role of each area of law. Some types of technology might map appropriately onto a conventional combination of antitrust and intellectual property

42. See Arti K. Rai, *Fostering Cumulative Innovation in the Biopharmaceutical Industry: The Role of Patents and Antitrust*, 16 BERKELEY TECH. L.J. 813 (2001).

43. *Id.* at 820-21.

44. *Id.* at 825-26.

45. *Id.* at 817.

46. *Id.* at 854.

47. *Id.*

48. *Id.*

laws to achieve the appropriate balance between preserving competition and promoting innovation. Other types of technology might require modification of conventional laws in order to reset the correct balance. As the authors emphasize, and discussion at the Symposium echoed, this evaluation is an enormously difficult task, but one that must be undertaken to ensure the viability of our legal system and the nature of groundbreaking technologies.

ANTITRUST AND INTELLECTUAL PROPERTY: UNRESOLVED ISSUES AT THE HEART OF THE NEW ECONOMY

By Robert Pitofsky[†]

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† Chairman of the United States Federal Trade Commission. This is the slightly revised text of my Keynote Address at the “Beyond Microsoft: Antitrust, Technology, and Intellectual Property” Conference held at the Boalt Hall School of Law, University of California, Berkeley on March 2 and 3, 2001. The views expressed are my own and do not necessarily reflect the views of the Commission or other Commissioners. I want to thank Thomas Leary, Debra Valentine, Joseph Brodley, Steven Salop, Simon Steel, and Gregg Vicinanza, for invaluable help on this Address.

I. INTRODUCTION

The essential feature that is new about the “New Economy” is its increased dependence on products and services that are the embodiment of ideas. Examples include such diverse products as computer software, Internet services, biotechnology, and new forms of communications—generally, the fastest growing segments of the present economy. In each of these areas, the “product” or “service” is a piece of intellectual property such as a line of computer code, a new connecting device to make routers and servers more efficient, or new knowledge about genetic profiling that facilitates the use of gene therapy products to treat disease. A major challenge over the next decade will be to identify policies that will allow a market economy to thrive in the context of this intellectual property revolution. More narrowly, questions abound concerning the role of conventional antitrust enforcement policy in these new areas.

In my view, it is unduly simplistic to assert that intellectual property is just another form of property.¹ There are important differences. But it is also rather naive to conclude, as some have urged, that antitrust enforcement has little or no role to play when it comes to market power based on intellectual property.² In the remainder of this discussion it will be assumed—as almost all commentators have assumed—that antitrust is sufficiently flexible that it can play a useful role in the New Economy.³

1. In the U.S. Dep’t of Justice & FTC, *Antitrust Guidelines for the Licensing of Intellectual Property* § 2.1 (1995), <http://www.usdoj/0s/2000/04/ftcdojguidelines.pdf>, there are statements to the effect that the same general antitrust principles that apply to any form of tangible or intangible property should apply to conduct involving intellectual property. But the Guidelines then go on to note that “[i]ntellectual property has important characteristics, such as ease of misappropriation, that distinguish it from many other forms of property.” See also Sheila F. Anthony, *Antitrust and Intellectual Property Law: From Adversaries to Partners*, 28 AM. INTEL. PROP. LAW ASS’N Q.J. 1, 7-8 (2000) (discussing interplay between antitrust and intellectual property law and the genesis and principles of the Guidelines’ approach). As this discussion will develop, the antitrust laws should apply fully to intellectual property—certainly no broad exemption is justified—but in application must take important special characteristics of intellectual property into account.

2. David J. Teece and Mary Coleman, *The Meaning of Monopoly: Antitrust Analysis in High-Technology Industries*, 43 ANTITRUST BULL. 801, 843, 846 (1998); Robert J. Barro, *Why the Antitrust Cops Should Lay Off High-Tech*, BUS. WK., Aug. 17, 1998, at 20.

3. See, e.g., Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard-Setting*, in 1 INNOVATION POLICY AND THE ECONOMY (Joshua Lerner & Scott Stern eds., forthcoming 2001), at <http://haas.berkeley.edu/~shapiro/thicket.pdf>; David A. Balto & James F. Mongoven, *Antitrust Remedies in High Technology Industries*, ANTITRUST REP. 22 (Jan. 1999); Robert Pitofsky, *Challenges of the New*

The New Economy differs in degree rather than kind from the “old” economy. Part II of this discussion examines the key differences that define the New Economy. Part III turns to several implications of those differences as they pertain to antitrust enforcement. I argue that the differences do not justify sweeping generalizations that antitrust enforcement has no place in the New Economy, but do require antitrust enforcement to make adjustments and exercise sensitivity towards intellectual property issues on a case-by-case basis. The goal of a coherent overall competition policy, in deciding both what conduct to enforce against and what remedies to require, should be to achieve an appropriate balance between the complementary legal regimes of intellectual property and antitrust. Part IV examines several examples of recent antitrust enforcement decisions involving intellectual property. Without addressing the ultimate merits of individual decisions, I find that antitrust enforcement has generally evolved in recent years in a way that pays heed to the distinctive characteristics of the New Economy. These decisions demonstrate a concerted attempt to give reasonable, fact-specific consideration to both incentives and opportunities to innovate. Finally, to supplement the preceding review of substantive issues, Part V examines the institutional challenges posed to antitrust enforcement by the New Economy.

II. WHAT IS NEW ABOUT THE NEW ECONOMY?

There are three differences relating to the New Economy that any sensible competition policy must take into account.

A. Differences in Fundamental Economics

Products and services based on intellectual property are usually characterized by large initial investments (“fixed costs”) and low costs to reproduce individual items (“variable costs”). For example, once a new line of computer code is developed and introduced, the cost to the seller of duplicating that code and making it available to others approaches zero; once

Economy: Issues at the Intersection of Antitrust and Intellectual Property, Speech Delivered Before the American Antitrust Institute Conference: An Agenda for Antitrust in the 21st Century (June 15, 2000), <http://www.ftc.gov/speeches/pitofsky/000615speech.htm>; Richard A. Posner, Antitrust in the New Economy, Speech Delivered at the ALI-ABA Conference (Sept. 14, 2000), http://www.ali-aba.org/aliaba/Posner_101100.htm; Daniel L. Rubinfeld, Competition, Innovation, and Antitrust Enforcement in Dynamic Network Industries, Speech Delivered Before the Software Publishers Ass’n Spring Symposium (Mar. 24, 1998), <http://www.usdoj.gov:80/atr/public/speeches/1611.htm>; Lawrence H. Summers, The New Wealth of Nations, Remarks at the Hambrecht & Quist Technology Conference (May 10, 2000), <http://www.treasury.gov/press/releases/ps617.htm>.

a new discovery is made about a biotechnology treatment for a disease, the cost of producing the pharmaceutical product is very little compared to the investment in research. Because the cost of producing additional items is so low, sellers find it to their advantage to add purchasers and users; hence price in the short-run often declines in an effort by the seller to expand sales.⁴ It logically follows that competition to be the first to generate products and services covered by intellectual property protection is therefore beneficial for consumers and should be encouraged and preserved.

There is, however, bad news. Because of the nature of competition in markets characterized by intellectual property, there is a tendency to drift toward single-firm dominance and even monopoly for two reasons. First, in order to encourage initial investments, the law provides intellectual property protection (primarily via patent and copyright law)⁵ and, in effect, precludes competition within the scope of the intellectual property for a period of time. Second, products and services based on intellectual prop-

4. See CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES 28 (1999) (“With information goods, unit costs of production are negligible and supply chain management and related techniques usually don’t help much with the first-copy costs. The key to reducing average cost in information markets is to increase sales *volume*.”). As Judge Posner explains:

Intellectual property is characterized by heavy fixed costs relative to marginal costs. It is expensive to create but once created the cost of making additional copies is low, dramatically so in the case of software, where it is only a slight overstatement to speak of marginal cost as zero. Without legal protection, the creator of IP may be unable to recoup his investment, because competitors can free ride on it; and so legal protection can expand, rather than as the usual case with monopoly contract, output.

Posner, *supra* note 3, at 2.

5. In addition to patent and copyright law, various other intellectual property laws or quasi-intellectual property laws, including trade secret law and statutory proposals for database protection, serve the economic function of rewarding creative or inventive effort with competitive exclusivity, thus trading off the benefit to customers of competition against the benefits of encouraging innovation. See, e.g., William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 J. LEGAL STUD. 325 (1989); *The Consumer and Investor Access to Information Act of 1999: Hearing on H.R. 1858 Before the Subcomm. On Telecommunications, Trade, and Consumer Protection of the House Comm. On Commerce*, 106th Cong. 78 (1999) (statement of the FTC). Trademarks are better dealt with separately, however, because while some common issues arise, they involve an economic tradeoff with different implications for antitrust law. The economic purpose of trademark law is not in general to encourage innovation and creativity, but instead to reduce consumer search costs by identifying the source of goods, and thereby incidentally to encourage quality by protecting reputation. See William M. Landes & Richard A. Posner, *Trademark Law: An Economic Perspective*, 30 J.L. & ECON. 265, 269-270 (1987).

erty frequently exhibit “network effects,” i.e., each individual’s demand for a particular company’s product or service is positively related to its widespread use by others. This phenomenon can most clearly be seen with respect to communications equipment (local telephone, fax, and e-mail), which becomes more valuable to users as more people use the service. These network effects can also be indirect—situations in which producers of complementary goods design and manufacture those complements to work with the goods of the single dominant firm. This leaves potential challengers of that dominant firm without access to the complementary goods or with the burden of producing the complementary goods themselves. The exclusionary rights granted by intellectual property protection, coupled with trends toward standardization due to network effects, threaten to diminish market competition. Where this results in monopoly or near-monopoly, there can be negative effects not only on price and output, but also on innovation, as the diversity of competing research and development programs and the pressure on the incumbent to innovate and stay ahead of competition are lost.⁶

It is important to recognize these characteristics, but they should not be exaggerated. There are numerous non-intellectual property products with high fixed and low variable costs (e.g., incinerators and transport industries)⁷ and pronounced network effects (e.g., credit cards). On average and across the economy, however, these trends appear more frequently in markets characterized by intellectual property.

In sum, incentives to innovate must be protected in intellectual property markets and innovation competition can yield great consumer benefits. On the other hand, threats to competition can be substantial. For example, the combination of intellectual property protection and network effects will almost inevitably lead to monopoly and the monopoly can diminish or eliminate future innovation. The challenge for antitrust is to deal with these economic conditions by preserving competition without unreasonably undermining incentives to innovate.

6. See, e.g., *In re Silicon Graphics, Inc.*, 120 F.T.C. 928 (1995). As explained *infra*, the *Silicon Graphics* vertical merger case involved an acquisition of software providers by the dominant entertainment graphics workstation provider. Standard vertical foreclosure concerns were exacerbated in the circumstances by indirect network effects—the entrenchment of its workstation dominance by the production by various software firms of software dedicated to its workstation—and innovation competition was threatened by Silicon Graphics’ monopoly power.

7. As SHAPIRO & VARIAN, *supra* note 4, at 22, point out, “It costs United a huge amount to purchase and operate a 747, but the incremental cost of an additional passenger is tiny, so long as the plane is not full.”

B. Importance of Innovation in a Dynamic Economy

Traditionally, antitrust has focused primarily, though not exclusively, on price and output effects.⁸ Antitrust enforcers ask whether a particular transaction is likely to allow the parties to raise price to the disadvantage of consumers, lower price drastically so as to drive out competitors and eventually injure consumers, or achieve comparable effects from other exclusionary conduct.⁹

In the New Economy, however, the success of competition is frequently based on qualitative rather than quantitative factors: the key is not so much who can produce the most widgets at the lowest cost, but rather who can be the first to design, protect with intellectual property rights, and bring to market a new and improved widget.¹⁰ Because market participants' incentives and opportunities to innovate are increasingly important in the intellectual property-intensive new economy, a rational competition policy will pay more heed to the effects of market structure, competitive conduct, and enforcement on innovation than it paid in industries where cost minimization was the most significant dimension of efficient competition.

In markets where innovation is important, it has been suggested that larger firms may enjoy advantages in innovation, thereby producing consumer benefits that dwarf any loss of price competition due to increased market concentration. The seminal (though still controversial) statement of the general argument that concentration may favor innovation appears in Joseph Schumpeter's book *Capitalism, Socialism and Democracy*, and emphasizes economies of scale which assist large companies to be efficient in research and development.¹¹ Others have argued that innovation may be spurred by corporate size because firms are able to spread the cost

8. See, e.g., U.S. Dep't of Justice & FTC, Horizontal Merger Guidelines § 0.1 (1992), http://www.usdoj.gov/atr/public/guidelines/horiz_book/hmg1.htm [hereinafter Horizontal Merger Guidelines] (describing the Guidelines' fundamental concern with "market power" in terms of price and output); RICHARD A. POSNER, *ANTITRUST LAW: AN ECONOMIC PERSPECTIVE* 13 (1976) (describing the "costs of monopoly" by reference to a demand curve charting the relationship between output and price).

9. See, e.g., Horizontal Merger Guidelines, *supra* note 8, § 0.1 (mergers allowing parties to raise price); *Brooke Group v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209 (1993) (predatory pricing); *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447 (1993) (monopolization).

10. See, e.g., SHAPIRO & VARIAN, *supra* note 4 (emphasizing the importance of the "first-mover advantage" in the New Economy).

11. JOSEPH A. SCHUMPETER, *CAPITALISM, SOCIALISM AND DEMOCRACY* chs. 5-8 (1950).

of innovation across a larger output base, accelerate implementation of innovations, and diversify risks.¹²

While concentration may increase the dominant firm's ability to innovate, the lack of competition may weaken its incentives, and may deprive the market of smaller firms who may have other innovations to offer. As discussed in the next section, the issue is not so much whether the incentives and abilities of market participants to innovate should be protected—all agree on that—but how best to do so while at the same time preserving the ability of other firms to challenge the technological incumbent and promote both price and innovation competition.

C. Uncertain Durability of Market Power

While comprehensive empirical data is lacking, there is a widely held view that markets in the New Economy are characterized by an increased rate of innovation, relative ease of entry, and instability of market shares. As a result, the argument proceeds, cartels and monopoly power in intellectual property markets will necessarily be short-lived, and in any event, will be defeated more quickly and efficiently by market forces such as new entry and innovation than by any band of bureaucrats.¹³

By and large, these claims have some merit. On average, market power is probably less durable in the high-technology sector of the economy. As a result, it is unlikely that any dominant firm will eclipse competition for fifty years to the extent and in the way that Alcoa dominated the aluminum market in the first half of the twentieth century.¹⁴

Nevertheless, these concerns have not vanished entirely from the face of the economy due to the intellectual property revolution. We have already seen that systems designed to encourage and protect innovation such as patents and copyrights can be—and often are—used to barricade a market against entry by new rivals. Furthermore, it appears that network effects occur more frequently in sectors of the economy characterized by intellectual property. Such factors as brand name recognition and reputa-

12. See, e.g., FTC Hearings on Global and Innovation-Based Competition (Nov. 2, 1995) (statement of Steven C. Salop, *Efficiencies in Dynamic Merger Analysis*), <http://www.ftc.gov/opp/global/saloptst.htm>. In recent years, it appears that *growth* in R&D investment has been concentrated in smaller firms. "Between 1993 and 1998, real spending on R&D by firms with more than 25,000 employees increased by 8 percent, but R&D conducted by firms with fewer than 500 employees nearly doubled." ECONOMIC REPORT OF THE PRESIDENT, H.R. DOC. NO. 107-2, at 112 (2001).

13. Cf. SHAPIRO & VARIAN, *supra* note 4, at 305 ("certain high-tech industries are highly dynamic, making any monopoly power transitory").

14. For a description of Alcoa's dominance, see *United States v. Aluminum Co. of Am.*, 148 F.2d 416 (2d Cir. 1945).

tion for reliability can create substantial advantages for incumbents, further impeding market entry by new competitors. Finally, practices illegal under the antitrust laws such as exclusionary conduct or intimidation tactics available to only very large firms can themselves impede entry by more efficient challengers. Market dominance for “only” fifteen or twenty years can take enormous resources out of the economy and, by excluding innovative new entrants, foreclose alternative paths of technical development.

In the end, the question of whether market power is durable or ephemeral is fact-specific and needs to be addressed on a market-by-market and product-by-product basis. At a minimum, however, casual, across-the-board views that antitrust has no role to play in the New Economy since market power is weak and ephemeral are unfounded.

III. STRIKING THE BALANCE: HOW SHOULD ANTITRUST ENFORCEMENT RESPOND TO THESE DIFFERENCES?

Both reasonable intellectual property protection and effective antitrust enforcement will encourage innovation. Intellectual property rights subsidize investments in innovation by granting substantial, but time-limited, market power. Antitrust ensures that firms compete, and by competing, seek new roads to innovation. It also prevents dominant firms from harming or retarding innovation. Balance in the substantive rules of intellectual property and antitrust law, as well as sensitivity to innovation issues at the remedial stage, are the two essential ingredients of a rational legal response to the realities of the New Economy.

A. Protecting (Without Overprotecting) Incentives to Innovate

Virtually all agree that some level of intellectual property protection, specifically involving a patent and copyright system, is justified. But almost all further recognize that such protection is a double-edged sword.¹⁵ On the one hand, it properly encourages and rewards innovation, and prevents misappropriation. On the other hand, it prevents competition for a period of time within the zone of the intellectual property grant.¹⁶ A legal

15. *See, e.g.*, 1 NIMMER ON COPYRIGHT § 1.03[A] (2000) (noting the general “assumption that in the absence of . . . public benefit [in the form of promoting creativity], the grant of a copyright monopoly to individuals would be unjustified.”).

16. For example, since much innovation consists of improvement on basic ideas, patent protection of the basic idea may preclude the very improvements that it is designed to encourage. *See, e.g.*, 1 FTC, ANTICIPATING THE 21ST CENTURY: COMPETITION POLICY IN THE NEW HIGH-TECH, GLOBAL MARKETPLACE ch. 6 (1996) (emphasizing the importance of preserving opportunities for follow-on innovation).

system that overprotects intellectual property and underenforces antitrust law thus poses dangers to competition and ultimately to innovation, just as one that underprotects intellectual property and overenforces antitrust principles can harm incentives to innovate. The central challenge posed by the New Economy is to strike an appropriate balance. In doing so, two difficult questions need to be addressed. First, in the context of the New Economy, is the present level of intellectual property protection roughly adequate or does it under or overcompensate innovation? Second, has antitrust enforcement adequately acknowledged the importance of protecting incentives to innovate?

With respect to the level of intellectual property protection, much work needs to be done to evaluate how intellectual property protection operates today. Many suspect that the present system is seriously flawed.¹⁷ It should be a matter of concern that patent applications and patent grants in the United States are at an all-time high, and the patent rate per dollar of

17. See, e.g., Robert P. Merges, *As Many as Six Impossible Patents Before Breakfast: Property Rights for Business Concepts and Patent System Reform*, 14 BERKELEY TECH. L.J. 577 (1999) (arguing that the growing volume of patents and the emergence of new types of patents such as business method patents reinforce a general need for new procedures, such as a European-style patent opposition system, and a reform of patent examiners' training and incentives, to minimize the granting of invalid patents); Lawrence Lessig, *The Problem with Patents*, THE STANDARD, Apr. 23, 1999, at <http://www.thestandard.com/article/display/0,1151,4296,00.html> (describing workloads and incentives at the U.S. Patent and Trademark Office ("PTO") as a significant contributor, along with the high cost of litigating against invalid patents, to the growing problem of "bad patents," especially bad business method patents, which become "the space debris of cyberspace"); Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U.L. REV. (forthcoming Sept. 2001) (arguing that litigation is more cost-effective than increasing examination of patent applications and that the presumption of patent validity should be relaxed); MARK A. LEMLEY ET AL., SOFTWARE AND INTERNET LAW 333-34 (2000) (discussing specific weaknesses in the PTO's scrutiny of software patents in the 1990s); Jeff Bezos, *An Open Letter on the Subject of Patents*, at <http://www.amazon.com/exec/obidos/subst/misc/patents.html> (last visited Apr. 10, 2001) (arguing that business method and software patents should be limited to three to five years' duration and subjected to public comment before issuance); see also COMMITTEE ON INTELLECTUAL PROPERTY RIGHTS AND THE EMERGING INFORMATION INFRASTRUCTURE & COMPUTER SCIENCE AND TELECOMMUNICATIONS BOARD COMMISSION ON PHYSICAL SCIENCES, MATHEMATICS, AND APPLICATIONS, NATIONAL RESOURCE COUNCIL, THE DIGITAL DILEMMA: INTELLECTUAL PROPERTY IN THE INFORMATION AGE 228 (2000) ("The past decade has seen a substantial de facto broadening of items for which patents can be obtained, including information inventions such as computer programming, information design, and business methods. The long-term effects of this trend are as yet unclear, although the near-term consequences are worrisome.").

research and development (“R&D”) is the highest since 1977.¹⁸ Perhaps there are innocent explanations, or it may be that the “system” drives companies to seek—and the government to grant—more flimsy intellectual property rights than are justified.

For example, take patent policy. An evaluation of levels of protection is beyond the scope of this discussion, but any resolution of the relationship between antitrust and intellectual property must address some or all of the following questions: (1) Does the patent office have the resources to conduct a rigorous review of patent applications? (2) Are patent grants justified in terms of utility, novelty, and invention, or is the scope of patents that are granted unnecessarily broad? (3) Is the duration of patent protection always—or even usually—essential to stimulate and reward innovation, or would lead time to the innovator and secrecy adequately reward much innovation, and if the latter is true, what policy justifies granting as many broad patents as are issued today? (4) Is private litigation a sensible way to work out patent controversies, especially with respect to the scope of the patent? and (5) Are patents abused (e.g., are many patent applications designed to create a thicket of uncertain scope primarily to preclude competitive challenges)?¹⁹

Without reliable answers to these questions, it will be difficult to decide whether the balance between antitrust and intellectual property protection is roughly correct. Even if our government grants more patents than are essential to encourage innovation, and protects patent rights to an undue extent—and I tend to agree with those who are skeptical about the advantages of current patent policy²⁰—there is a still more difficult issue to address: namely, the possibility that generous compensation via broad patent grants in computer software and pharmaceuticals is a sensible price to pay in order to drive the economy to higher levels of productivity and generate higher levels of consumer welfare.

With respect to antitrust’s overall acknowledgement of the need for innovation, antitrust historically has often, if not always, been sensitive to the value of innovation. For example, since the passage of the Sherman Act in 1890, there has been only one federal government challenge to a research and development joint venture—a classic example of innovative

18. See Linda Cohen & Roger Noll, *Is U.S. Science Policy at Risk?*, BROOKINGS REV., Jan. 1, 2001, at 10. This per dollar rate increase also comes at a time when private sector investment in R&D has increased at an impressive 8 percent per year in 1995-99. ECONOMIC REPORT OF THE PRESIDENT, H.R. DOC. NO. 107-2, at 111 (2001).

19. On this last question, see Shapiro, *supra* note 3, at 3.

20. See SCHUMPETER, *supra* note 11.

arrangements.²¹ It would be difficult to imagine a more lenient record. When competitors control patents that include legitimate conflicting claims so that neither can reach the market, the courts have consistently allowed cross-licenses, even where such licenses incorporated agreements on price.²² Access to information about a monopolist's product may be essential for manufacturers of complementary products or services to compete. A leading court decision concluded, however, that there is no obligation to pre-disclose, even for a monopolist, because any such duty would tend to discourage aggressive competition and innovation.²³ Finally, evidence of an intent on the part of antitrust enforcers to avoid unnecessary interference with incentives to innovate is found throughout the recently issued Federal Trade Commission ("FTC")/Department of Justice Antitrust Guidelines for Collaboration Among Competitors.²⁴ Part IV of this discussion will examine further whether antitrust law enforcement (and nonenforcement), including consent orders, has paid adequate attention in the last half-dozen years to the preservation of legitimate incentives to innovate. For the purposes of this part of the discussion, however, it is clear that antitrust certainly values innovation as a policy goal.

While antitrust enforcement's general sensitivity to the value of innovation is certainly appropriate, it should not be taken too far. An approach that grants broad exceptions to antitrust principles in favor of intellectual property holders distorts the balance too far in the direction of incentives to innovate by sacrificing too much in the way of competition and opportunities for follow-on innovation. A striking example of an approach that gives undue weight to intellectual property rights is the recent Federal Cir-

21. See *Auto. Mfrs. Ass'n v. United States*, 307 F. Supp. 617, 621 (C.D. Cal. 1969), *aff'd sub nom.*, *City of New York v. United States*, 397 U.S. 248 (1970). Even here, the case went beyond a simple R&D joint venture. The case ended in a consent agreement resolving charges that the Auto Manufacturers Association, General Motors, Ford, Chrysler, and American Motors Corp. had conspired with other motor vehicle manufacturers to eliminate competition in the research, development, manufacture and installation of motor vehicle air pollution control equipment, and in the purchase from others of related patent rights.

22. The leading case is *Standard Oil Co. (Indiana) v. United States*, 283 U.S. 163 (1931).

23. See *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 281 (2d Cir. 1979).

24. See U.S. Dep't of Justice & FTC, *Antitrust Guidelines for Collaboration Among Competitors* § 3.31(a) (2000), <http://www.ftc.gov/os/2000/04/ftcdojguidelines.pdf> (concluding that R&D agreements are usually procompetitive).

cuit decision in *CSU v. Xerox Corp.*,²⁵ which concluded that a legitimate holder of a patent or copyright can refuse to license anyone, regardless of intent or effect on competition. The court held that the refusal is exempt from the antitrust laws unless the intellectual property was obtained by fraud, the infringement suit is a sham to cover an intent to injure a competitor, or the refusal is part of a tie-in sale strategy.²⁶ In effect, the Federal Circuit has leapt from the undeniable premise that an intellectual property holder does not have to license anyone in the first instance to the unjustifiable conclusions that it can select among licensees or can condition a license to achieve an anticompetitive effect. For example, you receive a license only if you agree not to do business with my competitor. That approach to the tradeoff between intellectual property and antitrust gives intellectual property an inappropriate weight in the traditional balancing process,²⁷ allowing intellectual property holders to extend their market power beyond the scope of the intellectual property right itself and sacrificing more competition than is necessary to provide appropriate incentives to innovate.

B. Designing Remedies for the New Economy

As in other areas of antitrust, most antitrust cases involving intellectual property are settled outside of court. Because areas of the economy characterized by intellectual property are usually dynamic rather than static, reliable predictions are difficult, thereby making effective remedies hard to formulate. From the point of view of antitrust enforcement, remedial questions are a particular challenge in addressing intellectual

25. Now renamed as *In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d 1322, 1329 (Fed. Cir. 2000).

26. *Id.* at 1326.

27. See *Townshend v. Rockwell Int'l Corp.*, No. C99-0400, 2000 U.S. Dist. LEXIS 5070 (N.D. Cal. Mar. 28, 2000) (illustrating the way *CSU v. Xerox* may be misused). In that case, the owners of basic patents underlying the 56k modem technology sued for patent infringement. The co-defendant, Rockwell, asserted antitrust counterclaims alleging that the patents on which the suit was based were invalid, the technology under the patents had been adopted as part of an industry standard through fraud on a trade association and its members, and the patents were made available to competitors only on the condition that they cross-license their technology to the patent holder. The district court dismissed the antitrust counterclaims, "[b]ecause a patent owner has the legal right to refuse to license his or her patent on any terms, [and therefore] the existence of a predicate condition to a license agreement cannot state the antitrust violation." *Id.* at *26. To the same effect, see *Intergraph Corp. v. Intel Corp.*, 88 F. Supp. 2d 1288, 1292-93 (N.D. Ala. 2000) (supporting the proposition that it is not an antitrust violation to refuse to license a patent).

property issues in a way that alleviates competitive problems without unduly interfering with innovation incentives. Among the issues that need to be addressed are the following: (1) enforcement officials and the courts must be cautious when imposing remedial conditions so as not to undermine innovation; (2) special attention needs to be given to the duration of orders, with duration often curtailed because market changes in high-technology markets with much intellectual property are likely to make those long-term orders obsolete, if not downright harmful; and (3) where network effects are present or pose a threat, there must be special attention given to designing a remedy that ensures reasonable access to the bottleneck product or service.²⁸

Any effective remedial structure should take all of these factors into account. These issues are discussed more fully below in connection with actual cases settled or litigated by the FTC in the last several years.

IV. APPLICATION OF PRINCIPLES: HAS ANTITRUST ENFORCEMENT ADJUSTED WHEN INTELLECTUAL PROPERTY IS INVOLVED?

To recapitulate, in markets characterized by the presence of intellectual property, antitrust must face the following special, though not unique, market characteristics: particular importance of incentives to innovate; critical importance of competition at the research and development level; dynamic markets and often, though not always, unstable market shares; and uncertainty about the way markets will develop. A rational response to these characteristics does not involve sweeping generalizations or a wholesale abandonment of antitrust principles, but does require sensitivity to the balance between intellectual property and antitrust and careful tailoring of remedies to the particular facts of the case in order to preserve incentives to innovate.

28. Perhaps the most perplexing question about how the antitrust laws should apply to intellectual property concerns entrenched market power achieved as a result of network effects. That issue deserves an entire paper of its own and is beyond the scope of this discussion. I have attempted to address those issues elsewhere. Robert Pitofsky, *Antitrust Analysis in High-Tech Industries: A 19th Century Discipline Addresses 21st Century Problems*, Remarks at the Am. Bar Ass'n Antitrust Section's Antitrust Issues in High-Tech Industries Workshop (Feb. 1999), <http://www.ftc.gov/speeches/pitofsky/hitch.htm>. My tentative conclusion there was that antitrust should be cautious in challenging legally achieved market power based on network effects, and with rare exceptions, should concentrate on its traditional role of ensuring that companies achieve market power through legitimate competitive conduct, and that they maintain their network dominance only through superior skill, foresight, and industry—not by exclusionary conduct.

How has antitrust enforcement responded in practice? In reviewing a sample of FTC enforcement initiatives over the last half-dozen years, my goal is not to demonstrate that the Commission was always correct. Cases that go to litigation or involve lengthy settlement negotiations usually involve close calls, and any individual enforcement decision could be debated. My goal rather is to determine whether enforcement and non-enforcement decisions took into account the special characteristics of intellectual property markets that I have addressed in the first half of this discussion.

A. Agreements That Have the Effect of Extending Patent Duration – *Hoechst-Andrx*²⁹ and *Abbott-Geneva*³⁰

In the past year, the FTC brought two actions that raised similar issues involving settlements of patent disputes between brand name and generic companies. Under federal law, the first company to file an application with the Food and Drug Administration to market a generic bio-equivalent to a brand name drug is given a 180-day period of exclusivity after the patent expires or is declared invalid in a patent suit.³¹ The 180-day period does not begin to run until the generic comes to market.³² During this time, other generic competitors are prohibited from coming to market.³³ In both *Abbott-Geneva* and *Hoechst-Andrx*, the branded pharmaceutical company paid the first-to-file generic company a large sum of money, exceeding the amount of money the generic company might otherwise have earned by independently marketing the product, to keep the generic version off the market.³⁴ The agreements thus acted as corks in a bottle, precluding competition not only by the generic company paid not to challenge the branded pharmaceutical, but also by other potential generic competitors because the 180-day period would not begin to run until the generic came to market. Each agreement contained additional terms, including provisions that the generic company would not transfer or relin-

29. *In re Hoechst Marion Roussel, Inc.*, No. 9293, 2000 F.T.C. LEXIS 16 (Mar. 16, 2000).

30. *In re Abbott Labs. & Geneva Pharmaceuticals, Inc.*, Nos. C-3945 & C-3946, 2000 F.T.C. LEXIS 65 (Mar. 16, 2000).

31. Drug Price Competition and Patent Term Restoration (Hatch-Waxman) Act, 21 U.S.C. § 355 (1994).

32. *Id.*

33. *Id.*

34. *See Abbott Labs.*, 2000 F.T.C. LEXIS 65, at *14; *Hoechst Marion Roussel*, 2000 F.T.C. LEXIS 16, at *12-17.

quish its 180-day exclusivity period, or would not even market noninfringing generic forms of the branded company's drugs.³⁵

Absent the agreements, the branded pharmaceutical house and the generic house would likely have engaged in extended patent litigation as to whether the patent was invalid and/or infringed by the generic. In general, encouraging settlements of patent litigation facilitates innovation. In these cases, however, the key provision effectively paying the generic to stay off the market and thereby precluding others from entering the market, along with ancillary provisions blocking competing sales, led the Commission to conclude that the primary purpose and effect of the arrangement was to extend the de facto duration of the patent by private agreement.³⁶ At least to my mind, these arrangements did little to encourage innovation.

B. Refusals to License by a Monopolist—*In re Intel Corp.*³⁷

In one of the most widely noted antitrust enforcement actions involving intellectual property, the Commission in 1998 issued a complaint against the Intel Corporation. The complaint alleged that Intel was a monopolist in the microprocessor market and that it had sought to maintain its dominance by denying essential technical information and product samples of new microprocessors to companies that, because of intellectual property disputes, had initiated or threatened to initiate litigation against Intel or Intel's customers.³⁸ Intel's goal, according to the complaint, was to coerce other companies to license their intellectual property on terms favorable to Intel, rather than to resort to the courts.³⁹ Intel had previously provided the information and samples to many of its customers and customer-competitors, but withdrew these advantages from those who found themselves in intellectual property disputes with Intel.⁴⁰ The Commission alleged that anticompetitive effects included discouraging innovation efforts by potential challengers in microprocessor technology.⁴¹

In settling the case, Intel agreed that it would not withhold or threaten to withhold product or technical information for reasons relating to an in-

35. See *Abbott Labs.*, 2000 F.T.C. LEXIS 65, at *10; *Hoechst Marion Roussel*, 2000 F.T.C. LEXIS 16, at *12-17.

36. See *Abbott Labs.*, 2000 FTC LEXIS 65; *Hoechst Marion Roussel*, 2000 F.T.C. LEXIS 16.

37. *In re Intel Corp.*, No. 9288, 1999 F.T.C. LEXIS 145 (Aug. 3, 1999). For further discussion of *Intel*, and of the *Dell* and *Ciba-Geigy/Sandoz* cases discussed *infra*, see Anthony, *supra* note 1.

38. *Intel*, 1999 F.T.C. LEXIS 145.

39. *Id.*

40. *Id.*

41. *Id.*

tellectual property dispute.⁴² The Commission agreed to qualify this provision by acknowledging that an intellectual property holder, including a monopolist like the Commission alleged Intel to be, would be free to withhold licenses of its product or information in the first instance, but would not to be able to curtail its supply when the customer sought to vindicate *its* intellectual property rights through a range of legal and equitable remedies.⁴³ Intel would also be free to discontinue a license when a customer or competitor sought an injunction against Intel's sale of its microprocessors.⁴⁴ The order thus gave the challenger a choice of waiving that remedy. If the challenger refused to waive, then Intel would be allowed to discontinue providing information or the product.

The goal of the order was to avoid a "compulsory licensing" regime, even by an alleged monopolist, because of the adverse effects of such regimes on innovation. The order was designed to allow Intel and its challengers to vindicate their rights in court before an independent adjudicator, rather than to resort either to self-help, by Intel, in which case the strong would almost always vanquish the weak, or to the kind of injunction, by Intel's challenger, that would threaten Intel's ability to conduct its business.

In my view, the order in *Intel* is the prime example of the effort by the FTC to pursue conventional antitrust enforcement,⁴⁵ while at the same time tailoring its complaint and order so as not to undermine incentives to innovate in the first place.

C. Standard Setting by Private Agreement – *Dell Computer*⁴⁶

Standard setting, often under the auspices of a trade association, can facilitate innovation. On the other hand, private standard setting, precisely because it is private, is subject to abuse.⁴⁷

42. *Id.*

43. *Id.*

44. *Id.*

45. For similar enforcement efforts in non-intellectual property contexts, see, for example, *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985); *Lorain Journal Co. v. United States*, 342 U.S. 143 (1951). For a discussion of significant factual and legal differences between the Commission's *Intel* case and the separate private antitrust case brought against Intel by Intergraph, see Debra A. Valentine, *Abuse of Dominance in Relation to Intellectual Property: U.S. Perspectives and the Intel Cases*, Speech Delivered at the Israel International Antitrust Conference (Nov. 15, 1999), <http://www.ftc.gov/speeches/other/dvisraelin.htm>.

46. *Dell Computer Corp.*, 121 F.T.C. 616 (1996).

47. See *Allied Tube & Conduit Corp. v. Indian Head Inc.*, 486 U.S. 492, 496 (1988) (finding that the nation's largest producer of steel conduit packed an annual meeting with

In *Dell Computer*, the Commission alleged that Dell had abused the power conferred by its patent by failing to disclose its patent rights during a standard-setting process and then threatening to enforce those rights against others involved in that process.⁴⁸ Dell was a member of the Video Electronics Standards Association (“VESA”), a nonprofit standard-setting organization composed of virtually all major U.S. computer hardware and software manufacturers.⁴⁹ VESA had been in the process of setting a design standard for a computer part (“VL-Bus”) that carried information or instructions between a computer’s central processing unit and peripheral devices.⁵⁰ A Dell representative certified in writing that “this proposal does not infringe on any trademarks, copyrights, or patents” possessed by Dell.⁵¹ After VESA adopted a standard, Dell informed several VESA members that implementation of the VL-Bus would be a violation of Dell’s intellectual property rights.⁵²

The Commission’s complaint alleged that the “bait-and-switch tactics” adopted by Dell threatened to retard the development and adoption of standards in this particular matter and to discourage efficient standard-setting efforts in the future.⁵³ In a consent agreement, Dell agreed not to enforce its patent against computer manufacturers incorporating VL-Bus design, nor to enforce in the future any patent rights that it intentionally failed to disclose upon request of any standard-setting organization during the standard-setting process.⁵⁴ The remedy was designed to maintain incentives to innovate created by patent law by leaving in place Dell’s patent rights for all purposes other than enforcement against competitors who had relied on the apparently open industry standard.

The enforcement action and the order aimed to protect the integrity of the private standard-setting process, itself an essential device to help introduce new products, without punitive action against Dell’s patent.

new association members whose only function was to vote against approval of a standard that would allow a potential competitor into the market).

48. *Dell Computer*, 121 F.T.C., at 616.

49. *Id.*

50. *Id.*

51. *Id.*

52. *Id.*

53. *Id.*

54. *Id.*

**D. Horizontal Mergers and Claims of Efficiency – *Lilly/Sepracor*,⁵⁵
*Ciba-Geigy/Sandoz*⁵⁶ and *Glaxo/Smith-Kline*⁵⁷**

It has become commonplace for companies that control overlapping or complementary intellectual property to defend proposed horizontal mergers or joint ventures on grounds that the combined entity will be able to innovate or introduce innovative products more promptly and efficiently. Where levels of concentration or entry barriers are low, the Commission routinely allows such mergers or joint ventures. One example among many, *Lilly/Sepracor*, epitomizes the technical and predictive difficulties that antitrust enforcers face in an intellectual property context. In that case, Lilly, a manufacturer of the block-buster drug Prozac, sought an exclusive license to the rights to a follow-on and allegedly superior product. It was uncertain whether the follow-on drug would be approved by the FDA, how soon it would come to market, whether and to what extent Lilly's patent on Prozac would have blocked marketing of the follow-on drug, and whether it represented a meaningful advance over Prozac. Speaking for myself, I chose not to challenge the arrangement. Prozac faced several other competitors, and there was a range of other generic manufacturers ready to challenge Prozac when it went off patent. Also, Lilly's distribution resources and scientific expertise made it likely that Lilly would bring this new drug to the market much more promptly than would otherwise be the case.

On the other hand, where market shares and concentration are high and the merger is likely to leave only one or two sources of a product, efficiencies, including effects on innovation, should almost never justify the merger. For example, in December 1996, the Commission issued a consent order restricting a proposed merger between Ciba-Geigy and Sandoz, the two leading commercial developers of gene therapy products.⁵⁸ At that time, the two firms were engaged in rival research, development and testing efforts that were expected to yield significant improvements in the treatment of cancer and other diseases and medical conditions by the year 2000. In order to ensure that the merger would not slow R&D or raise prices for gene therapy products closest to market, the consent order required, among other things, the licensing of a package of gene therapy technology, know-how, and patent rights to a third party so that it would

55. There is no public record of *Lilly/Sepracor*.

56. *In re Ciba-Geigy Ltd.*, No. 961-0055, 1996 F.T.C. LEXIS 701 (Dec. 15, 1996).

57. *In re Glaxo Wellcome PLC*, No. C-3990, 2000 F.T.C. LEXIS 172 (Dec. 18, 2000).

58. *Ciba-Geigy*, 1996 F.T.C. LEXIS 701.

be in a position to compete against the combined firm.⁵⁹ The Commission faced a similar situation in the merger of Glaxo and Smith-Kline Beecham, where the Commission required the parties to assign intellectual property rights to an acquirer to prevent extreme concentration in the market.⁶⁰

Mergers to monopoly or near-monopoly, especially when the product has already been developed and is near the marketing stage, threaten to cause short-term anticonsumer effects in intellectual property markets just as they would in markets generally. Requiring that a second firm be set up in the market, thus restoring the competition lost as a result of the merger, is designed to ensure that competition at least plays some role in future developments in the market.

E. Vertical Mergers and Claims of Efficiency – *Silicon Graphics*⁶¹

In 1995, the Commission reached a consent with Silicon Graphics, Inc. (“SGI”) that allowed two acquisitions to proceed while at the same time addressing vertical foreclosure concerns that threatened to eliminate innovation competition. According to the Commission’s complaint, SGI, the dominant provider of entertainment graphics workstations with a 90 percent market share, had proposed to acquire Alias and Wavefront, two of the three dominant developers of Unix-based entertainment graphics and animation software that operate on those workstations.⁶² The Commission was concerned about vertical foreclosure in both directions. Rival workstation manufacturers would not be able to compete effectively if Alias and Wavefront were to design their software to be compatible only with SGI’s workstations.⁶³ At the same time, rival entertainment graphics software manufacturers would be foreclosed from 90 percent of a market if SGI were to close its previously open software interface so that only Alias and Wavefront would be able to design compatible software.⁶⁴ The Commission also was concerned that if SGI were to allow Alias and Wavefront to continue to work with rival workstation manufacturers to develop complementary products, SGI would be able to use proprietary information received in the course of those efforts to obtain an unfair competitive advantage over workstation competitors.⁶⁵

59. *Id.*

60. *Glaxo Wellcome*, 2000 F.T.C. LEXIS 172.

61. *In re Silicon Graphics, Inc.*, 120 F.T.C. 928 (1995).

62. *Id.*

63. *Id.*

64. *Id.*

65. *Id.*

On the other hand, there were strong indications that the combination of SGI, Alias, and Wavefront's complementary capacities would lead to important innovation. In order to maintain competition, while at the same time allowing the achievement of these potential efficiencies, the Commission negotiated a consent order that allowed the merger to proceed subject to three main conditions.⁶⁶ First, in order to preserve workstation competition, the Commission required the merged entity to enter into a Commission-approved porting agreement with a workstation competitor under which SGI would be required to use best efforts to ensure optimal interoperation of Alias' leading software programs with the competitor's workstations.⁶⁷ Second, in order to keep competition fair, the order included a firewall provision prohibiting the transfer to SGI of the workstation competitor's proprietary information.⁶⁸ Finally, in order to maintain software competition, the order required SGI to maintain an open architecture and publish its application programming interfaces for its workstations, and to refrain from discriminating against outside software rivals of Alias and Wavefront.⁶⁹

The order was admittedly "regulatory," including an on-going supervisory role for the Commission, which is usually best avoided. The alternative, however, would have been to block a vertical merger in a dynamic sector of the economy that offered exceptionally strong prospects for innovation.

F. Duration of Orders – *Intel*⁷⁰ and *AOL/Time Warner*⁷¹

As noted earlier in this discussion, because areas of the economy characterized by intellectual property usually are dynamic and fast-changing, predictions are not always reliable. On the other hand, it is often the case that antitrust enforcers must intervene at an early point in order to be effective, because once mergers or other transactions lead to a dominant market position, restoration of competition may be very difficult, or even impossible, to achieve. Since prompt intervention is necessary and perfect foresight impossible, a long-term remedy set in stone can be highly counterproductive.

Until six years ago, antitrust orders entered by the FTC were permanent and were vacated only if a party covered by the order could show

66. *Id.*

67. *Id.*

68. *Id.*

69. *Id.*

70. *In re Intel*, No. 9288, 1999 F.T.C. LEXIS 145 (Aug. 6, 1999).

71. *In re Am. Online, Inc.*, No. C-3989, 2000 FTC LEXIS 170 (Dec. 14, 2000).

changed circumstances of fact or law.⁷² In 1995 the Commission changed its policy and adopted a twenty-year cap on all antitrust orders.⁷³

Even twenty years can be an unacceptably long duration for an order when high technology is concerned. As a result, the Commission, largely on its own initiative, has curtailed the duration of several of its orders in the high-technology sector to less than twenty years. For example, the Commission settlement in *Intel*, discussed earlier, limited the duration to ten years because of the fast-changing nature of competition in microprocessor design.⁷⁴

A more striking example can be found in the recent settlement of the proposed merger of America Online and Time Warner. There, the product markets alleged to be likely affected by the merger included broadband Internet connections over cable (the way most residential broadband subscribers currently access the Internet) and “interactive television” - a new technology that will permit expanded viewer choice of the forms of entertainment and information received over cable.⁷⁵ AOL and Time Warner argued to the Commission that broadband connections over cable were already challenged competitively and would increasingly be challenged by broadband connections over digital subscriber lines (“DSL”), by satellite, and through wireless devices.⁷⁶ As to interactive television, the parties noted that though widely regarded as an important innovation, interactive television was largely in the developmental stage.⁷⁷ Given the uncertainty of developments in these areas and the dynamic quality of innovation, the Commission elected to limit the duration of all provisions of its order to five years⁷⁸ - the shortest duration of a competition order of which I am aware.

Of course, it is possible that the market will develop in unexpected ways such that competition problems would become more, rather than less, serious five or ten years after an order is entered. If those problems are created by illegal competitive behavior, there are other provisions of the antitrust laws that will come into play.⁷⁹ On the other hand, if dominance is achieved solely as a result of the superior skill and energy of the

72. 16 C.F.R. § 3.72 (2000).

73. 16 C.F.R. § 3.72 (b)(3) (2000).

74. *Intel*, 1999 F.T.C. LEXIS 145.

75. *Am. Online*, 2000 F.T.C. LEXIS 170.

76. *Id.*

77. *Id.*

78. *Id.* at *56.

79. See, e.g., section 2 of the Sherman Act, 15 U.S.C. § 2 (1994) (monopolization).

merged entity, then neither the antitrust authorities nor consumers would have much about which to complain.

G. Conclusions to Be Drawn from the above Cases

Obviously I am not objective since every one of the enforcement and nonenforcement decisions described in this section was voted upon by the FTC in the past six years,⁸⁰ most unanimously. Nevertheless, as exemplified by the above cases, there is a good deal of evidence that in fashioning complaints and orders in cases that involve intellectual property, the FTC has tried to ensure that conventional antitrust enforcement is sensitive to incentives to innovate. In some instances the enforcement action itself was designed to discourage behavior alleged to suppress other people's intellectual property rights (e.g., *Intel*). In others it was designed to pursue conventional enforcement, but with attention to avoid overreaching that would undermine incentives to innovate (e.g., *AOL/Time Warner*).

V. SOME INSTITUTIONAL ISSUES

In a recent paper Judge Richard Posner raised, in his usual thoughtful way, questions about whether the institutional structure of antitrust enforcement is adequate to deal with the pace of development and type of issues likely to be encountered in the New Economy.⁸¹ In addressing such institutional questions, one cannot help but think of the debacle of the U.S. government monopolization case against IBM, in which IBM at the time represented the cutting edge of high-technology innovation. After several years of investigation, the government filed its lawsuit in 1969. After seven years of discovery and six years of trial, including a trial presentation that covered 104,000 pages of transcript, the government in 1982 dismissed the case - almost certainly correctly - on grounds, among others, that by that time IBM was no longer a monopolist.⁸²

In addition to raising the issue of speed of review, antitrust enforcement actions involving high technology raise questions that are unusually complicated and highly technical: for example, whether new technologies

80. I have been the Chairman of the FTC since April 1995.

81. Posner, *supra* note 3.

82. See *Post-Mortem on IBM Case Provides Forum for Conflicting Perspectives*, 1051 *Antitrust & Trade Reg. Rep. (BNA)*, 310, 310-11 (Feb. 19, 1982); *United States v. IBM*, 52 Civ. 72-344, U.S. Dist. LEXIS 5829 (S.D.N.Y. Apr. 30, 1997) ("It has been established beyond any real question that, whereas IBM formerly had a great deal of market power in an antitrust sense, that market power has been substantially diminished, and is continuing to diminish, to the point of its disappearance in the sense of a threat of antitrust violation."), *aff'd*, 163 F.3d 737 (2d Cir. 1998).

are likely to persist in the face of future competition, or whether a highly technical chip was designed to preclude a particular form of competition. As the *IBM* example illustrates, investigations and cases tend to be long compared to other forms of civil litigation because questions of cause and competitive effect are exceptionally complicated. Is antitrust up to the challenge?

A. Speed of Review

It is usually in everyone's interest - producers, consumers, and government - to review and resolve cases promptly. On the other hand, law enforcement can rarely equal the speed of economic change in high-technology sectors. Fact-finding, especially when developed through an adversarial process before decision makers who are not technically trained, is bound to be slow. All the government can hope to do is reduce delay to the maximum extent possible without short-changing consumers or undermining the rights of respondents.

In terms of efficient review, much progress has been achieved in recent years in the area of merger enforcement. Ninety-seven percent of mergers filed with the Department of Justice and the FTC are cleared without a "second request" (i.e., without extensive factual inquiry),⁸³ and of transactions where a second request is issued, the parties are in court or the investigation is closed in the vast majority of instances within 120 days.⁸⁴

If the Commission decides to challenge a transaction in court, it usually proceeds by preliminary injunction so that the initial trial is completed within a matter of months after a complaint issues. If the Commission thereafter elects to proceed along the administrative route and litigate the case within the agency, it may adopt a "fast track" procedure, to which the parties must consent, with the result that the elapsed time from complaint to Commission decision does not exceed thirteen months.⁸⁵

A comparable improvement in the speed of review and litigation needs to occur in the non-merger area. My impression is that the enforcement agencies and the courts are aware that it is essential to move things along, and improvement is occurring.

83. FTC BUREAU OF COMPETITION & U.S. DEP'T OF JUSTICE ANTITRUST DIVISION, ANNUAL REPORT TO CONGRESS, FISCAL YEAR 1999, PURSUANT TO SUBSECTION(J) OF SECTION 7A OF THE CLAYTON ACT, app. A, <http://www.ftc.gov/os/2000/08/hsrapp99.pdf>.

84. This is not available in any public record.

85. 16 C.F.R. § 3.11A(c)(1), (3) (2000).

B. Technology Challenges

Antitrust enforcement has often faced the challenge of dealing with complicated technological questions - for example in patent litigation or review of standard-setting results. I can testify better than most that there has never been a time when so many highly technical questions, best addressed by people with advanced training in chemistry, biology, and engineering, needed to be resolved in order to deal with antitrust issues.

Few government enforcement officials, administrators, or judges have sufficient technical competence to deal directly with those issues, so it is necessary to turn to experts. As Judge Posner notes, relatively few lawyers and economists have scientific training and those who do can command vastly better levels of income in the private sector than in the government.⁸⁶ There are competent experts in the private sector, but many are either on the payroll of high-technology companies or they hope to be in the future and so avoid government connections. I fully acknowledge the problem identified by Judge Posner.

The situation is not entirely bleak, however. Government lawyers and economists, after exposure to the technology of a particular sector, learn in the process of doing and are better equipped to handle a later, similar case. Also, some technically sophisticated lawyers and economists, blind to the virtues of wealth maximization, remain with the government for extended periods, and even an entire career, because they prefer service in the public sector. In addition, some technical experts from outside government do commonly serve as consultants and expert witnesses on government litigation teams, or as trustees appointed to oversee compliance with consent decrees. Finally, and perhaps most important, the FTC has turned to other agencies in government - the National Institute of Health with respect to biotechnology, the Federal Communications Commission for communications expertise, and the Food and Drug Administration for help on pharmaceutical mergers - and has in that way found invaluable assistance.

VI. CONCLUSION

This discussion is primarily about the need to adjust competition policies to the realities of the "New Economy." I have argued that the New Economy is not so new as to render obsolete the sound principles of competition that have guided antitrust over the years, but new enough to pose some substantial challenges. While much remains to be done, both substantively and institutionally, my contention is that antitrust has made sig-

86. Posner, *supra* note 3, at 7.

nificant progress in understanding the New Economy, and adjusting its policies and procedures to take more fully into account the need to protect both incentives and opportunities to innovate, and the need to keep up with a dynamic marketplace. At least as important, there is a need, touched upon only briefly here, to revisit intellectual property policy to assess whether intellectual property protection has expanded in a way that threatens the appropriate balance between property rights and competition.

PROPERTY RIGHTS AND COMPETITION ON THE INTERNET: IN SEARCH OF AN APPROPRIATE ANALOGY

By *Maureen A. O'Rourke*[†]

ABSTRACT

Reasoning by analogy is a time-honored method of legal development. However, recent litigation exposes the weakness of applying legal principles developed in the “bricks and mortar” world by analogy to cyberspace. Using recent court decisions that discuss who may access a website and by what means, this Article illustrates how results can change depending on the analogy the court adopts. The Article argues that rather than searching for analogies, courts and legislators could more profitably devote their energies to understanding how the Internet differs from physical space, evaluating whether those differences call for new legal rules, and considering the conflicting policy interests implicated. Real property rules may have unintended anticompetitive consequences if transplanted to cyberspace. Indeed, a systematic evaluation of the policy interests implicated supports more flexible property rules governing access to and use of websites than those rules governing access to traditional real or personal property.

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I. INTRODUCTION

Historically, the law has accorded the owners of many types of property certain exclusive rights. Because the underlying economic and other policies justifying these grants of rights vary in strength depending on the type of property, the particular bundle of rights varies. For example, the owners of real property generally enjoy more expansive exclusionary rights than the owners of personal property, including intellectual property.¹

1. The real property owner has a right to exclude any person who would cross his or her property’s boundaries regardless of the presence or absence of harm, and subject to limited defenses such as necessity. See Frona M. Powell, *Trespass, Nuisance, and the Evolution of Common Law in Modern Pollution Cases*, 21 REAL EST. L.J. 182, 185-88 (1992) (summarizing the trespass cause of action); see also JOHN G. SPRANKLING, UNDERSTANDING PROPERTY LAW § 30.02, at 486 (2000) (noting that although the original right to exclude was “virtually absolute” and the trespass cause of action “extraordinarily broad,” in recent years the right to exclude “has been curtailed for reasons of public policy”). In contrast, a successful trespass to chattels action requires that the plaintiff prove harm. See Susan M. Ballantine, Note, *Computer Network Trespasses: Solving New Prob-*

The various property regimes have traditionally coexisted fairly comfortably with each other and with antitrust law. Indeed, American competition law presupposes a system of private property as the model under which economic incentives will produce the most efficient and desirable marketplace outcomes.² Antitrust law generally tolerates harm to the competitive process that may seem to arise when property owners exercise their lawfully obtained rights.³ It may, however, intervene by requiring a property owner to deal with others when that owner has obtained and abused a monopoly position,⁴ or the property itself has become an essential facility.⁵ In the past, these interventions have been relatively rare, and

lems with Old Solutions, 57 WASH. & LEE L. REV. 209, 234 (2000) (summarizing the trespass to chattels cause of action). Before being entitled to an intellectual property right, the owner of an intangible work must meet certain statutory requirements. *See, e.g.*, 17 U.S.C. § 101 (1994) (granting copyright only in original works of authorship fixed in a tangible medium of expression); 35 U.S.C. §§ 101-103 (1994) (considering only new, useful, and nonobvious processes, machines, manufactures, compositions of matter, and improvements thereto to be within the scope of the patent law). The intellectual property rights, once granted, are subject to a number of limiting doctrines and defenses. *See, e.g.*, 17 U.S.C. § 107 (1994) (setting forth the fair use defense in copyright law); *see also infra* Part II.C (discussing how copyright law and real property law would approach the question of access to a website differently).

2. *See* Ian J. McPherson, Comment, *From the Ground to the Sky: The Continuing Conflict between Private Property Rights and Free Speech Rights on the Shopping Center Front Seventeen Years after Pruneyard*, 16 N. ILL. U. L. REV. 717, 718 (1996) (noting that private property rights are essential to the functioning of an economy based on capitalist theory and citing JAMES W. ELY, JR., *THE GUARDIAN OF EVERY OTHER RIGHT: A CONSTITUTIONAL HISTORY OF PROPERTY RIGHTS* (1992)).

3. Under antitrust law, a property owner may generally refuse to deal with others. In the absence of any purpose to create or maintain a monopoly, the [Sherman A]ct does not restrict the long recognized right of [a] trader or manufacturer engaged in an entirely private business, freely to exercise his own independent discretion as to parties with whom he will deal; and, of course, he may announce in advance the circumstances under which he will refuse to sell.

United States v. Colgate & Co., 250 U.S. 300, 307 (1919); *see also infra* Part III.B.2 (discussing situations in which antitrust law may impose an affirmative duty to deal).

4. *See, e.g.*, *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985) (holding the monopolist Aspen Skiing's behavior in refusing to continue a joint marketing arrangement with a smaller competitor to be exclusionary conduct); *Lorain Journal Co. v. United States*, 342 U.S. 143 (1951) (holding that a newspaper publisher's refusal to accept advertising from parties who also advertised on a radio station was intended to destroy the radio station as a competitor, and was an illegal attempt to monopolize interstate commerce for local advertising).

5. *See, e.g.*, *United States v. Terminal R.R. Ass'n*, 224 U.S. 383 (1912) (holding that owners of bridge and terminal facilities essential to rail access must make them available to all users on reasonable terms); *see also* Phillip Areeda, *Essential Facilities:*

almost always controversial,⁶ in part because doctrines in property law itself (particularly intellectual property law) limit the scope of exclusive property rights, helping to ameliorate the anticompetitive effects that might otherwise sometimes attend their exercise.⁷

As information has migrated to the Internet, courts, in addressing claims of unauthorized access to websites and the use of data thereon, have searched for an analogy to help them define property rights in websites. Results vary depending on what analogy the court adopts, and whether it focuses on the website itself or the tangible server on which that site resides. The analogy the court adopts also has competitive consequences that, because of the particular characteristics of the electronic me-

An Epithet in Need of Limiting Principles, 58 ANTITRUST L.J. 841 (1989) (criticizing the doctrine and examining its evolution).

6. The widely publicized antitrust actions against Intel and Microsoft illustrate the controversy that can attend antitrust actions, particularly when intellectual property rights are involved. See *Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346 (Fed. Cir. 1999) (reversing a lower court's finding of an antitrust violation by Intel, and suggesting that exercising intellectual property rights cannot constitute an antitrust violation); *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30 (D.D.C. 2000) (holding Microsoft liable for violations of the Sherman Act); see also *Agreement Containing Consent Order, In Re Intel Corp.*, No. 9288, 1999 F.T.C. LEXIS 38, 41-44 (Mar. 17, 1999) (setting forth the terms of a consent decree that Intel signed with the Federal Trade Commission addressing the same conduct as alleged in the *Intergraph* case); *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000) (setting forth the remedial order, including mandatory disclosure of certain technical information); George Leopold & Brian Fuller, *Industry Mulls API Impact of Microsoft Divestiture*, ELECTRONIC ENGINEERING TIMES, June 12, 2000, at 6 (citing Microsoft's contention that the remedial order "is unfair confiscation of our intellectual property, and [] goes far beyond any issue in th[e] case"). Microsoft further argues that "[t]he government has made plain that it contemplates a wholesale transfer of proprietary information about Microsoft's operating systems to competitors on a royalty-free basis, a radical step that will undermine Microsoft's incentives to innovate." Mary Jo Foley, *Microsoft Ruling: Devil in the Details*, ZDNET NEWS, June 7, 2000, at <http://www.zdnet.com/zdnn/stories/news/0,4586,2584068,00.html>.

7. For example, the common law doctrine of misuse limits the copyright or patent holder's ability to expand the scope of its intellectual property right. See, e.g., *Lasercomb Am. Inc. v. Reynolds*, 911 F.2d 970, 975-77 (4th Cir. 1990) (explaining the evolution of patent misuse in the course of adopting an analogous principle in copyright law). The statutory doctrine of fair use in copyright provides certain infringers with a defense against copyright infringement and is often employed when market defects prevent pro-competitive licensing from occurring. See 17 U.S.C. § 107 (1994); Wendy J. Gordon, *Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and Its Predecessors*, 82 COLUM. L. REV. 1600 (1982) (explaining how fair use can be conceptualized as a response to market failure); Lydia Pallas Loren, *Redefining the Market Failure Approach to Fair Use in an Era of Copyright Permission Systems*, 5 J. INTEL. PROP. L. 1 (1997) (building on Gordon's work and emphasizing different ways in which markets may fail).

dium, may be magnified when compared to the effects of property rights in the "real" world. This raises the question of whether antitrust law, or at least competitive concerns, should influence the structure of property rights on the Internet more explicitly than they have in tangible space.

For example, consumers benefit from the availability of comparison-pricing information. In the conventional retail context, the real property right to exclude includes the rights to ban those who would gather comparison-shopping data from entering a retail establishment, and to remove them from the premises once the owner detects their activity.⁸ The impact on competition is, however, probably minimal, because it is difficult for the storeowner to detect the offensive conduct.

Should the same right to exclude apply on the Internet? The Internet decreases costs of information exchange, making it likely that consumers shopping in cyberspace will fare better than their real world counterparts in obtaining comparison-pricing data. Rather than driving around town to find the lowest price, consumers can sit at their computers and search different sites for the best deal. However, it is by no means costless for them to access and search each e-commerce website offering products of interest. Consumers would likely enjoy significant cost-savings and competitive benefits if they could travel to one or a few websites that aggregate the product and pricing information of many competitive suppliers.⁹

Do these benefits sufficiently offset the costs these aggregators impose on e-commerce sites in the course of obtaining the relevant information? In other words, does the same cost-benefit equation that supports a broad property right to exclude in real space hold on the Internet?

Answering these questions is essential to formulating a sensible property rights regime on the Internet, and requires an understanding of the technical details involved in the aggregation process. Aggregator sites generally obtain the relevant information either directly from e-commerce sites or from other aggregators. They may travel to such sites each time consumers enter queries or periodically through the use of software tools,

8. See, e.g., *Culhane v. State*, 668 S.W.2d 24 (Ark. 1984) (upholding the use of a criminal trespass statute to prosecute comparison shoppers asked to leave the premises of a retail store); *Mosher v. Cook United, Inc.*, 405 N.E.2d 720 (Ohio 1980). However, in July 1996, in an unrecorded decision, a Virginia judge dismissed trespassing charges against an individual who was copying down prices of television sets at a Best Buy store in Reston, Virginia. See Mark S. Nadel, *Maximizing Consumer Benefits from E-Commerce Competition: Emerging Obstacles & Policy Options*, 14 HARV. J. L. & TECH. (forthcoming 2001) (manuscript at 50-51, on file with author).

9. See Nadel, *supra* note 8 (manuscript at 23) ("The emergence of 'aggregators' . . . would appear to be in the public interest.").

and record the data automatically or manually—all without having any agreement with the sites they access and use. Alternatively, aggregators may seek more or less formal agreements with such sites. The more formal contracts would likely contain provisions detailing what uses the aggregator may make of the licensor's trademark and content, as well as clauses addressing warranties, limitations of remedies, and payments between the aggregator and licensor.¹⁰ Regardless of whether or not the aggregator has an agreement with the sites it indexes, its activity uses the system resources of the indexed sites. This burden is part of the cost to be weighed against the competitive benefits arising from the aggregator's activities.

Should the law allow website owners to exclude "unlicensed" aggregators from their sites? It may be significantly easier for a website owner to monitor and detect the activity of aggregators than it is for the owner of a bricks and mortar store to find and eject comparison shoppers. Unless the market will encourage website owners to license access to their sites and data to aggregators efficiently, the competitive impact of a broad exclusionary rule may be much greater in cyberspace than in real space. Or is this concern sufficiently mitigated both by consumers' abilities to use Internet navigation tools to comparison shop on their own, and by the existence of antitrust law to police those anticompetitive excesses that do occur?

This Article considers the question of whether or not aggregators should be able to obtain product and pricing information without first securing permission from the sites that they search. It argues that the law needs a framework informed by competitive concerns to help define property rights on the Internet appropriately. Part II begins by providing some factual background on the technologies that individuals and commercial entities use to navigate through and exploit the power of the Internet. It then describes the claims that e-commerce sites are raising against certain

10. Brief of Amici Curiae Reed Elsevier et al. at 13, *eBay, Inc. v. Bidder's Edge, Inc.*, 100 F. Supp. 2d 1058 (N.D. Cal. 2000) (No. 00-15995) (9th Cir. filed July 12, 2000) [hereinafter Brief of Amici Curiae Reed Elsevier et al.]. The brief explains that eBay enters into lengthy agreements with its licensees governing, inter alia,

the way in which its licensees can "deep link" to the eBay site; the default display of eBay content on the licensee's site; the protection and use of eBay's intellectual property and advertisement content; basic compensation provisions . . . ; restrictions on assignments and sublicenses; provisions governing termination and renewal of licenses; limitations on warranties for consequential damages; and provisions governing the cessation of services during emergencies.

Id.

uses of web technology. Using recent court decisions, it then demonstrates how the analogy that a court uses influences its decision, and how building analogy on top of analogy can result in the creation of new law that bears little resemblance to prior causes of action. Part III considers what competition policy could add to the debate over access to websites and use of their product and pricing information. It also discusses how antitrust law may be deployed to ensure that such data is available to consumers, at least at some point in time. It concludes, however, that antitrust law will likely not generally find a violation when publicly available sites block the access of certain visitors, including aggregators. Part IV takes a broad policy perspective, considering how different areas of law provide insights that can help in constructing an appropriate rule that defines property rights on the Internet in a procompetitive way. It proposes alternative common law and statutory approaches to addressing the question of unwanted access to websites. The Article concludes by arguing that a statutory approach is preferable, and that Congress has already considered legislation that could serve as a framework for implementing the statute suggested here.

II. NAVIGATING THE INTERNET: FROM HYPERLINKING TO DATA AGGREGATION

A. The Evolution of Tools Enabling E-Commerce

The Internet's architects conceived of and implemented the network as a decentralized tool.¹¹ Their primary goals were to help ensure that the nation's computers could withstand a nuclear attack, and to enable researchers both to share their results and avoid wasteful duplication.¹² Over time, developers created networking protocols that enabled communication across networks, allowing users on different systems to "talk" to each other and exchange files.¹³ But the lack of any index into the mass of in-

11. For a brief history of the Internet, see Michael A. Geist, *The Reality of Bytes: Regulating Economic Activity in the Age of the Internet*, 73 WASH. L. REV. 521, 525-30 (1998); Maureen A. O'Rourke, *Fencing Cyberspace: Drawing Borders in a Virtual World*, 82 MINN. L. REV. 609, 615-19 (1998) and sources cited therein.

12. See Geist, *supra* note 11, at 526-27 (describing these goals and how they were implemented using the technology of packet switching, and by the use of a distributed network in which nodes are connected in many different ways). This technology implements a level of security, and makes it more likely that a message can reach its destination even if one or more nodes is disabled. *Id.* at 527.

13. See *id.* at 528 (explaining the Transmission Control Protocol/Internet Protocol (TCP/IP) that allows different networks to exchange data); Michael J. Schmelzer, Note, *Protecting the Sweat of the Spider's Brow: Current Vulnerabilities of Internet Search*

formation residing on these many different computers made it difficult for a user to find data of interest.

The answer to this problem evolved over the years,¹⁴ culminating in the now familiar World Wide Web.¹⁵ The web employs protocols that help to make the dispersed body of information available on the Internet look like a unified body of knowledge.¹⁶ In particular, programmers may write their websites to provide for one or more hyperlinks ("links") to other locations within the same site or elsewhere on the Internet.¹⁷ A link may transfer the user to the home page or an internal page of another's site. A link to an internal page of another's site is called a "deep link." Links appear as pointers on the website and are often presented in highlighted text or as a graphical symbol. Hyperlinks make it easier for users to find and travel to other sites of interest.

Technically, when a user clicks on a link, the user's computer sends a request to the server on which the desired document resides.¹⁸ That com-

Engines, 3 B.U. J. SCI. & TECH. L. 12, ¶ 4 & n.5 (1997) (discussing the file transfer protocol or "ftp").

14. See Schmelzer, *supra* note 13, ¶ 4 (describing how "[t]he ability to transfer files led to the development of large file archives accessible to anyone connected to the Internet"). Schmelzer also describes how tools, including "Archie" and "Gopher," developed to track archives and provide an interface into the Internet. See *id.* ¶¶ 5-6. He also notes, however, that "archive access [] required some technical sophistication." *Id.* ¶ 6.

15. Tim Berners-Lee, a researcher at the European Organization for Nuclear Research (CERN), is generally credited with creating the World Wide Web. See generally Robert Wright, *The Man Who Invented the Web*, TIME, May 19, 1997, at 64-68.

16. See O'Rourke, *supra* note 11, at 621-22 (explaining the web's technical features, including hypertext mark-up language ("HTML"), hypertext transfer protocol ("HTTP"), and the uniform resource locator ("URL")). Web protocols continue to evolve. For example, extended markup language ("XML") may eventually replace HTML as the language of choice for writing web documents.

In late 1998, many seasoned tech observers suggested that XML . . . would swiftly and smoothly unseat the current HTML . . . as the way Web pages are created, distributed and experienced. It's still an extremely promising set of technologies and is farther along than it was even a year ago. Yet XML is far from ready to take over the Web.

Jimmy Guterman, *Final Debug: Standards Slow XML Development Process*, CHI. TRIB., Jan. 27, 2000, 2000 WL 3644500.

17. [HTML] use[s] hyperlinks to enable users to click on highlighted text and immediately "jump" to a new document. By applying the hyperlinks protocol to the Internet, users could transparently jump between documents on the same computer or on a computer located at the other end of the world—hence the label, World Wide Web.

Geist, *supra* note 11, at 529; see O'Rourke, *supra* note 11, at 621.

18. For a summary of the technical details involved in hyperlinking, see O'Rourke, *supra* note 11, at 632.

puter decides whether or not to respond favorably to the query. It honors the request by sending a copy of the document to the user's computer, while the original remains on its server.¹⁹ In other words, the user who clicks on a link starts a chain of events that uses resources of both his or her own system and those of the linked system. Commentators sometimes refer to this process as employing "pull" technology: The user "pulls" a copy of desired content from the linked site rather than having that site's server "push" content indiscriminately to the user who may or may not be interested in it.²⁰

Web browser software, like Netscape Navigator or Microsoft Internet Explorer, provides an easy-to-use interface to the web.²¹ Browsers often contain hyperlinks to popular sites. To assist users who do not know the address (Uniform Resource Locator, or "URL") of the site they wish to visit, browsers also usually offer their own search capability or hyperlinks to the websites of search engines. For example, Netscape's home page allows a user to conduct a search by using Netscape or by hyperlinking to

19. Calling what the linked server sends a "copy" is a bit of a misnomer. The linked server sends a stream of bits back to the linking user's browser that "reads the code and assembles the page on the user's computer screen." Rebecca Quick, *How a Link Works*, WALL ST. J., July 2, 1997, at B6; *see also* Dan L. Burk, *The Trouble With Trespass*, 4 J. SMALL. & EMERGING BUS. L. 27, 41 (2000) (noting that no "material copy" moves between the linking and linked servers and that the Copyright Act, which defines "copy" with reference to a tangible object, has difficulty dealing with Internet transmissions).

20. *See* Burk, *supra* note 19, at 45; Jerry Kang, *Cyber-Race*, 113 HARV. L. REV. 1130, 1148 (2000) ("'Push' communications arrive at the receiver without any special effort on the part of the receiver to obtain that particular communication item. . . . By contrast, 'pull' communications require more focused effort by the receiver to retrieve particular information. Surfing the Web is a common example of pull technology."); *see also* Brief of Amici Curiae Law Professors at 7, *Bidder's Edge, Inc. v. eBay, Inc.*, 100 F. Supp. 2d 1058 (N.D. Cal. 2000) (No. 00-15995) (9th Cir. filed June 22, 2000) [hereinafter Brief of Amici Curiae Law Professors] (discussing "pull" technology and noting that "servers on the Internet are passive and do not deliver information to a consumer's computer unless that information is requested"). The author provided comments on and signed this brief in support of Bidder's Edge, Inc. She received no compensation for this activity.

21. Like indexing tools, web browser software developed over time. *See* Geist, *supra* note 11, at 529-30 (identifying the development of Mosaic, a "more stable and advanced" browser than earlier efforts, as a key to fomenting widespread interest in the Internet); O'Rourke, *supra* note 11, at 625 (citing Mosaic as encouraging both Internet use and the development of software firms providing web navigational tools).

another search engine.²² The browser generally displays the URL of the site displayed on the screen.

Search engines often work by using automated software tools called “robots” or “spiders” to “crawl” the web, extracting information to use in building a searchable database.²³ Such automated tools allow the engines to amass information more quickly than a manual approach that would require entering each link into the browser and following its path. Search engines create their own databases indexing the contents of the web to speed their response times to users’ queries. When a user enters a query, it is much more efficient for the search engine to scan its database for matches to search terms than for it to search the millions of web pages in real-time.²⁴

Spiders employ the same web protocols as any browsing individual would in following links to sites: They request information from the linked site and receive a copy of it if the queried server honors their request. Unlike individual users, spiders engage in “automated browsing.” They “traverse[] the Web’s hypertext structure by retrieving a document, and recursively retrieving all documents that are referenced. . . . In reality [spiders] are implemented as a single software system that retrieves information from remote sites using standard Web protocols.”²⁵ This repetitive searching often imposes a burden on the linked sites’ servers exceeding that generated by an individual who uses a browser to link to the site.²⁶

Search engines differ from individual users in other ways. When a person clicks on a link, his or her computer receives a copy of the requested page that is displayed on the screen but seldom intentionally downloaded

22. See Netscape, at <http://home.netscape.com> (last visited Apr. 6, 2001) (allowing users to search by using Netscape Search or hyperlinking to AltaVista, Ask Jeeves, Excite, Google, GoTo, HotBot, LookSmart, or Lycos Search).

23. See O’Rourke, *supra* note 11, at 623-24 (discussing how search engines work and citing authorities); Schmelzer, *supra* note 13, ¶ 11.

24. See O’Rourke, *supra* note 11, at 623-24.

25. Martijn Koster, *Robots in the Web: Threat or Treat?*, at <http://info.webcrawler.com/mak/projects/robots/threat-or-treat.html> (1997); see also Schmelzer, *supra* note 13, ¶ 11 (“Spiders search recursively, putting pages into their databases, then adding all the pages to which the first page points, and then endlessly adding all the subsequent pages.”).

26. See generally Koster, *supra* note 25. Note, however, that when large numbers of individuals each seek to access a particular site, they can cause that site’s servers to crash under the combined load. See, e.g., Dean Takahashi, *Bells and Whistles: Multimedia can make a Web site come to life; Or kill it*, WALL ST. J., Nov. 22, 1999, at R58 (discussing how a webcast of a lingerie fashion show “generated so much traffic that it brought down the victoriasecret.com Web site” because the site lacked the bandwidth to transfer video files to “its vast Internet audience”).

to the hard drive.²⁷ In contrast, spiders retain a copy of the information from which they extract the data they need to build their databases.²⁸ The search engine periodically sends its spiders out to crawl the web and return to update its database.

One type of search engine is a data aggregator. Aggregators come in all shapes and sizes, including “shopbots” that offer comparative pricing information. For example, the Bidder’s Edge shopbot gathered product and pricing information from online auction sites, offering consumers the ability to compare the prices of items at many auction sites by traveling only to Bidder’s Edge.²⁹ The mySimon.com shopbot more broadly gathers data on products and prices from e-commerce sites rather than only from auction sites.³⁰

For a number of reasons, websites may not welcome spiders. They may object to the burden that any spider inevitably places on their sys-

27. Web browsers may store data on the user’s hard drive to speed data retrieval. See Burk, *supra* note 19, at 44 (citing I. Trotter Hardy, *Computer RAM “Copies”: Hit or Myth? Historical Perspectives on Caching as a Microcosm of Current Copyright Concerns*, 22 U. DAYTON L. REV. 423, 426-27 (1997)).

28. Bidder’s Edge, a site that employed a spider to search auction websites, described the process as follows:

Bidder’s Edge created its database by causing an automatic robot periodically to “crawl” or “spider” the category or index pages on the Web sites of the numerous on-line auction sites that Bidder’s Edge tracks. The robot reads information about auction items only from the same index pages that end-users see, and places that information in a buffer which then transforms the information into a JAVA page string. Bidder’s Edge then uses its proprietary HTML parsing technology on the JAVA page string to strip out graphics and other irrelevant information such as full length descriptions of the items for auction. Bidder’s Edge then uses a pattern matcher to cull out information that is already included in its database. New information is normalized and categorized, to allow different item listings from different sites to be listed together on the Bidder’s Edge database.

Bidder’s Edge’s Answer to First Amended Complaint and Bidder’s Edge’s Counterclaims for Monopolization, Attempted Monopolization, Unfair Competition, and Interference With Contractual Relations ¶ 92, *eBay, Inc. v. Bidder’s Edge, Inc.*, 100 F. Supp. 2d 1058 (N.D. Cal. 2000) (No. 99-21200) [hereinafter Bidder’s Edge’s Answer to First Amended Complaint].

29. See Bidder’s Edge, at <http://www.biddersedge.com/home.jsp> (last visited Nov. 27, 2000). Bidder’s Edge ceased operation on Feb. 21, 2001, citing “market and financial conditions.” See *A Message to Our Users*, at <http://www.biddersedge.com> (last visited Feb. 19, 2001).

30. See mySimon, at <http://www.mysimon.com> (last visited Apr. 6, 2001).

tems.³¹ Moreover, spiders that are not well-written can cause the searched site difficulty in processing their requests; this can result in a degradation in performance for all who access the site while the spider is active.³² Spiders also can occasionally come across information that the website would rather not share.³³ Finally, because a spider does not search in real-time, its database may contain and report out-of-date information to users who, in turn, may blame the indexed site for the error rather than the spider.³⁴

At the same time, though, spiders perform a service for both users and the sites that the spiders index. Users benefit from the availability of more information at lower cost, enabling them to make purchasing decisions that more accurately reflect their needs. Bidder's Edge, for example, aggregated data from more than one hundred auction sites containing over five million items.³⁵ Theoretically, a consumer could visit each of those one hundred sites individually and compare prices. Practically, however, most consumers' patience would run out after searching far fewer sites. Data aggregators allow consumers to visit one site that provides more complete information than the consumer would obtain on his or her own.

31. See Maureen A. O'Rourke, *Shaping Competition on the Internet: Who Owns Product and Pricing Information?*, 53 VAND. L. REV. 1965, 1979-81 (2000) (discussing the overburdening problem as alleged in the *eBay* case); see also *infra* Part II.C.2.

32. See Koster, *supra* note 25 (describing problems, including repeated retrievals and identical robot runs, that can arise when a spider is not well-written); see also Stephen T. Middlebrook & John Muller, *Thoughts on Bots: The Emerging Law of Electronic Agents*, 56 BUS. LAW. 341, 364 (2000) (citing eBay's Answering Brief that stated, the "use of robots is problematic" because they "consume the processing and storage capacity of a system, thus making that portion of the system's capacity unavailable to the system owner or other users. Robots can swamp computer systems with their repetitive rapid-fire requests, and by accident or design often have caused harm to computer systems.").

33. See What's a Bot?, at http://botspot.com/bot/what_is_a_bot.html (last visited Apr. 6, 2001).

34. See O'Rourke, *supra* note 31, at 1979 n.58 (citing sources stating that search engines can be inaccurate and quoting eBay).

Bidder's Edge copies the eBay category listing pages only periodically.

The auctions on eBay are ongoing and the items listed, number of bids and the price of any item are subject to change at any time. The auction listings which appear on Bidder's Edge, therefore, frequently do not accurately reflect the current state of the auction on eBay and those listings can in fact be dramatically incorrect due to staleness.

Id. (citation omitted).

35. See *eBay, Inc. v. Bidder's Edge, Inc.*, 100 F.Supp. 2d 1058, 1061 (N.D. Cal. 2000) (citing statistics as of March 2000); see also Bidder's Edge's Answer to First Amended Complaint, *supra* note 28, ¶ 91 (giving statistics as of January 2000 when Bidder's Edge indexed about seventy sites in two thousand categories with six million items).

At the same time, the indexed sites benefit from the organization that spiders bring to the web. By making it easier for users to find sites of interest, spiders increase the chances that users will travel to and patronize the indexed sites.

Perhaps recognizing that there are both pros and cons associated with spiders, Internet denizens (or “netizens”) generally follow certain “netiquette,” or customs, when spidering. For example, a site that does not wish all or part of its content to be accessed by spiders can employ a “robot exclusion.” A robot exclusion is a message contained in a text file available on the site’s server that specifies what part or parts of the site should not be visited by spiders.³⁶ A spider’s compliance with the standard is voluntary but “there is considerable public pressure for [it] to comply.”³⁷ But is this public pressure enough to ensure that search engines will use spiders in the least intrusive way, and in a manner guaranteeing that the benefits from the spiders’ activities exceed the costs? And should the law give some effect to this private ordering and/or impose some requirements of its own? For example, the law could enforce a rule under which a spider cannot crawl a site that has not “licensed” it to do so.

Besides or in addition to using a robot exclusion, a site can block a spider’s queries.³⁸ A site may be able to detect a spider’s activity because the spider generates an unusually large volume of requests compared to a “normal” user. Once the site uncovers the spider’s presence, it can identify the hardware address from which the spider originates, and refuse to process queries coming from that address.³⁹ However, a spider can evade such blocks by changing the address from which it sends its queries.⁴⁰ Should the law encourage this high-technology game of cat and mouse in which the indexed site takes steps to prevent crawling, the spider defeats them, and so on?

All of the questions that spider use raises are difficult in part because search engines, including aggregators, and individuals using browsers all utilize the same basic web technology. They differ in the burden they im-

36. See Koster, *supra* note 25 (describing how to implement the exclusion); Middlebrook & Muller, *supra* note 32, at 345 (noting that a website owner can indicate which bots may access a website and what pages they may visit by adhering to the Standard for Robot Exclusion).

37. Koster, *supra* note 25, at fig.1; Middlebrook & Muller, *supra* note 32, at 345 (stating that there is a “‘gentleman’s agreement’ as to how bots should operate”).

38. See O’Rourke, *supra* note 31, at 1984-85 (describing the use of so-called “Internet Protocol” or “IP” blocks).

39. *Id.* at 1984.

40. *Id.* at 1985. The spidering site may use a proxy server with a different address to route its requests. See *id.*

pose on the servers of the sites they visit, the means by which they access those sites, their commercial purpose or lack thereof, and how they use the information once gained. Should these distinctions lead to different legal results, and will one rule suffice to govern access to and use of websites as well as the *means* of access and use? As the Internet has developed as a commercial center, litigation raising these questions has increased without producing firm answers. A brief analysis of the claims raised by litigants shows how both they and the courts are still struggling to find the appropriate analogy to use in addressing these questions.

B. Litigation Involving Aggregators of Product and Pricing Information

1. Ticketmaster Corp. v. Tickets.com, Inc.⁴¹

Ticketmaster, the online and real world ticket seller, recently sued Tickets.com, a data aggregator.⁴² Tickets.com is a website that sells tickets to some events, but mainly offers information about where a user can buy tickets.⁴³ It obtains at least some of that information by using spiders to search, copy, and extract data from the websites of ticket sellers.⁴⁴ When users request tickets to an event, Tickets.com ostensibly searches the database it has built that contains this information and provides users with hyperlinks directly to the page on the site that offers the desired tickets.⁴⁵ In

41. 2000 U.S. Dist. LEXIS 4553 (C.D. Cal. Mar. 27, 2000).

42. Ticketmaster's First Amended Complaint for Injunctive Relief and Damages, Ticketmaster Corp. v. Tickets.com, Inc., 2000 U.S. Dist. LEXIS 4553 (C.D. Cal. Mar. 27, 2000) (No. 99-07654) [hereinafter Ticketmaster's First Amended Complaint].

43. *Ticketmaster*, 2000 U.S. Dist. LEXIS 4553, at *3.

44. [U]pon information and belief, Tickets.com also uses . . . "spiders" to systematically invade and search the Ticketmaster Web Site every business day, copy verbatim Ticketmaster Event Pages, and extract event information for almost every event identified on the Ticketmaster Web Site. Tickets.com also stores these verbatim copies of Ticketmaster Event Pages on its own computers and in its computer database for use on the Tickets.com Web Site without Ticketmaster's consent. Through the use of its "spiders," Tickets.com "hits" Ticketmaster's Web Site thousands of times virtually every day.

Ticketmaster's First Amended Complaint, *supra* note 42, ¶ 39.

45. Tickets.com engineered its web site to enable a consumer to be unknowingly deep-linked to Ticketmaster Event Pages when he or she clicks a link from the Tickets.com Web Site in order to provide tickets to live entertainment events for sale . . . The Unauthorized Deep-Links to the Ticketmaster Event Pages completely bypassed many web pages on the Ticketmaster Web Site, including, but not limited to, the Ticketmaster Home Page.

many cases, that site is Ticketmaster's, and the relevant page is deep within the Ticketmaster site.⁴⁶

Ticketmaster's complaint contained a number of claims.⁴⁷ It alleged that the unauthorized crawling constituted copyright infringement, breach of contract, misappropriation, and trespass. In particular, Ticketmaster alleged that Tickets.com (1) infringed Ticketmaster's copyrights by downloading and reproducing its web pages while crawling,⁴⁸ (2) breached the contract to which it had agreed by accessing the site by making commercial use of the site's contents,⁴⁹ (3) misappropriated Ticketmaster's valuable information by unlawfully acquiring it at little or no cost to itself,⁵⁰ and (4) committed trespass by searching Ticketmaster's website, taking its information, and deep linking.⁵¹

In its order on the defendant's motion to dismiss, the court stated that "hyperlinking [(including deep linking)] does not itself involve a violation of the Copyright Act . . . since no copying is involved."⁵² However, the court allowed the copyright infringement claim to survive, noting that the alleged crawling involved "actual copying . . . in the making of thousands of copies taken from Ticketmaster's interior web pages for the purpose of extracting the factual data carried thereon and using it to publish its own

Id. ¶ 50.

46. *Ticketmaster*, 2000 U.S. Dist. LEXIS 4553, at *3-4.

47. Included among these claims was an allegation of unfair competition under section 43(a) of the Lanham Act (15 U.S.C. § 1124 (1994)). Ticketmaster argued that Tickets.com's deep linking implied an association between the two sites. Ticketmaster's First Amended Complaint, *supra* note 42, ¶¶ 88, 92, 96 (alleging false designation of origin, confusion as to sponsorship or affiliation, reverse passing off, and false advertising). In its minute order refusing to grant a preliminary injunction, the court found that the facts did not support a finding of a Lanham Act violation because Tickets.com did not pass itself off as Ticketmaster and, in fact, employed a legend that essentially told the user he or she would be transferred to another broker's site to purchase tickets. *See Ticketmaster Corp. v. Tickets.com, Inc.*, No. CV99-7654, 2000 U.S. Dist. LEXIS 12987, at *18 (C.D. Cal. Aug. 10, 2000) (unpublished minute order) [hereinafter *Ticketmaster Motion For Preliminary Injunction*] (noting also that there was no evidence of reverse palming off). This Minute Order is not a published opinion and the court stated that it did not intend to make "pronouncements of legal significance." *Id.* at *4. Theoretically, trademark law could affect the legality of spidering and linking by placing limits on the manner in which the spider displays its results or employs links. However, it did not form the gravamen of the complaint, and this Article therefore does not focus on it.

48. *Ticketmaster's First Amended Complaint*, *supra* note 42, ¶ 76.

49. *See id.* ¶¶ 16, 83.

50. *Id.* ¶ 106.

51. *Id.* ¶ 114.

52. *Ticketmaster Corp. v. Tickets.com, Inc.*, 2000 U.S. Dist. LEXIS 4553, at *6 (C.D. Cal. Mar. 27, 2000).

version containing the factual data.”⁵³ In its later denial of a preliminary injunction, however, the court indicated that it would likely excuse this copying as fair.⁵⁴

The court initially dismissed the breach of contract claim, granting Ticketmaster leave to amend if it could show that Tickets.com knew of the contract and at least impliedly agreed to its terms.⁵⁵ Ticketmaster amended its complaint by explaining in further detail why Tickets.com should be bound by the terms and conditions of use that were offered at Ticketmaster’s site.⁵⁶ Nevertheless, the court remained skeptical: “The contract theory lacks sufficient proof of agreement by defendant to be taken seriously as a ground for preliminary injunction.”⁵⁷

53. *Id.* at *5.

54. Ticketmaster Motion For Preliminary Injunction, *supra* note 47, at at *12-13 (analogizing to a case in which a competitor reverse engineered a video game console to obtain uncopyrighted information to use in creating a version of the system running on a PC).

Reverse engineering to get at unprotected functional elements is not the same process as used here but the analogy seems to apply. The copy is not used competitively. It is destroyed after its limited function is done. It is used only to facilitate obtaining nonprotectable data—here the basic factual data. It may not be the only way of obtaining that data (i.e., a thousand scribes with pencil and paper could do the job given time), but it is the most efficient way, not held to be an impediment in [another case].

Id.

55. *Ticketmaster*, 2000 U.S. Dist. LEXIS 4553, at *8. The court distinguished Ticketmaster’s attempt to contract from shrinkwrap licensing, and noted that Ticketmaster does not

make you click on “agree” to the terms and conditions before going on . . . Further, the terms and conditions are set forth so that the customer needs to scroll down the home page to find and read them. Many customers instead are likely to proceed to the event page of interest rather than reading the “small print.” It cannot be said that merely putting the terms and conditions in this fashion necessarily creates a contract with any one using the web site.

Id.

56. Ticketmaster’s Second Amended Complaint for Injunctive Relief and Damages ¶¶ 81-88, *Ticketmaster Corp. v. Tickets.com, Inc.*, 2000 U.S. Dist LEXIS 12987 (C.D. Cal. Aug. 11, 2000) (No. 99-07654) [hereinafter *Ticketmaster’s Second Amended Complaint*] (explaining that the Ticketmaster home page contains links to the terms and conditions of use that are easily accessible, alleging that Tickets.com opened and reviewed the pages with those terms, and that it knew that by accessing the pages it became bound by the terms).

57. Ticketmaster Motion For Preliminary Injunction, *supra* note 47, at *18.

The trespass as originally alleged was to the website, and thus virtual in nature. The complaint stated, "Tickets.com's acts of systematically invading Ticketmaster's personal property, namely the Ticketmaster Web Site, to search and take information for its own commercial display and use, and engineering its Unauthorized Deep Links to Ticketmaster constitute improper trespass onto Ticketmaster's property, namely, the Ticketmaster Web Site."⁵⁸

In its order on the motion to dismiss, the court held both the trespass and misappropriation claims to be preempted by the Copyright Act because

[t]he essence of each claim is the invasion and taking of factual information compiled by Ticketmaster. To the extent that state law would allow protection of factual data . . . this cannot be squared with the Copyright Act. In addition, it is hard to see how entering a publicly available web site could be called a trespass, since all are invited to enter.⁵⁹

After the court's decision on the motion to dismiss, Ticketmaster dropped its misappropriation claim and reworded its trespass claim to sound more like trespass to chattels rather than trespass to a website. Ticketmaster alleged that Tickets.com "used, accessed and intermeddled with and continues to use, access and intermeddle with Ticketmaster's computers and computer systems for Tickets.com's own commercial benefit."⁶⁰ It emphasized that this use and access continued even though (1) Ticketmaster notified spiders that they were unwanted visitors (presumably through the use of a robot exclusion header), (2) Ticketmaster specifically notified Tickets.com that it did not want Tickets.com to access and use the Ticketmaster website, and (3) Ticketmaster had taken technological steps to block Tickets.com's access (which Tickets.com then circumvented).⁶¹ Before the *Ticketmaster* court could rule on the plaintiff's motion for a preliminary injunction, however, the District Court for the Northern District of California relied on a trespass theory in entering a preliminary injunction against a data aggregator's use of spiders in the case of *eBay, Inc. v. Bidder's Edge, Inc.*⁶²

58. Ticketmaster's First Amended Complaint, *supra* note 42, ¶ 114.

59. *Ticketmaster*, 2000 U.S. Dist. LEXIS 4553, at *10-11 (citations omitted).

60. Ticketmaster's Second Amended Complaint, *supra* note 56, ¶ 113.

61. *See id.* ¶¶ 113-14.

62. 100 F. Supp. 2d 1058 (N.D. Cal. 2000).

2. eBay, Inc. v. Bidder's Edge, Inc.

eBay, the online auction site, had sued Bidder's Edge, an aggregator that collected data from a number of auction sites about what products were up for auction and at what price.⁶³ Unlike Tickets.com, which sells tickets to some events, Bidder's Edge did not auction items.⁶⁴ It simply provided information to consumers about alternatives.⁶⁵ Bidder's Edge obtained its data through the use of spiders.⁶⁶ eBay, which had entered into agreements with certain aggregators under which they paid for the privilege of indexing, objected to Bidder's Edge's method of obtaining data from the eBay site.⁶⁷ It sued Bidder's Edge under a number of theories, one of which was trespass to personal property.⁶⁸ eBay claimed that Bidder's Edge committed a trespass when it "used, accessed and intermeddled with . . . eBay's computer systems" without eBay's authorization and over its objection.⁶⁹

In entering the preliminary injunction, the court cited a case holding electronic signals sent over long distance lines to be tangible enough to support a claim of trespass to chattels.⁷⁰ If those signals were tangible, the court reasoned, then the ones sent by Bidder's Edge would also "likely" be so.⁷¹ In labeling Bidder's Edge's access "unauthorized and intentional,"⁷² the court focused on the computer servers rather than the website:

63. See eBay's First Amended Complaint, eBay, Inc. v. Bidder's Edge, Inc., 100 F. Supp. 2d 1058 (N.D. Cal. 2000) (No. C-99-21200) [hereinafter eBay's First Amended Complaint].

64. See eBay, 100 F. Supp. 2d at 1061.

65. See *id.* (noting that the Bidder's Edge "web site contained information on more than five million items being auctioned on more than one hundred auction sites. [Bidder's Edge] also provides its users with additional auction-related services and information" (citations omitted)); see also *supra* note 35.

66. See eBay, 100 F. Supp. 2d at 1062-63.

67. See *id.* at 1067.

68. Other theories included violation of the Computer Fraud and Abuse Act ("CFAA") and misappropriation. See eBay's First Amended Complaint, *supra* note 63, ¶¶ 40, 42, 44; see also O'Rourke, *supra* note 31, at 1991-92 (discussing the viability of a CFAA claim to address unlicensed spidering, suggesting that plaintiffs may have difficulty meeting the monetary damages requirements, and arguing that the CFAA should not be used to address developing e-commerce issues that do not involve hacking).

69. eBay's First Amended Complaint, *supra* note 63, ¶¶ 31-33.

70. eBay, 100 F. Supp. 2d at 1069 (citing Thrifty-Tel, Inc. v. Bezenek, 54 Cal. Rptr. 2d 468, 473-74 (Cal. Ct. App. 1996)). In *Thrifty-Tel*, a child used a home computer to access a long-distance telephone company's confidential codes and make unauthorized calls. *Thrifty-Tel*, 54 Cal. Rptr. 2d at 471. The child's activity overburdened the system and denied subscribers access to phone lines. *Id.* The Court of Appeals held that the child's activity constituted trespass. *Id.* at 473.

71. eBay, 100 F. Supp. 2d at 1069.

[Bidder's Edge] argues that it cannot trespass eBay's web site because the site is publicly accessible. [Bidder's Edge's] argument is unconvincing. eBay's servers are private property, conditional access to which eBay grants the public. eBay does not generally permit the type of automated access made by [Bidder's Edge]. In fact, eBay explicitly notifies automated visitors that their access is not permitted. . . .

Even if [Bidder's Edge's] web crawlers were authorized to make individual queries of eBay's system, [Bidder's Edge's] web crawlers exceeded the scope of any such consent when they began acting like robots by making repeated queries.⁷³

The court found injury sufficient to state a claim for relief because Bidder's Edge's use of eBay's system capacity, however minimal, foreclosed eBay's use of that same capacity.⁷⁴ In addition, the court held that the trespass claim was not preempted by copyright law, distinguishing itself from the *Ticketmaster* court: "eBay asserts a right not to have [Bidder's Edge] use its computer systems without authorization. The right to exclude others from using physical personal property is not equivalent to any rights protected by copyright and therefore constitutes an extra element that makes trespass qualitatively different from a copyright infringement claim."⁷⁵

3. *Epilogue to Ticketmaster*

In August 2000, the *Ticketmaster* court entered a minute order denying a preliminary injunction. The court discussed the recent *eBay* injunction, noting that in its earlier decision on the motion to dismiss, it had not considered the "invasion of the computers by spiders," but rather had passed on "the taking of factual information from a public source."⁷⁶ It found the *eBay* decision convincing:

72. *Id.* at 1070.

73. *Id.* (citations omitted).

74. *Id.* at 1071; *see also infra* Part II.C.2-Part II.D (discussing how this approach varies from traditional trespass to chattels harm requirements).

75. *eBay*, 100 F. Supp. 2d at 1072.

76. *Ticketmaster Motion For Preliminary Injunction*, *supra* note 47, at *15. In an unpublished disposition, the Ninth Circuit affirmed the district court's denial of a preliminary injunction, stating, "We cannot say that the district court abused its discretion here." *Ticketmaster Corp. v. Tickets.com, Inc.*, No. 00-56574, 2001 U.S. App. LEXIS 1454, at *2 (9th Cir. Jan. 22, 2001) (noting also that "[t]his disposition is not appropriate for publication and may not be cited to or by the courts of this circuit except as may be provided by 9th Cir. R. 36-3").

The computer is a piece of tangible personal property. It is operated by mysterious electronic impulses which did not exist when the law of trespass to chattels was developed, but the principles should not be too different. If the electronic impulses can do damage to the computer or to its function in a comparable way to taking a hammer to a piece of machinery, then it is no stretch to recognize that damage as trespass to chattels and provide a legal remedy for it.⁷⁷

However, the court found that Ticketmaster had not shown the functioning of its servers to be obstructed, or a likelihood that “dozens or more parasites [would] join[] the fray, the cumulative total of which could affect the operation of [Ticketmaster’s] business.”⁷⁸ Additionally, the court emphasized that Tickets.com was not directly competing with Ticketmaster, and that customers benefit from the referrals that Tickets.com provides.⁷⁹

C. Why the Analogy Matters

The first *Ticketmaster* decision (regarding the motion to dismiss) and the *eBay* holding show how courts emphasize different factors depending on whether they focus on the website as in the former case, or the tangible server on which it resides as in the latter.⁸⁰ A court’s focus determines what the relevant causes of action are, which, in turn, influence the policy basis forming the metric for decision. It is not surprising that courts have been unable to settle on the appropriate analogy and cause of action reflecting one or more specific policies. The factual situation underlying the issues of who should have access to a website and by what means is unlike any with which courts have grappled in the past.

Traditionally, if a person were to break into a locked box to steal and copy the uncopyrighted white pages telephone directory listing, state law

77. Ticketmaster Motion For Preliminary Injunction, *supra* note 47, at *15-16.

78. *Id.* at *17. The *eBay* court had expressed concern that allowing unlicensed spidering would cause large numbers of aggregators to use spiders to search the eBay site, crippling that site’s ability to respond to so many requests. *See infra* note 149 and accompanying text (discussing this concern).

79. [T]he showing here is that the effect of T[ickets].Com’s taking of factual data from [Ticketmaster] is not to operate in direct competition with [Ticketmaster]—it is not selling the data or the tickets. While [Ticketmaster] sees some detriment in T[icket].Com’s operation (possibly in the loss of advertising revenue), there is also a beneficial effect in the referral of customers looking for tickets to [Ticketmaster] events directly to [Ticketmaster].

Ticketmaster Motion For Preliminary Injunction, *supra* note 47, at *17.

80. *See infra* note 134 (discussing why it may be helpful to view the site and the server separately even though the site cannot exist without the server).

could police the act of breaking and entering even though the copying itself would not violate the Copyright Act. Is a website more like a publicly accessible space or a locked box? The former analogy would lead a court to allow access, while the latter would not. However, even if a court finds a site to be generally accessible, it must further address whether the particular means of access are appropriate.

These issues of access raise the question of the relevance of the tangible server on which the website resides. Even if the law views the site as a public space, entry into that space uses the tangible personal property and resources of the server's owner. Is the server also a public space or is it personal property akin to a locked box such that one must seek the owner's permission before accessing it? If it is the latter, how can the law reconcile placing restrictions on access to the server when copyright law would allow and even encourage access to and use of the factual information on a site that resides on that server and is viewed as a public space? In the Internet context, where access is synonymous with copying as well as use of the server, the question is how to reconcile all of the competing policy considerations.

The following discusses in more detail what the results are under different analogies and how those results reflect particular policy perspectives. It concludes that the *eBay* court adopted a new rule that blends the elements of trespass to real property and trespass to chattels. In so doing, the court created a new tort that a site can use to stop any unwanted access, not just crawling. After discussing *eBay* and its progeny, the Article analyzes what policies besides those animating the *eBay* decision should be relevant in allocating property rights on the web. It then sets forth a balancing test that courts may use to address undesired access. The test reflects the view that it is best not to focus on one analogy, but rather to recognize the validity of different policies and to weigh them in a systematic way.

1. *Focus on the Website*

a) *The Website as a Book*

The *Ticketmaster* court focused on the website, labeling it "publicly available."⁸¹ One can infer from this description that the court considered the Internet to be akin to a public library. Websites are like books in the library that patrons are free to browse. This analogy finds some support in the language used to describe websites. They are comprised of "pages,"

81. *Supra* note 59 and accompanying text.

and one who posts a website is said to “publish” it, with the act of placing information on the site termed “publishing.”⁸²

If a court accepts this analogy, it, like the *Ticketmaster* court, is likely to give short shrift to a trespass claim based on entering a publicly accessible website. This approach shifts a court’s focus away from the question of what constitutes permissible access or means of access to a publicly available site to what constitutes legitimate uses of the information available at the site. The laws that govern the permissible use of information are federal copyright law and state common law on misappropriation.

i) The Federal Law Claim of Copyright Infringement and Its Policy Basis⁸³

The copying involved in hyperlinking, including deep linking, probably does not constitute copyright infringement.⁸⁴ Although the *Ticketmaster* court was incorrect in stating that no copying is involved in linking,⁸⁵ what copying does occur is done by the linked server rather than the linking, and is likely impliedly licensed because the link is the *raison d’être* of the web.⁸⁶ Furthermore, there is technically no distinction between a link to the home page and a deep link. Copyright law has never given copyright owners the right to control the manner in which one in legitimate possession of the work views it.⁸⁷ The copyright owner does not have the

82. O’Rourke, *supra* note 11, at 622 & nn.54-55.

83. Plaintiffs may also allege various trademark claims when spidering occurs. However, the Lanham Act addresses primarily the permissible display of the spider’s results and whether deep linking causes source or sponsorship confusion. It is unlikely to serve as a basis for enjoining the spider’s activity unless the aggregator’s means of display suggests some relationship between it and the sites that it indexes. Trademark dilution too, is an unlikely legal route for banning the spider’s activities because competitive concerns counsel against using that doctrine to prevent others from using the genuine name to refer to the product. This Article therefore does not concentrate on trademark issues.

84. See O’Rourke, *supra* note 11, at 658-62; *supra* note 52 and accompanying text.

85. See *Ticketmaster Corp. v. Tickets.com, Inc.*, 2000 U.S. Dist. LEXIS 4553, at *6 (C.D. Cal. Mar. 27, 2000).

86. See O’Rourke, *supra* note 11, at 661-62 (arguing also that the copyright doctrine of fair use may shelter “unlicensed” linking).

87. See 17 U.S.C. § 106 (1994). Exclusive copyright rights include the right to (and to authorize others to) reproduce, prepare derivative works, distribute, and, in certain cases, publicly perform and display the copyrighted work. *Id.* These enumerated rights do not include a right of the copyright owner otherwise to control use of the copyrighted work. Note, however, that the Digital Millennium Copyright Act does give the copyright owner new rights to control access to its work. See 17 U.S.C. § 1201 (Supp. IV 1998). Under this new law, a copyright owner could control the manner in which a user views

right to stop one who has bought a book from starting his or her reading with the last chapter, or to prevent a home video-taper from fast-forwarding past the commercials in a recorded television program. Likewise then, there is also probably no copyright right to prevent deep linking. More explicitly using the library analogy, the *Ticketmaster* court described hyperlinking as “analogous to using a library’s card index to get reference to particular items, albeit faster and more efficiently.”⁸⁸

As the *Ticketmaster* court also noted, spiders, unlike individuals using their browsers, engage in wholesale copying.⁸⁹ However, a growing line of precedent holds that copying as a step in extracting uncopyrightable information may be excused as fair.⁹⁰ Product and pricing information is factual in nature, and unlikely to be protected by copyright. Copying to extract it, particularly as a step in producing a new product like a comparison shopping service, is therefore likely to be excused as fair.⁹¹

Since the enactment of the Digital Millennium Copyright Act (“DMCA”) in 1998, the Copyright Act has addressed access to copyrighted material as well as the scope of exclusive rights therein.⁹² Under the DMCA, it is illegal to “circumvent a technological measure that effectively controls access to a work protected” by copyright.⁹³ But only those access control measures that “require[] the application of information, or a process or a treatment, with the authority of the copyright owner, to gain access to the work,” are protected against circumvention.⁹⁴ Most e-commerce websites, including Ticketmaster and eBay, contain some copyrighted material in addition to their uncopyrighted product and pricing information. However, they do not use access control measures protected by the DMCA, in part because such steps would discourage entry by wel-

the work by using access controls. The textual discussion assumes that no such access controls are in place.

88. *Ticketmaster*, 2000 U.S. Dist. LEXIS 4553, at *6.

89. *See id.* at *5-6.

90. *See, e.g., Sony Computer Entm’t, Inc. v. Connectix*, 203 F.3d 596 (9th Cir. 2000) (holding copying to understand how to create a system that runs Sony Playstation games on a PC to be fair); *Atari Games Corp. v. Nintendo of Am.*, 975 F.2d 832 (Fed. Cir. 1992) (holding that the intermediate copying involved in reverse engineering a computer game system could be excused as fair when the copying was a step in obtaining uncopyrighted interface specifications to produce compatible games); *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1514 (9th Cir. 1992) (agreeing with the *Atari* court and labeling its holding as “consistent” with *Atari*).

91. *See O’Rourke, supra* note 31, at 1986-88.

92. 17 U.S.C. § 1201 (Supp. IV 1998).

93. *Id.* § 1201(a)(1)(A).

94. *Id.* § 1201(a)(3)(B).

come as well as unwanted visitors.⁹⁵ Finally, it is unclear whether the DMCA may constitutionally protect access designed to extract *uncopyrighted* information.⁹⁶

Under the Copyright Act then, the aggregator is unlikely to be liable for infringement for linking to a site, copying its information to extract uncopyrighted data, or allowing users to link to the site. To the extent that copyright law has spoken about permissible means of access to digital works, it would allow the use of spiders as long as they are not engaged in circumventing an access control protected by the DMCA.

That copyright law would lead to this result is not surprising given its underlying policies. The Copyright Act seeks to solve the public goods problem inherent in the provision of information by granting authors certain exclusive rights in their "original works of authorship."⁹⁷ These rights are not absolute, however, because further progress depends on the ability of second generation creators to utilize raw material without incurring liability for infringement. In striking a balance between the rights of first and second generation creators, copyright law does not extend protection to factual information because such information is the core raw material that others need to use to further progress.⁹⁸ Thus, copyright law is

95. See O'Rourke, *supra* note 31, at 1989-91 (explaining why the steps that eBay took to keep Bidder's Edge from using a spider to index the eBay site are not technological measures protected against circumvention under the DMCA).

96. See generally Yochai Benkler, *Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain*, 74 N.Y.U. L. REV. 354, 414-29 (1999) (discussing constitutional implications of the DMCA and its impact on free speech).

97. 17 U.S.C. § 102(a) (1994). References to copyright as addressing the public goods problem are numerous. See, e.g., William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 J. LEGAL STUD. 325, 326 (1989).

98. Notwithstanding a valid copyright, a subsequent compiler remains free to use the facts contained in another's publication to aid in preparing a competing work, so long as the competing work does not feature the same selection and arrangement. . . .

It may seem unfair that much of the fruit of the compiler's labor may be used by others without compensation. As Justice Brennan has correctly observed, however, this is not "some unforeseen byproduct of a statutory scheme." It is, rather, "the essence of copyright," and a constitutional requirement. The primary objective of copyright is not to reward the labor of authors, but "[t]o promote the Progress of Science and useful Arts." To this end, copyright assures authors the right to their original expression, but encourages others to build freely upon the ideas and information conveyed by a work.

Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 349-50 (1991) (citations omitted) (holding that facts are not protected by copyright because they are not original).

unlikely to prohibit the aggregator's activities because the aggregator is engaging in an end use of information that the copyright law actually intends to foster.

The digital environment, with its ease of copying and ability to produce "perfect" copies, threatens the historic copyright balance. The DMCA responds to this by requiring copyright law to respect certain access controls.⁹⁹ But the DMCA neither changes the traditional rule that facts are not protected by copyright nor protects a publicly available website from access by unwanted visitors.

ii) The State Law Claim of Misappropriation and Its Policy Basis

The state common law cause of action in misappropriation can offer some protection to uncopyrighted information, although such protection must be carefully tailored to avoid copyright preemption. Recall that the *Ticketmaster* court held the misappropriation claim preempted because it essentially alleged the taking of factual information.¹⁰⁰

In *NBA v. Motorola, Inc.*,¹⁰¹ the Second Circuit enunciated the elements of the misappropriation claim that it believes would survive copyright preemption:

(i) a plaintiff generates or gathers information at a cost; (ii) the information is time-sensitive; (iii) a defendant's use of the information constitutes free-riding on the plaintiff's efforts; (iv) the defendant is in direct competition with a product or service offered by the plaintiffs; and (v) the ability of other parties to free-ride on the efforts of the plaintiff or others would so reduce the incentive to produce the product or service that its existence or quality would be substantially threatened.¹⁰²

Aggregators such as Tickets.com and Bidder's Edge are likely to survive this test. The lack of direct competition between the aggregator and the sites it indexes would be fatal to the misappropriation claim. Also, reporting product and pricing information is unlikely to cause an e-commerce site to stop selling its wares, although the site might argue that the burden unlicensed spiders impose on its system could threaten its very existence. Generally, however, whatever "free-riding" spiders engage in is not the sort that misappropriation law is designed to protect.

99. See *supra* notes 93-94 and accompanying text.

100. See *supra* text accompanying note 59.

101. 105 F.3d 841 (2d Cir. 1997).

102. *Id.* at 845.

Misappropriation law responds to a potential market failure actually created by the Copyright Act. It is often an expensive undertaking to gather and market facts, often in database form. The Copyright Act, by refusing to protect facts, may offer insufficient protection to allow factual database creators to recoup their investments.¹⁰³ A narrowly tailored misappropriation doctrine can allow such creators to obtain relief against those who pirate their databases. Avoiding conflict with the goals of the Copyright Act, including encouraging second-generation authorship, accounts for misappropriation law's focus on whether there is competition between the plaintiff and defendant and free-riding to such an extent that the plaintiff's business is substantially threatened.

Misappropriation law would not enjoin an aggregator from offering product and pricing information from another site because the aggregator may potentially augment demand for the underlying site. Any usurping of demand occurs not because the aggregator offers the same product but because the indexed site is not the low-cost provider. Neither misappropriation law nor copyright law explicitly takes into account the "free-riding" of the spider on the system resources of the sites it visits.

In summary, the library analogy leads a court to focus on areas of law like copyright and misappropriation that primarily govern use of information rather than access to it. These laws uphold the policy encouraging the free flow of information that Congress has decided does not merit copyright protection. A court would likely enjoin pirating to protect the investment in gathering and marketing such information, but would actively seek to encourage value-added uses.¹⁰⁴

b) The Website as Real Property—The State Law Claim of Trespass and Its Policy Basis

Rather than analogizing the web to a giant library, a court may liken it to real property, with the Internet as the highway and websites as parcels of land adjacent to that highway.¹⁰⁵ The language of the web itself fosters

103. See generally Jane C. Ginsburg, *No "Sweat?" Copyright and Other Protection of Works of Information After Feist v. Rural Telephone*, 92 COLUM. L. REV. 338 (1992).

104. Note, however, that a range of value-added uses are within the copyright owner's exclusive rights under the category of "derivative works." See 17 U.S.C. §§ 101, 106 (1994) (defining derivative works and according copyright owners the exclusive right to prepare and authorize preparation of such works). Of course, the right to prepare derivative works is not implicated here because the information is not protected by copyright.

105. See Brief of Amici Curiae Reed Elsevier et al., *supra* note 10, at 2 (arguing that the Ninth Circuit should adopt such an analogy in addressing the appeal of the preliminary injunction entered by the District Court in the *eBay* case).

such an analogy. Web “sites” each have an “address” that users may “visit” or to which they may “travel.”¹⁰⁶ Once a court adopts this analogy, the focus shifts away from considering what a visitor may do with the information retrieved, and towards determining who may permissibly access the site.

The law generally gives owners of real property the right to exclude others from entrance, regardless of whether or not the intruder causes harm.¹⁰⁷ By analogy, website owners should have the right to exclude others under a trespass cause of action even if their entry does not harm the site in any way. In other words, the *Ticketmaster* complaint had it close to correct the first time around when it alleged that Tickets.com’s searching of, taking information from, and deep linking to the Ticketmaster site constituted trespass.¹⁰⁸

Matters become only slightly more complex if the law analogizes an e-commerce site to a publicly accessible bricks and mortar retail store. In the conventional retail context, the public at large is a business invitee, with each member possessing a revocable implied license to enter and remain on the store’s premises.¹⁰⁹ A comparison shopper, however, may be excluded from entry because he or she exceeds the scope of the license.¹¹⁰ A

106. Common language speaks of Internet “addresses,” for, of course, individuals and firms occupy private “sites” along the Internet “highway.” It also speaks of the “architecture of the Internet which may direct and influence conduct in both real and virtual “space.” Reference is common to “cybersquatters.” . . . The blunt truth is that an Internet Site is fixed in its cyberspace location; to move from one address to another risks the loss of its customer base, just like any ordinary store runs the risk of losing its customers when it changes locations.

Id. at 6-7 (citations omitted).

107. See PROSSER & KEETON ON THE LAW OF TORTS 67 (W. Page Keeton ed., 5th ed. 1984) (outlining the historical cause of action in trespass).

108. See *supra* note 58 and accompanying text.

109. See *Mosher v. Cook United, Inc.*, 405 N.E.2d 720, 721 (Ohio 1980) (labeling a comparison price shopper a “business invitee” subject to the property owner’s right to revoke the shopper’s license at will).

When a business . . . is open to the public, a person who enters the facility, at a reasonable time and in a reasonable manner, has the implied consent of the owner to be there, and so long as the person engages in no acts inconsistent with the purposes of the business or facility, there is no trespass. . . . Such an invitation, however, presupposes that the conduct of persons coming there will be in keeping with the purpose of transacting business.

25 AM. JUR. 2D *Trespass* § 48 (1989 & Supp. 2000).

110. See AM. JUR. 2D *Trespass* § 48, *supra* note 109; see also *Culhane v. State*, 668 S.W.2d 24, 26-27 (Ark. 1984) (explaining that “Wal-Mart invites the public to come to

court may construe the license as extending only to entering the store with the intent to shop and make purchases, not to obtain comparative pricing information.¹¹¹ Even if the comparison shopper were entitled to enter, the store would have the right to eject him or her, if not for exceeding the scope of the license, then simply because it may revoke whatever license exists at will—for any reason or for no reason at all.¹¹²

By analogy to real property law then, a site can exclude a spider from entry or eject it once on the site, either because the spider exceeds the scope of the implied license to visit or simply because the site does not want it to enter. Further, sites can make what may be implicit explicit by defining the terms of the invitation.¹¹³ They may post notices banning spiders, or ask visitors to agree to terms and conditions that would prohibit such activity. Any entry by a spider would exceed this now express license.

There are some difficulties, however, with the real property analogy. The first arises from analogizing the electronic signals sent by spiders to the physical entry of a comparison shopper into a retail store. Because the law has never dealt with access to websites before, resort to analogy as a traditional means of doctrinal evolution is a plausible approach. But the analogy of electronic signals to physical invasions overlooks the traditional judicial approach addressing intangible invasions of property. Usually, although not uniformly, the courts have applied a nuisance standard to intangible invasions that, unlike trespass, balances costs and benefits before holding the intruder liable.¹¹⁴ Indeed, the *Ticketmaster* court, by

its store to shop and make purchases . . . Wal-Mart certainly can prohibit a competitor from remaining in the store not to enjoy a constitutional right but solely to gather information enabling the competitor to take business away from Wal-Mart.”).

111. See *supra* note 110 and sources cited therein. But see also *supra* note 8 (noting the Virginia case in which the court dismissed a trespass claim against a customer who was recording pricing information).

112. See *Cook United*, 405 N.E. 2d at 722 (“Appellee was . . . entitled to revoke appellant’s license for any purpose, reasonable or not . . .”).

113. One way to define the terms explicitly is to notify a visitor that its access is unwanted. See *Register.com, Inc. v. Verio, Inc.*, 126 F. Supp. 2d 238 (S.D.N.Y. 2000) (addressing a case in which Verio used a robot to access Register.com’s database to extract information, and holding that Register.com’s filing of a lawsuit was sufficient notice to Verio that its robot was unwelcome such that any further access would constitute trespass to chattels). *Ticketmaster* and eBay also notified Tickets.com and Bidder’s Edge, respectively, that their access was unwanted.

114. See *Adams v. Cleveland-Cliffs Iron Co.*, 602 N.W.2d 215, 219 (Mich. Ct. App. 1999) (explaining that “[t]raditionally, trespass required that the invasion of the land be direct or immediate and in the form of a physical, tangible object”); AM. JUR. 2D *Trespass* § 59, *supra* note 109 (stating, “Generally, all intangible intrusions such as noise are

emphasizing that consumers benefit from readily available pricing information and that Tickets.com's activities imposed minimal costs on Ticketmaster, seemed to have just such a test in mind.¹¹⁵ This is a nuisance, rather than a trespass, approach.¹¹⁶

However, some courts have eroded the traditional rule, effectively eliminating the requirement that a tangible object must intrude on the real property for its owner to maintain a trespass claim.¹¹⁷ Drawing on this precedent, a developing line of cases in the personal property context has held electronic signals to be sufficiently tangible to state a cause of action in trespass to chattels.¹¹⁸ These cases have dealt largely with the transmission of spam (unsolicited bulk e-mail),¹¹⁹ and the signals sent by spiders are essentially indistinguishable from the signals that spammers send. A court could complete the circle—personal property law analogizing to real property law and back again—by holding the signals tangible enough to support a trespass claim premised on invading the website.

Yet, this still does not make the spider a trespasser. Courts that have removed the requirement that the real property invasion be tangible have simultaneously changed other elements of the cause of action in trespass to real property.¹²⁰ For example, some have imposed a requirement that the plaintiff prove harm when the invasion is intangible.¹²¹ As one court

dealt with as nuisance cases, not trespass," and distinguishing those cases from ones involving particulates and polluting matter); *see also* Burk, *supra* note 19, at 32-33, 53 (noting the textual proposition and arguing that a nuisance standard could appropriately address access to websites).

115. *See supra* notes 78-79 and accompanying text.

116. Professor Burk was the first to recognize and emphasize this point. *See* Burk, *supra* note 19, at 33.

117. *See Adams*, 602 N.W.2d at 220-21 (discussing developments in trespass law and citing cases).

118. *See, e.g., Thrifty-Tel, Inc. v. Bezenek*, 54 Cal. Rptr. 2d 468, 473 n.6 (Cal. Ct. App. 1996) (holding electronic signals used to gain unauthorized access to a computer to be "sufficiently tangible to support a trespass cause of action").

119. *See, e.g., Am. Online v. LCGM, Inc.*, 46 F. Supp. 2d 444 (E.D. Va. 1998); *Am. Online v. IMS*, 24 F. Supp. 2d 548 (E.D. Va. 1998); *CompuServe Inc. v. Cyber Promotions, Inc.*, 962 F. Supp. 1015 (S.D. Ohio 1997).

120. *See generally Adams*, 602 N.W.2d 215 (tracing the evolution of trespass law).

121. The courts that have deviated from the traditional requirements of trespass, however, have consequently found troublesome the traditional principle that at least nominal damages are presumed in cases of trespass. Thus, under the so-called modern view of trespass, in order to avoid subjecting manufacturing plants to potential liability to every landowner on whose parcel some incidental residue of industrial activity might come to rest, these courts have grafted onto the law of trespass a requirement of actual and substantial damages.

noted, after all of these adjustments are considered, the real property cases involving intangible invasions are, “‘in reality, examples of the tort of private nuisance or liability from harm resulting from negligence,’ not proper trespass cases.”¹²² It is difficult to see how the spider could be a trespasser even under the more modern cause of action because the spider’s entry does not harm the website.

A second difficulty with the analogy is that it disregards the web’s technology, and, in so doing, ignores problems of copyright preemption.¹²³ When a linker seeks access to a website, the linked server grants or denies access by either sending or refusing to send the relevant bits to the linker for its web browser to assemble. These bits reside in the linker’s random access memory (“RAM”) and appear on the screen in assembled form. If “accessing” is synonymous with “copying,” then the Copyright Act is the exclusive rule of decision under its preemption section.¹²⁴ There is simply no room for a state law “trespass to a website” cause of action.

A third problem with the real property analogy is quite similar to the second. The linked server has the ability to refuse to honor a request for a document. Sending the page could be construed as its consent to the linker’s visit. To employ the same real property analogy, the linker “knocks” on the front door (in the case of a link to a home page), or the side door (for a deep link), and the linked server decides whether or not to open the door by granting access. If it allows the visitor “in,” then the only actionable trespass that could occur would be if the visitor goes beyond its authorized access once on the site. But any additional access (assuming the site does not use internal access control measures) can also only occur as a technical matter with the visited site’s approval. Thus, the claim reduces to one that would practically have to sound in unauthorized use of the information—a topic governed by copyright law.

Treating websites as real property and using state trespass law to regulate access to them raises yet another interesting copyright preemption issue. Under the DMCA, Congress has ostensibly spoken about what access

Id. at 220.

122. *Id.*

123. See 17 U.S.C. § 301(a) (1994) (providing for the Copyright Act to preempt state law that would otherwise govern subject matter within the scope of the Act and provide rights equivalent to the Act).

124. See I. Trotter Hardy, *The Ancient Doctrine of Trespass to Web Sites*, 1996 J. ONLINE L. art. 7, §§ 10, 13 (explaining preemption under the Copyright Act, the technical details of linking, and noting that if RAM copies are considered “copies” within the meaning of the Act, “then quite possibl[y] a trespass action would be preempted”).

controls should be respected.¹²⁵ It would indeed be anomalous if state trespass law were to provide more extensive protection against access for the purpose of extracting *uncopyrighted* data than the DMCA would for copyrighted information.¹²⁶

In summary, a traditional trespass to real property action applied by analogy to websites is unlikely to be successful in preventing spiders' entries. Even if a court is willing to hold the electronic signals to be a tangible invasion, it is then likely either to treat the case as a nuisance suit or as a trespass suit in which the plaintiff must prove harm to recover. There is no harm to the website itself that occurs from a spider's access. Under a nuisance standard, an aggregator might not be enjoined because its benefits may exceed its costs.¹²⁷ Finally, a court may hold the cause of action preempted by copyright law, which, as already noted, would permit the spider's activities.

That a traditional trespass to real property action would not prevent a spider's entry is consistent with the policy basis supporting the cause of action. A number of policies explain trespass. A landowner often has an attachment to the land that would cause him or her to respond to an intrusion with an act of physical violence.¹²⁸ A strong exclusionary rule deters the would-be trespasser and prevents this violence from occurring. This policy concern is, of course, not implicated in the "virtual" trespass context where the invasion is impersonal.

Economics also supports the trespass cause of action. The right to exclude gives real property owners an incentive to improve their property by allowing them to recoup their investments.¹²⁹ *Amici* in the *eBay* case argue that this rationale supports applying real property trespass principles applicable to tangible intrusions to a spider's conduct:

125. See 17 U.S.C. § 1201(a) (Supp. IV 1998).

126. The more interesting question is whether Congress has the power to control access to copyrighted works and, if so, under what constitutional clause(s). This issue is beyond the scope of this Article which is intended simply to point out that Congress has ostensibly made a judgment about what access controls the law should respect.

127. See *infra* Part IV.

128. See SPRANKLING, *supra* note 1, § 30.01, at 486 ("Another important—but distinctly secondary theme—is that the trespass doctrine minimizes the risk of violence.").

129. See *id.* at 485-86 (explaining the utilitarian rationale for trespass law); see also Brief of Amici Curiae Reed Elsevier et al., *supra* note 10, at 2-3 (arguing that affording the right to exclude to real property owners is "critical to encouraging owners to improve their real estate, for they will not do so if they know their improvements can be used at will or expropriated by any other person").

[W]eb site owners cannot protect their equipment in the same fashion as holders of ordinary chattels. The computer equipment is already on land for safekeeping but its usefulness requires connection to the outside world. . . . [T]he only way to preserve the integrity of web sites is to allow owners to enjoin outsiders from using them, subject to the same limitations that are applied to trespasses to land.¹³⁰

The same rationale might translate to the Internet. Giving sites the ability to regulate access allows them to monitor performance and to plan the appropriate level of equipment purchases to handle the anticipated server load. It may also encourage them to establish sites in the first place or to improve their sites' content, once posted. Because a site has incentives to generate traffic, it will not arbitrarily or anticompetitively exclude another from entry even under a broad exclusionary rule. Moreover, the excluded party can always gain access by reaching agreement with the site.

This argument, however, is incomplete because it fails to account for copyright law's policies. Because the website contains information, the copyright law provides the incentive structure that balances the public's interest in encouraging the copyright owner to improve the site against its interest in having others use the site's information in producing yet more works of authorship. Copyright law, as well as state misappropriation law, govern "free-riding" on the information gathered by another. Further, even if this were not the case, it is difficult to see how incentives for improvement of the website would be adversely affected by a harmless intrusion.

Transaction cost economics also provides a policy basis for trespass law. The costs to locate and negotiate with the owners of clearly delineated real property are low, allowing parties to reach mutually beneficial agreements without the clumsy hand of the state setting the terms of the bargain.¹³¹

Transaction costs would seem, at least at first glance, to be lower in cyberspace than in real space. The website address sets an identifiable boundary, the owners of many sites (particularly those involved in e-commerce) are readily ascertainable, and a spider would only have to seek permission from one site at a time. However, transaction costs may not be as low as they seem. Bidder's Edge indexed over one hundred sites.¹³² While many would not object to Bidder's Edge's activity, some would,

130. Brief of Amici Curiae Reed Elsevier et al., *supra* note 10, at 7.

131. *See id.* at 3-4.

132. *See supra* note 65 and accompanying text.

and Bidder's Edge would not know in advance which sites fall into which category.¹³³ As a result, it may seek an agreement from each site before indexing. Thus, the transaction cost argument does not clearly support a broad property right to exclude.

This latter policy basis of trespass does, however, indicate that transaction costs are relevant in deciding whether real property rights should apply on the Internet. The question—to which this Article later returns—is how to square the policies of trespass with those of other causes of action like copyright infringement and misappropriation as well as competitive concerns.

2. *Focus on the Server—The State Law Cause of Action in Trespass to Chattels and Its Policy Basis*

Rather than focusing on the website, a court may choose to concentrate on the tangible server on which the site resides.¹³⁴ In that case, the relevant cause of action would be one in trespass to chattels like that which both eBay and Ticketmaster alleged.

To succeed in a trespass to chattels action, the plaintiff must prove that another, without authorization, dispossessed the plaintiff of a chattel or used or intermeddled with its use.¹³⁵ Intermeddling is defined as “intentionally bringing about a physical contact with the chattel,”¹³⁶ and liability will lie for any such contact that is “harmful to the possessor’s materially valuable interest in the physical condition, quality, or value of the chattel,” or that deprives the possessor “of the use of the chattel for a substantial time.”¹³⁷ More generally, liability arising from *any* deprivation of use (whether by intermeddling or actual use) accrues only if “the possessor is

133. The robot exclusion may help to alleviate these problems. *See infra* Part IV (discussing how the law might take the robot exclusion into account).

134. Of course, the website cannot exist without the server on which it resides. Distinguishing between the two to determine the appropriate substantive result might seem akin to drawing a line between the printed word and the book in which it appears, a generally unprofitable inquiry. The copyright owner can control access to the book and its contents by, for example, putting the physical book in a locked box. The server owner, in contrast, has opted to make the website publicly available although it resides physically on the server that is not publicly accessible. This dichotomy between access and the physical embodiment of the information accessed makes discussing the website and server separately a more profitable inquiry than in the case of conventional hard copy publications.

135. *See* RESTATEMENT (SECOND) OF TORTS § 217 (1965) (“A trespass to a chattel may be committed by intentionally (a) dispossessing another of the chattel, or (b) using or intermeddling with a chattel in the possession of another.”).

136. *Id.* § 217 cmt. e.

137. *Id.* § 218 cmt. e.

deprived of the use of the chattel for a substantial time.”¹³⁸ As noted above, courts have held electronic signals to be tangible enough to support a trespass to chattels claim.¹³⁹

In the case of spidering, though, there is no harm to the condition, quality, or value of the chattel. The server still functions as intended and retains whatever value it had before the spider began its activity.¹⁴⁰ The harm that the *Ticketmaster* court was looking for—taking a hammer to the server itself or a colorable imitation thereof—simply does not exist.

The most tenable allegation is that harm occurs because the server’s owner is deprived of its use. To the extent the server is busy processing unwanted requests from the spider, it is unavailable to process other, desired inquiries. Still, however, two questions remain under a traditional trespass to chattels claim: (1) whether the owner is deprived of the server’s use for a substantial time; and (2) whether that deprivation of use causes damage.

According to the *Restatement (Second) of Torts*, the substantiality of time must be such that “it is possible to estimate the loss caused thereby. A mere momentary or theoretical deprivation of use is not sufficient [to trigger liability in trespass] unless there is a dispossession.”¹⁴¹ Bidder’s Edge’s queries took up less than two percent of eBay’s system’s capacity.¹⁴² Is this substantial? In an absolute sense, it seems not, although it is measurable. As the *Restatement* asserts, however, the question of substantiality is relevant to the question of whether or not a court can reliably measure damages. There was no evidence that Bidder’s Edge’s queries caused other desired requests to go unanswered or even to suffer a delay in being processed.¹⁴³ The *eBay* court could find no service disruption that occurred because of Bidder’s Edge’s activities nor any maintenance expense attributable to them.¹⁴⁴ It rejected eBay’s real property analogy that compared spiders to an army of robots invading a retail store: “[F]or the

138. *Id.* § 218(c).

139. *See supra* note 118 and accompanying text.

140. *See Burk, supra* note 19, at 35-36 (noting that the physical contact of “impinging electrons” does not cause damage to the machinery, that the equipment is simply receiving and processing signals that it was designed to process, and reviewing and criticizing courts’ focus on other measures of damage as sufficient to state a trespass to chattels claim).

141. RESTATEMENT (SECOND) OF TORTS § 218 cmt. i (1965).

142. *eBay, Inc. v. Bidder’s Edge, Inc.*, 100 F. Supp. 2d 1058, 1064 (N.D. Cal. 2000) (“According to eBay, the load on its servers resulting from [Bidder’s Edge’s] web crawlers represents between 1.11% and 1.53% of the total load on eBay’s listing servers.”).

143. *Id.* at 1065.

144. *Id.*

analogy to be accurate, the robots would have to make up less than two out of every one-hundred customers in the store, the robots would not interfere with the customers' shopping experience, nor would the robots even be seen by the customers."¹⁴⁵

A trespass to chattels action would also face the same questions discussed above in the context of trespass to real property. The chattel itself, the server, grants access simultaneously with making a copy, thereby raising the copyright preemption issue.¹⁴⁶ Further, the server decides whether or not to let the spider in, making access look consensual and trespass untenable.

The policy basis of trespass to chattels is essentially the same as that of trespass to real property. Trespass to chattels requires some showing of harm in part because the law views the owner's interest in inviolability to be greater in the case of real property than chattels. But the same policy concerns of protecting against violence and encouraging improvements to the chattel and consensual transactions are implicated. And the same question—how to fit these policy interests with others—is raised.

Amici's argument discussed above¹⁴⁷ has more force when a court focuses on the server. If a website cannot control entry, the burden on its servers may increase to a level that results in a severe degradation in performance. The server itself may not suffer tangible harm, but the incentive to invest in the site and to purchase more equipment may be impaired if the site cannot keep up with demand and has no ability to regulate access. This makes *amici's* point that the site should be able to control even "harmless" intrusions—no access is harmless because it uses the server's resources.

However, this ignores both the policy interest in affording access to uncopyrighted information, and that no one posts a website without expecting some users to travel to it, thereby imposing a burden on the site's servers. The relevant question may be what quantum of burden coming from a particular source is acceptable, rather than whether a property rule that allows a site to regulate access in its discretion is advisable.

Under a traditional analysis, in both the *Ticketmaster* and *eBay* cases, the spider's use seems to be something less than "substantial" as required by the trespass to chattels action. The element of damage also appears to be lacking. How then did the *eBay* court premise entry of a preliminary injunction on a trespass to chattels theory? It did so by mixing and match-

145. *Id.* at 1066.

146. *Supra* notes 123-24 and accompanying text.

147. *See supra* text accompanying note 130.

ing the requirements of trespass to real property and trespass to chattels, mutating them into a new tort that bears only some surface resemblance to traditional causes of action.

D. Mixing Metaphors

In addressing eBay's trespass to chattels claim, the *eBay* court seemed confused about what level of interference constitutes an actionable intermeddling:

Conduct that does not amount to a substantial interference with possession, but which consists of intermeddling with or use of another's personal property, is sufficient to establish a cause of action for trespass to chattel. Although the court admits some uncertainty as to the precise level of possessory interference required to constitute an intermeddling, there does not appear to be any dispute that eBay can show that [Bidder's Edge's] conduct amounts to use of eBay's systems.¹⁴⁸

The court thus adopted a theory of strict liability for any use of a chattel, regardless of whether or not the owner is deprived of its use for a "substantial" time.

In rejecting all of the items that *eBay* proffered as constituting damage, the court adopted its own two theories of harm. It argued, "If [Bidder's Edge's] activity is allowed to continue unchecked, it would encourage other auction aggregators to engage in similar recursive searching of the eBay system such that eBay would suffer irreparable harm from reduced system performance, system unavailability, or data losses."¹⁴⁹ This harm would likely be "a substantial impairment of condition or value" of the chattel.¹⁵⁰ The court did not explain why it substituted this possible future harm for the traditional requirement that the plaintiff show actual harm. Nor did it consider whether this potential harm was likely to materialize.

Alternatively, the court seemed to find harm from the mere act of access by a visitor unwanted by the eBay site—a kind of strict liability regime for unwanted, harmless intrusions. It said, "Even if, as [Bidder's Edge] argues, its searches use only a small amount of eBay's computer system capacity, [Bidder's Edge] has nonetheless deprived eBay of the ability to use that portion of its personal property for its own purposes. The law recognizes no such right to use another's personal property."¹⁵¹

148. *eBay*, 100 F. Supp. 2d at 1070.

149. *Id.* at 1066.

150. *Id.* at 1072.

151. *Id.* at 1071.

The result is a broad rule that would allow a site to obtain an injunction against all unwanted visitors. This right to exclude is broader than under real property law, which addresses intangible intrusions by using a nuisance balancing test or by requiring a showing of harm to sustain a trespass claim. It also departs from traditional trespass to chattels rules by abandoning an analysis of the substantiality of the time of deprivation and the requirement of harm. By piling analogy on top of analogy and mixing real and personal property causes of action, the court has created a broad property right without ensuring that the policies on which analogous rules are based translate equally well into this new context.

E. *eBay's Progeny—Register.com, Inc. v. Verio, Inc.*¹⁵²

This broad property rule has already been adopted by at least one court. In *Register.com, Inc. v. Verio, Inc.*, the defendant Verio used spiders to access the plaintiff's database to extract uncopyrighted names and contact information of customers who had registered domain names with Register.com.¹⁵³

Interestingly, the court implied that Verio's use of the spider prior to Register.com's filing of the lawsuit was not a trespass:

[I]t is clear since at least the date this lawsuit was filed that Register.com does not consent to Verio's use of a search robot, and Verio is on notice that its search robot is unwelcome. . . . Accordingly, Verio's future use of a search robot to access the database exceeds the scope of Register.com's consent, and Verio is liable for any harm to the chattel (Register.com's computer systems) caused by that unauthorized access.¹⁵⁴

Like the *eBay* court, the *Register.com* court rejected the plaintiff's evidence of harm.¹⁵⁵ It cited *eBay* for the proposition that any use of the computer system by one other than its owner causes harm by depriving the system's owner of the use of that capacity, however minimal.¹⁵⁶ The *Register.com* court also seemed to find harm in the prospect of many spiders

152. 126 F. Supp. 2d. 238 (S.D.N.Y. 2000).

153. *Id.* at 243.

154. *Id.* at 249. In contrast, the *eBay* court seemed to say that use of the spider to make repeated queries was unauthorized even before eBay objected. See *supra* text accompanying note 73.

155. See *Register.com*, 126 F. Supp. 2d at 249-50 (discussing how the defendant "thoroughly undercut" the plaintiff's testimony showing harm, rendering "Register.com's evidence of any burden or harm to its computer system caused by successive queries performed by search robots . . . imprecise").

156. *Id.* at 250.

from other sites searching Register.com if the court allowed Verio to do so without liability.¹⁵⁷

The *Register.com* case demonstrates the breadth of the *eBay* holding. Trespass occurs by accessing the system regardless of the nature of the information extracted—whether uncopyrighted product and pricing information, uncopyrighted contact information, or copyrighted information. Second, the decision should also remind policymakers generally that while reasoning by analogy is a traditional means of doctrinal evolution, so too is one court's adoption of another's precedent. The latter adoptions are likely to occur without in-depth analysis of the initial decision, much as the *Register.com* court uncritically followed the *eBay* court's guidance. This makes an immediate analysis of the *eBay* rule that much more important.

Under the *eBay* court's rule, a site can enjoin not only unlicensed use of spiders but also all unlicensed linking, effectively allowing a site to decide who can access it and through what means. Does this make sense? The link is the foundation of the web and the means by which consumers can navigate it easily and cheaply. Can we simply trust the market to give sites incentives to allow others to link to them? And are there other policy interests that the law should take into account? Prior to adopting any such broad property rule, the law should at least consider what competition policy and antitrust law would say because the definition of property rights affects the shape of competition. This Article therefore now turns to the question of what competition policy contributes to the discussion of how to define property rights in websites, with specific reference to product and pricing information.

III. COMPETITION POLICY AND ANTITRUST LAW

A. What Competition Policy Would Say

For many years, Sym's, one of the Northeast's leading discount retailers of clothing, used the catch phrase, "At Sym's, an educated consumer is our best customer."¹⁵⁸ The government's competition policy reflects, in only slightly more sophisticated words, this same basic idea.

In the Federal Trade Commission's ("FTC") *Plain English Guide to Antitrust Laws*, the agency tells consumers that they can play a role in keeping markets competitive by "research[ing] . . . alternatives, and

157. *Id.* at 250-51.

158. The company's current slogan is, "Commitment is always in fashion at Sym's." Syms.com, at <http://www.syms.com/www4/pbs.html> (last visited Apr. 6, 2001).

know[ing] the prices and product offerings of different retailers and manufacturers.”¹⁵⁹ The Supreme Court shares this view, and has found laws that restrict advertising and ban competitive bidding to be against the public interest because they withdraw information from consumers and hamper competition.¹⁶⁰ The Court has strongly affirmed the desirability of an informed public:

So long as we preserve a predominantly free enterprise economy, the allocation of our resources in large measure will be made through numerous private economic decisions. It is a matter of public interest that those decisions, in the aggregate, be intelligent and well informed. To this end, the free flow of commercial information is indispensable.¹⁶¹

However, while vigorous competition presupposes informed consumers, it also assumes a background set of private property rights. These rights may have a good deal to say about the permissible *means* by which a consumer becomes informed.

Recall the traditional real property rule discussed above that allows stores to ban those who would gather data for comparison shopping purposes from entry. If there is such a large competitive benefit from having consumers informed about product and pricing information, how does competition policy justify this rule? Perhaps accounting for it is simply not a practical concern. This broad right to exclude is largely theoretical in real space because stores have difficulty effectively distinguishing between those entering for “legitimate” reasons and those who are not. On the web, this ability can be more perfectly employed. Although aggrega-

159. *Keeping Markets Competitive*, at <http://www.ftc.gov/bc/compguide/keep.htm> (last visited Apr. 6, 2001), cited in Brief of Amici Curiae Law Professors, *supra* note 20, at 3; see also *Antitrust Enforcement and the Consumer*, at http://www.usdoj.gov/atr/public/div_stats/1638.htm (last visited Apr. 6, 2001) (explaining the benefits of antitrust law to consumers).

160. See O'Rourke, *supra* note 31, at 1978 (quoting *Bates v. State Bar of Ariz.*, 433 U.S. 350 (1977) and *Nat'l Soc'y of Prof'l Eng'rs v. United States*, 435 U.S. 679 (1978)). In *Bates*, the Court held that a ban on advertising by attorneys violated the First Amendment. *Bates*, 433 U.S. at 383. In *Professional Engineers*, it held that an engineering association's ethical rule against competitive bidding violated the Sherman Act. *Prof'l Eng'rs*, 435 U.S. at 695-96; see also *Va. State Bd. of Pharmacy v. Va. Citizens Consumer Council, Inc.*, 425 U.S. 748 (1976) (holding that a statutory ban on advertising prescription drug prices violated the First and Fourteenth Amendments).

161. *Va. State Bd. of Pharmacy*, 425 U.S. at 765; see also *Bates*, 433 U.S. at 364 (“[C]ommercial speech serves to inform the public of the availability, nature, and prices of products and services, and thus performs an indispensable role in the allocation of resources in a free enterprise system.”).

tors can use technological means to try to hide their activities from e-commerce sites,¹⁶² they generate a large volume of requests. This makes it easier for e-commerce sites to discover their activity than for bricks and mortar stores to locate who is shopping for the best price or aggregating pricing data. As a result, granting a right to exclude spiders from websites makes banning the entry of comparison shoppers closer to a practical reality on the Internet than it ever has been in the real world: “eBay . . . has found in its trespass theory a perfect mechanism for preventing information-gathering.”¹⁶³ That this “more perfect” control over access may upset the traditional balance between competition policy and property rights suggests that the law should not automatically replicate the same property rights in cyberspace as in real space. Moreover, it certainly should be skeptical about granting even *broader* rights as the *eBay* court did.

However, consumers can still get product and pricing information in this new environment, and they can obtain it more cheaply than in traditional markets. Even under the *eBay* property rights regime, Internet markets may still be more competitive than in real space.¹⁶⁴ But this obscures another relevant comparison—between the Internet under the *eBay* rule and the Internet under alternatives. As noted above, if consumers seek information on their own, they will be less fully informed than if they use a shopbot. They will travel to the sites they know, reinforcing any market power a strong brand confers and the barrier to entry it can create.

Under the *eBay* decision, shopbots can use spiders to index sites with which they have agreements, and search sites with whom they lack such contracts in real-time like any other user.¹⁶⁵ Indeed, although Bidder’s Edge has since ceased operation, it did continue to operate ostensibly effectively for a time after entry of the preliminary injunction by conducting real-time searches of the eBay site.¹⁶⁶ Thus, the transference of real prop-

162. For example, Bidder’s Edge used proxy servers to try to avoid detection by eBay. See *eBay, Inc. v. Bidder’s Edge, Inc.*, 100 F. Supp. 2d 1058, 1061-63 (N.D. Cal. 2000) (explaining what a proxy server is and how Bidder’s Edge used them).

163. Brief of Amici Curiae Law Professors, *supra* note 20, at 7 n.4; see also Lawrence Lessig, *Cyberspace & Privacy: A New Legal Paradigm?*, 52 STAN. L. REV. 987, 997 (2000) (“[T]he [Internet’s] architecture is changing to make the Net more like real space—more like real space but threatening to regulate even more than real space.”).

164. *But see* O’Rourke, *supra* note 31, at 1969-74 (noting that certain characteristics of the Internet should bring markets closer to perfect competition but that, for a number of reasons, Internet markets may not yet be even as competitive as their bricks and mortar counterparts).

165. See *supra* Part II.B.2, Part II.D (discussing the court’s holding in the *eBay* case).

166. See *infra* note 196; see also *supra* note 29 (noting that Bidder’s Edge has ceased operations).

erty-like rights to websites should not meaningfully frustrate comparison shopping using the most effective tools.

However, this rationale raises some questions. First, it renders sites' objections to spiders based on the system burden they impose suspect. It is not at all clear that real-time inquiries by shopbots will be less burdensome to the queried system than using spiders.¹⁶⁷ Second, if an aggregator has to search in real-time, its response time to consumers may be degraded to a point that makes it an undesirable tool for comparison shopping, leaving consumers to do a less effective job on their own.¹⁶⁸ Third, the *eBay* court's rationale is broad enough to allow eBay the right to exclude even real-time searchers. As detailed above, the court essentially adopted a strict liability regime under which any unwanted access causes damage by using the visited site's resources.¹⁶⁹ All requests for information, whether by an individual or shopbot, impose such a burden. Real property rights give the site the ability to decide to whom it will grant admission, even in real-time.

The crucial question is whether a site would have an incentive to block information gathering for anticompetitive reasons. In other words, while the *eBay* rule may effectively give a site more perfect control over who may enter than a retailer in real space has, it does not raise policy concerns if sites have no practical incentive to exercise that control. Indeed, a second reason why competition policy is not generally unduly concerned with the property rule allowing stores to exclude those who would gather information, may be that competitive pressures force vendors to disseminate their product and pricing information.

Even a monopolist has incentives to disclose information. By definition, a monopolist controls the price from which it extracts its surplus.¹⁷⁰ If disseminating information would be value enhancing, allowing the imposition of a higher price, even a monopolist would do it.¹⁷¹ Moreover, the monopolist, like any other vendor, cannot sell to customers who are

167. See Bidder's Edge's Answer to First Amended Complaint, *supra* note 28, ¶ 110 (stating that real-time queries would "increase the load on eBay's servers [and] degrade the Bidder's Edge user experience, including by resulting in a long delay in display of the response to the search request").

168. See *id.*

169. See *supra* Part II.D.

170. See *United States v. E.I. du Pont de Nemours & Co.*, 351 U.S. 377, 391 (1956) ("Monopoly power is the power to control prices or exclude competition.").

171. See generally Nadel, *supra* note 8 (manuscript at 26) (noting that eBay should even consider functioning as an aggregator itself by including data about competitive options).

unaware of its existence. Withholding information then would, at first glance, seem to be an unlikely strategy.

Amici in the *eBay* case ostensibly make just this point, analogizing eBay to the dominant real-world auction houses:

Christie's and Sotheby's may occupy dominant positions as auction houses, but . . . [t]hey are under no duty to advertise their sales or to allow reporters or consumer affairs editors to enter their premises in order to spread the news about the auction to the four corners of the globe. . . . Quite simply, economic incentive works better than state force to secure the full dissemination of information. In order to attract owners to use their services, the auction houses reach out to the largest possible market. They advertise, use web pages, seek publicity and otherwise promote their sales. Yet at no point does the state step in to require auction houses to admit the media or auction aggregators onto their premises.¹⁷²

Amici's argument is that the policy interests, including concerns about competition, are the same in real and virtual space, thereby justifying an aggregator's liability under a modified real property cause of action like that adopted by the *eBay* court. Any concern over whatever additional practical ability a site has to exclude under such a rule is offset by at least two factors: (1) the competitive reality that encourages vendors to disclose relevant information; and (2) the need for strong property rights in the servers (and, by extension, the sites) to encourage companies to develop, maintain, and improve sites.¹⁷³

B. Antitrust Law's Impact

Are there circumstances in which sites would have an incentive to limit the dissemination of information? If so, can the law cost-effectively distinguish these situations, and what implications do they hold for the design of property rights on the Internet?

1. Bidder's Edge's Counterclaim

A good starting point for addressing these questions and analyzing the impact of antitrust law is the counterclaim that Bidder's Edge filed in

172. Brief of Amici Curiae Reed Elsevier et al., *supra* note 10, at 4. Of course, the analogy to Christie's and Sotheby's is somewhat ironic given those firms' widely publicized price-fixing activities. Reuters, *Judge Defers Action on Sotheby's Guilty Plea*, CNN.COM, at <http://www.cnn.com/2000/STYLE/arts/10/05/crime.sothebys.reut/> (Oct. 5, 2000).

173. Brief of Amici Curiae Reed Elsevier et al., *supra* note 10, at 22.

eBay's suit against it.¹⁷⁴ Bidder's Edge argued that eBay attempted to monopolize and, in fact, did monopolize the market for consumer to consumer online auctions as well as the market for information about consumer to consumer online auctions.¹⁷⁵ It alleged that eBay's exclusionary conduct included restrictive contractual provisions and interference with Bidder's Edge's relations with others.¹⁷⁶

Had the case not settled, one of Bidder's Edge's first hurdles would have been to show that the markets it defined were the relevant markets for antitrust purposes.¹⁷⁷ For example, if consumers view bricks and mortar auction houses and/or other fora as reasonable substitutes for eBay, then the relevant market may not be restricted to an online one.¹⁷⁸ Bidder's

174. Bidder's Edge's Answer to First Amended Complaint, *supra* note 28.

175. *Id.* ¶¶ 142, 143. Tickets.com ostensibly also included an antitrust counterclaim in its answer to Ticketmaster's complaint. See Ticketmaster Motion For Preliminary Injunction, *supra* note 47, at *3 (alluding to "the filing of an antitrust counterclaim by T[ickets.com]"). Tickets.com's answer, however, was filed under seal.

176. See Bidder's Edge's Answer to First Amended Complaint, *supra* note 28, ¶¶ 108-13, 119-25 (alleging that eBay sought to impose unacceptable contractual terms in a proposed license that would allow Bidder's Edge to use spiders to search the site, and that eBay interfered with Bidder's Edge's relationships with eBay Magazine and Cox Interactive Media). Bidder's Edge also alleged that eBay misused its source code copyright by attempting to use it to stop Bidder's Edge from publishing information that eBay knew was not copyrighted. *Id.* ¶¶ 126-33. Note that a monopolization claim under section 2 of the Sherman Act requires proof of "(1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen or historic accident." *United States v. Grinnell Corp.*, 384 U.S. 563, 570-71 (1966). "[I]t is generally required that to demonstrate attempted monopolization a plaintiff must prove (1) that the defendant has engaged in predatory or anticompetitive conduct with (2) a specific intent to monopolize and (3) a dangerous probability of achieving monopoly power." *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 456 (1993).

177. A relevant market has two dimensions: (1) the relevant product market, which identifies the products or services that compete with each other, and (2) the relevant geographic market, which identifies the geographic area within which competition takes place. . . . The outer boundaries of a relevant market are determined by reasonable interchangeability of use. . . . Reasonable interchangeability of use refers to consumers' practicable ability to switch from one product or service to another.

Am. Online, Inc. v. Greatdeals.net, 49 F. Supp. 2d 851, 857-58 (E.D. Va. 1999) (citations omitted).

178. See *id.*; see also *In re Municipal Bond Reporting Antitrust Litig.*, 672 F.2d 436, 442 (5th Cir. 1982) (holding that the relevant market for information about bond listings encompassed not only electronic means of obtaining the information but also the print medium because consumers treated the print and electronic data as reasonably interchangeable).

Edge's case would have been substantially enhanced if it could have shown that "the enhancement of the currency, or sheer immediacy, of information, beyond that available" offline is significant to consumers.¹⁷⁹ Under such circumstances, a court likely would not consider offline and online auctions to be reasonable substitutes. If the market that Bidder's Edge defined exists, then it is more plausible that a secondary market in information about what is traded there also exists. Indeed, when the *eBay* court refused to dismiss Bidder's Edge's antitrust counterclaims, it noted that "[i]t appears appropriate to consider these as separate markets because auction services are not interchangeable with information about auctions."¹⁸⁰

Because Bidder's Edge does not compete in the market for consumer to consumer online auctions,¹⁸¹ its main complaint appears to be that eBay is attempting to use its power there to monopolize or attempt to monopolize this second market in information as part of a scheme to reinforce its power in the first.¹⁸² The legal question is whether eBay has engaged in

179. *Municipal Bond*, 672 F.2d at 442.

180. *eBay, Inc. v. Bidder's Edge, Inc.*, 2000 U.S. Dist. LEXIS 13326, at *7 (N.D. Cal. July 25, 2000).

181. *See id.* (noting that Bidder's Edge's counterclaim was contradictory, alleging at one point that it participated in the consumer to consumer online auction market and at another that it did not, and adopting the view that Bidder's Edge does not compete in that market).

182. An antitrust plaintiff must suffer antitrust injury.

Actionable antitrust injury is an injury to competition rather than just competitors. . . . It requires proof "(1) that the alleged violation tends to reduce competition in some market and (2) that the plaintiff's injury would result from a decrease in that competition rather than from some other consequence of the Defendant's actions."

Louisa Coca-Cola Bottling Co. v. Pepsi-Cola Metro. Bottling Co., 94 F. Supp. 2d 804, 813 (E.D. Ky. 1999) (citations omitted).

It is unclear how Bidder's Edge, which does not compete in the market for consumer to consumer online auctions, would be damaged if eBay monopolized that market. The claim may be that if eBay monopolizes that market, the need for an aggregator service such as Bidder's Edge declines, decreasing Bidder's Edge's revenue. The *eBay* court emphasized that "the Ninth Circuit has rejected the argument that antitrust standing is limited to competitors or consumers," holding that the relevant fact is a causal relationship between the defendant's act and the plaintiff's harm. *eBay*, 2000 U.S. Dist. LEXIS 13326, at *6-7. "Thus, it appears that an allegation of market participation is sufficient to confer antitrust standing for pleading purposes." *Id.* Bidder's Edge participates only in the market for information about consumer to consumer online auctions.

exclusionary conduct without a legitimate business justification that has maintained or is dangerously likely to cause a monopoly.¹⁸³

Bidder's Edge claims that a number of contractual restrictions that eBay proposed to Bidder's Edge, and to which eBay actually agreed with other aggregators, constitute just such exclusionary conduct.¹⁸⁴ For example, eBay demanded that Bidder's Edge conduct real-time searches by keyword. Bidder's Edge complained that this approach would actually increase the load on eBay's servers while also degrading the Bidder's Edge user's experience by causing response time to increase.¹⁸⁵ Bidder's Edge also contended that under eBay's proposed terms, eBay auctions would have a competitive advantage because they would be listed first and displayed differently from results from other sites.¹⁸⁶ Bidder's Edge claimed

183. See, e.g., *Image Technical Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1209 (9th Cir. 1997) (citing *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985) and *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451 (1992)).

184. Bidder's Edge alleged that at least two aggregators entered into licenses containing the restrictive terms. Bidder's Edge's Answer to First Amended Complaint, *supra* note 28, ¶ 117 (stating that the press had reported agreements between eBay and iWatch and eBay and Auction Rover). In its decision on eBay's motion to dismiss the counterclaim, the court suggested that eBay's proposed license agreements with Bidder's Edge might be immune from scrutiny under the Noerr-Pennington doctrine. *eBay*, 2000 U.S. Dist. LEXIS 13326, at *4-5 (discussing the Noerr-Pennington doctrine which immunizes the filing of a non-sham lawsuit from antitrust scrutiny, noting that such immunity "extends to all 'conduct incidental to the prosecution of the suit,'" and stating that eBay's cease-and-desist letters and proposed contracts may fall within that category). The court also noted that Bidder's Edge may not have suffered antitrust injury because it did not agree to eBay's proposed terms. *Id.* However, it refused to dismiss the complaint because Bidder's Edge might be able to prove some set of facts sufficient to support its claim. *Id.* at *8-9. Generally, to have standing, a private antitrust plaintiff must show:

(1) that the acts violating the antitrust laws caused . . . the private plaintiff injury in fact . . . ; (2) that this injury is not too remote or duplicative of the recovery of a more directly injured person; (3) that such injury is 'antitrust injury,' which is defined as the kind of injury that the antitrust laws were intended to prevent . . . ; and, in a damage case, (4) that the damages claimed or awarded measure such injury in a reasonably quantifiable way.

2 PHILLIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION* ¶ 335, at 286-87 (2d ed. 2000) (citations omitted).

185. Bidder's Edge's Answer to First Amended Complaint, *supra* note 28, ¶ 110.

186. eBay's proposal also required that Bidder's Edge organize search results by auction site, rather than by auction closing time. . . This change typically would place eBay's results first, because eBay is the leading auction host and has the most listings. This change also would prevent the Bidder's Edge user from seeing the most time sensitive items first,

that “[b]y effectively precluding auction aggregators from displaying information regarding eBay auctions alongside information regarding other auctions[,] eBay has reduced competition in the on-line consumer to consumer auction market and among those, like Bidder’s Edge[,] who supply valuable information to auction consumers.”¹⁸⁷ In other words, Bidder’s Edge is arguing, at least in part, that even if eBay has an underlying property right to exclude Bidder’s Edge, eBay cannot condition access to its site on agreement to provisions that will restrict competition in other markets. Antitrust law usually evaluates such contractual restrictions under a rule of reason analysis.¹⁸⁸

The result of such an analysis would be heavily fact dependent. For example, it may be procompetitive to allow eBay to choose which aggregators should search in real-time and which by spidering. This approach allows eBay to monitor the burden on its systems more effectively, and requires the aggregators to internalize the costs they impose. But there are conflicting arguments regarding whether or not real-time searches are, in fact, less burdensome than spidering.¹⁸⁹

Compare this situation to suits in which plaintiffs have alleged that contracts giving the dominant supplier preferred shelf space in supermar-

an important factor for users concerned with obtaining the most competitive price by bidding at the last minute. In addition, eBay required that Bidder’s Edge display an eBay banner advertisement on every page of the Bidder’s Edge Web site that contains eBay search results, which because of eBay’s size would likely be every search. eBay also required that Bidder’s Edge include the special icons utilized by eBay to describe eBay buyers and sellers.

Finally, eBay demanded that Bidder’s Edge display information about eBay listings in a manner “identical to what a user would retrieve if they performed the same search on eBay.” This requirement would mandate that Bidder’s Edge abandon its own system of normalizing and categorizing information, and of using and listing only key information. It also would require that Bidder’s Edge search and list eBay information differently from every other auction site Bidder’s Edge tracks.

Id. ¶¶ 111-112.

187. *Id.* ¶ 118.

188. Allan J. Meese, *Farewell to the Quick Look: Redefining the Scope and Content of the Rule of Reason*, 68 ANTITRUST L.J. 461, 461 (2000) (asserting that courts “subject most types of contracts to full-blown scrutiny under the rule of reason”). However, the Supreme Court has held some price-setting and tying contracts to be unreasonable per se. *Id.* at 476. Also, the Court has endorsed an intermediate “quick look” test requiring justification for naked price and output restraints even in the absence of a detailed market analysis. *NCAA v. Univ. of Okla.*, 468 U.S. 85, 110 (1984).

189. *See supra* note 167.

kets violate the antitrust laws.¹⁹⁰ Bidder's Edge's claim is somewhat similar—that eBay is maintaining its monopoly in the consumer to consumer online auction market by controlling the display of information about its products. In the shelf space cases, courts have emphasized that such agreements, particularly if they are short in duration, easily terminable, and provide shelf space in proportion to market share, can be procompetitive.¹⁹¹ Courts are more likely to view a shelf space arrangement to be an anticompetitive restraint of trade if it is part of a plan to exclude competitors and “injur[e] competition without increasing efficiency.”¹⁹²

Because eBay *does* have a large percentage of the market,¹⁹³ the “shelf space” it is claiming online may simply reflect its proportionate share. However, the agreement may harm both consumers and competition. eBay's proposed agreement required that auction results be listed by site rather than by the most pertinent piece of information to consumers—auction closing time. Bidder's Edge argued that this requirement's practical effect would be to feature a large number of eBay listings first, helping to maintain eBay's monopoly power over auctions.¹⁹⁴ Consumers are unlikely to have either the time or the attention span to sort through to the next vendor as easily as they may scan a supermarket's shelves for alternatives.

The crux of the matter is that while a monopolist may have incentives to disclose information, it may also have incentives to stifle the flow of information about other options. The Internet may be one of the few, if not

190. See, e.g., *Louisa Coca-Cola Bottling Co. v. Pepsi-Cola Metro. Bottling Co.*, 94 F. Supp. 2d, 804, 806-07, 814-16 (E.D. Ky. 1999) (holding that Pepsi's Calendar Marketing Agreements under which retailers agreed to promote Pepsi and provide it with a certain amount of shelf space served procompetitive ends and did not violate section 1 of the Sherman Act); *Frito-Lay, Inc. v. Bachman Co.*, 659 F. Supp. 1129, 1132-36 (S.D.N.Y. 1986) (addressing Frito-Lay's program that encouraged stores to increase shelf space for Frito-Lay products at the expense of its competitors, and holding that the agreements did not violate section 1 of the Sherman Act, but might be evidence that Frito-Lay “subsidized the exclusion of competitors” under section 2).

191. See *supra* note 190 and sources cited therein.

192. *Frito-Lay*, 659 F. Supp. at 1136. In *Frito-Lay*, the court refused to dismiss monopolization and attempted monopolization claims based on allegations that Frito-Lay used profit guarantees to ensure shelf space for its products at the expense of its competitors. See *id.* at 1139.

193. See, e.g., *eBay, Inc. Is Sued by Bidder's Edge, Inc. on Business Tactics*, WALL ST. J., Feb. 8, 2000, at A12 (citing eBay as having eighty-seven percent of “daily Web auction traffic”); see also Bidder's Edge's Answer to First Amended Complaint, *supra* note 28, ¶ 134 (claiming that eBay has an eighty-five percent share in both the consumer to consumer online auction market and the market for information about those auctions).

194. See *supra* note 186.

the only, contexts in which it may be a viable strategy for a monopolist to create a barrier to entry by controlling the flow of its own product and pricing information. The incidental effect of maintaining the monopoly in the primary market may be to frustrate the comparison shopping sites that seek to provide the relevant information.

More specifically, aggregators provide more than data about what products are available at what sites. They also provide information about the *existence* of other sites. eBay has an established brand name that a new entrant generally lacks. The entrant cannot compete if users cannot find it, and users find sites by employing search engines or specialized search engines like Bidder's Edge. In fact, two major reasons why the Internet has not materialized into a perfectly competitive market are that consumers are imperfectly informed and search costs remain high.¹⁹⁵ When eBay refuses to provide its data, it makes aggregators' services less attractive. When eBay provides its data under terms that require a screen display advantageous to it, it makes it more difficult for consumers to find out not only that other sites offer the product (potentially at lower prices), but that those other auction sites exist at all.

Thus, using market power to control information and keep consumers uninformed about alternatives may be a plausible strategy if the goal is to erect a barrier to entry in the primary market. It is unclear whether acts taken pursuant to this strategy would rise to the level of exclusionary conduct sufficient to constitute an antitrust violation. Competitive sites can take a number of steps, including advertising, to make their presence known. Nevertheless, because consumers rely on search services, conduct directed toward making those services less valuable or dictating their display may cause marketplace inefficiencies.

However, other facts of the *eBay* case make it unlikely that eBay violated the antitrust laws. eBay was apparently willing to allow real-time searches of its database by Bidder's Edge in the absence of an agreement.¹⁹⁶ It is difficult to square this with Bidder's Edge's answer indicating that eBay was negotiating for restrictive contractual provisions to al-

195. O'Rourke, *supra* note 31, at 1972-74 (noting that search engines cannot index all of the web and that many consumers are unaware of the existence of comparison shopping tools, as well as a number of other reasons why the Internet has not evolved into a perfectly competitive marketplace).

196. See Steven Bonisteel, *Bidder's Edge Searches eBay Again*, NEWSBYTES, available at <http://www.newsbytes.com/pubNews/00/150308.html> (June 8, 2000) (noting that Bidder's Edge began conducting real-time searches of the eBay site after entry of the preliminary injunction, and that eBay initially indicated that it would not object to such searches).

low Bidder's Edge to conduct even real-time searches.¹⁹⁷ Perhaps some scrutiny from the Justice Department persuaded eBay that allowing this access was advisable.¹⁹⁸ Maybe eBay believed that its barriers to entry were erected too late to achieve its goal. Or it may be, as *amici* argue, that competitive pressures forced eBay to disclose its information.¹⁹⁹ Regardless, the underlying point remains. Scenarios exist in which a monopolist may use its power to control the flow of information in an anticompetitive and inefficient way.

Antitrust law's response to such behavior is linked to the definition of the underlying property right. This is starkly illustrated by a comment made by the *eBay* court in refusing to dismiss the Bidder's Edge antitrust counterclaims. It said, "If [Bidder's Edge's] automated crawling of eBay's web site is determined to be lawful, eBay's alleged blockage of [Bidder's Edge's] search activity may also provide a basis for an antitrust violation."²⁰⁰ In other words, if the initial property entitlement rests with Bidder's Edge, eBay's steps to exclude it are more likely to lack a legitimate business justification.

2. *Unilateral Refusal to Deal and Essential Facilities*

By negative inference, the quote above suggests that if the modified property right that the *eBay* court established is the governing law, it is not an antitrust violation to prevent spiders from accessing a site. Antitrust law generally respects the governing property rights regime. Nevertheless, aggregators may still seek relief under antitrust claims. For example, they may argue that a site like eBay may not unilaterally refuse to grant spiders reasonable access.

While a firm may generally refuse to deal with a competitor, section 2 of the Sherman Act imposes some limits.²⁰¹ Unfortunately, the law regarding refusals to deal is rather murky. Generally, courts analyze refusals to deal either by focusing on an intent to destroy competition or the existence

197. See *supra* notes 184-87 and accompanying text.

198. See John Schwartz, *Probe of eBay Hinges on Rights to Data*, WASH. POST, Feb. 5, 2000, at E1 (stating that the Justice Department began a preliminary investigation of eBay and its business tactics involving companies like Bidder's Edge); David Lazarus, *Justice Department Takes Closer Look at eBay's Bidness*, DENVER POST, Feb. 7, 2000, at C12.

199. See *supra* note 172 and accompanying text.

200. *eBay, Inc. v. Bidder's Edge, Inc.*, 2000 U.S. Dist. LEXIS 13326, at *5 (N.D. Cal. July 25, 2000).

201. 15 U.S.C. § 2 (1994).

of an essential facility.²⁰² The cases, for the most part, fall into three categories that involve: (1) an intent to destroy competition coupled with a change in behavior by the monopolist; (2) a monopolist leveraging its power from one market into another; or (3) a monopolist refusing to grant a competitor access to an essential facility.²⁰³

eBay's conduct might fit all three categories. It initially agreed to allow searching by Bidder's Edge under certain conditions, but later withdrew its consent. It may be attempting to leverage its power in the market for consumer to consumer online auctions into the market for information about such auctions because it would prefer that consumers not have information about lower-priced alternatives and the existence of sites offering those choices. Finally, Bidder's Edge might argue that eBay's website is an essential facility to which it must be granted access.

Certainly, one difficulty common to all of these claims is that eBay did not exclude Bidder's Edge from conducting real-time searches. Thus, consumers could still obtain competitive pricing information about eBay's offerings via Bidder's Edge. Bidder's Edge had access to eBay's product and pricing information, just not that access which it argued is the most efficient for it and for consumers. It is doubtful whether antitrust law would—or should—vindicate Bidder's Edge's interest in the most efficient way for it to obtain the information it seeks as long as consumers are still able effectively to acquire it.

If a site were to use its property right to the fullest extent by preventing even real-time searches, antitrust claims might be more likely to succeed because competition is more likely to be adversely affected. Such claims would still, however, likely encounter at least some difficulty. One problem is that the modified property right that the *eBay* court developed bears at least a surface resemblance to an intellectual property right. It is a right to exclude a spider from the site where access would essentially be synonymous with copying the site's information. While there is some dissonance in the area, the general rule is that the owner of an intellectual

202. See JULIAN O. VON KALINOWSKI ET AL., 2 ANTITRUST LAWS AND TRADE REGULATION §§ 25.04[3], 25-69 to 25-70 (2d ed. 2000) (stating that refusals to deal are generally analyzed under two theories: the intent test and the essential facilities test); Saul P. Morgenstern & Eamon O'Kelly, *Antitrust Enforcement in High Technology Industries: Keeping Cyberspace Safe for Innovators or Just Another Speed Trap on the Information Superhighway?*, 547 PLI/PAT 1009, 1028-29 (1999).

203. See James B. Kobak Jr., *Antitrust Treatment of Refusals to License Intellectual Property*, 606 PLI/PAT 447, 450 (2000) (setting up these classifications); see also *supra* notes 4-5 (citing the *Aspen Skiing* case that involved a behavior change and the *Terminal Railroad* case addressing essential facilities).

property right is free to refuse to license it without fear of antitrust liability.²⁰⁴ By analogy, eBay, even if a monopolist, may refuse to license access to its site. However, a court should be reluctant to accord the right established by the *eBay* court the same status as an intellectual property right. The intellectual property laws are premised on a power enumerated in Article I of the Constitution.²⁰⁵ In enacting laws pursuant to this power, Congress has considered how to balance competitive concerns with exclusive rights. In contrast, the property right announced by the *eBay* court lacks both a constitutional basis and an explicit statement of how that right accords with competition policy.

Although a court could conceivably use the essential facilities doctrine to grant Bidder's Edge access to the eBay site, it is unlikely to do so. Generally, the antitrust authorities primarily use the essential facilities doctrine to regulate natural monopolies that form a bottleneck or gateway into a second market.²⁰⁶ The consumer to consumer online auction industry is not a natural monopoly.

Some commentators have advocated use of the essential facilities doctrine in the software industry, where virtual network effects cause the market to bear some resemblance to a natural monopoly.²⁰⁷ A consumer

204. See *Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346, 1362 (Fed. Cir. 1999) (“[T]he antitrust laws do not negate the patentee’s right to exclude others from patent property.”); *In re Indep. Serv. Orgs. Antitrust Litig.*, 989 F. Supp. 1131, 1141 (D. Kan. 1997) (holding that a patent holder need not show a legitimate business justification to avoid antitrust liability for a refusal to license), *cert. denied*, No. 00-62, 2001 U.S. LEXIS 1102 (Feb. 20, 2001). Other courts have adopted some version of a rebuttable presumption that the exercise of an intellectual property right is a valid business justification for such refusal. See *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1188-89 (1st Cir. 1994) (suggesting that unlawful acquisition of a copyright or harm to consumers could suffice to overcome the presumption); see also *Image Technical Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1219 (9th Cir. 1997), *cert. denied*, 452 U.S. 1094 (1998) (stating that the presumption may be overcome by evidence showing that the protection of intellectual property rights is only a pretext to justify a refusal to license).

205. See U.S. CONST. art. I, § 8, cl. 8 (“The Congress shall have the Power . . . To promote the progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”).

206. See Teague I. Donahey, *Terminal Railroad Revisited: Using the Essential Facilities Doctrine to Ensure Accessibility to Internet Software Standards*, 25 AM. INTELL. PROP. LAW ASS’N Q.J. 277, 308 (1997). A successful essential facilities claim requires proof of “(1) control of the essential facility by a monopolist; (2) a competitor’s inability practically or reasonably to duplicate the essential facility; (3) the denial of the use of the facility to a competitor; and (4) the feasibility of providing the facility.” *MCI Comm. Corp. v. AT&T*, 708 F.2d 1081, 1132-33 (7th Cir. 1982).

207. See Donahey, *supra* note 206; Dennis S. Karjala, *Copyright Protection of Operating Software, Copyright Misuse, and Antitrust*, 9 CORNELL J.L. & PUB. POL’Y 161

might appear to be “locked in” (i.e., unlikely to switch to competitive alternatives) to eBay in the same way that a consumer may be locked in to Microsoft Windows. However, the cause and strength of the lock-in is different. Consumers use Windows because most applications run on it, causing most developers to write programs running on Windows. The operating system becomes more desirable as more developers write programs for it; this, in turn, causes more consumers to buy it and still more developers to write programs for it, and so on. This effect creates a barrier to entry that prevents competing operating systems from emerging.²⁰⁸ In contrast, consumers may shop on eBay simply because it has the widest selection of products or because they trust it to deliver. Its monopoly power makes it attractive to sellers and buyers alike because it ensures the largest market. Consumers are not technologically locked in to eBay as they are to Windows. Possession of monopoly power alone does not and should not transform a product, service, or website into an essential facility.

It is difficult to know whether antitrust law would be effective in policing anticompetitive behavior that could occur under an *eBay* property rights regime. Antitrust litigation is not a viable alternative for smaller sites that cannot afford lengthy court battles with uncertain outcomes. Moreover, market failure can occur even before a specific firm obtains monopoly power. The real question is whether the law can cost-effectively distinguish anticompetitive restrictions on access from procompetitive ones. *eBay's* modified property right coupled with the use of antitrust law to police abuses may be preferable to employing flexible rules that would intervene earlier in a market. Such flexible rules could be costly because they introduce uncertainty and may be error-prone as compared to more exacting antitrust scrutiny.

Nevertheless, it is useful to at least explore alternative property regimes to the one established by the *eBay* court. Competition policy sup-

(1999); Maureen A. O'Rourke, *Drawing the Boundary Between Copyright and Contract: Copyright Preemption of Software License Terms*, 45 DUKE L.J. 479 (1995). *But see* David McGowan, *Regulating Competition in the Information Age: Computer Software as an Essential Facility Under the Sherman Act*, 18 HASTINGS COMM. & ENT. L.J. 771 (1996) (arguing against applying the essential facilities doctrine to operating system software).

208. [T]he applications barrier to entry protects Microsoft's dominant market share. This barrier ensures that no Intel-compatible PC operating system other than Windows can attract significant consumer demand, and the barrier would operate to the same effect even if Microsoft held its prices substantially above the competitive level for a protracted period of time.

United States v. Microsoft Corp., 87 F. Supp. 2d 30, 36 (D.D.C. 2000).

ports the broadest possible availability of product and pricing information. In turn, antitrust law presupposes that it fits with property law. It may have in the past, but the law now has the opportunity to confront the issue and to design property rights on the web with competitive—and other—interests explicitly in mind.

IV. INTEGRATING POLICY TO CUSTOM-DESIGN PROPERTY RIGHTS ON THE INTERNET

The litigation and policy review of Part II revealed that when a court changes its focus from the website to the server, it also changes the causes of action that are relevant to its decision. In turn, each cause of action emphasizes different policies. Part III showed that antitrust law focuses more on the conduct itself and its impact on competition and consumers than it does on searching for the appropriate analogy. Analyzing the policies represented by these different approaches and causes of action helps to identify principles that may inform the design of property rights on the web.

All of the causes of action discussed, in one way or another and to varying degrees, are concerned with defining the permissible limits of free-riding. What those limits are may differ between real space and cyberspace. Nevertheless, some consistent principles remain. Copyright law and misappropriation law, generally, view circulating product and pricing information as a desirable activity. Likewise, competition policy would favor easy availability of such information as long as the means of obtaining it do not threaten to reduce output.²⁰⁹ Thus, competition policy, like a state law misappropriation action, might find the burden on the server to be relevant if, by using spiders, the “free-rider” threatens the existence (output) of the site. But unlike real property law, it would be relatively unmoved by the mere fact of the spider’s “unlicensed” invasion.

However, the policy basis of trespass counsels that the law should be concerned not simply with the investment in collecting information, but also with the investment made to establish and maintain the hardware infrastructure supporting the website. Certainly, the burden that the spider’s invasion places on the system should factor into an analysis of the legality

209. See Herbert Hovenkamp, *Exclusive Joint Ventures and Antitrust Policy*, 1995 COLUM. BUS. L. REV. 1, 96-97 (stating, “free rider concerns do not become decisive simply because they can be articulated. . . . [O]ften practices that are labeled as free riding are nothing more than competition.”).

of the spider's conduct.²¹⁰ Perhaps surprisingly, trespass law may hold the key, if not to identifying what factors are relevant, then at least to establishing an approach a court should use in evaluating such claims.

Recall that part of the difficulty courts are having arises from the nature of the problem. Is the site a public space or a locked box, and how does the server factor into the analysis?

Recall also that trespass law evaluates intangible invasions under a nuisance standard rather than under a traditional trespass standard.²¹¹ Nuisance balances the costs and benefits of the invasion while trespass to real property states an almost absolute right to exclude.²¹² What accounts for this difference? Commentators sometimes say that trespass protects invasions that interfere with the exclusive right of possession while nuisance addresses activities that implicate the rights to use and enjoy one's property.²¹³ In other words, "[t]respass applies to relatively gross invasions by tangible objects[, while n]uisance applies to more indirect and intangible interferences."²¹⁴ The spider falls somewhere in between the two. It is an intangible invasion that is directly and intentionally targeted toward the visited site.

The disparity in the approaches of trespass and nuisance may be attributable to differences in transaction costs.²¹⁵ Low transaction costs that facilitate bargaining support the strong exclusionary rule of trespass; the higher the transaction costs, the less likely that market exchange will occur. In high transaction cost settings, nuisance may be a more appropriate rule if the gains from allowing a court to use a nuisance-like balancing test exceed the increased costs to determine who has what property rights.²¹⁶ Factors like difficulty in identifying parties, the sheer number of parties who must contract, the nature of the relationship between the parties, and whether one party has monopoly power influence the magnitude of transaction costs. Such considerations affect search costs and the probability of strategic bargaining, including holdout.²¹⁷ As noted earlier, it is not clear

210. See Nadel, *supra* note 8 (manuscript at 50-51) (labeling the problem of burdening the server nontrivial, and suggesting that government or trade associations should set guidelines for the level of contact that would prima facie constitute a nuisance).

211. See *supra* Part II.C.

212. See *id.*

213. Powell, *supra* note 1, at 185-88.

214. Thomas W. Merrill, *Trespass, Nuisance, and the Costs of Determining Property Rights*, 14 J. LEGAL STUD. 13, 14 (1985).

215. See *id.* at 20-34 (explaining why this is the case and how common law nuisance tests are consistent with the transaction cost account of nuisance and trespass).

216. See *id.* at 23-26.

217. *Id.* at 22.

which way transaction costs cut on the Internet. But the balancing approach of nuisance law may be an appropriate one in a context that implicates access not only to physical property but also to information—a context that implicates an entire set of policies that are not traditionally accounted for in trespass law.

Certainly, the answer to the question of whether a balancing test is best suited to define rights in a website is a close one. When other concerns are considered in addition to the economic analysis, the case for a nuisance-like balancing approach becomes stronger. In particular, both fairness and First Amendment considerations counsel against establishing the *eBay* regime as that which governs property rights on the Internet.

A. Other Concerns

1. Fairness and the Nature of the Medium

The *eBay* case essentially represents two competing visions of what conduct is acceptable on the Internet. Some complain that *eBay* “‘seems to want it both ways,’ by combining the high traffic of an open public site with the exclusivity of a private site.”²¹⁸ Under this view, *eBay* would have to erect some type of technological fence to keep out unwanted visitors.²¹⁹ In contrast, *eBay* contends that it is not fair for Bidder’s Edge to “steal the fruits of [its] labour.”²²⁰ At the heart of these conflicting views is a dispute about the nature of the Internet and the expectations of parties who use it for commercial purposes.

The Internet is rooted in a tradition of openness and information sharing, and the web is intentionally designed to facilitate this through linking. Thus, the “have its cake and eat it too” objection: *eBay* wants to take advantage of the existence of the network, its installed base of users, and even its linking technology, yet also retain the right to opt out of that system selectively. This strikes at least some as unfair.²²¹

Professor Burk has put this objection into economic terms. The Internet exhibits network effects—as each additional user joins the network,

218. Louise Kehoe, ‘Fair Use Policy’ for Web Content Needed: Court Ruling Impacts on Automated Crawlers, NAT’L POST, May 31, 2000, at C9 (quoting Munjal Shah, Chief Executive Officer of Andale, an auction business management service).

219. See *id.* (noting that sites can limit visitors by using registration and/or password protection, but also acknowledging that such measures may discourage desired visitors as well as the unwanted).

220. *Id.* (quoting an unnamed *eBay* source commenting on the district court’s entry of a preliminary injunction against Bidder’s Edge).

221. See *supra* note 218 and accompanying text.

the system's value increases to those already using it.²²² Thus, later users opt into a higher-valued system than earlier ones do.²²³ According to Burk,

[P]roprietization in a networked environment encourages the holder of the exclusive right to attempt to free-ride upon the external benefits of the network, while at-will avoiding contributions of such benefits to others. . . . For example, . . . [such a] calculus pertains in the case of eBay, which has profited from the easy and ubiquitous access to its auction service made possible by the open standards of the Internet. However, when the same open standards make possible added value generated by a service such as [Bidder's Edge], eBay suddenly opposes open access—unless of course it can capture that value.²²⁴

In other words, eBay wants to enjoy the benefits of the network without bearing its costs.

One might respond to this objection by noting that it would be naïve to suppose that the same “rules” that governed access and use of a research network would, or should, also apply to a commercial environment. Moreover, requiring a site to build a fence to keep out unwanted visitors is simply a waste of resources. Additionally, one might distinguish between access to the network itself and access to individual sites:

A regime of private property that prevented some people from gaining access to the net while allowing it to others would indeed spell the death knell of the Internet as a public institution. But Internet interconnections are not at stake here, for nothing in this case even hints at a right of eBay or any other private site owner on the Internet to exclude others from the information highway. Rather this case is about whether or not private property can coexist with public highways in cyberspace as it does on land.²²⁵

Put differently, stores in real space benefit from the existence of public highways that help to make their businesses accessible. This does not translate into an affirmative legal obligation for each store to admit all who exit the highway and try to enter the property.

222. See Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 AMER. ECON. REV. 424, 424 (1985) (noting that network effects occur whenever a consumer's utility associated with a good increases as others purchase it).

223. See Burk, *supra* note 19, at 51.

224. *Id.* at 51-52.

225. Brief of Amici Curiae Reed Elsevier et al., *supra* note 10, at 5.

But the cost-benefit equation that justifies particular property rules in real space may be different in virtual space. The installed base of users makes access to the Internet quite valuable for a commercial website; perhaps valuable enough to require it to purchase sufficient capacity to meet the demands on its servers, at least to some reasonable level. Certainly, because links are defining features of the web, site owners not only foresee but also *hope* that Internet users will link to their sites. Moreover, as the technological review revealed earlier, a link is synonymous with access that is granted by the linked site.²²⁶ This technology is more than mere formalism. Because linking is the distinguishing feature of the web, it is logical to conclude that the act of posting a website signals the poster's willingness to opt in to a system under which linking is permissible. Thus, the cost of placing an unrestricted site on the Internet is implicit agreement to at least some reasonable amount of linking activity to that site.

Thus, the fairness argument indicates that the issue is not whether linking requires permission; indeed, it does not. Rather, the issue to be addressed is how to define what a reasonable amount of linking to be expected from a single source is. The legal rule defining property rights on the Internet could safeguard the defining feature of the web while also protecting site owners from burdens on their servers that exceed reasonable expectations.

2. *First Amendment-type Concerns*

Enforcing private property rights in a civil trespass suit, even to regulate access to uncopyrighted information, is unlikely to constitute the state action required to implicate First Amendment concerns.²²⁷ Nevertheless, when designing a new property right, the policy interests represented by the First Amendment are useful in thinking about what rule is most desirable. The Supreme Court has held that the First Amendment protects commercial speech, and that there is a corresponding right of the public to receive such speech from a willing speaker.²²⁸ Although commercial

226. See *supra* notes 17-20 and accompanying text.

227. See ERWIN CHEMERINSKY, CONSTITUTIONAL LAW PRINCIPLES AND POLICIES § 6.4.4.3, at 403-08 (1997) (discussing the confusion in the cases over what conduct constitutes state action, including whether enforcement of a criminal trespass law is state action).

228. See *Va. State Bd. of Pharmacy v. Va. Citizens Consumer Council, Inc.*, 425 U.S. 748, 756 (1976) ("Freedom of speech presupposes a willing speaker. But where a speaker exists . . . the protection afforded is to the communication, to its source and to its recipients both."); *id.* at 758-70 (explaining the evolution of case law and logic in holding that the First Amendment protects even commercial speech.).

speech receives less First Amendment protection than political speech,²²⁹ the Court has also stated, “[a]s to the particular consumer’s interest in the free flow of commercial information, that interest may be as keen, if not keener by far, than his interest in the day’s most urgent political debate.”²³⁰

In the spidering context, there are two speakers—the site offering products for sale and the aggregator. Both sites are “willing” to speak to consumers, but the former is unwilling to speak to the latter. While consumers have a right to receive the speech of both, the real issue is whether the spider has a right to receive the information from the site engaged in e-commerce. In the context of bricks and mortar retailing, at least one commentator has suggested that efforts to obtain product and pricing information even by competitors are “precisely the kind of commercial communication that the Court . . . thought worthy of first amendment protection.”²³¹

The Court has generally held, however, that private property rights outweigh First Amendment rights.²³² For example, in *Lloyd Corp. v. Tanner*, the Court held that a mall could exclude those who would distribute handbills protesting the Vietnam War: “[T]his Court has never held that a trespasser or an uninvited guest may exercise general rights of free speech on property privately owned.”²³³ The Court has not addressed a claim that a criminal trespass statute may be constitutionally employed to bar those who would gather pricing data from entry into a retail store. Reading precedent to suggest that the First Amendment allows a store to ban a political activist protesting the Vietnam War while also requiring it to admit a person who gathers data would, at least at first glance, turn the traditional rule affording less protection to commercial speech on its head.

229. *Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm’n*, 447 U.S. 557, 563 (1980) (“The Constitution . . . accords a lesser protection to commercial speech than to other constitutionally guaranteed expression.”).

230. *Va. State Bd. of Pharmacy*, 425 U.S. at 763.

231. Eric D. Placke, Note, *Culhane v. State and The Battle of The Blue Light Specials: A Right to Receive Commercial Information While On Another’s Property?*, 39 ARK. L. REV. 146, 151 (1985).

232. *See id.* at 153-58 (summarizing cases).

233. 407 U.S. 551, 568 (1972). The Court also noted the lack of any relationship between the distribution of handbills and the purposes for which the mall was built and operated. *Id.* at 564. The states, however, remain free to grant their citizens more extensive rights of free speech than the federal constitution guarantees without running afoul of the Takings Clause or violating the property holder’s own First Amendment rights. *See Pruneyard Shopping Ctr. v. Robins*, 447 U.S. 74 (1980) (upholding provisions in California’s constitution that allow individuals to exercise rights of free speech and petition on the property of a privately owned shopping center that invites the public to visit).

Following that logic, at least one state court has held that a state statute may be constitutionally interpreted to allow a store (Wal-Mart) to ban comparison shoppers (from K-Mart) from entry even though they may be engaged in commercial speech:

Wal-Mart invites the public to come to its store to shop and make purchases. [Supreme Court precedent] means that Wal-Mart could prohibit a person from exercising in its store what would be a protected right of free speech if asserted on a public sidewalk. That being true, Wal-Mart certainly can prohibit a competitor from remaining in the store not to enjoy a constitutional right but solely to gather information enabling the competitor to take business away from Wal-Mart.²³⁴

One dissenting justice argued, without analysis, that “[c]ompetitive pricing should be encouraged, not discouraged. . . . Incidentally, the action upheld here is a denial of appellants’ first amendment rights.”²³⁵

The facially anomalous result that the dissent would create could occur because the Court’s tests focus on balancing private property interests against First Amendment rights.²³⁶ The Court considers the extent of the impact of the expressive activity on private property to be relevant in striking such a balance.²³⁷ The spider is engaged in “the relatively passive, unobtrusive act of receiving and recording information already present in the communication milieu.”²³⁸ This is an invasion of significantly less moment than that of antiwar protesters or other political activists.

As Professor Lessig puts it,

We are changing [cyberspace] from a place where an innovator or creator was free to innovate; where much lived in the commons, and much was built on what was in the commons, to a place where to transact, or innovate, or create, or explore, one needs the permission of someone else first.²³⁹

Before “we” make this change, we should consider the impact of such legal fence-building on the ability to engage in communication to which

234. *Culhane v. State*, 668 S.W.2d 24, 26-27 (Ark. 1984).

235. *Id.* at 28 (Purtle, J., dissenting).

236. *See generally* Placke, *supra* note 231, at 149-58 (reviewing Supreme Court precedent).

237. *See id.*

238. *Id.* at 159.

239. Lessig, *supra* note 163, at 997.

First Amendment interests attach even if state action is not involved.²⁴⁰ First Amendment tests tell us that balancing private property rights against speech interests is appropriate. In defining a test for access on the web where that access controls the flow of information rather than simply access to real or tangible personal property, an approach that balances interests rather than one that grants strong rights to exclude may be preferable.

B. Formulating a Sensible Rule

1. A Common Law Approach

Elsewhere, I have argued that courts should use the model of nuisance law placed against the backdrop of misappropriation law in determining whether or not a site owner should be able to enjoin access.²⁴¹ This approach, while addressing claims of unauthorized access, acknowledges that the question of what constitutes permissible access cannot be wholly divorced from the question of what constitutes permissible use of the information extracted. Under this nuisance/misappropriation model, the relevant factors for a court to consider include: “(i) the burden to the objecting site of processing unwanted requests; (ii) whether the site loses revenue on which it depends for its existence as a result of the access; and (iii) the cost to the objecting site to gather the information the visitor is taking and eventually using.”²⁴² Additionally, courts should consider whether or not the parties are in direct competition, the purpose of the access, the type of information taken, whether less intrusive means exist for the accessing party to obtain that information, and the public benefit from allowing the activity to continue.²⁴³ This approach integrates the policy concerns just discussed by giving sites an ability to enjoin access that overburdens their resources, or that is associated with a use that entails a level of free-riding likely to decrease output. Generally, however, the test reflects the view that placing a site on the Internet indicates consent to a certain amount of access by both private and commercial users. The mere fact of a commercial purpose does not contaminate access. An unexpected and unreasonable burden on the visited site’s resources, and use of the information in direct competition, is what makes access and use objectionable.

240. See Benkler, *supra* note 96, at 414-29 (exploring in detail a number of legislative efforts that would effectively take information out of the public domain, and noting that these efforts threaten freedom of speech as well as diversity of speech).

241. See O’Rourke, *supra* note 31, at 2001-05.

242. *Id.* at 2001-02.

243. *Id.* at 2001-03.

In proposing a balancing test rather than strong property rights either to exclude or to access, my intent is to give courts some flexibility in dealing with emerging technologies. The test also accommodates different types of websites. For example, sites that rely on subscription revenue will be able to keep out those who have not paid to enter, while publicly available sites will have more trouble excluding visitors.

At least one problem with any balancing test is that it creates uncertainty, which can be a barrier to the very commerce that it is intended to foster. Sites like Ticketmaster may deal with that uncertainty by using private contracts to control access to and use of their websites. Two questions thus arise: (1) can the balancing test be made more certain; and (2) should parties be permitted to regulate terms of access by contract?

a) Making the Balancing Test More Certain

The addition of a safe harbor rule would help to make results more predictable.²⁴⁴ For example, the law could give legal effect to the private ordering of netiquette by holding that a spider must respect the robot exclusion or be liable for unauthorized access. Indeed, the robot exclusion header may have evolved as a cheap way for sites to opt out of a default rule favoring open access, and to indicate explicitly when they are willing to grant access only upon agreement.

However, because the robot exclusion is so simple to implement, sites may use it, like the *eBay* trespass tort, selectively and inefficiently. Rather than giving the header conclusive effect, the law could allow a spider to assert a defense of misuse to respond to claims of unauthorized access. Like copyright and patent misuse, “trespass misuse” could prevent enforcement of the robot exclusion under circumstances in which the indexed site has engaged in anticompetitive behavior. Private ordering like netiquette can sometimes be inefficient because it fails to account for externalities such as the benefits to competition from the availability of product and pricing information. The defense of misuse would allow a court to introduce such considerations.

Alternatively, because linking is the language of the web, using a robot exclusion would not automatically grant a website a safe harbor against unwanted linking by a spider or others. Instead, the law might more appropriately develop some standard of reasonableness.²⁴⁵ For example,

244. See Nadel, *supra* note 8 (manuscript at 51) (stating that while “[n]uisance law might work” to police access to websites, “leaving these issues to ad hoc judgements by general law judges does not appear to be the most efficient alternative”).

245. See *supra* note 210 (citing Nadel as suggesting that government or trade associations determine a reasonable level of congestion).

while a linker may be entitled to link, it should owe a duty of ordinary care to the site to which it links. Breaching that duty through such acts as imposing an extraordinary burden on the linked site's system or corrupting its data should lead to liability. Even in such cases, however, if the public benefit from the particular access and use is large, courts should consider whether a non-injunctive remedy would be appropriate. For example, a court could order the linking party imposing an excessive burden to pay the aggrieved site damages sufficient to increase that site's capacity.

When a site mounts higher fences than the robot exclusion, like the access controls respected by the DMCA, the test should be different to account for the enhanced investment in limiting access. However, circumventing such a control to obtain uncopyrighted information should not automatically lead to liability because policy interests favor the use of such information. Rather, as I have suggested elsewhere, the burden should shift to the linker who has broken the technological fence to show that the balance weighs in its favor.²⁴⁶

The balancing test would likely weigh in favor of both Bidder's Edge and Tickets.com. The burden on the indexed sites is low, consumers benefit from the easy availability of product and pricing information, the aggregators and the sites they index do not directly compete, and the contractual terms proposed by the site owners overreach. That real-time searches may be a less intrusive means for the aggregators to obtain their information would likely not be enough to tip the balance in favor of the indexed sites.

b) Regulating Terms of Access by Contract

Of course, one way for indexed sites to avoid the uncertainty of the balancing test is for these sites to contract with members of the public and enforce the terms of those contracts. For example, Ticketmaster prohibits commercial use of its information,²⁴⁷ while eBay requires users to agree to terms that forbid the use of robots and indexing even by manual means.²⁴⁸ Because access beyond the home page can be conditioned on an objective manifestation of assent—the click—a contract offers a perfect and inex-

246. See O'Rourke, *supra* note 31, at 2003.

247. See *supra* Part II.B.1.

248. See *eBay User Agreement* ¶ 7, at <http://pages.ebay.com/help/community/png-user.html> (last visited Apr. 6, 2001) ("Our web site contains robot exclusion headers and you agree that you will not use any robot, spider, other automatic device, or manual process to monitor or copy our web pages or the content contained herein without our prior expressed written permission.").

pensive means of control for a site to set the terms of access, especially when compared to sophisticated technological measures.²⁴⁹

I have argued that private contracts should generally be respected, even when boilerplate (or, more pejoratively, “contracts of adhesion”).²⁵⁰ But I have also recognized that not every means of contract formation or every contractual term will or should be enforceable.²⁵¹ Rather, courts must continue to apply traditional contract law to determine whether the parties have formed a contract and, if so, what it says.

There are many different ways in which a site can present a user with a clickwrap contract. The issue the law must address is what forms of assent are sufficient for contract formation. For example, in *Register.com, Inc. v. Verio, Inc.*, the court held that a website visitor’s act of submitting a query can constitute assent to the site’s terms of use when those terms are “clearly posted . . . [and t]he conclusion of the terms paragraph states, ‘[b]y submitting this query, you agree to abide by these terms.’”²⁵² Ostensibly also relevant to the court’s finding of assent was the failure of the party accessing the site (Verio) to “argue that it was unaware of these terms . . . [Instead, Verio argued] only that it was not asked to click on an icon indicating that it accepted the terms.”²⁵³

At least since the development of a mass-market in goods, and likely before, the law has recognized that an act—and sometimes even a failure to act—can constitute assent to a contract.²⁵⁴ The law balances the ideal of fully informed assent against the commercial reality that makes obtaining such assent prohibitively expensive, particularly in the context of mass-

249. See *Register.com, Inc. v. Verio, Inc.*, 126 F. Supp. 2d 238 (S.D.N.Y. 2000) (upholding a contract inferring assent from continued use of a site).

250. See Maureen A. O’Rourke, *Copyright Preemption After the ProCD Case: A Market-Based Approach*, 12 BERKELEY TECH. L.J. 53 (1997) (offering qualified support for a Seventh Circuit opinion upholding a restriction against commercial use of uncopyrighted information, and arguing that terms that are more restrictive than copyright law should be conspicuous); O’Rourke, *supra* note 207, at 535 (arguing that boilerplate provisions against decompilation in shrinkwrap licenses should be respected unless the supplier has near-monopoly power); O’Rourke, *supra* note 11, at 687-97 (arguing that boilerplate provisions against linking should often be preempted).

251. See *supra* note 250 and sources cited therein.

252. *Register.com*, 126 F. Supp. 2d at 248.

253. *Id.*

254. See, e.g., U.C.C. § 2-201(2) (2000) (binding a merchant to a contract set forth in the confirmatory memo sent by another merchant if the recipient fails to make a timely objection to the memo’s contents); *id.* § 2-207(1)-(2) (providing that a contract may be formed even though the acceptance contains additional terms, and generally incorporating those terms into the contract if they are not material alterations of the bargain and both parties are merchants).

market, faceless transactions. Thus, the law has gone so far as to hold that shrinkwrap contracts accompanying software may be enforceable, even though the consumer may become aware of the terms after purchase (if at all).²⁵⁵ One might defend such holdings by arguing that the mass-market for pre-packaged software could not have developed in the absence of this method of contract formation.

Electronic technology makes it much cheaper for Internet vendors than traditional bricks and mortar merchants to place the terms of access and use in front of the user, and to obtain an objective manifestation of assent—the click—before providing the user with whatever the product may be. The same “pay now, see terms later” rule that may make some sense in the mass-marketing of goods and software in the physical world is not cost-justified in cyberspace. In the electronic context, the user should be presented with the terms above the button indicating assent, rather than provided with the option to indicate agreement without ever viewing the relevant terms.²⁵⁶ That not all users will read the terms, making any assent less than fully informed, is irrelevant. By adopting a rule that requires providing the terms before allowing access as a condition of their enforceability, the law would increase the probability that consumers will be aware of the terms without imposing prohibitive costs on vendors.

Thus, a simple legend stating that continued use of a site constitutes agreement to terms that are buried elsewhere should not be an enforceable contract. Nor should the Register.com contract be enforceable. It is inexpensive to require Register.com to include a button specifically indicating that clicking on it constitutes assent to the terms just presented. Such a button makes it more likely that consumers will read the terms and under-

255. See, e.g., *Hill v. Gateway 2000, Inc.*, 105 F.3d 1147 (7th Cir. 1997), cert. denied, 522 U.S. 808 (1997); (enforcing an arbitration provision in a boilerplate contract accompanying a computer); *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447 (7th Cir. 1996); *M.A. Mortenson Co. v. Timberline Software Corp.*, 998 P.2d 305 (Wash. 2000) (following *Hill* and *ProCD* in holding a shrinkwrap license enforceable); *Rinaldi v. Iomega Corp.*, No. 98C-09-064, 1999 WL 1442014 (Del. Super. Ct. Sept. 3, 1999) (holding a warranty disclaimer included inside computer Zip drive packaging to be enforceable); *Westendorf v. Gateway 2000, Inc.*, No. 16913, 2000 WL 307369 (Del. Ch. March 16, 2000) (upholding an arbitration provision shipped with a computer); see also *Brower v. Gateway 2000, Inc.*, 676 N.Y.S.2d 569 (N.Y. App. Div. 1998); *Levy v. Gateway 2000, Inc.*, 1997 WL 823611 (N.Y. Sup. Ct. Oct. 31, 1997). But see *Klocek v. Gateway, Inc.*, 104 F. Supp. 2d 1332 (D. Kan. 2000) (rejecting *Hill* and *ProCD*).

256. See Maureen A. O'Rourke, *Progressing Towards a Uniform Commercial Code for Electronic Commerce or Racing Towards Nonuniformity*, 14 BERKELEY TECH. L.J. 635, 651-53 (1999) (arguing that rules that allow imposition of terms after the buyer has paid the price make less sense online where technology enables the seller easily to provide the terms of sale up front).

stand the import of the click. Consumers are less likely to assume that merely entering a query indicates agreement to detailed terms. Moreover, the contract should not be formed if the user does not click. Many spiders can enter a site without ever clicking the assent button.

If a contract is formed, the next task is to define its terms. In the click-wrap context, the contract will consist of the terms offered by the site, as long as contractual doctrines like unconscionability or other law do not forbid their inclusion. As I have argued generally, a term may be unconscionable if it hinders the competition enabled by the free flow of ideas.²⁵⁷ Others have put this in more elegant terms, proposing a doctrine of “public interest unconscionability” that would explicitly incorporate competitive considerations into the unconscionability analysis.²⁵⁸

If the contract survives scrutiny under this analysis, the next question is whether copyright law or the Constitution preempts the contract’s terms. Under section 301 of the Copyright Act, copyright law is the exclusive rule of decision regarding “all legal rights . . . that are equivalent to any of the exclusive rights within the general scope of copyright. . . .”²⁵⁹ Courts interpret this language to mean that the non-copyright cause of action must contain an element rendering it “qualitatively different” from a copyright action.²⁶⁰ Copyright law generally does not preempt the terms of negotiated contracts because they contain the extra element of a promise or confidential relationship.²⁶¹ Where, however, the contract is nonnegotiated and mass-market in nature, the question devolves to asking the same types of questions as broached under the unconscionability inquiry. Is it reasonable to infer consent to a particular term given the relevant market conditions and the overall structure of the deal?

257. See O’Rourke, *supra* note 207, at 552 (noting that an example of flawed contractual consent would include that which obtains a result contravening competition principles); O’Rourke, *supra* note 250, at 80-85 (stating that economic and noneconomic concerns support a rule against enforcing contractual provisions protecting facts, but arguing that such concerns must be balanced against the interests of investors in recouping their investments).

258. J.H. Reichman & Jonathan A. Franklin, *Privately Legislated Intellectual Property Rights: Reconciling Freedom of Contract with Public Goods Uses of Information*, 147 U. PENN. L. REV. 875, 930 (1999) (“All mass-market contracts, nonnegotiable access contracts, and contracts imposing nonnegotiable restrictions on uses of computerized information goods must be made on fair and reasonable terms, with due regard for the public interest in . . . preservation of competition.”).

259. 17 U.S.C. § 301(a) (1994).

260. See O’Rourke, *supra* note 250, at 74 (describing § 301 preemption).

261. See O’Rourke, *supra* note 207, at 521-23.

The process of answering this question might be termed a “reverse” fair use analysis because the Copyright Act’s enumerated fair use factors that emphasize market conditions may provide guidance to the decision-maker. These factors may assist a court in determining whether a contract that expands a provider’s rights in information should survive preemption by copyright law.²⁶² It is a “reverse” fair use analysis because it does not assess market factors as an aid in determining whether an infringement should be excused as a traditional fair use inquiry does. Instead, it asks whether the copyright owner can use private contract to create greater rights in information than the Copyright Act would grant, effectively using private contract to set a lower bar for infringement liability than under the public law. For example, even if Ticketmaster’s prohibition against commercial use of its uncopyrightable data is enforceable under contract law, it may still be preempted by copyright law under certain circumstances. A reverse fair use analysis would consider such factors as: (i) “the purpose and character of the [breaching party’s] use, including whether such use” directly competes with Ticketmaster; (ii) “the [uncopyrighted] nature of the . . . work” which weighs in favor of accessibility and use; (iii) “the amount and substantiality of the portion used in relation to the . . . work as a whole; and” (iv) “the effect of the use upon the potential market for or value of the [un]copyrighted work,” including an analysis of the effects of the use on incentives to invest in gathering and marketing uncopyrighted information.²⁶³

Under the Constitution, a contractual term may be preempted if its enforcement would “stand as an obstacle to the accomplishment of the full purposes and objectives of Congress” in enacting a particular statute.²⁶⁴ A court might appropriately hold that a contractual term forbidding commercial use of uncopyrightable data frustrates the goals of copyright law. Copyright policy includes leaving some material unprotected to allow further creativity, even if another uses that material for commercial purposes. Private law, particularly if it is ubiquitous, cannot constitutionally function effectively to set at naught the public law’s goals.

While Ticketmaster’s contract rather clearly raises copyright questions, eBay’s is subtler because it addresses primarily the means of access rather than the use of the data. There is no copyright right to use spiders; thus, the preemption argument seems weaker because there is no right at

262. See O’Rourke, *supra* note 250, at 88-89 (explaining the concept of “reverse fair use” as first suggested by Professor I. Trotter Hardy).

263. 17 U.S.C. § 107 (1994) (setting forth the four fair use factors relative to copyrighted works).

264. *Hines v. Davidowitz*, 312 U.S. 52, 67 (1941) (footnote omitted).

issue equivalent to copyright.²⁶⁵ However, a deeper analysis makes a preemption claim more tenable. Recall that on the Internet, access effectively equals copying.²⁶⁶ Therefore, banning the use of spiders is equivalent to prohibiting copying. Under this view, the contractual provision *does* implicate copyright rights and should therefore be assessed under a preemption inquiry.

2. A Statutory Approach

For a number of years, Congress has been considering legislation to protect databases against misappropriation. One proposed bill would be suitable for addressing spidering if it were more explicitly to govern what constitutes permissible means of access. Regardless, it can provide guidance to courts engaged in the balancing test outlined above.

Under section 102 of House Bill 1858, “[i]t is unlawful for any person or entity . . . to sell or distribute to the public a database that (1) is a duplicate of another database that was collected and organized by another person or entity; and (2) is sold or distributed in commerce in competition with that other database.”²⁶⁷ This legislation protects an uncopyrighted database against outright piracy, but not against value-added uses like those of Bidder’s Edge and Tickets.com.

Interestingly, the legislation contains a provision on misuse. A database proprietor may not rely on the statute’s protection if the proprietor has misused its right. In deciding whether misuse has occurred, a court may consider the following factors:

- (1) the extent to which the ability of persons or entities to engage in the permitted acts under this title has been frustrated by contractual arrangements or technological measures;
- (2) the extent to which information contained in a database that is the sole source of the information contained therein is made available through licensing or sale on reasonable terms and conditions;

265. See O’Rourke, *supra* note 31, at 2000 (arguing also that the contractual provision might be constitutionally preempted).

266. See *supra* Part II.A.

267. H.R. 1858, 106th Cong. (1999). The legislation defines “database” as “a collection of a large number of discrete items of information that have been collected and organized in a single place . . . through the investment of substantial monetary or other resources, for the purpose of providing access to those discrete items of information by users of the database.” *Id.* § 101(1). In turn, a “duplicate” is “substantially similar” to the original database “as a result of the extraction of information from such other database.” *Id.* § 101(2).

....

- (4) the extent to which access to information necessary for research, competition, or innovation purposes has been prevented;
- (5) the extent to which the manner of asserting rights granted under this title constitutes a barrier to entry into the relevant database market; and
- (6) the extent to which the judicially developed doctrine of misuse in other areas of the law may appropriately be extended to the case or controversy.²⁶⁸

While asserting a strong policy in favor of competition and innovation, the legislation does not specifically address access issues. However, if the legislation were enacted, its misuse provision may give those seeking access a potent weapon. For example, Bidder's Edge could argue that eBay has been guilty of misuse because its contractual provisions and blocking efforts have frustrated Bidder's Edge's efforts to engage in an act permitted by the statute. Moreover, eBay's conduct may be creating a "barrier to entry into the relevant database market."²⁶⁹ eBay might defend by arguing that its contracts are reasonable under the relevant market conditions. The parties would likely argue the *Ticketmaster* case along similar lines.

Congress should consider expanding House Bill 1858 to include more explicit guidance on what constitutes permissible access. It could statutorily implement the balancing approach discussed above. For example, the law could set standards as to what burden imposed by one visitor is unreasonable. It could also shift the burden of proof to the aggregator if the indexed site had made a significant investment in access controls. It might also incorporate the reverse fair use inquiry by adding a reference to fair use in its enumerated misuse factors. The balancing test would provide the default rule around which parties may contract. However, any contractual terms that limit access may be preempted if the website owner has misused the rights defined in the statute. In such cases, the balancing test would provide the rule of decision.

If Congress fails to act, courts, in adopting the balancing test under common law could nevertheless benefit from the proposed statute's approach. They could adopt the factors of misuse under the legislation as the considerations relevant to the trespass misuse discussed above.

Ultimately, however, the legislative approach is preferable because it allows interested parties to plead their cases before Congress and Congress, in turn, to engage in detailed studies before enacting a rule of deci-

268. *Id.* § 106(b).

269. *Id.* § 106(b)(5).

sion.²⁷⁰ Once enacted, the statutory wording and legislative history could provide guidance to courts that would lead to more uniform results throughout the United States than those under the common law approach of a court-by-court adoption of a balancing test.

V. CONCLUSION

The myriad of websites, information, and uses of information on the Internet poses problems for the law, which often seeks to apply one rule to an entire range of conduct. Additionally, the newness of the medium causes courts to search for analogies to guide decisionmaking. However, the application of real-world analogies to the particular characteristics of virtual space may lead to unintended consequences.

One example may be the use of trespass as the analogy governing access to websites. Using trespass to police those who would gather comparative pricing data may have stronger anticompetitive effects on the web than in the real world. This suggests that policymakers should accommodate competition policy in formulating property rights on the web.

The policies of competition law, intellectual property law, and First Amendment jurisprudence argue in favor of the broad availability of product and pricing information. However, economics warns that because parties who obtain such information on the Internet impose a burden on the sites they search, an unfettered right to gather such data may be inefficient. Thus, the best approach may be to balance a number of factors in determining whether access is permissible in a particular case. However, the drawbacks to a balancing test may be substantial, particularly from a cost perspective. One way to decrease those costs is for policymakers to adopt safe harbor rules that allow e-commerce sites to operate in an environment of at least some certainty.

Congress has been working on legislation that, with some adjustment, could provide an appropriate framework. In the meantime, courts should strive to adopt rules that keep the Internet the broad-based communication mechanism that it has been and that allow the Internet to realize its fullest

270. For example, the balancing approach argued that even when a linker imposes an unreasonable burden on the linked system, a court might order a damages remedy rather than an injunction. Congress is well placed to decide if the costs of the uncertainty this rule would create merit the benefits it offers. The situations in which a non-injunctive remedy would be appropriate may be so rare as to make a damages rule inadvisable. Congress is better equipped than the courts to make this decision because it can evaluate the aggregate data. Courts can only assess the information presented by the parties before them.

potential as something approaching a perfectly competitive marketplace. The result may be that sites have to bear some burdens on their servers, but this cost reflects only a part of the benefit that they derive from accessing the huge installed base of this emerging global marketplace.

OPEN ACCESS TO BROADBAND NETWORKS: A CASE STUDY OF THE AOL/TIME WARNER MERGER

By Daniel L. Rubinfeld[†] and Hal J. Singer[‡]

ABSTRACT

This Article provides a framework for the analysis of the potential effects of the recent AOL/Time Warner merger on the markets for broadband Internet access and broadband Internet content. We consider two anticompetitive strategies that a vertically integrated firm such as AOL Time Warner, offering both broadband transport and portal services, could in theory profitably pursue. First, an integrated provider could engage in *conduit discrimination*—insulating its own conduit from competition by limiting its distribution of affiliated content and services over rival platforms. Second, an integrated provider could engage in *content discrimination*—insulating its own affiliated content from competition by blocking or degrading the quality of outside content. After examining the competitive conditions in the broadband portal and transport markets, we evaluate the post-merger incentives of AOL Time Warner to engage in either or both forms of discrimination.

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I. INTRODUCTION

The increasing number of mergers in high-technology industries has raised both horizontal and vertical antitrust issues. While horizontal issues have been the subject of continual scrutiny by the antitrust authorities, the interest in and analysis of vertical issues has come to the forefront during the past eight years. This Article evaluates one concern that can arise in vertical mergers—the possibility that the merged firm will utilize its market power in one market to foreclose competition in related vertical markets. Two recent mergers involving broadband access typify the mix of horizontal and vertical issues that arise in many high-technology mergers. The merger of AT&T and MediaOne represented a horizontal combination of two of the largest broadband Internet Service Providers (“ISP”). Recognizing the potentially anticompetitive impact of such a combination, the Department of Justice (“DOJ”) required that AT&T divest MediaOne’s interest in one of these ISPs, Road Runner, as a condition of merger approval.¹ In contrast, the merger of AOL and Time Warner involved a vertical combination of the largest Internet content provider and aggregator with one of the largest cable system operators. Although traditional antitrust analysis applies in both cases, the Internet forces us to reconsider antitrust theory, recognizing that there are a variety of new ways in which firms may engage in anticompetitive behavior.

Vertical foreclosure concerns are not specific to the Internet or to broadband access. These concerns are relatively new, however, having begun to appear regularly in antitrust investigations in the mid-1990s. For example, in its 1994 challenge to the acquisition of Liberty Media Corporation by Tele-Communications Inc. (“TCI”), the DOJ required the two

1. See Plaintiff’s Competitive Impact Statement at 13-15, *United States v. AT&T Corp.*, 2000 U.S. Dist. LEXIS 11459 (D.D.C. May 25, 2000) (No. 1: 00CV00176) (competitive impact statement) (explaining that the proposed merger “would violate Section 7 of the Clayton Act, 15 U.S.C. § 18, by lessening competition in the nationwide market for the aggregation, promotion, and distribution of residential broadband content.” *Id.* at 1.).

parties to supply their video programming on a nondiscriminatory basis to other multichannel television providers.² Then, in November 1995, the U.S. Federal Trade Commission ("FTC") approved a consent decree with Silicon Graphics, Inc. ("SGI"), which allowed SGI to acquire two leading software companies if it agreed to make two major entertainment graphics software programs compatible with the hardware workstations of a competitor.³ More recently, the FTC approved the merger of Time Warner and Turner Broadcasting System, Inc. ("TBS"), subject to an agreement that prohibited Time Warner from discriminating in price or refusing to supply TBS programming to rival multichannel television providers.⁴

Although each case involving vertical foreclosure issues is different, the overarching economic and legal issues are similar. As a result, we believe that an in-depth analysis of one merger can yield insights that are general to most vertical mergers that raise foreclosure concerns. In this Article, we examine the issues raised by the recent merger of AOL and Time Warner.

The means by which the merger of AOL and Time Warner represented a vertical combination in the market for residential broadband Internet service are straightforward.⁵ According to at least one industry observer, AOL offered Time Warner specialized skills in readying content for the Internet:

That Time Warner, with its brands, content and distribution channels, has embraced this deal so enthusiastically is an extraordinary admission of the difficulty that many traditional companies face when trying to adapt their businesses to the

2. See *United States v. Tele-Communications*, No. 94-0948, 1994 U.S. Dist. LEXIS 20983 (D.D.C. Aug. 19, 1994).

3. *In re Silicon Graphics Inc.*, No. 951-0064, 1995 F.T.C. LEXIS 159 (July 5, 1995) (proposed Consent Agreement); FTC, *FYI: FTC Approves Consent Agreement with Silicon Graphics, Inc.*, Nov. 16, 1995, at <http://www.ftc.gov/opa/1995/9511/sil2g.html> (announcing that the Consent Agreement issued in final form on November 14, 1995).

4. *In re Time Warner, Inc.*, 123 F.T.C. 171 (1997). The FTC had been particularly concerned that Time Warner's cable rivals might be foreclosed from obtaining programming. See *id.* at 207 (statement of Chairman Robert Pitofsky and Comm'rs Janet D. Steiger and Christine A. Varney).

5. For evidence on the existence of a separate antitrust market for residential broadband Internet service, as compared to narrowband Internet service, see Jerry A. Hausman et al., *Residential Demand for Broadband Telecommunications and Consumer Access to Unaffiliated Internet Content Providers*, 18 YALE J. ON REG. 1, 8-28 (2001).

Internet. Its own in-house efforts to move the company in that direction have pretty much failed.⁶

AOL's input was not solely its proprietary content. Rather, AOL's contribution was its unique aggregation and presentation of content that allowed for easy consumption by end users. For example, a rare Time Warner video placed on the Internet might never be noticed if not for AOL's packaging and distribution. To complement AOL's upstream input, Time Warner offered the conduit over which such content would reach residential broadband customers at high speeds. While the framework is quite broad, our analysis in this Article focuses on the incentives created by the vertical nature of the AOL/Time Warner relationship.

Our analysis suggests that, absent suitable remedies, the merger will create strong incentives for AOL Time Warner to discriminate against unaffiliated conduits and content providers. To combat these significant risks of discrimination, we conclude that it was appropriate for the FTC to seek conditions on the AOL Time Warner merger that would require the combined company to open its cable modem platform to unaffiliated portals on nondiscriminatory terms. Similarly, it was appropriate for the Federal Communication Commission ("FCC") to undertake an inquiry in September 2000 into the legal and policy approaches to be accorded to high-speed Internet service provided over various platforms.⁷

Part II defines the relevant antitrust markets affected by the merger. Part III explains AOL's pre-merger strategy with respect to placement of its portal service over alternative conduits. Part IV examines the competitive conditions in the broadband portal and transport markets, with a particular emphasis on determining whether a combined AOL Time Warner will have the ability to raise content prices or cut off access to its content over competing conduits. Part V examines the post-merger incentives of AOL Time Warner to engage in conduit, and then in content discrimination. This includes discussions of the relevant economic theory, historical examples of discrimination in the cable television industry, and applications of the theory to the merger.

6. *The Big Leap*, THE ECONOMIST, Jan. 15, 2000, at 17.

7. *See In re Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*, 155 F.C.C.R. 19287, ¶ 14 (2000).

II. RELEVANT ANTITRUST MARKETS AFFECTED BY THE MERGER

Consumers entering into the broadband Internet service market must secure access to many inputs, including: (1) broadband content (e.g., streaming video and audio, movies, video conferencing, and interactive games); (2) the aggregation of broadband content and complementary services (e.g., chat rooms and instant messaging) by a broadband portal; (3) connectivity to the Internet supplied by a broadband ISP; and (4) high-speed transport from the home to the ISP supplied by a cable provider, telephone company, or other broadband conduit provider. Distinctions between these layers of inputs may not, however, be readily apparent to consumers. Some broadband portals (such as Yahoo!) offer broadband content only, while other broadband portals (such as AOL) offer a bundle that includes both broadband content and connectivity to the Internet. Further, cable operators historically have tied together the purchase of all four inputs, requiring customers seeking a high-speed cable connection to the Internet to purchase portal service and broadband content from the cable operator's affiliated ISP.

To simplify the exposition that follows, we will aggregate these four inputs into two distinct antitrust markets. First, we define the downstream market (input 4 above) as *broadband transport service*—a market served by cable providers, telephone companies, and any other firm that provides consumers transport from the home to an ISP at speeds exceeding 200 Kbps.⁸ Second, we define the upstream market (inputs 1, 2, and 3 above) as *broadband portal service*—a market served by all firms that create, package, and distribute broadband content and ancillary services, regardless of whether they are ISPs (like AOL) or pure portals (like Yahoo!). We believe that this set of market definitions accurately reflects the functional differences between the services offered by conduit providers and content aggregators. Further, it comports with the distinctions between separate broadband services drawn by the Ninth Circuit Court of Appeals in its re-

8. The FCC defines broadband as “having the capability of supporting, in both the provider-to-consumer (downstream) and the consumer-to-provider (upstream) directions, a speed (in technical terms, ‘bandwidth’) in excess of 200 kilobits per second (kbps) in the last mile.” (This definition explicitly excludes access by dial-up modems.) See *In re Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Ams.*, 144 F.C.C.R. 2398, ¶ 20 (1999).

cent *AT&T v. City of Portland* decision,⁹ and by the Justice Department in its complaint against AT&T and MediaOne.¹⁰

These market definitions suggest two anticompetitive strategies that a vertically integrated firm, offering both broadband transport and portal services, could in theory profitably pursue. First, an integrated provider could engage in *conduit discrimination*—insulating its own conduit from competition by limiting its distribution of affiliated content and services over rival platforms. Conduit discrimination could involve a range of anticompetitive strategies, from refusing to distribute an affiliated portal over competing conduits, to making marquee content available only to customers using an affiliated conduit. (AOL Time Warner could, for example, curtail its marketing of AOL's service over Digital Subscriber Lines ("DSL") while actively promoting the service over cable.) Second, an integrated provider could engage in *content discrimination*—insulating its own affiliated content from competition by blocking or degrading the quality of outside content. Content discrimination could involve a range of strategies, from blocking outside content entirely, to affording affiliated content preferential caching treatment.¹¹ (A combined AOL Time Warner could, for example, provide preferential caching service to its affiliated CNN-Sports Illustrated site, while providing inferior caching support to the Walt Disney Corporation's ESPN site.)

Because discrimination against rivals is not foreign to either AOL or Time Warner, it is necessary to analyze rigorously whether a merged AOL Time Warner will have the incentive and ability to engage in content and conduit discrimination. Time Warner has already demonstrated its ability to block unaffiliated content from its cable systems in its recent dispute with ABC.¹² With respect to granting access to competing ISPs over the same conduit, Time Warner has demonstrated an unwillingness to extend reasonable interconnection terms to nonaffiliated ISPs. For example, under

9. 216 F.3d 871, 878 (9th Cir. 2000) (the court concluded that cable modem service consists of "two elements," a "pipeline" and "the Internet service transmitted through that pipeline").

10. Amended Complaint at ¶¶15, 25, *U.S. v. AT&T Corp.*, 2000 U.S. Dist. LEXIS 14459 (D.D.C. May 26, 2000) (No. 1:00CV001176) (DOJ distinguished between markets for "transmission facilities that are capable of carrying data at a high rate" and portals engaged in the "aggregation, promotion, and distribution of broadband content and services").

11. *Communications Daily Notebook*, COMM. DAILY, May 11, 2000 ("Caching technology allows popular websites to be stored closer to end user, possibly at cable headend, in order to avoid Internet backbone delays.").

12. Jim Rutenberg, *Time Warner and Disney Reach Cable Deal for ABC*, N.Y. TIMES, May 26, 2000, at C6.

a confidential term sheet provided to forty nonaffiliated ISPs in Texas, Time Warner would receive 75 percent of the Internet service providers' revenue from all subscriber fees, 25 percent of the Internet service providers' revenue from sources such as advertising and other e-commerce fees, and a \$50,000 upfront deposit.¹³ Moreover, Time Warner insisted on provisions that would effectively give it the ability to co-brand the websites of rival ISPs and control the content on the most important page of an ISP's sites.¹⁴

AOL also has a history of discrimination. For example, by making its Instant Messenger ("IM") software incompatible with rival private-text chat software,¹⁵ AOL has foreclosed rival private-text chat software providers such as iCAST from gaining access to AOL's IM community.¹⁶ In October 2000, the Walt Disney Corporation revealed that AOL had imposed contractual conditions that aimed to deter users from leaving AOL's network to reach competitors on the web.¹⁷ Under one contractual provision, if 25 percent or more of Disney's traffic left AOL's offerings, AOL could cancel the contract with Disney.¹⁸ Disney agreed to AOL's terms because "it felt that it needed access to AOL's vast network of consumers."¹⁹

AOL's efforts in this regard are examples of both content and conduit discrimination, as AOL has precluded its IM customers from speaking to outsiders (blocking outside content) and has barred competing IM platforms from accessing AOL's customers (limiting distribution over competing platforms). That AOL has done so, despite the fact that its own customers would prefer to communicate with as wide a range of people as possible, confirms that AOL is willing to degrade the quality of its cus-

13. Alec Klein, *Time Warner Terms for Cable Criticized*, WASH. POST, Oct. 7, 2000, at E1.

14. *Id.*

15. Comments of iCast Corp. at 4, *In re Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and Am. Online, Inc., Transferors, to AOL Time Warner, Inc., Transferee*, 2001 F.C.C. LEXIS 432 (Jan. 22, 2001) (No. 00-30), http://www.fcc.gov/transaction/aol-tw/icast_comment042500.pdf (explaining that "the only barrier to the explosion of new innovations and uses in the [instant messaging] market is AOL's insistence that a large part of the market be off limits to other segments of the same market").

16. In June 2000, AOL sent a proposal to the Internet Engineering Task Force that outlined how it could make its instant messaging system work with competing systems, but did not commit to any timetable. See Julia Angwin, *AOL Submits Plan to Allow Access To Message System*, WALL ST. J. EUR., June 16, 2000, at UK4.

17. Alec Klein, *AOL Restrictions Alleged*, WASH. POST, Oct. 10, 2000, at E1.

18. *Id.*

19. *Id.*

tomers' experience when doing so would add to its competitive advantage.²⁰ AOL's history of discrimination suggests that antitrust enforcers should vigorously scrutinize any possibility of future discrimination.

III. AOL'S PRE-MERGER BROADBAND INTERNET STRATEGY

Prior to its proposed merger with Time Warner, AOL's broadband Internet strategy flowed from its larger objective of maximizing the profits of its Internet service and content businesses. Because AOL's profits did not depend on the conduit by which customers viewed its content, AOL potentially served as the largest "conduit-neutral" broadband portal. Indeed, AOL stated its broadband Internet intentions five months before the announcement of the Time Warner merger in a filing with the Securities and Exchange Commission:

The Company has established its 'AOL Anywhere' strategy of making the AOL service and features available through multiple connections and multiple devices. . . . The Company's next generation software for the AOL service, AOL 5.0, which will be introduced in the fall of 1999, will include the new feature AOL Plus, which will enable members to connect to the AOL service through high-speed broadband technologies, including DSL, cable, satellite and wireless, and will provide additional online content to members connecting through such broadband technolo-

20. Further, by demanding that its narrowband content providers (such as AutoNation, Monster.com, 1-800-FLOWERS.COM, and CBS News) refrain from advertising rival ISPs on their Web sites in return for exclusivity, AOL has foreclosed rival ISPs from gaining access (through at least one channel) to AOL's customers. See 1-800-FLOWERS.COM, INC., 1999 SEC FORM 10-K, exhibit 10.22, term 2.8.2(a)(i). 1-800-FLOWERS stipulated that it cannot

promote, advertise or market the Products, services or Content of (a) any Interactive Service other than AOL or (b) except as not prohibited under Section 2.8.2 (a) (iv), any entity reasonably construed to be in competition with any third party with which AOL has an exclusive or premier (i.e., exclusivity granted by AOL to more than one third party in a particular category) relationship. . . .

Id.; Jim Hu & Mike Yamamoto, *AOL's Squeeze Play: Partners Face High Price of Doing Business with Online Giant*, CNET NEWS, Mar. 1, 2000, at <http://news.cnet.com/news/0-1005-201-1556048-0.html> (describing how AOL insisted that OnQ, a gay and lesbian online community, refuse all advertising from Internet service providers deemed to be competitors).

gies. The expanded content will include video, games, music and online catalogue shopping features.²¹

Although AOL might have been concerned about managing the dual revenue streams from narrowband and broadband customers, the choice of conduit *within* the broadband industry on AOL's profitability was irrelevant. Thus, lacking any significant interest in any particular broadband conduit, pre-merger, AOL maintained a strong incentive to make its service available over all broadband platforms.

The broadband competitive landscape had become hostile to AOL, however, as cable providers instituted a tying strategy; broadband customers needed to purchase their own broadband portal service *in conjunction with* broadband transport.²² There is a two-fold strategic motivation for tying portal service to broadband transport. First, by denying outside providers access to the number of customers needed to maintain minimum efficient scale, tying discourages competitive entry into the broadband portal market and allows cable providers to extend their market power upstream. Second, by capitalizing on cable's early lead in broadband deployment, tying allows cable providers to align the full strength of their customer base behind a small number of portals. The network effects generated by this strategy allow cable providers to attract marquee content to their portals and, at the same time, raise barriers to entry for other firms seeking to offer competing portal and transport services.²³ Over the long term, the cable providers' tying strategy will thus undermine competitive investment in both the broadband transport and portal markets, insulate cable providers from conduit and content competition, and ensure that the delivery of Internet-based video by competing conduits does not erode cable providers' monopoly power in the market for traditional video programming.²⁴

21. AMERICA ONLINE INC., 1999 SEC FORM 10-K, at 8.

22. The issue was first raised at the national level during the merger proceedings between AT&T and Tele-Communications, Inc. *See, e.g.*, Comments of Am. Online, Inc. at app. A, ¶ 7, *In re* Joint Applications of AT&T Corp. and Tele-Communications, Inc., No. 98-178 (1998) (declaration of Prof. Jerry A. Hausman).

23. For a discussion of network effects, see, for example, Nicholas Economides, *The Economics of Networks*, 14 INT'L. J. INDUS. ORG. 673 (1996).

24. *See, e.g.*, U.S. GENERAL ACCOUNTING OFFICE, TELECOMMUNICATIONS: THE EFFECT OF COMPETITION FROM SATELLITE PROVIDERS ON CABLE RATES 5 (2000) ("Cable television is currently the dominant means of television program delivery to U.S. households.").

The impact of this tying strategy on competing portals has been significant. Within two years of initiating their tying arrangement, vertically-integrated cable firms such as AT&T succeeded in convincing a substantial percentage of customers to sever their ties with competing ISPs. Thus, 66 percent of @Home users had previously been AOL users, but had since cancelled their AOL accounts,²⁵ because consumers received broadband Internet service with the purchase of broadband transport, maintaining their subscriptions to AOL amounted to paying twice for the same services.

AOL's initial response to this exclusionary threat was to organize a legal and political campaign to obtain "open access" to the cable conduit.²⁶ AOL also negotiated a series of agreements with the largest incumbent local carriers—Bell Atlantic, SBC, GTE—to provide services over DSL.²⁷ Nevertheless, when its open access campaign failed at the FCC, and when the technical difficulties associated with a national rollout of DSL became apparent, AOL elected to acquire a significant interest in the cable conduit itself, agreeing to purchase Time Warner in January 2000 for \$131.5 billion.²⁸

With a successful acquisition, AOL would no longer be as dependent on the cable providers' willingness to offer open access to cable customers. Indeed, merging with Time Warner would only enhance AOL's bargaining position with AT&T—now the nation's largest cable provider—because AT&T already has significant overlapping ownership interests in Time Warner.²⁹ Moreover, as of the summer of 2000, AT&T and Time

25. David Simons, *AOL Jolted by MS/AT&T Deal*, RED HERRING, May 6, 1999, at http://www.redherring.com/index.asp?layout=story_generic&doc_id=RH1240011124.

26. AOL organized a coalition of firms under the name openNET Coalition and began lobbying the FCC during the merger proceedings of AT&T and Tele-Communications. See, e.g., Leslie Scism & Thomas E. Weber, *Some Analysts Support AOL's Efforts to Gain Access to Internet Afforded to Cable Operations*, WALL ST. J., Nov. 12, 1998, at C2 (describing how AOL was "lobbying the FCC hard to force cable companies to 'unbundle' broadband Internet access").

27. See *Bell Atlantic to Offer Special ADSL Service for AOL*, COMM. DAILY, Jan. 14, 1999, at 1; Press Release, Am. Online, Inc., America Online and SBC Communications to Offer High Speed Upgrade to AOL Members (Mar. 11, 1999), at http://media.aoltime Warner.com/media/cb_press.cfm; Press Release, Am. Online, Inc., America Online and GTE to Bring Broadband ADSL Service to AOL Members (July 27, 1999), at http://media.aoltime Warner.com/media/cb_press.cfm.

28. Nikhil Deogun & Nick Wingfield, *Stock Drops Spur Questions on AOL Deal—Executives Argue for Pact, But More Price Declines Could Affect Prospects*, WALL ST. J., Jan. 13, 2000, at A3.

29. Because AT&T acquired a 25 percent stake in Time Warner Entertainment through its acquisition of MediaOne and already held a 9 percent interest in Time War-

Warner were in the advanced stages of negotiations over a joint venture that would grant AT&T the exclusive right to provide telephone service over Time Warner's cable lines.³⁰ The likelihood of a contractual arrangement between AT&T and AOL—whereby AOL Time Warner would secure rights to distribute its portal service over AT&T's cable systems, and AT&T would secure exclusive rights to provide telephone service over AOL Time Warner's cable systems—thus appears to be very real.³¹

Simply put, the acquisition of Time Warner presents AOL with a second, complementary profit stream to its existing portal business—the sale of broadband transport—thereby altering its overall broadband incentives. Further, it significantly improves the chances that AOL will negotiate a contract with AT&T for access to AT&T's cable lines. The following sections examine how the merger—and a possible deal between a combined AOL Time Warner and AT&T—will change AOL's incentives to foreclose its upstream and downstream rivals. These sections further ask whether the competitive conditions in the broadband portal and transport markets will accommodate such a strategy.

IV. AOL TIME WARNER'S POST-MERGER ABILITY TO ENGAGE IN CONDUIT OR CONTENT DISCRIMINATION

Professors Michael Riordan and Steven Salop propose a useful framework for evaluating the competitive effects of vertical mergers.³² Most importantly, they highlight those factors that would limit the merging firm's *ability* to engage in conduit or content discrimination.³³ In the following sections, we adopt this approach to analyze whether AOL Time Warner would have the ability to discriminate against rival conduits or content providers.

ner, Inc. through its Liberty Media subsidiary, and because AOL acquired cable conduits through its acquisition of Time Warner, the interests of the two former-broadband rivals have come into alignment. *See, e.g.,* Brigitte Greenberg, *Media Mergers Prompt Challenges*, CHATTANOOGA TIMES, June 27, 2000, at C2.

30. *See, e.g.,* Sara Hammel, *Cable Guy and the Operator: AT&T Goes Local with Time Warner*, U.S. NEWS & WORLD REP., Feb. 10, 1999, at 47.

31. Indeed, AT&T recently concluded an agreement to provide telephone service over the cable systems of Insight Communications. *Insight Communications and AT&T Finalize Agreement to Offer Local Telephone Service*, PRNEWSWIRE, July 24, 2000.

32. *See* Michael H. Riordan & Steven C. Salop, *Evaluating Vertical Mergers: A Post-Chicago Approach*, 63 ANTITRUST L. J. 513 (1995).

33. Professors Riordan and Salop use the terms "input-level" and "customer-level" discrimination. *Id.* at 527. To eliminate any confusion, we have replaced their terms with "conduit" and "content" discrimination.

A. Post-Merger Ability to Engage in Conduit Discrimination

In determining whether AOL Time Warner would have the ability to engage in conduit discrimination, we must consider two competitive responses by foreclosure targets. First, we must determine whether downstream conduit rivals could “substitute” equally cost-effective alternative inputs for the portal service or content withheld by AOL Time Warner. This inquiry requires us to ascertain whether a foreclosed conduit provider could find another portal equally attractive to consumers if AOL decided not to market its service over that platform, or could itself enter the portal market and create a new service equally attractive to the one withheld by AOL. Second, we must determine whether end users could switch to alternative broadband conduits unaffected by AOL Time Warner’s foreclosure strategy. Hence, to understand the competitive position of AOL with respect to other broadband portals, we must first analyze the degree of competition in the broadband portal market. The second question necessitates a similar analysis of the broadband transport market.

1. *Availability of Broadband Portal Substitutes for Rival Broadband Conduits*

Professors Riordan and Salop suggest that several factors should be analyzed to determine the likely supply response of unaffiliated input providers to an increase in the price, or decrease in the supply, of the vertically-integrated firm’s upstream product.³⁴ The first step is to identify the hypothetical market of “equally cost-effective” nonforeclosed input suppliers.³⁵

A broadband portal aggregates media-rich content that can be viewed by broadband users. Such a portal can either produce its own content or purchase content from independent producers. To achieve success, however, a broadband portal must offer a wide array of content that takes advantage of a high-speed Internet connection; doing so is the only way to attract customers who typically demonstrate a significant degree of loyalty to one portal. Given this linkage between access to broadband content and the success of a broadband portal, any impediment to entry in the content market will also inhibit entry into the portal market.

As indicated above, it is appropriate to narrow our focus of nonforeclosed input suppliers to those nonforeclosed suppliers that are “equally cost-effective.” Delivery of broadband portal services is subject to significant economies of scale—for example, the cost of production and distribu-

34. *Id.* at 530-38.

35. *Id.* at 530.

tion of the last streaming video is significantly less than production and distribution of the first—that a broadband portal must enjoy to achieve cost parity. As Tom Jermoluk, the former CEO of @Home, explained in April 1998, @Home had “the economies of scale resulting from both dealing with media companies on a national level as well as the technology vendors that are necessary.”³⁶ Recently, George Bell, the new CEO of Excite@Home, reiterated the importance of economies of scale in providing broadband portal service:

Content seeks ubiquity. Content seeks the greatest number of eyeballs possible, and clearly through the avenue of Excite@Home onto the systems of AT&T, Cox, Comcast, and our other partners, and with these extensions, I've got to believe we are the most attractive broadband aggregator and therefore broadband partner to content companies. We will be able to attract richer forms of content and more content providers because we will continue to be . . . the leaders in broadband. We will have the most subscribers and the greatest size footprint in which to market those subscribers.³⁷

According to one industry analyst, unaffiliated websites “that don't have resources to market themselves like big media companies will fade into the digital twilight.”³⁸

To the extent that the costs of producing marquee streaming video for the Internet mirror those of producing content for cable television, any economies of scale would likely translate from one medium to another.³⁹ For example, most of the production costs of broadband Internet content, like cable television content, are upfront costs, while the marginal costs (for example, the costs of distribution) are negligible.⁴⁰ These up-front costs are very high, particularly for a portal seeking to develop content

36. Tom Jermoluk, *The @Home Network*, INTERACTIVE HOME, Apr. 1, 1998.

37. George Bell, CEO Excite@Home, AT&T Conference Call, Mar. 29, 2000.

38. Hu & Yamamoto, *supra* note 20 (quoting Jeff Chester, Executive Director, Center for Media Education).

39. *See, e.g.*, BRUCE M. OWEN, *THE INTERNET CHALLENGE TO TELEVISION* 51 (1999) (explaining the similarities in cost structures between “pre-electronic and electronic media”).

40. *See, e.g.*, LELAND L. JOHNSON, *TOWARD COMPETITION IN CABLE TELEVISION* 60 (1994) (explaining how “programming investments and profits automatically rise by the same percentage that a video program's potential audience rises”). For the effects of scale on media product distribution, see James N. Rosse, *Daily Newspapers, Monopolistic Competition, and Economies of Scale*, 57 AM. ECON. REV. 522 (1967); BRUCE M. OWEN, *ECONOMICS AND FREEDOM OF EXPRESSION* (1975); BRUCE M. OWEN & STEVEN S. WILDMAN, *VIDEO ECONOMICS* (1992).

that can compete with CNN and other AOL Time Warner marquee content. Indeed, when evaluating Time Warner's earlier merger with Turner Broadcasting in 1997, FTC Chairman Robert Pitofsky, along with FTC Commissioners Janet Steiger and Christine Varney, recognized that there exist "formidable entry barriers into programming" and that entry into the market for "marquee" content "has proven slow and costly."⁴¹ Moreover, the FTC's majority recognized that a very large audience was required to support the development of new programming, finding that, "[b]ecause of the economies of scale involved, the successful launch of any significant new channel usually requires distribution on MPVDs [multi-channel video programming distributors] that cover 40 to 60 percent of all subscribers."⁴² Further, the majority concluded that programmers could not support new offerings by relying on technologies or partners other than market leaders, because replicating "the coverage of these systems by lacking together agreements with the large number of much smaller MVPDs is costly and time consuming."⁴³ Based on these conclusions, the majority found that the risk of vertical foreclosure in the video programming market was "both real and substantial."⁴⁴

Given the shared set of inputs used in the production of video streaming content for both mediums, the efficient scale in the production and aggregation of broadband content is likely to be equally large, and barriers to entry in the broadband portal market equally formidable. Indeed, over and above the costs of producing new content, developers of broadband portals require a large number of servers, additional bandwidth, and sophisticated compression software to encode video and audio files for speedier transmission over the Internet. Further, entrants in this market face the uncertainty associated with new and untested business models, the risks of which are apparent when one looks at Time Warner's own failed effort to launch a "marquee" broadband site.⁴⁵

Because the cost of producing and aggregating broadband content reflects significant economies of scale, we restrict the relevant domain to those broadband portals accessed by a substantial share of broadband cus-

41. *In re Time Warner Inc.*, 123 F.T.C. 171, 207 (1997) (statement of Chairman Robert Pitofsky and Comm'rs Janet D. Steiger and Christine A. Varney).

42. *Id.*

43. *Id.*

44. *Id.*

45. Alexei Oreskovic, *Broadband or Bust*, THE STANDARD, June 12, 2000, at <http://www.thestandard.com/article/display/0,1151,15755,00.html> (noting the exit of Digital Entertainment Network and Pixelon).

tomers. Table 1 shows a list of broadband Internet portals that are accessed by more than 15 percent of total broadband users.⁴⁶

Table 1: Internet Portals Visited by Broadband Users, 1999

<i>Internet Site</i>	<i>Percent Reach^a</i>	<i>Portal</i>	<i>Streaming Video</i>	<i>Vertically Integrated</i>
Yahoo!	77	Yes	Yes	No
Altavista	46	Yes	Yes	No
Excite@Home	40	Yes	Yes	Yes
Lycos	38	Yes	Yes	No
MSN	31	Yes	Yes	Yes
Netscape	29	Yes	Yes	Yes
Snap	23	Yes	Yes	No
Go/Infoseek	22	Yes	Yes	No
AOL	16	Yes	Yes	Yes

Source: Daniel Roth, *Surprise! Yahoo Goes Broadband, Yahoo Has No Megamerger Like AOL/Time Warner or Excite@Home*, FORTUNE, May 29, 2000, at 182 (citing Cyber Dialogue study).

^a Percentage of individuals that accessed the content of a specific site from among the total number of individuals using the web or online services during any month in 1999. Because AOL is largely denied access to cable broadband customers, its score is comprised primarily of DSL customers.

As Table 1 demonstrates, many of the top broadband portals are vertically integrated into conduits. Those vertical relationships will ensure that a handful of broadband content providers will achieve sufficient scale to remain viable. In addition to the combined AOL Time Warner, Ex-

46. We define a broadband site as any website that (1) offers multimedia data at transmission rates faster than 56 Kbps, and (2) takes advantage of the always-on connections available to consumers with cable and DSL. We note that the FCC has designated 200 Kbps (upstream and downstream) as the point at which broadband services begin. See *In re Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Ams.*, 144 F.C.C.R. 2398 (1999).

cite@Home (the third most popular site) is owned by AT&T, Microsoft (the fifth most popular site) shares in the profits of AT&T's cable lines, and Netscape (the sixth most popular site) is owned by AOL. It is no accident that the list is dominated by vertically integrated content providers—a cable conduit has a strong incentive to make sure that its customers are steered to its content. In June 2000, Excite@Home attempted to solidify its position in the broadband portal market by launching Excite Click-Video, a broadband distributor of videos made particularly for the Internet.⁴⁷ Moreover, Excite@Home has already entered into distribution agreements with iFilm, AtomFilms, Bloomberg News, Comedy Central, FoxNews.com, Mondo Media, Quokka Sports, and Showtime Networks.⁴⁸

A small number of well-financed nonintegrated broadband content providers, such as Yahoo!, have also made large investments to compete for broadband customers. In July 1999, Yahoo! purchased Broadcast.com, a pioneer in the aggregation of streaming audio and video clips, for \$5.7 billion.⁴⁹ In March 2000, Yahoo! launched FinanceVision, a site that offers live business news to customers at work.⁵⁰ Yahoo!'s broadband sites will be funded by thirty second "multi-media spots," but whether these investments will pay off is an open question.⁵¹ The number of customers who view the advertisements—and hence generate Yahoo's most important revenue stream—critically depends on each conduit provider's willingness to refrain from content discrimination. Recent reports indicate that nonintegrated broadband portals such as Yahoo! and Lycos are reducing their broadband production efforts due to a concern about the extent of broadband traffic, while Excite@Home, which is able to aggregate large numbers of customers as a result of its closed system, can confidently "shift the majority of its resources and personnel toward developing content and applications for broadband users."⁵²

The above analysis demonstrates that the broadband portal market is moderately concentrated and is likely to experience further consolidation.

47. Gwendolyn Mariano, *Excite@Home Plays Video on High Speed*, CNET.COM NEWS, June 26, 2000, at <http://Singapore.cnet.com/news/2000/06/27/20000627t.htm>.

48. *Id.*

49. Daniel Roth, *Surprise! Yahoo Goes Broadband: Yahoo Has No Megamerger like AOL/Time Warner or Excite@Home*, FORTUNE, May 29, 2000, at 182, 190.

50. See *Yahoo! Unveils Yahoo! FinanceVision, the First Live Financial Network to Originate from Silicon Valley*, BUSINESS WIRE, Mar. 13, 2000, at <http://docs.yahoo.com/docs/pr/release486.htm>.

51. Roth, *supra* note 49, at 192.

52. Corey Grice & Jim Hu, *Lycos, Yahoo Step Back From Ambitious Broadband Plans*, CNET.COM NEWS, May 1, 2000, at <http://news.cnet.com/news/0-1005-200-1779432.html>.

Further, new entrants face significant entry costs, while entrenched competitors benefit from the low marginal costs associated with the distribution of existing content. It is therefore important to ask whether, given these market conditions, other broadband portals could step in to fill the supply shortfall should AOL decide to limit distribution of its service or content. In such a situation, competing content providers could either expand their production to make up for AOL's shortfall or, if market conditions would permit, raise the price of their products in response to the decrease in supply. The former outcome—boosting production—would likely defeat AOL Time Warner's foreclosure effort and restore the benefits of competition to consumers; the latter—raising price—would likely harm consumers by allowing remaining broadband portals to extract a greater share of surplus.

To determine whether unaffiliated broadband portals would raise their prices rather than expand output in response to the shortage of content, Professors Riordan and Salop ask whether the competitors' equally cost-effective capacity is constrained.⁵³ As we discussed earlier, the near-zero marginal cost of *distributing existing* broadband content suggests that none of the equally efficient content providers would be capacity constrained. Whether unaffiliated content providers could easily *produce new* broadband content in response to an increase in the price of AOL content is less certain, given the significant barriers to entry in the market for content production.

We believe, on this basis, that it would be difficult for unaffiliated broadband portals to expand output by producing new content in the short run.⁵⁴ The reason, as we demonstrate in the following section, is that competing portals lack direct access to cable customers as a result of the cable provider's strategy of tying together the sale of broadband transport and portal services. Therefore, competing portals would not likely reach enough customers through competing conduits to achieve the scale required to create new marquee content.

Perhaps a more relevant question for addressing the supply response is whether rival broadband content providers could *replicate* AOL Time Warner's broadband content. For those consumers who insist on having

53. Riordan & Salop, *supra* note 32, at 533.

54. In the next step of the analysis, one must determine the manner in which the competitive effect of input-level discrimination will manifest itself. According to Professors Riordan and Salop, input prices will rise if the structure of the market of nonforeclosed rival sellers is "conducive to coordinated pricing." *Id.* We feel that the market structure presented in Table 1 is sufficiently concentrated to allow for the possibility of coordinated behavior.

access to any part of AOL Time Warner's content portfolio—a substantial number given AOL's unrivaled customer base—a foreclosed DSL provider, for example, will not serve as an acceptable substitute. To the extent that the AOL Time Warner's broadband content represents marquee broadband content—AOL ranked first in unique users of its content in a survey conducted in June 2000⁵⁵—rival content providers will not be able to fill the void in a way that maintains the relative attractiveness of foreclosed conduits. Hence, by limiting the supply of broadband content to rival conduits, conduit discrimination by AOL Time Warner would likely place DSL providers and other foreclosed conduits at a significant competitive disadvantage.

2. *Availability of Substitute Broadband Transport Services for Broadband Consumers*

The second condition necessary for a foreclosure strategy to succeed is that customers cannot readily switch to nonforeclosed competitors: "Competition from other downstream producers whose costs are not raised and demand substitution to other products may prevent the downstream division of the integrated firm from leading prices upward."⁵⁶ Again, there are several factors to consider in determining the likely response of consumers in the event of a downstream or input price increase, including the availability of substitute broadband access products, product differentiation in the output market, and the magnitude of the increase in rivals' costs.⁵⁷

Substitute broadband transport products exist but are not embraced to the same extent as cable modem service. At the end of 1999, cable modems enjoyed a 73 percent share of the residential broadband transport market. Table 2 shows the shares of the residential broadband transport market at the end of 1999.

55. According to Media Metrix's May 2000 Internet survey, 55,588,000 of the 76,349,000 unique Web users (72.8%) visited one of AOL's Web properties. Press Release, Media Metrix, Inc., Top Digital Media/Web Properties in the U.S. Home Only (July 20, 2000) at <http://www.mediametrix.com/press/releases/20000720.jsp>.

56. Riordan & Salop, *supra* note 32, at 539.

57. *Id.* at 539-45.

Table 2: Residential Broadband Transport Subscribers at June 2000^a

<i>Provider</i>	<i>Subscribers (millions)</i>	<i>Share (percent)</i>
Cable modem	2.179	69.8
DSL	0.875	28.1
Satellite and Fixed Wireless	0.064	2.1
TOTAL	3.120	100.0

Source: Press Release, FCC, Federal Communications Commission Releases Data on High-Speed Data for Internet Access, at 8, tbl.3 (Oct. 31, 2001), *available at* http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/hspd1000.pdf.

^a Includes small business subscribers.

The table makes it clear that by June 2000 the ratio of cable modem subscribers to DSL subscribers was 2.5 to 1. As recently as August 2000, cable modems maintained a commanding 68.2 percent of the broadband access market.⁵⁸ Using the subscriber shares in Table 2 as representative of a typical local geographic market,⁵⁹ we find the Herfindahl-Hirschman Index (“HHI”) for residential broadband access to be 5,673.⁶⁰ According to the Horizontal Merger Guidelines, the above index suggests that residential broadband access markets are “highly concentrated.”⁶¹

Although cable modems enjoy a relatively high percentage of subscribers, they nonetheless face technical impediments. For example, “cable users regularly complain about slowdowns caused by too many people on the system.”⁶² Depending on the number of users in a neighborhood that are logged on, speeds can vary widely hour by hour. To alleviate that

58. Eric Ladley, *DSL Threatens Excite@Home’s Dominance*, BROADBAND NETWORKING NEWS, Aug. 29, 2000, at 6 (3 million cable subscribers versus 1.4 million DSL subscribers).

59. If cable maintains a 73 percent share of the high-speed residential Internet market nationwide, then on average, a local cable provider will maintain a share of 73 percent of the high speed residential Internet local geographic market.

60. To our knowledge, data describing residential broadband access market shares by geographic area are not available.

61. Dep’t of Justice & FTC, Horizontal Merger Guidelines 1992, § 1.5.

62. Dave Gussow, *Full Speed Ahead Series: Tech-Times*, ST. PETERSBURG TIMES, Aug. 28, 2000, at 11E.

problem, several cable firms prevent users from hosting websites or other commercial uses on residential cable connections.⁶³ In addition, not all cable companies have upgraded their equipment to offer the service. For example, AT&T cable Internet access is not yet available in large portions of downtown San Francisco.⁶⁴ Finally, cable subscriber growth is limited because of unexpected parts shortages at Motorola and other equipment manufacturers. For example, Excite@Home blamed its 10 percent drop in growth on a temporary interruption in the supply of cable modems.⁶⁵ Certainly those problems, if not addressed adequately, would undermine a cable firm's ability to discriminate against unaffiliated content and conduit providers.

DSL represents the greatest potential source of pricing discipline for cable firms. Hence, the most likely target of conduit foreclosure by AOL would be a DSL provider. Because AOL owns a share of the satellite-based broadband enterprise, AOL will not likely foreclose its own affiliate.⁶⁶ As a result, if successful, broadband customers will not have the option of switching to a nonforeclosed DSL provider. Even if they could switch, DSL providers are to some extent at a disadvantage in getting to market with respect to cable firms, and conduit discrimination by AOL would threaten to derail DSL deployment even further.

DSL deployment is constrained by technical impediments. Beginning in the 1970s, local exchange carriers began using a new type of loop—a digital loop carrier (“DLC”)—to reduce the cost of building new central offices to service growing suburbs and more densely populated urban areas.⁶⁷ DLCs rely on digital transmission between the local loop and the central office. As a result, DSL service cannot be supported by DLCs be-

63. *Id.* That problem is not unique to cable providers, however, as many DSL providers have experienced similar complaints. For example, in August 2000 SBC was sued by residents of Nueces County, Texas, who claimed that SBC promised connections of up to 384 kbps but actually limited connections to 128 kbps for customers that used e-mail and newsgroups. See Eric Ladley, *supra* note 58.

64. See Todd Wallack, *ExciteAtHome Does an About-Face on DSL*, S.F. CHRON., Feb. 25, 2000, at B1 (explaining that cable lines are “scarce in many downtown business districts.”).

65. *Cable Modems Retain Market Lead but DSL is Growing Faster*, COMM. DAILY, Aug. 2, 2000.

66. Under its agreement with Hughes, AOL made a \$1.5 billion investment in a General Motors equity security, which carried a 6-1/4% coupon rate that was automatically convertible into GM Class H common stock at a 24 percent premium in three years. AMERICA ONLINE, INC., 2000 SEC FORM 10-K.

67. For a discussion of the difference between “old” and “new” loops, see STRATEGIS GROUP, HIGH-SPEED INTERNET ACCESS [1998-1999] 47 (1998) [hereinafter HIGH-SPEED ACCESS].

cause DSL requires transceiver-to-transceiver signal consistency. To provide DSL over DLCs, the carrier must install a digital subscriber line access multiplier (“DSLAM”) termination at the DLC. That additional investment may impede DSL’s ability to compete with cable-based broadband Internet access:

Although there are other solutions to the DLC problem besides RAM deployment, additional capital expenditures to overcome this problem cannot yet be avoided. This raises the cost of DSL deployment, and consequently, DSL service. The problem is exacerbated by the fact that DLCs have their greatest penetration in newer suburban subdivisions. These households are likely to be potential high-speed Internet users.⁶⁸

DLCs could limit DSL deployment in regions where DLCs have been used extensively, such as the Southeast and Midwest.⁶⁹ For example, almost 40 percent of BellSouth customers are connected through DLCs.⁷⁰ Even though such impediments should eventually be overcome, there will be significant incremental costs incurred by DSL providers to serve those customers.

Even in geographic markets where customers are connected with “old” loop technology, DSL deployment is constrained by different technical impediments. DSL is sensitive to the distance that transmissions must travel between the home and central office. According to a study commissioned by the Competitive Broadband Coalition, DSL in its current form faces “an absolute limit of approximately 18,000 feet for the copper segment.”⁷¹ That impediment will severely limit DSL’s ability to impose price discipline on cable-based providers of Internet access in areas located several miles from the central office. For example, nearly 35 percent of all GTE telephone customers (and hence potential broadband customers) are beyond 18,000 feet of a central office.⁷²

Given the more severe impediments to DSL than to cable modems, the relevant antitrust question is whether there currently exists any alternative

68. *Id.* at 49.

69. *Id.* at 4.

70. *Id.* at 50. Strategis reports that 15 percent of Bell Atlantic’s customers are connected through DLCs. *Id.*

71. LEE L. SELWYN ET AL., BUILDING A BROADBAND AMERICA: THE COMPETITIVE KEYS TO THE FUTURE OF THE INTERNET 61 (1999) (prepared for the Competitive Broadband Coalition).

72. See Petition of GTE Service Corp. at app. C, ¶ 10, *In re Applications for Consent to Transfer Control of MediaOne Group, Inc. to AT&T Corp.*, 15 F.C.C.R. 9816 (2000) (No. 99-251) (declaration of Dale E. Veeneman & Everett H. Williams).

broadband transport technology that could undermine AOL's ability to foreclose DSL. Satellite-based high-speed Internet service is not currently a close substitute to cable-based Internet access because, unlike cable systems, it provides high-speed connection in only one direction, from the satellite to the user's computer. Current subscribers of DirecTV's satellite broadband network must upload information over standard (narrowband) telephone lines at maximum speeds of 56.6 Kbps.⁷³ A fully two-way broadband system over satellite (known as Spaceway) will not become available until 2002.⁷⁴

Due to its direct ownership interest in DirecPC, the broadband Internet service provided by DirecTV,⁷⁵ AOL is unlikely to discriminate against DirecTV, a major satellite provider, at the input level. In this narrow sense, DirecPC would represent a "nonforeclosed competitor" to a merged AOL Time Warner with the potential to undermine AOL's foreclosure strategy.⁷⁶ However, because the satellite connection currently amounts to an inferior substitute to cable, and because AOL can influence the price of DirecPC, the existence of this nonforeclosed competitor would not by itself undermine AOL Time Warner's ability to engage in conduit discrimination against DSL providers. Hence, there are no downstream rivals that could discipline AOL Time Warner's conduit foreclosure tactics and broadband end users could not frustrate AOL Time Warner's efforts at conduit discrimination by turning to a significant nonforeclosed broadband conduit. Thus, we conclude that the competitive conditions in the broadband content market are such that any attempt by AOL to engage in conduit discrimination would result in higher costs and a lower market share for DSL and other broadband conduits.

73. Press Release, Hughes Elecs. Corp., America Online and Hughes Electronics Form Strategic Alliance to Market Unparalleled Digital Entertainment and Internet Services (June 21, 1999), <http://www.directv.com/press/pressdel/0,1112,198,00.html>.

74. *Id.*

75. See HUGHES ELECTRONIC CORPORATION, 2000 SEC FORM 10-K.

76. Concerned that AOL would control substitute broadband conduits, consumer groups have called for AOL to divest itself of its partial ownership in DirecPC. Petition to Deny of Consumers Union, Consumer Fed'n of Am., Media Access Project, and Center for Media Education at 2, *In re* Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and Am. Online, Inc., Transferors, to AOL Time Warner, Inc., Transferee, 2001 F.C.C. LEXIS 432 (Jan. 22, 2001) (No. 00-30). Ironically, AOL's ownership of the satellite conduit protects against the type of discrimination at issue here. Such a divestiture would only exacerbate our concerns, as the set of "nonforeclosed competitors" would become empty. Unless AOL were to acquire a share of the DSL conduits (an unlikely event), that remedy would require additional protections against conduit discrimination.

B. Post-Merger Ability to Engage in Content Discrimination

To determine whether AOL would have the ability to engage in content discrimination—that is, discrimination against rival content providers seeking to reach AOL’s customers—we must evaluate two similar competitive effects. First, we analyze whether upstream content rivals could reach a sufficiently large set of customers through alternative conduits. Second, we determine whether foreclosure would reduce the operating scale of an upstream rival to below minimum viable scale or increase its marginal costs.

1. Availability of Alternative Broadband Customers

Professors Riordan and Salop explain that content discrimination may simply cause a “realignment in supplier relationships” having “little net effect on the sales of the input suppliers,” but content discrimination may harm rivals in cases where “input suppliers are unable to replace the lost sales.”⁷⁷ Stated differently, one must determine whether any other broadband conduit has a customer base large enough to restore a content provider’s lost revenues from cable customers. As described in Part A.2 above, the availability of alternative broadband conduits is limited. According to a January 2000 McKinsey study, as of the end of 1999, DSL providers could only address 44 percent of U.S. households.⁷⁸ Even in areas where DSL is available, the existence of significant switching costs (for example, the time and complexity of switching and the purchase of a DSL modem) would necessitate a large sense of content-specific loyalty to induce a cable customer to switch to DSL.⁷⁹ “Different requirements for inside wiring, different terminal equipment, nonrefundable connection charges, different computer set-ups in many cases are among the factors that can easily push the physical cost of switching between cable and DSL [where both are available] up to \$600.”⁸⁰

Professors Riordan and Salop conclude by pointing out that the “loss of the integrated firm as a customer is less significant if that firm’s pre-

77. Riordan & Salop, *supra* note 32, at 554.

78. MCKINSEY STUDY, BROADBAND! 27 (released Jan. 2000).

79. To the extent that customers are plagued by the fallacy of sunk costs, they might erroneously take the cost of the cable modem into the decision to switch to DSL as well. This may explain why consumers are hesitant to switch to DSL once they have purchased a cable modem. See, e.g., Kevin Featherly, *Report: Cable’s Broadband Lead Over DSL Remains Solid*, NEWSBYTES, Apr. 19, 2000, at <http://www.newsbytes.com/News/00/147760.html>.

80. François Bar et al., *Access and Innovation Policy for the Third-Generation Internet*, 24 TELECOMM. POL’Y 489, 502 (2000).

merger purchases from unintegrated firms is a small share of its available sales base."⁸¹ As depicted in Table 2, cable's broadband transport market share in June 2000 was roughly 70 percent. Hence, according to their framework, it is unlikely that a sufficient number of alternative broadband customers would be available through competing conduits to save content and portal competitors foreclosed from AOL Time Warner's system.

2. *Minimum Viable Scale and the Marginal Cost of Broadband Content*

Given the existence of economies of scale in the broadband portal market,⁸² it is conceivable that a broadband portal would "exit from the market if the foreclosure drives it below minimum viable scale ("MVS") at premerger prices."⁸³ In the short lifetime of the broadband content industry, several notable broadband content providers have exited the industry or are contemplating exit.⁸⁴ Even where the foreclosed input supplier does not fall below MVS, its ability or incentives to compete may be reduced if its marginal costs rise: "In particular, a reduced customer base may reduce the incentives of the foreclosed firm to invest in cost reduction, product quality, or other non-price product dimensions."⁸⁵ This effect would be particularly acute because broadband content providers need to spread development costs over a larger customer base,⁸⁶ and the denial of access to AOL's customer base would undermine such efforts. A merged AOL Time Warner is thus unlikely to face any significant market check on its ability to discriminate against outside content. Having looked at the ability to discriminate, we now turn to its incentives.

V. AOL TIME WARNER'S INCENTIVES TO ENGAGE IN CONDUIT OR CONTENT DISCRIMINATION

In this Part we provide a framework to evaluate whether a foreclosure strategy that involves either conduit discrimination, content discrimination, or both, is likely to be profitable for AOL Time Warner. We rely on

81. Riordan & Salop, *supra* note 32, at 554.

82. *See supra* Part IV.A.1.

83. Riordan & Salop, *supra* note 32, at 554-55.

84. Oreskovic, *supra* note 45 (noting the exit of Digital Entertainment Network and Pixelon).

85. Riordan & Salop, *supra* note 32, at 555.

86. *See, e.g.*, Declaration of Janusz A. Ordovery & Robert D. Willig at 20, *In re Application for Consent to Transfer Control of MediaOne Group, Inc. to AT&T Corp.*, 15 F.C.C.R. 9816 (2000) (No. 99-251) (explaining that "[i]f new entrants are to compete with incumbent LECs and leading Internet and online service providers, they also must have the opportunity to serve a large customer base").

theoretical literature in the economics of industrial organization that examines the incentives to foreclose competition through discriminatory practices and the conditions under which a company could sustain such foreclosure strategies in the long run (that is, whether foreclosure is profitable in equilibrium). We briefly review that literature and then apply the theory to analyze the proposed merger of AOL and Time Warner.

A. Theoretical Models of Foreclosure

Professors Janusz Ordover, Garth Saloner, and Steven Salop were the first economists to model formally the foreclosure calculus in a game-theoretic context.⁸⁷ In their model, the refusal to supply inputs by the integrated firm to the rival of its downstream division (conduit discrimination) implies that the remaining upstream supplier will face less competition in serving the foreclosed downstream firm.⁸⁸ If the nonaffiliated upstream supplier raises its price to the rival downstream firm, the downstream rival will respond by raising the prices it charges to end users. Hence, the diminished upstream competition caused by conduit foreclosure increases the downstream market share of the integrated firm and supports a higher downstream price and increased profits.⁸⁹ Because the foreclosure equilibrium involves higher prices for all downstream firms without any offsetting efficiency gains, overall social welfare (and, more specifically, consumer welfare) decreases.

Building on this work, Professors Jeffrey Church and Neil Gandal have investigated foreclosure while treating the downstream product as a system composed of hardware (supplied by the downstream provider) and its complementary software (supplied by the upstream provider).⁹⁰ In the Church-Gandal framework, the value of the system increases as the variety of the available software grows. Foreclosure involves a decision to make one's software incompatible with rival hardware technologies,

87. Janusz A. Ordover et al., *Equilibrium Vertical Foreclosure*, 80 AM. ECON. REV. 127, 133-42 (1990).

88. Their model assumes two upstream firms and two downstream firms. *Id.* at 131. The results can be replicated with additional firms.

89. Despite the fact that there is some degree of competition at both the upstream and downstream levels, an equilibrium with foreclosure can occur if: (1) the downstream firms' revenues are decreasing in the price of the input (that is, if the price of the final good does not increase as fast as the quantity demand of the final good falls); and (2) the unintegrated upstream firms do not have sufficient incentive to raise prices to the unintegrated downstream firms (if otherwise, the nonintegrated downstream firms will lose so much share that they will have an incentive to merge with upstream firms).

90. See Jeffrey Church & Neil Gandal, *Systems Competition, Vertical Merger, and Foreclosure*, 9 J. ECON. & MGMT. STRATEGY 25, 25 (2000).

which again amounts to conduit discrimination. Against the backdrop of vertical integration in the cable television industry, Church and Gandal “expect that conflicts over access to content will arise with the development of the information highway and competition between alternative technologies and vendors.”⁹¹ The authors demonstrate that foreclosure by a single firm, when the other firm does not retaliate in kind, can occur if either: (1) the hardware products are highly differentiated *and* the marginal value of software variety is small; or (2) the hardware products are not highly differentiated. The authors identify both direct and indirect effects of foreclosure on hardware (downstream) profits: “The direct effect is the increase in demand from the differential created in software availability for the two hardware systems. The indirect effect is the associated change in hardware pricing. The increase in demand can provide the foreclosing firm with incentives to charge *higher prices* for its hardware.”⁹²

After noting that there appears to be little product differentiation among the hardware products, Church and Gandal conclude with the following policy implication: “consent decrees that require integrated ‘hardware/software’ firms to make software available on a nondiscriminatory basis for other hardware technologies might prevent foreclosure that would lead to socially inefficient standardization on one of the platforms.”⁹³

With this background, we can now spell out our concern that a vertically-integrated broadband transport and portal provider would have an incentive to pursue two foreclosure strategies: (1) engage in conduit discrimination by withholding its service over rival conduits or by placing marquee content solely within a “walled garden”; or (2) engage in content discrimination by denying, limiting, or degrading customers’ access to unaffiliated content. We discuss the incentives to engage in each strategy below, noting that according to Church and Gandal, the decision to foreclose is straightforward: “The profitability of foreclosure depends on the trade off between lost software profits (from not supplying the competing system) and increased hardware profits (from the increase in demand and potentially the increase in hardware price). Foreclosure has both a direct and indirect effect on hardware profits.”⁹⁴ Indeed, Professors Riordan and Salop echo that logic:

91. *Id.* at 27.

92. *Id.* at 28.

93. *Id.* at 47.

94. *Id.* at 28.

The impact on lost input sales is relevant to evaluating the incentives for the integrated firm to attempt input foreclosure. Even if an input price increase raises rivals' costs, that alone does not prove that the price rise is profitable to the integrated firm. The upstream division may lose so many input sales that the input market revenue lost exceeds the higher revenue on input sales retained plus the increased profits to the downstream division.⁹⁵

In the following sections, we analyze each of those possible effects in the market for residential broadband access.

B. Post-Merger Incentives to Engage in Conduit Discrimination

1. Necessary Conditions for Conduit Discrimination

Conduit discrimination is costly, as a firm engaging in conduit discrimination will forego revenues from content distribution over foreclosed platforms. There are potentially countervailing benefits, however, because with conduit discrimination, customers will perceive the cable conduit as more valuable. This, in turn, will increase the demand for cable transport relative to other forms of transport. *Hence, a cable broadband provider will engage in conduit discrimination if the gain from additional access revenues from broadband users offsets the loss in content revenues from narrower distribution.*

What determines whether conduit discrimination will be profitable? Simply put, if a cable broadband transport provider that controls particular content only has a small fraction of the national cable broadband transport market, then that provider would have little incentive to discriminate against rival broadband transport providers *outside of its cable footprint*.⁹⁶ The intuition is straightforward: out-of-franchise conduit discrimination would inflict a loss on the cable provider's content division, while out-of-region cable providers would be the primary beneficiaries of harm done to non-cable competitors. To capture the gains from such discrimination, the vertically integrated cable provider must have a cable footprint in which to distribute its broadband portal service, either through direct ownership or through an arrangement to share the benefits of foreclosure with other cable providers.

Borrowing from the model of Church and Gandal, it is possible to appreciate the range of parameters under which a merged AOL Time Warner

95. Riordan & Salop, *supra* note 32, at 532.

96. A cable provider's footprint refers to those areas in the country where the cable provider currently offers cable service.

will have an incentive to engage in conduit discrimination. We define the following variables:

k = AOL Time Warner share of homes served by cable providers nationwide or "conduit footprint" (equal to 0.19)⁹⁷

t = AOL Time Warner in-region residential broadband access share (equal to 0.73)⁹⁸

p = AOL Time Warner monthly transport-Internet service price per cable subscriber (equal to \$40.00)⁹⁹

ρ = AOL Time Warner monthly content/advertising revenues per broadband cable subscriber (equal to \$23.62)¹⁰⁰

q = AOL Time Warner residential DSL customer share (assumed equal to 0.30)

o = AOL Time Warner monthly access price for DSL subscribers (equal to \$21.95)¹⁰¹

A combined AOL Time Warner would secure broadband revenues from at least three sources. The first is in-region broadband transport and portal revenues from cable customers, $kt(p + \rho)$. The second source is the in-region portal and content revenues from customers served by alternative conduits, $k(1 - t)q(o + \rho)$. The third source of revenue comes from out-of-region portal and content revenues from customers served through non-cable conduits, $(1 - k)(1 - t)q(o + \rho)$.

While it is theoretically possible to discriminate selectively in the distribution of content,¹⁰² we assume conservatively that conduit foreclosure results in lost content sales across the nation, whereas increasing conduit sales and higher conduit prices generate revenues only within-region. Cur-

97. This is the percentage of homes served by the Time Warner cable system. HIGH SPEED ACCESS, *supra* note 67, at 142 (Time Warner served 19.2 million homes.).

98. Based on nationwide average of cable modems' share of residential broadband access market. STRATEGIS GROUP, CABLE TRENDS (2000). In-region is defined as those parts of the country where AOL Time Warner is offering cable service. Out-of-region is the complement of in-region.

99. AT HOME CORP., 1999 SEC FORM 10-K, at 6.

100. *Id.* @Home's content and advertising revenues were chosen over AOL's content and advertising revenues because (1) @Home's revenue reflects the revenue streams associated with *broadband* content and (2) AOL's revenues contain some influence of network effects owing to its large share of the narrowband residential market.

101. Ken Feinstein, *The AOLization of America: A Perspective*, CNET.COM NEWS, Apr. 19, 2000, at <http://www.cnet.com/techtrends/0-1544320-7-1708289.html>.

102. AOL could, for example, refuse to market its Internet service in-region over DSL or refuse to interconnect with certain DSL providers.

rently, DSL is an open system (which by law must interconnect with rival ISPs) whereas rival cable systems are closed (that is, a rival cable system would presumably continue to reject AOL as its broadband access provider). Consequently, if AOL engaged in conduit discrimination, it would forego its monthly access fee for DSL customers that would have subscribed to AOL inside and outside its conduit footprint.

The formal analysis that follows balances the merged firm's three economic interests that flow from the three revenue streams. To begin, let Π_U be the expected monthly revenue per broadband subscriber when AOL *does not engage* in conduit discrimination. Then,

$$\begin{aligned} (1) \Pi_U &= [kt(p + \rho)] + [k(1 - t)q(o + \rho)] + [(1 - k)(1 - t)q(o + \rho)] \\ &= kt(p + \rho) + (1 - t)q(o + \rho) \\ &= (.19)(.73)(\$40.00 + \$23.62) + (1 - .73)(.30)(\$21.95 + \$23.62) \\ &= \$8.82 + \$3.69 = \$12.51 \end{aligned}$$

Now define Π_F to be the expected monthly revenue per broadband subscriber when AOL *engages* in conduit discrimination. Also, let t_F equal AOL Time Warner's in-region broadband access share with input discrimination, and p_F be the corresponding monthly transport portal service price. We expect conduit discrimination to eliminate all out-of-region transport and content sales, $[(1 - k)(1 - t)q(o + \rho)]$, as well as in-region content sales to non-cable broadband conduit providers, $[k(1 - t)q(o + \rho)]$. It follows, therefore, that,

$$\begin{aligned} (2) \Pi_F &= kt_F(p_F + \rho) \\ &= 0.19t_F(p_F + \$23.62) \end{aligned}$$

As the theory of vertical foreclosure suggests, conduit discrimination will, in general, allow AOL Time Warner to increase both its broadband transport share and its transport price in-region due to AOL Time Warner's now relatively richer content offering. In particular, conduit discrimination increases in-region market share because end users must choose the vertically-integrated producer's conduit to access its content.¹⁰³

103. See, e.g., Church & Gandal, *supra* note 90, at 39 (explaining that "as expected, the effect of foreclosure [of a downstream rival] is an increase in market share. Indeed, if the variety advantage is large enough relative to the degree of hardware differentiation, then a standardization equilibrium results and all consumers purchase [the foreclosing firm's] technology.").

We expect, therefore, that $t_F \geq 73$ percent and $p_F \geq \$40$. Put differently, conduit foreclosure has a *direct effect* on conduit profits, caused by the increase in content demand that results from the differential in content availability over cable modems and DSL. It also has an *indirect effect* on conduit profits, caused by the change in access pricing that results from an increase in demand for cable modems.

As we pointed out earlier, however, conduit discrimination will lead to a loss in access and content-related revenues out-of-region. Clearly, for foreclosure to be profitable, in-region revenue increases must outweigh these out-of-region losses. Formally, discrimination will be profitable if Π_F is greater than or equal to Π_U . An equivalent condition is

$$(3) 0.19 t_F(p_F + \$23.62) \geq \$12.40$$

We have solved for the access price-market share combinations that would allow AOL to earn equal profit whether or not it engaged in conduit discrimination (namely, t_F and p_F such that $\Pi_U = \Pi_F$). Figure 1 plots those combinations, shown as the *zero-profit frontier*, given AOL Time Warner's current nationwide conduit footprint of 19 percent.

Figure 1: Necessary Conditions for AOL Time Warner to Engage in Conduit Discrimination

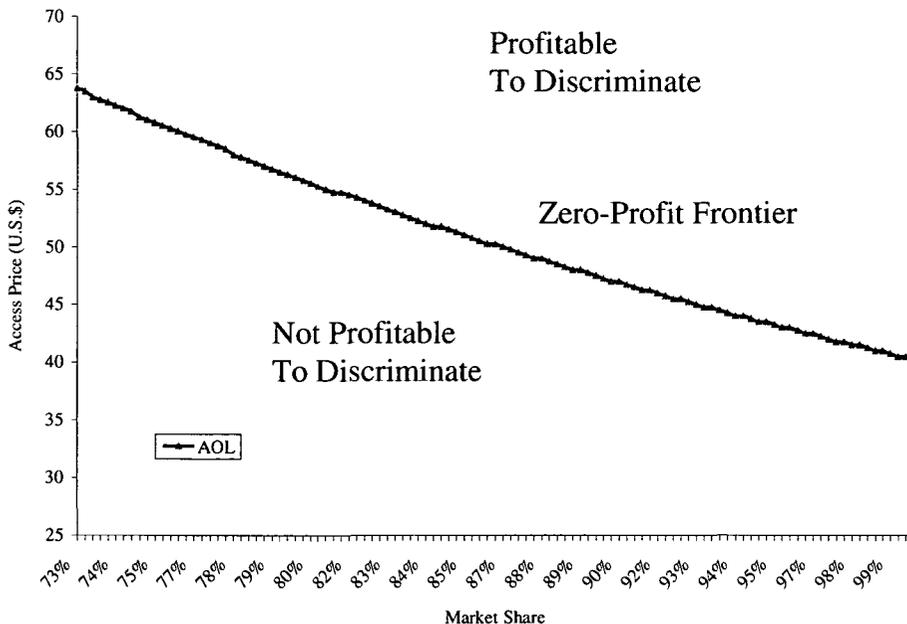


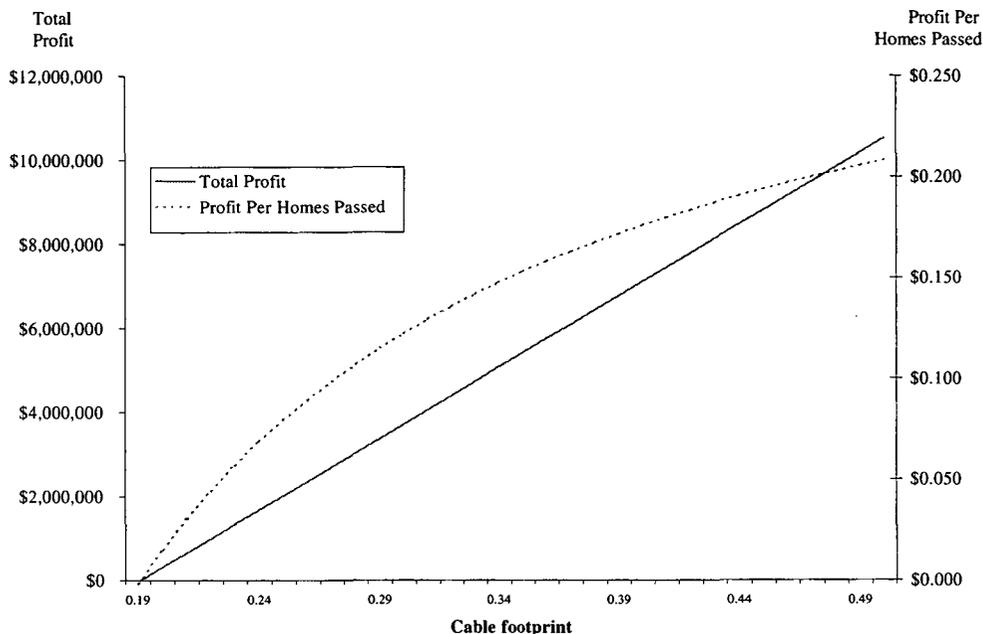
Figure 1 shows, for example, that even if AOL Time Warner increases its access price for cable customers by \$10 per month to \$50 per month, AOL Time Warner would need to capture an additional 14 percent of its in-region residential broadband access market (t) to make conduit discrimination profitable. Hence, given its current limited conduit footprint (k), it is unlikely that AOL Time Warner will engage in significant wide-spread conduit discrimination outside of its cable franchise territory.

We have assumed that the conduit discrimination strategy would be imposed on a nationwide basis. Our concern with the possibility of conduit discrimination would increase significantly were AOL Time Warner to selectively implement such a strategy only within its own cable footprint. In this case, there would be no lost out-of-region revenues making discrimination substantially more profitable. More generally, the ability to apply a discriminatory strategy differentially within and without the AOL Time Warner cable footprint is likely to increase substantially the profitability of conduit discrimination. Such a strategy is easy to imagine. Within its cable franchise, AOL Time Warner could, for example, steer customers to cable transport by representing that its portal service works best when delivered over cable. Such a strategy would undoubtedly be profitable, since it would not result in lost revenues. Customers insistent on purchasing DSL could do so and still receive AOL Time Warner's portal service; customers without a strong preference for a particular transport platform could readily be driven to purchase cable transport.

Beyond this prospect of unilateral conduit discrimination, our framework is also useful in studying horizontal relationships between two (or more) cable providers. Suppose that AOL Time Warner and AT&T-MediaOne entered into an agreement that effectively pooled their cable distribution footprints. Given AT&T's cable footprint of 30 percent (including its MediaOne and TCI properties),¹⁰⁴ the combined cable distribution footprint of AOL and AT&T would be approximately 49 percent ($k = 0.49$). Figure 2 plots the profit available to AOL from engaging in conduit discrimination as the size of its cable distribution footprint increases.

104. HIGH-SPEED ACCESS, *supra* note 67, at 140-41 (TCI had 22 million homes passed and MediaOne had 8.4 million homes passed).

Figure 2: Effect of an Increase in the Size of the Conduit Footprint on the Profitability of Conduit Discrimination



Note: Assumes in-region cable broadband market share of 78 percent and transport/Internet service price of \$58 per month (a price that would make discrimination just profitable for a cable firm with $k = 19$ percent).

The total profit line, which represents the monthly revenues across all AOL Time Warner broadband subscribers from engaging in conduit discrimination (the appropriate units of measurement are on the left-hand vertical axis), shows that AOL Time Warner would earn higher profits from conduit discrimination if it increased the size of its distribution footprint.¹⁰⁵ The total profit per homes passed curve, which represents the total profit from discrimination divided by the number of homes passed by AOL Time Warner cable systems (the appropriate units of measurement are on the right-hand axis), indicates that the monthly gains from discrimination on a per home basis also grow with the size of its cable distribution footprint. Thus, conduit discrimination will be more profitable for AOL Time Warner if it negotiates an access deal with AT&T. Indeed, Figure 2 shows that even on a proportional basis, the profit associated with conduit

105. Total profit is defined as the product of the differential profit per broadband subscriber and the current number of nationwide broadband subscribers (=1,980,000).

discrimination is an increasing function of the size of AOL Time Warner's cable distribution footprint. Proposition 1 summarizes this general point.

Proposition 1: *An increase in the size of a cable company's footprint will increase its incentive to engage in conduit discrimination.*

Proof: With conduit discrimination, $t_F \geq t$ and $p_F \geq p$. The change in profit from engaging in conduit discrimination is

$$(4)\Delta\Pi = \Pi_F - \Pi_U = kt_F(p_F + \rho) - kt(p + \rho) - (1 - t)q(o + \rho) \\ = k[t_F(p_F + \rho) - t(p + \rho)] - (1 - t)q(o + \rho)$$

The derivative of the change in profit with respect to the size of the footprint is therefore

$$(5) \partial\Delta\Pi / \partial k = t_F(p_F + \rho) - t(p + \rho),$$

which is greater than or equal to zero for all $t_F \geq t$, $p_F \geq p$.¹⁰⁶

2. Example of Conduit Discrimination in the Cable Television Industry

This risk of conduit discrimination is real. Indeed, discrimination by cable operators against alternative conduits, such as wireless cable operators, has prompted regulation in the past. For example, an FCC study found that wireless cable operators paid 36.4 to 78.6 percent more per subscriber for six cable network services than did cable operators.¹⁰⁷ Section 628(c) of the 1992 Cable Act instructed the FCC to adopt regulations that would, among other things, prevent undue influence by cable operators on actions by affiliated program vendors related to the sale of programming to unaffiliated distributors.¹⁰⁸ In April 1993, the FCC issued rules that lowered the evidentiary burden for programming-access complainants and prohibited program exclusivity arrangements.¹⁰⁹ In a related antitrust matter, the DOJ obtained a settlement with the Primestar direct broadcast satellite ("DBS") partners to make affiliated programming such as HBO, Cinemax, and MTV available to DBS and other non-cable services at non-

106. More generally, the profitability of conduit discrimination will increase whenever (5) is positive; this condition will also hold for a range of values when $t_F < t$.

107. *In re Competition, Rate Regulation, and the Commission's Policies Relating to the Provision of Cable Television Service*, 5 F.C.C.R. 362, tbl. XI (1990).

108. *In re Implementation of Sections 12 and 19 of the Cable Television Consumer Protection and Competition Act of 1992*, 8 F.C.C.R. 3359, ¶¶ 3, 3(1) (1993).

109. *Id.* ¶¶ 3(3), 9.

discriminatory prices.¹¹⁰ As will be explained below, merger conditions are likewise required here to eliminate the risk of conduit discrimination.

C. Post-Merger Incentives for Content Discrimination

1. Necessary Conditions for Content Discrimination

To complete our analysis, it is important to consider whether a combined AOL Time Warner would have an incentive to engage in content discrimination by blocking its customers' access to unaffiliated content. For example, to insulate Spinner (AOL's Internet radio service) and Time Warner's music portfolio from competition, AOL could refuse to distribute music from competing record companies.¹¹¹ This form of discrimination would enhance the position of AOL's affiliated content providers in the national market by denying unaffiliated content providers critical operating scale and insulating affiliated content providers from competition. Thus, content discrimination would allow AOL Time Warner to earn extra revenues from its own portal customers who would have fewer opportunities to interact with competing outside content.

The cost of content discrimination is the potential loss in revenue from customers that demand the withheld content. To the extent that cable transport providers compete against DSL and other broadband transport providers, the reduction in revenues from lost customers will be greater. Further, note that content discrimination does not require a complete denial of access to outside content. Nevertheless, even less severe strategies (for example, providing unequal caching treatment to unaffiliated content providers) may inflict some loss on the downstream transport division, because some customers may still prefer to switch transport providers rather than suffer slower access to outside content. *Hence, AOL Time Warner will engage in content discrimination if the gain from additional portal, content, and advertising sales offsets the reduction in broadband access revenues resulting from lost broadband subscribers.*

To analyze the conditions under which content discrimination would be profitable for AOL Time Warner, we rely on the set of parameters that were defined previously.

110. See *United States v. Primestar Partners*, 58 Fed. Reg. 33944 (June 22, 1993) (proposed final judgment and competitive impact statement).

111. *The AOLization of America: Beyond Microsoft*, CNET.COM NEWS, Apr. 19, 2000, at <http://www.cnet.com/techtrends/0-1544320-7-1708292.html>. AOL could also seek to protect its other content assets, including Digital City, The Knot, MapQuest, and MovieFone.

k = AOL Time Warner share of homes passed nationwide (equal to 0.19)

t = AOL Time Warner in-region residential broadband access share (equal to 0.73)

p = AOL Time Warner monthly transport-Internet service price per cable subscriber (equal to \$40.00)

ρ = AOL Time Warner monthly content/advertising revenues per cable broadband subscriber (equal to \$23.62)

q = AOL Time Warner residential DSL customer share (equal to 0.30)

o = AOL Time Warner monthly access price for DSL subscribers (equal to \$21.95)

Content discrimination results in lost in-region access sales, but potentially increasing content and advertising sales across the nation. We assume that AOL considers whether it is profitable to engage in content discrimination independently of its decision to engage in conduit discrimination.¹¹² Define Π_U as the expected monthly revenue per broadband subscriber when AOL *does not engage* in content discrimination. Then, as before, there are three sources of revenues available to AOL Time Warner:

$$\begin{aligned} (6) \Pi_U &= [kt(p + \rho)] + [k(1 - t)q(o + \rho)] + [(1 - k)(1 - t)q(o + \rho)] \\ &= kt(p + \rho) + (1 - t)q(o + \rho) \\ &= (.19)(.73)(\$40.00 + \$23.62) + (1 - .73)(.30)(\$21.95 + \$23.62) \\ &= \$8.82 + \$3.69 = \$12.51 \end{aligned}$$

Next define Π_F as the expected monthly revenue per broadband subscriber when AOL Time Warner *engages* in content discrimination, and define t_F , q_F , and ρ_F accordingly. To simplify the analysis, we conservatively assume that content discrimination affects content and advertising revenues within-region (by limiting the choices of in-region broadband customers), but has no effect on such revenues outside-of-region. Consequently, we also assume that the merged company's DSL penetration would remain unchanged inside and outside its cable footprint—that is, $q_F = q = 0.30$. Then,

112. The two strategies could also be employed simultaneously with the benefits of one strategy reinforcing the incentives to engage in the other. We have not considered the interaction of the two discrimination strategies here.

$$\begin{aligned}
 (7) \Pi_F &= [kt_F(p + \rho_F)] + [k(1 - t_F)q(o + \rho_F)] + [(1 - k)(1 - t)q(o + \rho)] \\
 &= .19t_F(\$40.00 + \rho_F) + .19(1 - t_F)(.30)(\$21.95 + \rho_F) \\
 &\quad + .19(1 - 0.73)(.30)(\$21.95 + \$23.62)
 \end{aligned}$$

Content foreclosure has a *direct* effect on content profits—an increase in demand from the fact that rival content producers might not achieve minimum viable scale. It also has an *indirect* effect—the associated change in content and access pricing due to the increase in demand for its affiliated content. Content discrimination might jeopardize in-region broadband transport market share by antagonizing cable subscribers. Revenue per customer will increase, however, because cable operators can charge higher prices for content and advertising used by the infra-marginal in-region cable customers who do not switch to a competing conduit. Hence, $t_F \leq t$ and $\rho_F \geq \rho$. Thus, for content discrimination to be profitable, Π_F must exceed Π_U or,

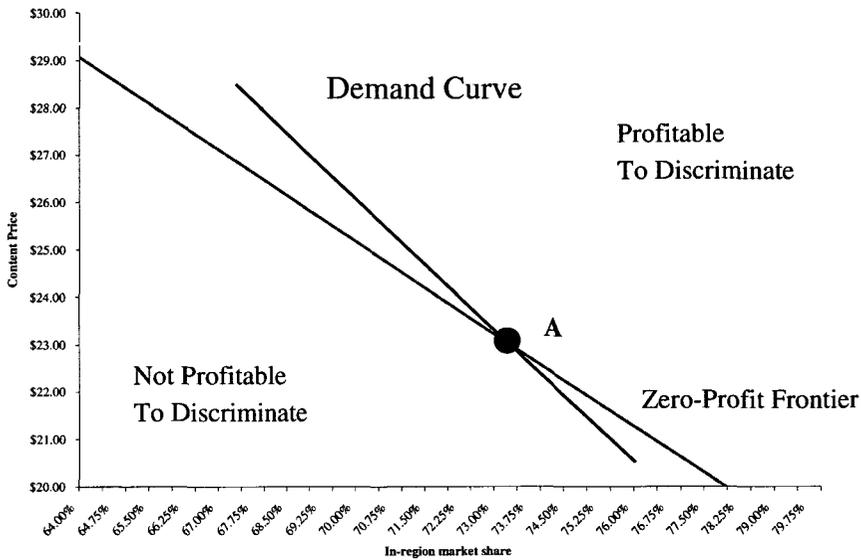
$$\begin{aligned}
 (8) .19t_F(\$40.00 + \rho_F) + .19(1 - t_F)(.30)(\$21.95 + \rho_F) \\
 + .19(1 - 0.73)(.30)(\$21.95 + \$23.62) \geq \$12.40
 \end{aligned}$$

After simplification, the condition becomes

$$(9) 6.35t_F + 0.057\rho_F + .133t_F\rho_F \geq \$10.44$$

We have solved for the in-region footprint market share-content price pairs that would generate equal profits for AOL whether it engages in content discrimination or not (i.e., for which content discrimination generates zero incremental profit relative to no discrimination). Figure 3 plots those combinations (the zero-profit frontier), given AOL Time Warner's nationwide conduit footprint of 19 percent. Content discrimination will be profitable for all points above and to the right of this frontier.

Figure 3: Necessary Conditions for AOL Time Warner to Engage in Content Discrimination



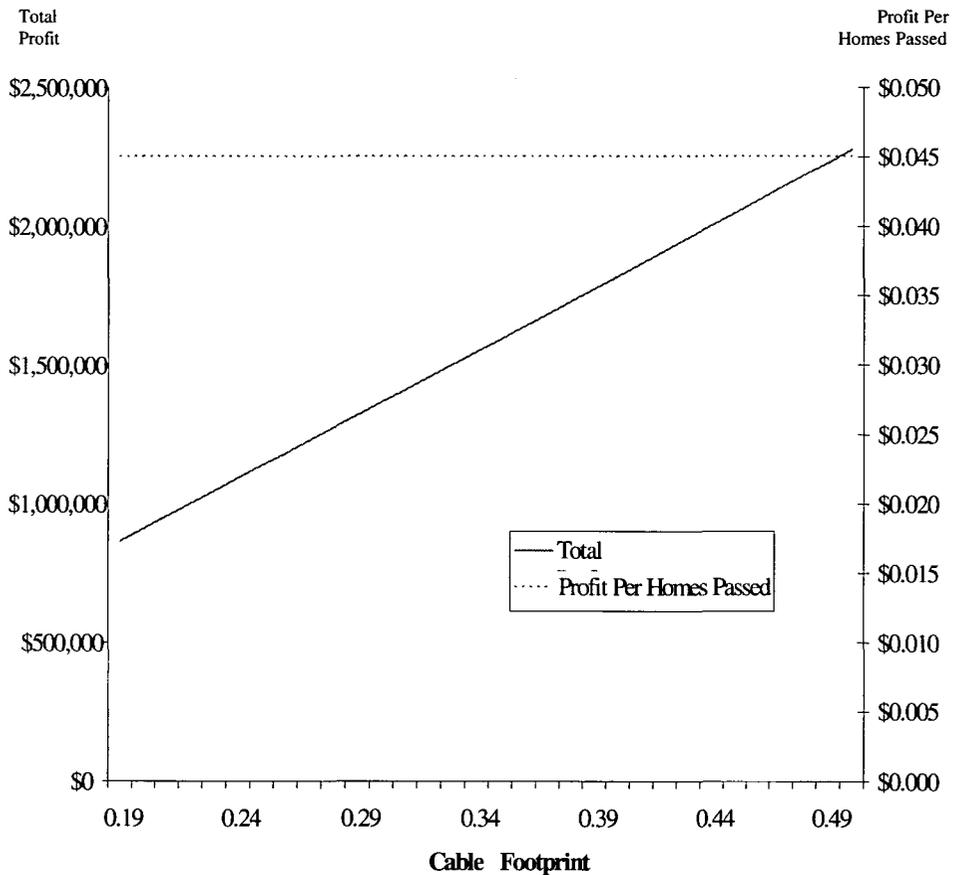
Currently, AOL’s market share and content price put it at point A on the frontier. Discrimination will be profitable if the increased revenues from AOL Time Warner customers resulting from a higher content price will outweigh the lost revenues from customers who choose an alternative conduit. Suppose, for example, that AOL Time Warner pursued a discriminatory policy that allowed it to increase its monthly content price by \$3. Such discrimination would be profitable as long as AOL lost less than 5 percent of its in-region transport market share. Because this is such a small increase, we believe that AOL Time Warner’s combined footprint is sufficiently large to encourage it to engage in content discrimination.

To develop this analysis further, we can ask more generally how much market share AOL Time Warner could lose as it increases the price of its content and advertising. This information is reflected in Figure 3 in the demand curve for broadband content *conditional on AOL Time Warner engaging in content discrimination*. As it is drawn, demand is sufficiently inelastic that the gains from greater in-region content revenues from infra-marginal customers—customers who remain in spite of discrimination—more than compensate AOL Time Warner for the loss in revenues from

marginal broadband customers.¹¹³ Stated differently, the demand curve lies above the zero profit frontier as content prices increase.

Similar to the analysis on conduit discrimination, we now examine the effect of an increase in the size of AOL Time Warner's cable distribution footprint on the profitability of engaging in content discrimination. Figure 4 demonstrates the results:

Figure 4: Effect of an Increase in the Size of the Conduit Footprint on the Profitability of Content Discrimination



Note: Assumes in-region cable broadband market share of 70 percent and in-region content price of \$28.00.

The total profit line, which reflects the monthly increase in revenues across all AOL Time Warner broadband subscribers from engaging in

113. Of course, if the demand curve were flatter than the indifference frontier, AOL Time Warner would be worse off for engaging in content discrimination.

content discrimination (the appropriate units of measurement are on the left-hand vertical axis), shows that AOL Time Warner would earn higher profits from content discrimination as the size of its distribution footprint increases.¹¹⁴ The total profit per homes passed curve, which is the total profit from discrimination divided by the number of homes passed by AOL Time Warner cable systems (the appropriate units of measurement are on the right-hand vertical axis), indicates that the monthly gains from discrimination on a per home basis remains constant as the size of the footprint increases. This leads us to Proposition 2.

Proposition 2: An increase in the size of a cable company's footprint will increase its incentive to engage in content discrimination so long as its in-region broadband access market share does not decrease significantly.

Proof: Define the critical market share, t^* , as $[t(p + \rho) + q(1 - t)(o + \rho) - q(o + \rho_F)] / [(p + \rho_F) - q(o + \rho_F)]$. The change in profit from engaging in content discrimination is

$$\begin{aligned} (10) \Delta\Pi &= \Pi_F - \Pi_U = kt_F(p + \rho_F) + k(1 - t_F)q(o + \rho_F) + (1 - k)(1 - t)q(o + \rho) \\ &\quad - kt(p + \rho) - k(1 - t)q(o + \rho) - (1 - k)(1 - t)q(o + \rho) \\ &= k[t_F(p_F + \rho) - t(p + \rho)] + kq[(1 - t_F)(o + \rho_F) \\ &\quad - (1 - t)(o + \rho)] \end{aligned}$$

The derivative of the change in profit with respect to the size of the footprint is

$$(11) \partial\Delta\Pi / \partial k = [t_F(p + \rho_F) - t(p + \rho)] + q[(1 - t_F)(o + \rho_F) - (1 - t)(o + \rho)],$$

which is greater than zero whenever $t_F \geq t^*$.

To evaluate the effects of footprint size on the profitability of content discrimination, note that because $t_F \leq t$, the first term in square brackets in (11) is ambiguous. Because $\rho_F \geq \rho$, however, the second term in square brackets in (11) is unambiguously positive. Intuitively, because cable modems are the dominant broadband transport platform, a larger cable distribution footprint causes the vertically-integrated carrier to gain revenues from a larger number of customers. Whether the vertically-integrated provider enjoys gains or losses on in-region cable customers depends on the relative size of the infra-marginal and marginal revenues. We believe that content discrimination is likely to be profitable within the AOL Time

114. Total profit is defined as the product of the differential profit per broadband subscriber and the current number of nationwide broadband subscribers (=1,980,000).

Warner footprint (i.e., the derivative is positive). Therefore, a larger footprint would allow the combined company to capture even larger revenues through content discrimination by expanding its cable distribution footprint.

The analysis presented to this point has been conservative. In simplifying the analytics we omitted several important considerations that would likely increase the profitability of content discrimination. First, we have not taken into account the network effects that are likely to be associated with content provision. Due to network effects, the larger AOL Time Warner's customer base, the more likely that content discrimination will cause foreclosed content providers to either exit the market, or negotiate a deal with AOL Time Warner that gives them carriage in return for a substantial payment. To the extent that foreclosed competitors exit the market, AOL Time Warner is less likely to lose customers to a competing conduit because switching conduits will no longer afford customers access to foreclosed content.

The influence of network effects on the decision to discriminate can be portrayed in the context of Figure 3. We note that broadband sites are financed largely (for Yahoo!, entirely) by advertising revenue. The demand for advertisements to be placed on broadband sites is derived from the demand of broadband users who wish to access information on that site. By instilling loyalty and raising switching costs, the associated network effects tend to make customer demand for broadband content less price sensitive. Since the derived demand for advertising is positively related to the elasticity of demand for the underlying product,¹¹⁵ network effects make the demand for advertising itself less price sensitive. Hence, we expect the presence of network effects to shift the demand curve in Figure 3 upward, making content discrimination even more profitable.

Second, our analysis has focused on the most extreme form of content discrimination—the complete foreclosure of rival content to AOL Time Warner cable customers. A strategy of partial foreclosure, one that increases the cost of accessing rival content on its cable systems, also has the potential to be substantially profitable. Indeed, such a strategy, if successful, would have the potential to choke off the supply of rival content generally, and cause customers to shift towards, rather than away from, cable transport as their preferred platform.

115. This is an application of Marshall's first rule of derived demand. *See, e.g.*, P.R.G. LAYARD & A.A. WALTERS, MICROECONOMIC THEORY 260 (1978).

2. *Example of Content Discrimination in the Cable Television Industry*

As with conduit discrimination, cable providers have a history of engaging in content discrimination. Content discrimination in the cable television industry has historically taken the form of refusing to allow unaffiliated program providers to reach captive cable customers. The FCC, at the behest of Congress, took at least two steps to curb this type of discrimination. First, the FCC established a 30 percent limit on the number of homes passed that any single cable operator could reach.¹¹⁶ The motivation for this limit was that, even if 30 percent of the downstream market had been foreclosed due to discriminatory treatment by a cable operator, unaffiliated programmers would be able to reach enough consumers to achieve minimum viable scale.¹¹⁷ Second, the FCC imposed channel occupancy limits that precluded cable operators from filling more than 40 percent of their capacity with affiliated programming.¹¹⁸

Professors David Waterman and Andrew Weiss have reviewed the theory of vertical integration in the cable industry and documented the vertical relationships between cable program suppliers and cable operators.¹¹⁹ They also performed an econometric analysis of the effects of vertical integration on the carriage, pricing, and promotion of cable networks.¹²⁰ Their study demonstrates that integrated cable systems tend to favor their affiliated programming, either by carrying those networks more frequently, by pricing them lower, or by marketing them more vigorously.¹²¹ For example, they found that ATC (then a subsidiary of Time Inc.) carried Showtime and The Movie Channel (two unaffiliated premium networks) nearly 40 percent less than the percentage rate predicted if the multiple cable system operator did not own its own competing affiliated channels.¹²² Because the discriminatory treatment seems to lessen when one controls for channel capacity, however, they believe that

116. 47 C.F.R. § 76.503 (2000); 47 U.S.C. § 533(f)(1)(A) (Supp. 2000). The U.S. Court of Appeals for the District of Columbia has since struck down this regulation as arbitrary. *See* Time Warner Entm't v. FCC, 240 F.3d 1126 (D.C. Cir. 2001).

117. LELAND L. JOHNSON, TOWARD COMPETITION IN CABLE TELEVISION 98 (1994).

118. 47 C.F.R. § 76.504 (2000); 47 U.S.C. § 533(f)(1)(A) (Supp. 2000). *See supra* text accompanying note 116.

119. DAVID WATERMAN & ANDREW A. WEISS, VERTICAL INTEGRATION IN CABLE TELEVISION 35-37 (1997).

120. *Id.* at 87-98.

121. *See id.* at 101.

122. *Id.* at 91.

the results could be consistent either with the realization of transactions efficiencies or vertical foreclosure models.¹²³

Waterman and Weiss conclude that conduct-type remedies aimed at limiting discriminatory behavior by vertically integrated cable systems against unaffiliated program suppliers are “impractical or counterproductive and should be abandoned.”¹²⁴ They argue further that channel-occupancy limits do little to deter discrimination, “except to the extent that they induce vertical divestiture.”¹²⁵ Instead, the authors call for tightening the horizontal ownership restrictions from the current 30 percent limit to 20 percent, to reduce any one cable operator’s monopsony power over programming.¹²⁶ This conclusion fully supports our finding that increasing the size of AOL Time Warner’s cable distribution footprint (through an access deal with AT&T, for example) increases the likelihood of content discrimination.

VI. IMPLICATIONS FOR CONDITIONS ON THE MERGER OF AOL AND TIME WARNER

In this Article we have not attempted to evaluate fully all of the likely benefits and costs of the AOL and Time Warner merger. Our analysis has shown that a policy of partial or complete conduit discrimination may be profitable post acquisition and that an agreement with AT&T will substantially increase the risk of conduit discrimination. Further, we have shown that content discrimination is likely to be profitable post-acquisition, and that a deal between AOL Time Warner and AT&T will increase the risk of such discrimination.

We have couched our analysis in terms of the profitability of conduit and content discrimination. In doing so, we have left implicit the injury such discrimination will impose on consumers. We believe that the potential harms can be significant for several reasons. *Conduit* discrimination will, if successful, lead to higher cable transport prices for AOL Time Warner customers. Further, customers out-of-region will also be worse off because they will face a diminished opportunity to purchase AOL Time Warner’s content. *Content* discrimination will force consumers to pay more for broadband content (for example, through higher prices for goods sold in ways that rely on broadband advertising), and will force advertisers to pay more to reach AOL Time Warner’s captive customer base. More-

123. *Id.* at 93.

124. *Id.* at 7.

125. *Id.*

126. *Id.* at 8.

over, those AOL Time Warner cable customers who switch to an alternative conduit will be worse off because they are forced to choose their second-best rather than their first-best broadband alternative.

To remedy the risks of conduit and content discrimination, an open access condition seems particularly worthy. It is reasonable to require that AOL Time Warner afford unaffiliated ISPs equal and nondiscriminatory access to the combined company's cable modem platform. AOL Time Warner signaled its willingness to open its network to competing ISPs in its Memorandum of Understanding,¹²⁷ and to ensure that the combined company actually follows through on its promise, an open access provision is appropriate. Doing so ensures that AOL Time Warner does not evade or delay the advent of open access, promotes investment in the broadband portal market by giving new entrants certain access to the merged company's cable customers, and limits AOL Time Warner's ability to engage in both conduit and content discrimination.

We therefore believe that the open access provisions that were included in the recent FTC consent decree are appropriate. The consent decree deals with our *content* discrimination concerns by requiring that AOL Time Warner make EarthLink—and its associated content—available to Time Warner customers before AOL itself can begin offering its service in major markets.¹²⁸ The companies also must strike deals with two other competing Internet providers within ninety days of making AOL available to Time Warner subscribers in major markets.¹²⁹ The decree also requires that Time Warner open its cable lines in its smaller markets to three nonaffiliated Internet providers within ninety days of making AOL's cable service available.¹³⁰ Under a "most favored nation" clause, Time Warner cannot strike a deal with another Internet provider that is any worse than the EarthLink agreement, or any other accord that AOL negotiates to carry its content on other cable systems.¹³¹ Moreover, the agreement puts in place measures to ensure that the company does not favor its cable Internet

127. Memorandum of Understanding Between Time Warner Inc. and Am. Online, Inc. Regarding Open Access Business Practices, ¶ 1, *In re* Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and Am. Online, Inc., Transferors, to AOL Time Warner, Inc., Transferee, 2001 F.C.C. LEXIS 432 (Jan. 22, 2001) (No. 00-30), <http://www.fcc.gov/csb/aoltw/mou.txt>.

128. Alec Klein, *AOL Merger Clears Last Big Hurdle; FTC Mandates Open Access To Time Warner's Cable*, WASH. POST, Dec. 15, 2000, at A1; *In re* Am. Online, Inc. and Time Warner Inc., No. C-3989, 2000 F.T.C. LEXIS 170 (Dec. 14, 2000).

129. *In re* Am. Online, 2000 F.T.C. LEXIS 170, § II.A.2.

130. *Id.* § II.B.1.

131. *See id.* § II.C.1.

access service over competing high-speed service utilizing DSL. This responds directly to our concern about *conduit* discrimination.¹³²

The possibility of content discrimination with respect to instant messaging services was separately addressed in the consent decree reached with the Federal Communications Commission.¹³³ AOL Time Warner must allow at least one instant-messaging rival to connect to its system before it offers advanced instant-messaging services (such as video conferencing) over its cable network. Subsequently, within 180 days of executing its first contract, it must sign up two additional significant and unaffiliated instant-messaging firms. When one considers AOL's instant-messaging customers as the "content" themselves, AOL's refusal to allow instant-messaging customers from other vendors (such as MSN Messenger Service) to communicate with AOL's instant-messaging customers is a form of content discrimination—that is, a customer can only view AOL's instant-messaging customers when using AOL instant-messaging software. Hence, the FCC's condition to allow at least one instant-messaging rival to connect to its system should undermine such discrimination.

To sum up, we are confident that the open access condition will undermine AOL Time Warner's ability to engage in conduit discrimination by ensuring the preservation of a robust broadband portal marketplace. Thus, even if the combined company elects to distribute its service only through cable modems, competing unintegrated portals can still take advantage of cable's dominant position in the broadband transport market, leaving competing conduit providers with enough content to justify continued investment. Likewise, the open access condition should undermine AOL Time Warner's ability to engage in content discrimination. Even if the merged company elects to block all outside content, unaffiliated portals and content providers can still reach cable customers through a com-

132. *See id.* § IV.A.

133. The FCC decision allows AOL Time Warner to seek a waiver from the instant-messaging condition if changes in the marketplace occur, or if it can demonstrate that an industry-wide standard of interoperability has been adopted. . . . In addition to the conditions governing instant messaging, the FCC also included some language to protect small and regional Internet providers that want to provide high-speed service over AOL Time Warner's cable network.

Alec Klein, *FCC Clears Way for AOL Time Warner Inc; Vote is 5-0, but Conditions on Messaging Draw Dissents*, WASH. POST, Jan. 12, 2001, at A1. The order also stipulates that "the company cannot discriminate against nonaffiliated Internet providers in the technical quality of service. The FCC requires that AOL bargain in 'good faith' with these Internet providers." *Id.*

peting ISP. Thus, customers seeking access to foreclosed content will not have to switch to another transport conduit that suffers from a lower rate of market penetration.

We note in conclusion that the AOL Time Warner merger raises special issues with respect to vertical integration and vertical discrimination. An abstract cable company with no market power in broadband content would not have the same incentive as would AOL Time Warner. Stated differently, it is possible that the open access regime imposed in this context would not be appropriate in other contexts. With the continuing growth of the high technology sector, it is likely that we will see an increasing number of vertical mergers over the next decade. From a policy perspective, we believe that each prospective merger should be considered on a case-by-case basis as we have done herein.

THE AUTHORITY TO REGULATE BROADBAND INTERNET ACCESS OVER CABLE

By Jim Chen[†]

ABSTRACT

What, in the eyes of the law, is cable broadband? The regulation of cable-based platforms for high-speed access to the Internet has become the most controversial subject in communications law. A trilogy of judicial decisions on the statutory status of cable broadband is forcing the Federal Communications Commission to confront a question it has consistently dodged. High-speed Internet access over cable is neither a “cable service” nor a “telecommunications service” under the Communications Act, but rather an “information service.” From a statutory patchwork including the Clayton Act, the “advanced telecommunications capability” provision of the Telecommunications Act of 1996, and long-standing grants of rulemaking authority, the Commission may require the operators of cable broadband facilities to offer their customers a choice of Internet service providers. This Article concludes that the Commission should exercise its power to impose open access requirements for cable broadband.

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I. CABLE’S KILLER APP

Broadband access to the Internet has arrived. Broadband means never having to say you are waiting: high transmission speeds enable users “to change web pages as fast as one can flip through the pages of a book and to transmit full-motion video.”¹ “Always on” Internet at or beyond 200 kilobits per second (“kbps”) renders dial-up access at 56 kbps a mere memory.² Only broadband can deliver real-time streaming video, Internet protocol videoconferencing, and access to a remote local area network.³ The intense thirst for speed and the dramatic difference in quality have given rise to distinct markets for residential broadband and narrowband Internet access.⁴

1. *In re Inquiry Concerning the Deployment of Advanced Telecomms. Capability to All Ams. in a Reasonable & Timely Fashion*, 14 F.C.C.R. 2398, 2406 (1999).

2. *See id.* at 2406 (setting the Commission’s baseline definition of broadband access). *But cf. In re Am. Online, Inc. & Time Warner Inc.*, No. C-3989, 2000 F.T.C. LEXIS 170 (Dec. 14, 2000) (setting the broadband threshold at 128 kbps). For an etymological essay on the origins of the term “broadband,” see William Safire, *On Language: Broadband*, N.Y. TIMES, Feb. 13, 2000, § 6, at 22.

3. *See generally* T.C. Kwok, *Residential Broadband Internet Services and Applications Requirements*, 35 INST. OF ELECTRICAL & ELECTRONICS ENGINEERS COMMS. 76 (1997).

4. *See* Jerry A. Hausman et al., *Residential Demand for Broadband Telecommunications and Consumer Access to Unaffiliated Internet Content Providers*, 18 YALE J. ON REG. 129, 135-48 (2001); *see also* AT&T Corp. v. City of Portland, 216 F.3d 871, 874 (9th Cir. 2000) (distinguishing the “@Home cable broadband infrastructure . . . from that of most ISPs,” which currently consists of “leased telecommunications lines” to which customers connect “through ‘dial-up’ connections over ordinary telephone lines”). *But see* DEBORAH A. LATHEN, BROADBAND TODAY: A STAFF REPORT TO WILLIAM E. KENNARD, CHAIRMAN OF THE FEDERAL COMMUNICATIONS COMMISSION ON INDUSTRY MONITORING SESSIONS CONVENED BY CABLE SERVICES BUREAU 32 (1999), available at <http://www.fcc.gov/Bureaus/Cable/Reports/broadbandtoday.pdf> (expressing “no view on whether the residential broadband market is a separate market from the residential narrowband market”).

Thanks in no small part to cable television's deep reach,⁵ hybrid fiber coaxial cable has become the residential broadband conduit of choice. Of the 3.12 million residential broadband subscribers in the United States as of June 2000, almost 70 percent reached the Internet through cable.⁶ The nearest competitor, digital subscriber line ("DSL") service over legacy telephone networks, registered a relatively modest 28 percent of this market.⁷ The leading wireline technologies outpace their wireless counterparts by a wide margin. Terrestrially based, fixed wireless technologies are projected to serve "4.4 million subscribers by 2004"—roughly one-eighth of the market for high-speed Internet access.⁸ For their part, "satellite high-speed systems [may] become the dominant means" of broadband Internet access "outside urban areas and in areas of low subscriber density," with the potential to capture "between 5 and 10% of high-speed subscribers."⁹ Because wireless technologies remain constrained by line-of-sight requirements, weather-related issues of reliability, and reliance on a telephone line for the return path,¹⁰ satellite and fixed wireless providers of high-speed Internet access had captured roughly 64,000 subscribers as of June 2000, or 2.1 percent of the market.¹¹ "New technology" may be "the easy answer to everything,"¹² but three years is an eternity in Internet time. Forty-nine out of fifty broadband customers have evidently decided that they cannot wait.

Contemporary technology and market conditions leave no doubt. Broadband Internet access is a two-player, wireline game, and cable en-

5. See *In re* Annual Assessment of Competition for the Delivery of Video Programming, 15 F.C.C.R. 978, 988-89 (2000) (reporting that cable now reaches 96.6 percent of all homes with at least one television set); cf. GEORGE ABE, RESIDENTIAL BROADBAND 283 (1997) (predicting, accurately, that cable operators would translate their "speed, ubiquity, and experience in offering residential services" into dominance of the broadband market).

6. See Press Release, FCC, Federal Communications Commission Releases Data on High-Speed Data for Internet Access, at 8, tbl.3 (Oct. 31, 2001), available at http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/hspd1000.pdf, excerpted in Daniel L. Rubinfeld & Hal J. Singer, *Open Access to Broadband Networks: A Case Study of the AOL/Time Warner Merger*, 16 BERKELEY TECH. L.J. 631 (2001).

7. See sources cited *supra* note 6.

8. *In re* Inquiry Concerning the Deployment of Advanced Telecomms. Capability to All Ams. in a Reasonable and Timely Fashion, No. 00-290, 15 F.C.C.R. 20913, 20989-90, at ¶ 200 (Aug. 21, 2000).

9. *Id.* 20990, ¶ 202.

10. See *id.* 20938, ¶ 59; LATHEN, *supra* note 4, at 31-40.

11. See sources cited *supra* note 6.

12. Thomas W. Hazlett, *Predation in Local Cable TV Markets*, 40 ANTITRUST BULL. 609, 643 (1995).

joys by far the stronger position. Not too bad for a medium that emerged in the 1940s as broadcast television's technological handmaiden.¹³

Whether the government should guarantee competitors' access to America's two million cable modems has become one of communication law's "most controversial current issues."¹⁴ Much of the strife stems from a singular oddity in American communications law. Though history should have taught us to abhor dissimilar regulatory treatment of similar markets,¹⁵ the Federal Communications Commission ("FCC") has chosen to regulate only one of the two principal modes of high-speed Internet access—and the less dominant mode at that. By virtue of the local competition provisions of the Telecommunications Act of 1996,¹⁶ incumbent local exchange carriers ("ILECs")¹⁷ must grant unbundled access to competing carriers seeking to provide DSL service.¹⁸ A cluster of FCC rules that sur-

13. *Turner Broad. Sys., Inc. v. FCC*, 512 U.S. 622, 627 (1994) (describing cable as a way "to bring broadcast television signals to remote or mountainous communities," intended not "to replace broadcast television but to enhance it"). *See generally* *United States v. Southwestern Cable Co.*, 392 U.S. 157, 161-64 (1968) (explaining the early history and purposes of cable television); DANIEL L. BRENNER & MONROE E. PRICE, *CABLE TELEVISION AND OTHER NONBROADCAST VIDEO: LAW AND POLICY* § 1.02 (1992) (describing the history and purpose of cable television).

14. Stuart Minor Benjamin, *Proactive Legislation and the First Amendment*, 99 MICH. L. REV. 281, 295 (2000).

15. *See generally, e.g.*, Alfred E. Kahn, *Deregulation: Looking Backward and Looking Forward*, 7 YALE J. ON REG. 325, 333-34 (1990) (describing the inefficient "distortions and tensions" that can arise from partial deregulation); Dennis L. Weisman, *Default Capacity Tariffs: Smoothing the Transitional Regulatory Asymmetries in the Telecommunications Market*, 5 YALE J. ON REG. 149 (1988) (describing the phenomenon of "bypass" as a symptom of inefficiencies arising from a partially deregulated market).

16. Pub. L. No. 104-104, 110 Stat. 56 (codified as amended in scattered sections of 47 U.S.C.).

17. The Telecommunications Act of 1996 defines "local exchange carrier" as "any person that is engaged in the provision of telephone exchange service or exchange access." 47 U.S.C. § 153(26) (Supp. IV 1998). In any local telephone service area, the "incumbent local exchange carrier" is "the local exchange carrier that . . . on February 8, 1996, provided telephone exchange service in such area" and on that date "was deemed" under FCC rules "to be a member of the exchange carrier association." *Id.* § 251(h)(1). A successor or assign of an FCC-recognized exchange carrier association member is also an ILEC. *Id.* § 251(h)(1)(B)(ii).

18. *Id.* § 251(c)(3) (requiring ILECs to provide access to network elements on an unbundled basis); *In re* Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, 11 F.C.C.R. 15,499, 15,689 (1996) (including the local loop within this obligation); *In re* Deployment of Wireline Servs. Offering Advanced Telecomms. Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, 14 F.C.C.R. 20,912, 20,916 (1999) (defining the high-frequency portion of the loop used for residential DSL as a network element to which an ILEC must provide unbundled access); *cf. In re* Deployment of Wireline Servs. Offering Advanced Tele-

vived the passage of the 1996 Act similarly entitles unaffiliated Internet service providers ("ISPs") to request interconnection and unbundled sale of network elements from the largest ILECs for the purpose of providing DSL service.¹⁹

By contrast, cable operators offering broadband Internet access bear no obligation under federal law to deal with unaffiliated ISPs. In what may have been the FCC's best opportunity to seize the regulatory initiative, the Commission declined to impose open access rules as a condition for its approval of AT&T's acquisition of TCI.²⁰ In its review of the AT&T/MediaOne merger, the Commission has twice declined to require open access.²¹ Instead, the FCC has consistently foresworn any intention of intervening in the ongoing development of cable broadband markets,²² even though this recalcitrance has deprived the Commission of the *Chevron* deference that such a complex question of law would otherwise

comms. Capability, 13 F.C.C.R. 24,011, 24,037-38 (1998) (requiring an ILEC, upon request from another carrier, to prepare the local loop for DSL carriage). *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, 67-69 (2000) (detailing the legal obligation of ILECs to deal with competing DSL carriers).

19. *See In Re Expanded Interconnection with Local Tel. Co. Facilities*, 7 F.C.C.R. 7369 (1992); *In re Implementation of the Local Competition Provisions in the Telecomms. Act of 1996*, 11 F.C.C.R. 15,499, 15,808-09 (1996); *In re Deployment of Wireline Servs. Offering Advanced Telecomms. Capability*, 13 F.C.C.R. 24,011, 24,030-31 (1998). *See generally* PETER W. HUBER ET AL., FEDERAL TELECOMMUNICATIONS LAW §§ 12.5.2-3 (2d ed. 1999) (explaining the significance and ongoing vitality of the "Expanded Interconnection" and "Open Network Architecture" rules).

20. *See In re Tele-Communications, Inc. & AT&T Corp.*, 14 F.C.C.R. 3160, 3192, 3197, 3206 (1999). On the FCC's use of conditions in approvals of major telecommunications mergers to fine-tune its regulatory policies, see Jim Chen, *The Magnificent Seven: American Telephony's Deregulatory Shootout*, 50 HASTINGS L.J. 1503, 1571-75 (1999).

21. *See In re MediaOne Group, Inc. & AT&T Corp.*, 15 F.C.C.R. 9816, 9866-71 (2000); *see also In re Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations from MediaOne Group, Inc. to AT&T Corp.*, No. 01-47, 2001 F.C.C. LEXIS 1485, at 12-17, ¶¶ 9-11 (Mar. 14, 2001).

22. *See, e.g., In re Inquiry Concerning the Deployment of Advanced Telecomms. Capability to All Ams. in a Reasonable & Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecomms. Act of 1996*, 14 F.C.C.R. 2398, 2423-24 (1999); William E. Kennard, *How to End the World Wide Wait*, WALL ST. J., Aug. 24, 1999, at A18 (defending the Commission's policy of "unregulation" with respect to issues of Internet access); *cf.* 47 U.S.C. § 230(b)(2) (Supp. IV 1998) (declaring "the policy of the United States . . . to preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services, unfettered by Federal or State regulation"). *See generally* Heather T. Hendrickson, *Cable Open Access: The FCC Should Establish a National Policy of Staying Out of the Way of Broadband Competition*, 8 GEO. MASON L. REV. 749 (2000).

merit.²³ The market for high-speed Internet access and other broadband services, estimated to embrace as many as forty million consumers,²⁴ hangs in the balance.

For a statute that rather notoriously paid little heed to the Internet²⁵ (except perhaps as a pornographic medium),²⁶ the Telecommunications Act looms large over the cable broadband debate. The Act's definitions of "cable,"²⁷ "telecommunications,"²⁸ and "information" services²⁹ determine whether the FCC or its local counterparts can require the operator of a cable-based Internet access platform to deal with unaffiliated ISPs on a non-discriminatory basis. Cable operators insist that the imposition of any open access requirement will retard their economic incentive to roll out broadband services. Their competitors, by contrast, warn that an unfettered cable monopoly will stifle innovation among ISPs. Once again the Act's effusive promise of "rapid deployment" of "new telecommunications technologies" hinges on sober questions of statutory interpretation.³⁰

23. See *AT&T Corp. v. City of Portland*, 216 F.3d 871, 876 (9th Cir. 2000) (declining to accord the FCC the deference otherwise owed to the agency under *Chevron U.S.A. Inc. v. Natural Res. Defense Council, Inc.*, 467 U.S. 837, 842-43 (1984)); see also *id.* at 879 ("Thus far, the FCC has not subjected cable broadband to any regulation."); cf. *FCC v. WNCN Listeners Guild*, 450 U.S. 582, 596 (1981) (emphasizing that courts owe "substantial judicial deference" to the FCC's "judgment regarding how the public interest is best served").

24. See Speta, *supra* note 18, at 43.

25. See generally John D. Podesta, *Unplanned Obsolescence: The Telecommunications Act of 1996 Meets the Internet*, 45 DEPAUL L. REV. 1093 (1996).

26. See Telecommunications Act of 1996, Pub. L. No. 104-104, §§ 501-509, 110 Stat. 56, 133-39; *ACLU v. Reno*, 521 U.S. 844, 857 (1997) (noting that "[t]he major components of the [Telecommunications Act] have nothing to do with the Internet"); Barbara Esbin, *Internet over Cable: Defining the Future in Terms of the Past*, 7 COMMLAW CONSPECTUS 37, 55 (1999) (noting that Congress paid more attention to the Internet's pornographic potential than any other aspect of what was then an emerging mode of communication).

27. See 47 U.S.C. §§ 153(7), 522(6) (Supp. IV 1998).

28. See *id.* § 153(43), (46).

29. See *id.* § 153(20).

30. See Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, pmbl. at 56; see also 47 U.S.C. § 157(a) (Supp. IV 1998) (declaring a broader "policy of the United States to encourage the provision of new technologies and services to the public"); *Time Warner Entm't Co.*, 8 F.C.C.R. 7106, 7107-08 (1993) (presuming that "the provision of new technologies and services to the public" and "the development of an advanced telecommunications infrastructure" are "in the public interest"); cf. 47 U.S.C. § 257(b) (Supp. IV 1998) (directing the FCC to "promote . . . policies and purposes . . . favoring diversity of media voices, vigorous economic competition, [and] technological advancement").

In its initial look at cable broadband in 1999, the FCC pledged to “continue to monitor broadband deployment closely to see whether there are developments that could affect [its] goal of encouraging deployment of broadband capabilities.”³¹ Those developments have come to pass. In the immediate wake of the Ninth Circuit’s decision in *AT&T Corp. v. City of Portland*,³² which invalidated open access requirements imposed through the local franchising of cable systems, FCC Chairman William E. Kennard proposed a formal proceeding to clarify “the FCC’s role in establishing a national broadband policy.”³³ In September 2000, the Commission announced that it would reexamine its approach to broadband Internet access over cable and other facilities.³⁴

The first step in that inquiry consists of establishing the FCC’s statutory authority to regulate cable modem platforms and broadband services provided via cable.³⁵ In effect, the Commission has invited some cool, deliberate doctrinal analysis in response to the hot policy debate over cable broadband. Although “[e]conomic analysis and market predictions” are nowhere “an exact science,”³⁶ least of all on the Internet’s unstable turf, “brilliant first-order theories” about open access and its regulation abound.³⁷ The secondary literature to date is heavy on policy recommendations and light on legal analysis.³⁸ Most commentators have debated the impact of open access on cable operators’ behavior and incentives without resolving predicate questions of legal authority to impose such restrictions. Rather unfortunately, so has the FCC. The Commission has all but admit-

31. *In re Inquiry Concerning the Deployment of Advanced Telecomms. Capability to All Ams. in a Reasonable & Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecomms. Act of 1996*, 14 F.C.C.R. 2398, 2449 (1999).

32. 216 F.3d 871 (9th Cir. 2000). *See generally infra* Part II.B.

33. Press Release, FCC, FCC Chairman to Launch Proceeding on “Cable Access”: Kennard Says Time Is Right to Establish Record on Marketplace Developments (June 30, 2000), available at 2000 F.C.C. LEXIS 3502 [hereinafter Kennard Press Release].

34. *See In re Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities*, 15 F.C.C.R. 19,287 (2000).

35. *See id.* at 19,293-98.

36. *United States v. W. Elec. Co.*, 900 F.2d 283, 297 (D.C. Cir.), *cert. denied*, 498 U.S. 911 (1990).

37. Daniel A. Farber, *The Case Against Brilliance*, 70 MINN. L. REV. 917, 929, 930 n.56 (1986).

38. *See Earl W. Comstock & John W. Butler, Access Denied: The FCC’s Failure to Implement Open Access to Cable as Required by the Communications Act*, 8 COMM.LAW CONSPECTUS 5, 6 (2000) (lamenting how “the debate over open access has led the industry and the Commission away from” a question of “straight statutory construction . . . and into a policy squabble that bears no relation to . . . decisions made by Congress”).

ted that it does not know the precise legal underpinnings for its policy of maintaining “‘parallel universes’ for cable and telephony Internet-based services.”³⁹ That policy will hinge on relatively pedestrian, even unglamorous questions of statutory interpretation. Mindful that grand theory is particularly “ill-suited to fix [the Internet’s] flow,” we might more profitably “draw our bearings from the legal landscape, and chart a course by the law’s words.”⁴⁰

This Article seeks to identify the source of authority, if any, to regulate broadband Internet access via cable under the Communications Act of 1934,⁴¹ as amended by the Telecommunications Act of 1996. I will make no serious attempt to “assess the wisdom” of open access rules as regulatory policy.⁴² Nor will I address any constitutional⁴³ or state-law⁴⁴ issues that may be at stake. Part II describes how the federal courts have defined cable broadband. Part III argues that cable broadband should be classified neither as a cable service nor as a telecommunications service, but rather as an information service. The FCC may also extend its regulatory reach under the Clayton Act, its general rulemaking powers, and *sui generis* provisions such as its mandate to promote the nation’s advanced telecommunications capability. Part IV concludes that the FCC should exercise its authority to harmonize the regulation of all platforms for high-speed Internet access without regard to their underlying technology.

39. Esbin, *supra* note 26, at 98.

40. AT&T Corp. v. City of Portland, 216 F.3d 871, 876 (9th Cir. 2000).

41. Ch. 652, 48 Stat. 1064 (codified as amended in scattered sections of 47 U.S.C.).

42. Louisiana Pub. Serv. Comm’n v. FCC, 476 U.S. 355, 359 (1986).

43. See AT&T Corp. v. City of Portland, 43 F. Supp. 2d 1146, 1154-55 (D. Or. 1999) (identifying potential first amendment, commerce clause, and contract clause claims), *rev’d on other grounds*, 216 F.3d 871 (9th Cir. 2000); Comcast Cablevision of Broward County, Inc. v. Broward County, 124 F. Supp. 2d 685 (S.D. Fla. 2000) (striking down an open access ordinance as a violation of cable operators’ first amendment rights); Christopher K. Ridder, Note, AT&T Corp. v. City of Portland, 15 BERKELEY TECH. L.J. 397, 412-13 (2000). Compare Raymond Shih Ray Ku, *Open Internet Access and Freedom of Speech: A First Amendment Catch-22*, 75 TUL. L. REV. 87 (2000) (analyzing open access as a matter of free speech) with Harold Feld, *Whose Line Is It Anyway? The First Amendment and Cable Open Access*, 8 COMMLAW CONSPECTUS 23 (2000) (criticizing the argument that cable operators’ freedom to broadband access with ISP services has any significant impact on free speech).

44. See MediaOne Group, Inc. v. County of Henrico, 97 F. Supp. 2d 712, 716-17 (E.D. Va. 2000) (discussing limits on local lawmaking under Dillon’s rule); *Portland*, 43 F. Supp. 2d at 1155 (addressing an alleged breach of franchise).

II. THE JUDICIAL BATTLE ROYALE OVER CABLE BROADBAND

What, in the eyes of the law, is cable broadband? Within ten weeks during the spring of 2000, three federal courts gave three different answers. Consistent with a 1999 district court decision in Oregon,⁴⁵ a federal district court in Virginia described broadband Internet access over cable as a "cable service."⁴⁶ Despite agreeing on the statutory classification of cable broadband, these courts divided on the underlying question of municipal authority to impose open access rules. The Oregon court upheld such authority, reasoning that it was implicit in the nature of local cable franchising. By contrast, the Virginia court negated locally imposed open access rules, inter alia, as a forbidden form of common carrier regulation. Six weeks later, the Ninth Circuit reversed the Oregon decision. Distinguishing between video programming and Internet-related services provided by cable operators, the court of appeals treated cable broadband not as a cable service but as a "telecommunications service."⁴⁷ On radically different legal theories, locally imposed open access rules in Virginia and in Oregon lay in ruins. Meanwhile, in a dispute over the Pole Attachment Act⁴⁸ and the FCC's implementing regulations,⁴⁹ the Eleventh Circuit concluded that the provision of Internet access over cable is neither a cable service nor a telecommunications service.⁵⁰ These three decisions have caught the FCC's attention and lie at the heart of the Commission's notice of inquiry into high-speed Internet access.⁵¹

I will first describe the *Henrico* decision from Virginia and the Ninth Circuit's *Portland* decision. These two decisions squarely addressed the question of whether local franchising authorities may impose open access requirements. I will then turn to the Eleventh Circuit's decision in *Gulf Power*. Admittedly, the connection between open access and the FCC's jurisdiction over utility pole attachments is somewhat tenuous, and the Eleventh Circuit rendered a palpably mistaken interpretation of the Pole

45. See *AT&T Corp. v. City of Portland*, 43 F. Supp. 2d 1146, 1153-54 (D. Or. 1999), *rev'd*, 216 F.3d 871 (9th Cir. 2000).

46. See *MediaOne Group, Inc. v. County of Henrico*, 97 F. Supp. 2d 712, 715 (E.D. Va. 2000).

47. See *AT&T Corp. v. City of Portland*, 216 F.3d 871, 878 (9th Cir. 2000).

48. 47 U.S.C. § 224 (Supp. IV 1998).

49. 47 C.F.R. §§ 1.1401-.1418 (1999).

50. *Gulf Power Co. v. FCC*, 208 F.3d 1263, 1278 (11th Cir. 2000), *cert. granted*, 121 S. Ct. 879 (2001).

51. See *In re Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities*, 15 F.C.C.R. 19,287, 19,292-93 (2000).

Attachment Act. The FCC's ratemaking power is not circumscribed by the statutory definitions of cable service and telecommunications service. In interpreting these definitions, however, *Gulf Power* exposed the weaknesses in *Henrico* and *Portland*'s approaches to the central statutory question of the open access debate. Broadband Internet access over cable fits neither the Communications Act's definition of a cable service nor the statute's definition of a telecommunications service. Because the Supreme Court has granted certiorari in *Gulf Power*, the statutory status of cable broadband may be resolved in a seemingly tangential controversy.

A. *Portland I* and *Henrico*: "Cable Service"

The district court decision in *AT&T Corp. v. City of Portland*⁵² ("*Portland I*") was the first to define cable broadband as a "cable service" for purposes of the Communications Act. In connection with its acquisition of TCI, AT&T requested municipal approval for a transfer of TCI's cable franchise in Portland, Oregon. Portland conditioned its approval on a major concession from AT&T: the new cable operator would be required to admit unaffiliated ISPs to its proprietary cable modem platform on terms no less favorable than those enjoyed by Excite@Home, an AT&T affiliate.⁵³ In a mutually beneficial litigation strategy, the parties stipulated that cable broadband should be regarded as a cable service.⁵⁴ This stipulation framed the dispute as one arising under subtitle VI of the Communications Act, which governs transmission by cable. Portland expected to exert local franchising authority over broadband access services.⁵⁵ AT&T, by contrast, expected to insulate its broadband operations from "regulation as a common carrier."⁵⁶

The U.S. District Court for the District of Oregon accepted the parties' stipulation but rejected all of AT&T's arguments.⁵⁷ In particular, the court held that Portland's open access requirement more closely resembled the regulation of essential facilities under federal antitrust law than the

52. 43 F. Supp. 2d 1146 (D. Or. 1999), *rev'd*, 216 F.3d 871 (9th Cir. 2000).

53. *See id.* at 1150.

54. *See* Christopher E. Duffy, Note, *The Statutory Classification of Cable-Delivered Internet Service*, 100 COLUM. L. REV. 1251, 1268-69 (2000) (observing that the parties' stipulation to this effect may have influenced the court's resolution of the statutory issue).

55. *See* 47 U.S.C. § 541(b)(1) (Supp. IV 1998) ("[A] cable operator may not provide cable service without a franchise.").

56. *Id.* § 541(c) ("Any cable system shall not be subject to regulation as a common carrier or utility by reason of providing any cable service.").

57. *Portland*, 43 F. Supp. 2d at 1153-54.

imposition of common carrier status.⁵⁸ The court reasoned that requiring access for competing ISPs did not constitute the forbidden imposition of “a duty to hold out facilities indifferently for public use.”⁵⁹ It further held that Portland had not imposed unlawful conditions on AT&T’s use of transmission technology or unlawful content requirements on AT&T’s provision of cable services.⁶⁰ According to the court, the city’s “content-neutral” open access requirement was not of the sort of “content-based rule” that the Communications Act removes from the reach of local franchising authorities.⁶¹

While the *Portland I* appeal remained pending in the Ninth Circuit, another federal district court also decided to treat cable broadband as a “cable service” under the Communications Act. This time, however, classification of cable broadband as a cable service eliminated local authority to mandate open access. In *MediaOne Group, Inc. v. County of Henrico*,⁶² the U.S. District Court for the Eastern District of Virginia invalidated a local open access ordinance under four provisions of the Communications Act.

First, the court held that Henrico County’s open access ordinance violated 47 U.S.C. § 541(b)(3)(D), which provides that “a franchising authority may not require a cable operator to provide any telecommunications service or facilities, other than institutional networks, as a condition of the initial grant of a franchise, a franchise renewal, or a transfer of a franchise.”⁶³ Requiring “MediaOne to provide ‘its cable modem platform’ facility to any requesting ISPs ‘unbundled from the provision of content,’” the court held, would compel the cable operator to provide “telecommunications,”⁶⁴ defined in the Communications Act as “the transmission, between or among points specified by the user, of information of the user’s

58. See *id.* at 1153 (“Requiring that a business allow its competitors access to an essential facility is not the same as regulating that business as a common carrier.”). See generally Thomas A. Piraino, Jr., *An Antitrust Remedy for Monopoly Leveraging by Electronic Networks*, 93 NW. U. L. REV. 1 (1998); John T. Soma et al., *The Essential Facilities Doctrine in the Deregulated Telecommunications Industry*, 13 BERKELEY TECH. L.J. 565 (1998); Marisa A. Piropato, Comment, *Open Access and the Essential Facilities Doctrine: Promoting Competition and Innovation*, 2000 U. CHI. LEGAL F. 369.

59. *Portland*, 43 F. Supp. 2d at 1153 (quoting *FCC v. Midwest Video Corp.*, 440 U.S. 689, 707 n.16 (1979)).

60. See *id.* at 1153 (interpreting 47 U.S.C. § 544(e), (f)(1) (Supp. IV 1998)).

61. *Id.* (quoting *United Video, Inc. v. FCC*, 890 F.2d 1173, 1189 (D.C. Cir. 1989)).

62. 97 F. Supp. 2d 712 (E.D. Va. 2000).

63. *Id.* at 714 (quoting 47 U.S.C. § 541(b)(3)(D) (Supp. IV 1998)).

64. *Id.*

choosing, without change in the form or content of the information as sent and received.”⁶⁵

Second, the *Henrico* court held that the county could not compel MediaOne “to use some kind of multiple access technology and equipment that will accommodate . . . third-party ISPs” that request interconnection with MediaOne’s cable broadband platform.⁶⁶ Such a requirement, the court held, would violate the 1996 Act’s command that “[n]o State or franchising authority may prohibit, condition, or restrict a cable system’s use of any type of subscriber equipment or any transmission technology.”⁶⁷

Third, the court held that an open access requirement would violate the Communications Act’s ban on the regulation of a cable system “as a common carrier or utility by reason of providing any cable service.”⁶⁸ “[P]rohibited common carrier regulation,” the court held, inheres in any “requirement that a cable system carry the programs or services of a specified category of users.”⁶⁹

Finally, Henrico County “impose[d] requirements regarding the provision or content of cable services” in alleged violation of 47 U.S.C. § 544(f)(1).⁷⁰ The court reasoned that an open access rule would constitute “statutory interference with programming and related decisions of cable operators.”⁷¹

In sum, though *Portland I* and *Henrico* both treated cable broadband as a cable service, these decisions stressed different aspects of the Communications Act’s cable provisions. *Portland I* emphasized the power of local governments under section 541(a) to franchise cable systems. *Henrico*, by contrast, developed four distinct limitations on that power.

B. *Portland II*: “Telecommunications Service”

The Ninth Circuit eventually reversed the district court decision in *Portland I*. The court of appeals asked initially whether Portland had the authority to subject AT&T to cable system franchising.⁷² According to 47

65. *Id.* (quoting 47 U.S.C. § 153(43) (Supp. IV 1998)).

66. *Id.* at 715.

67. *Id.* (quoting 47 U.S.C. § 544(e) (Supp. IV 1998)).

68. *Id.* (quoting 47 U.S.C. § 541(c) (Supp. IV 1998)).

69. *Id.*

70. *Id.* at 716 (quoting 47 U.S.C. § 544(f)(1) (Supp. IV 1998)).

71. *Id.* (citing *Time Warner Cable v. City of New York*, 943 F. Supp. 1357, 1367, 1399 (S.D.N.Y. 1996), *aff’d sub nom.* *Time Warner Cable v. Bloomberg L.P.*, 118 F.3d 917 (2d Cir. 1997)).

72. *See AT&T Corp. v. City of Portland*, 216 F.3d 871, 876 (9th Cir. 2000).

U.S.C. § 541(b)(1), “a cable operator may not provide cable service without a franchise.”⁷³ This requirement in turn triggers the definition of “cable service” under the Communications Act: “(A) the one-way transmission to subscribers of (i) video programming, or (ii) other programming service, and (B) subscriber interaction, if any, which is required for the selection or use of such video programming or other programming service.”⁷⁴ The court noted that “‘video programming’ means ‘programming provided by, or generally considered comparable to programming provided by, a television station.’”⁷⁵ Furthermore, the court observed, “‘other programming service’ means ‘information that a cable operator makes available to all subscribers generally.’”⁷⁶ “The essence of cable service,” the court concluded, “is one-way transmission of programming to subscribers generally.”⁷⁷

According to the court, the “interactive and individual” nature of Internet use extends far “beyond the ‘subscriber interaction’ contemplated by the [Communications Act].”⁷⁸ The court sharply distinguished between the “one-way [receipt] of cable or pay-per-view television programming” and the vastly more interactive activities of “[a]ccessing Web pages, navigating . . . hypertext links, corresponding via e-mail, and participating in live chat groups.”⁷⁹ Moreover, the court continued, “applying the carefully tailored scheme of cable television regulation to cable broadband Internet access would lead to absurd results.”⁸⁰ Many of the regulatory burdens borne by cable operators arise from the physical limits on any cable system’s capacity and the rigid, sequential nature by which channels are arranged.⁸¹ By contrast, the Internet is a potentially boundless, nonhierarchi-

73. *Id.* (quoting 47 U.S.C. § 541(b)(1) (Supp. IV 1998)).

74. *Id.* (quoting 47 U.S.C. § 522(6) (Supp. IV 1998)); *see also* 47 U.S.C. § 153(8) (Supp. IV 1998) (defining “cable service” by reference to § 522(6)).

75. *Portland*, 216 F.3d at 876 (quoting 47 U.S.C. § 522(20) (Supp. IV 1998)) (citation omitted).

76. *Id.* (quoting 47 U.S.C. § 522(14) (Supp. IV 1998)) (citation omitted).

77. *Id.*

78. *Id.*

79. *Id.*

80. *Id.* at 877.

81. *See, e.g.,* *Turner Broad. Sys., Inc. v. FCC*, 520 U.S. 180, 201-02 (1997) (describing cable operators’ incentive to disfavor signals originated by local over-the-air broadcasters); *Turner Broad. Sys., Inc. v. FCC*, 512 U.S. 632, 632-34 (1994); *Denver Area Educ. Telecommunications Consortium, Inc. v. FCC*, 518 U.S. 727, 733-36 (1996) (Breyer, J., plurality opinion) (describing differences between public access and leased access stations, two categories of channels over which cable operators exercise almost no editorial control); *cf. United States v. Playboy Entm’t Group*, 529 U.S. 803, 807-08

cally organized communications medium. Applying cable television requirements such as public access, leased access, and must-carry obligations “to a nonbroadcast medium such as the Internet” would therefore “make[] no sense in any respect, and would be infeasible in many respects.”⁸² “Surfing cable channels is one thing,” the Ninth Circuit concluded; “surfing the Internet over a cable broadband connection is quite another.”⁸³

The court then asked “whether Portland [could] condition AT&T’s provision of standard cable service upon its opening access to the cable broadband network for competing ISPs.”⁸⁴ The court recognized that “Internet access for most users consists of two separate services.”⁸⁵ First, connecting through telephone lines at the “‘point of presence’ assigned” to a “conventional dial-up ISP” constitutes “classic ‘telecommunications,’ which the Communications Act defines as ‘the transmission, between or among points specified by the user, of information of the user’s choosing, without change in the form or content of the information as sent and received.’”⁸⁶ Emphasizing how the Act treats any “provider of telecommunications services [as] a ‘telecommunications carrier,’ . . . ‘regardless of the facilities used,’”⁸⁷ the court concluded that a cable platform could support the provision of telecommunications services.

The Ninth Circuit distinguished this provision of access from “information services” supplied by ISPs.⁸⁸ The Communications Act defines an information service as “the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, or making available information via telecommunications.”⁸⁹ The court thereupon identified “two elements” in the package of services supplied by any ISP: “a ‘pipeline’ . . . and Internet service transmitted through that pipeline.”⁹⁰ “To the extent that @Home is a conventional ISP,” the court held, “its activities are that of an information service.”⁹¹ On the central question in *Portland II*,

(2000) (describing the problem of “signal bleed” from imperfectly scrambled premium channels).

82. *Portland*, 216 F.3d at 877 (quoting Nat’l Cable Television Ass’n v. FCC, 33 F.3d 66, 75 (D.C. Cir. 1994)).

83. *Id.*

84. *Id.*

85. *Id.*

86. *Id.* (quoting 47 U.S.C. § 153(43) (Supp. IV 1998)).

87. *Id.* (quoting 47 U.S.C. § 153(44), (46) (Supp. IV 1998)).

88. *See id.*

89. *Id.* (quoting 47 U.S.C. § 153(20) (Supp. IV 1998)).

90. *Id.* at 878.

91. *Id.*

however, the Ninth Circuit turned elsewhere. Observing that @Home, “unlike other ISPs, . . . controls all of the transmission facilities between its subscribers and the Internet,” the court concluded that “Internet transmission over [a] cable broadband facility” constitutes “a telecommunications service as defined in the Communications Act.”⁹²

In light of this holding, 47 U.S.C. § 541(b)(3) once again proved pivotal in eliminating local authority over open access rules for cable broadband. As *Henrico* did under a different set of statutory assumptions, *Portland II* identified a fatal breach of section 541(b)(3)’s firewall between local cable franchising and the provision of telecommunications service.⁹³ According to the Ninth Circuit, “[s]ubsection 541(b)(3) expresses both an awareness that cable operators could provide telecommunications services, and an intention that those telecommunications services be regulated as such, rather than as cable services.”⁹⁴ The court even suggested that a local open access rule would trigger the Communications Act’s provision preempting any “state or local statute or regulation . . . [that] prohibit[s] or ha[s] the effect of prohibiting the ability of any entity to provide any . . . telecommunications service.”⁹⁵

Finally, the Ninth Circuit attempted to harmonize its holding with other provisions of “the Communications Act [that] contemplate[] the provision of telecommunications services by cable operators over cable systems.”⁹⁶ By comparing open access to telecommunications carriers’ “dual duties of nondiscrimination and interconnection,” the court left little doubt that the FCC could subject cable broadband to precisely the sort of common carrier regulation that AT&T had sought to avoid throughout the *Portland* litigation.⁹⁷ The court went so far as to extol the FCC’s regulation of “DSL service, a high-speed competitor to cable broadband, as an advanced telecommunications service subject to common carrier obligations.”⁹⁸ Invoking the power of the FCC to forbear from full enforcement of its statutory authority,⁹⁹ the Ninth Circuit reaffirmed Congress’s decision to “repose[] the details of telecommunications policy in the FCC” and forswore any intention to “impinge on [the agency’s] authority over these

92. *Id.*

93. *See id.* (quoting 47 U.S.C. § 541(b)(3) (Supp. IV 1998)).

94. *Id.*

95. *Id.* (citing 47 U.S.C. § 253(a) (Supp. IV 1998)).

96. *Id.* at 879.

97. *Id.* (citing 47 U.S.C. §§ 201(a), 251(a)(1) (Supp. IV 1998)).

98. *Id.* (citing GTE Operating Cos., 13 F.C.C.R. 22,466 (1998)).

99. *See* 47 U.S.C. § 160(a) (Supp. IV 1998).

matters.”¹⁰⁰ In declining to reconsider its approval of the AT&T/MediaOne merger, the FCC took refuge in what it perceived as the Ninth Circuit’s endorsement of the agency’s record of inaction on the issue of open access.¹⁰¹

C. *Gulf Power*: Neither Cable Nor Telecommunications Service

Utility pole attachments seem an unlikely source of high-profile controversy in communications law. In the immediate aftermath of the Telecommunications Act, the fiercest battles over implementation raged over unbundled access to the local exchange,¹⁰² Bell operating company (“BOC”) entry into long-distance markets,¹⁰³ universal service,¹⁰⁴ and access charge reform.¹⁰⁵ The legal furor over open access to cable broadband facilities began in earnest with the FCC’s review of the AT&T/TCI merger¹⁰⁶ and the district court decision in *Portland I.*¹⁰⁷ In this maelstrom, the *Gulf Power* litigation at one time was perhaps best known for providing the occasion for the first judicial use of the phrase “deregulatory takings.”¹⁰⁸ A strange twist in statutory interpretation has now thrust this formerly obscure controversy into the debate over cable broadband.

100. *Portland*, 216 F.3d at 879-80.

101. See *In re MediaOne Group, Inc. & AT&T Corp.*, 15 F.C.C.R. 9816, 9822, at ¶ 11 & n.55 (2000).

102. See *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366 (1999); *Iowa Utils. Bd. v. FCC*, 219 F.3d 744 (8th Cir. 2000), *cert. granted*, 121 S. Ct. 877, 878 (2001).

103. See, e.g., *AT&T Corp. v. FCC*, 220 F.3d 607 (D.C. Cir. 2000) (affirming the FCC’s approval of a BOC’s petition to provide in-region long distance service in New York).

104. See *Texas Office of Pub. Util. Counsel v. FCC*, 183 F.3d 393 (5th Cir. 1999), *cert. denied*, 120 S. Ct. 2212, 2214, 2237 (2000), and *cert. dismissed*, 121 S. Ct. 423 (2000).

105. See *Southwestern Bell Tel. Co. v. FCC*, 153 F.3d 523 (8th Cir. 1998). See generally Thomas W. Hazlett, *Economic and Political Consequences of the 1996 Telecommunications Act*, 50 HASTINGS L.J. 1359 (1999).

106. See *In re Tele-Communications, Inc. & AT&T Corp.*, 14 F.C.C.R. 3160, 3192, 3197, 3206 (1999).

107. See *AT&T Corp. v. City of Portland*, 43 F. Supp. 2d 1146 (D. Or. 1999), *rev’d*, 216 F.3d 871 (9th Cir. 2000).

108. See *Gulf Power Co. v. United States*, 998 F. Supp. 1386, 1394-95 (N.D. Fla. 1998), *aff’d*, 187 F.3d 1324 (11th Cir. 1999); Jim Rossi, *The Irony of Deregulatory Takings*, 77 TEX. L. REV. 297, 314 (1998). For a fuller discussion of the debate over deregulatory takings, see J. GREGORY SIDAK & DANIEL F. SPULBER, DEREGULATORY TAKINGS AND THE REGULATORY CONTRACT: THE COMPETITIVE TRANSFORMATION OF NETWORK INDUSTRIES IN THE UNITED STATES (1997); William J. Baumol & Thomas W. Merrill, *Deregulatory Takings, Breach of the Regulatory Contract, and the Telecommunications Act of 1996*, 72 N.Y.U. L. REV. 1037 (1997); William J. Baumol & Thomas W. Merrill, *Does the Constitution Require That We Kill the Competitive Goose? Pricing Local Phone*

The Eleventh Circuit's decision in *Gulf Power Co. v. FCC*¹⁰⁹ involved, among other things, the FCC's "authority to regulate [utility pole] attachments for Internet service."¹¹⁰ The original Pole Attachment Act of 1978¹¹¹ enabled the FCC to regulate the rents charged by power companies, which owned ample utility poles, to cable operators, which also relied on poles but owned few of their own.¹¹² When "underground installation of . . . cables is impossible or impracticable," "[u]tility company poles provide . . . virtually the only practical physical medium for the installation of television cables."¹¹³ The Telecommunications Act of 1996 amended the Pole Attachment Act¹¹⁴ to give not only "cable television system[s]" but also "telecommunications carrier[s]" the right of "nondiscriminatory access to any pole, duct, conduit, or right-of-way owned or controlled" by a utility,¹¹⁵ except where "insufficient capacity" or "reasons of safety, reliability and generally applicable engineering purposes" dictate otherwise.¹¹⁶ The 1996 amendments also directed the FCC to set "just, reasonable and nondiscriminatory rates" for "pole attachments used by telecommunications carriers to provide telecommunications services, when the parties fail to resolve a dispute over such charges."¹¹⁷ In short, the amended statute gave two classes of carriers access to utility poles and authorized the FCC to mediate the rates, terms, and conditions under which such access should occur.

The FCC regulations implementing the 1996 amendments to the Pole Attachment Act required utility companies to provide pole access in support of broadband Internet connections over cable. The Commission adopted its subsection (d)(3) rate—designated by statute for "any pole attachment used by a cable television system solely to provide cable service"—as "the just and reasonable rate for commingled cable and Internet

Services to Rivals, 73 N.Y.U. L. REV. 1122 (1998); Jim Chen, *The Second Coming of Smyth v. Ames*, 77 TEX. L. REV. 1535 (1999); Herbert Hovenkamp, *The Takings Clause and Improvident Regulatory Bargains*, 108 YALE L.J. 801 (1999); Susan Rose-Ackerman & Jim Rossi, *Disentangling Deregulatory Takings*, 86 VA. L. REV. 1435 (2000).

109. 208 F.3d 1263 (11th Cir. 2000), *cert. granted*, 121 S. Ct. 879 (2001).

110. *Id.* at 1266.

111. Pub. L. No. 95-234, 92 Stat. 33 (1978) (codified as amended at 47 U.S.C. § 224).

112. *See generally* S. REP. NO. 95-580 (1978), *reprinted in* 1978 U.S.C.C.A.N. 109.

113. *FCC v. Florida Power Corp.*, 480 U.S. 245, 247 (1987).

114. *See* Telecommunications Act of 1996, Pub. L. No. 104-104, § 703, 110 Stat. 56, 149.

115. 47 U.S.C. § 224(f)(1) (Supp. IV 1998).

116. *Id.* § 224(f)(2).

117. *Id.* § 224(e)(1).

service.”¹¹⁸ The Commission admitted that “specifying this rate” was “intend[ed] to encourage cable operators to make Internet services to their customers.”¹¹⁹ The FCC stressed, however, that it was invoking its general mandate under subsection (b)(1) to “ensure that the rates, terms, and conditions for pole attachments . . . are just and reasonable.”¹²⁰ Though it conceded that broadband Internet access over cable was not a “telecommunications service” under the Communications Act at large, the Commission expressed no opinion on whether such service fits the statute’s definition of “cable service.”¹²¹

A divided Eleventh Circuit panel held that the Commission lacked power to set rates for pole attachments used to provide broadband Internet access over cable. The Pole Attachment Act as amended in 1996, the court reasoned, “allows the Commission to regulate the rates [solely] for cable service and telecommunications service.”¹²² “Internet service,” according to the court, “is neither.”¹²³ The court held that the “1996 Act calls for the Commission to establish two rates for pole attachments,” one for “any pole attachment used by a cable television system solely to provide cable service” and another for “charges for pole attachments used by telecommunications carriers to provide telecommunications services.”¹²⁴ “For the FCC to be able to regulate the rent for an attachment that provides Internet service,” the court reasoned, “Internet service must qualify as either a cable service or a telecommunications service.”¹²⁵

This reading of the Pole Attachment Act committed the court to interpret the Communications Act’s definitions of cable service and telecommunications service. Quoting the definition of cable service in 47 U.S.C. § 522(6), the court observed that the 1996 amendments had added two words: “or use.”¹²⁶ To repeat: since 1996, cable service has been defined

118. See *In re Implementation of Section 703(e) of the Telecommunications Act of 1996*, 13 F.C.C.R. 6777, 6794 (1998) (codified at 47 C.F.R. §§ 1.1401-.1418).

119. *Id.*

120. See *id.* (quoting 47 U.S.C. § 224(b)(1) (Supp. IV 1998)).

121. See *id.* at 6794-95.

122. *Gulf Power Co. v. FCC*, 208 F.3d 1263, 1276 (11th Cir. 2000), *cert. granted*, 121 S. Ct. 879 (2001).

123. *Id.*

124. *Id.* (quoting 47 U.S.C. § 224(d)(3), (e)(1) (Supp. IV 1998)); see also *id.* at 1276 n.29 (“The straightforward language of subsections (d) and (e) directs the FCC to establish two specific just and reasonable rates, one for cable television systems providing solely cable service and one for telecommunications carriers providing telecommunications service; no other rates are authorized.”).

125. *Id.* at 1276.

126. *Id.* (quoting 47 U.S.C. § 522(6) (Supp. IV 1998)).

as “(A) the one-way transmission to subscribers of (i) video programming, or (ii) other programming service, and (B) subscriber interaction, if any, which is required for the selection or use of such video programming or other programming service.”¹²⁷ The Eleventh Circuit also quoted what it understood to be “the only sentence in the legislative history that attempts to explain Congress’ change to the definition of ‘cable service.’”¹²⁸ Congress evidently included the words “or use” in order to “reflect[] the evolution of video programming toward interactive services.”¹²⁹ The court declined to read this “minor” addition of “two words” so as “to expand the scope of the ‘cable service’ definition from its traditional video base to include all interactive services, video and non-video.”¹³⁰ Instead, the court confined the new phrase, “or use,” to the task of “expand[ing] the definition” of cable service “to include services that cable television companies offer to their customers to allow them to interact with traditional programming.”¹³¹

The Eleventh Circuit dismissed any suggestion that cable broadband could be defined as a telecommunications service. Citing the FCC’s own pronouncements on the matter, the court concluded that “there is no statutory basis for the FCC to regulate the Internet as a telecommunications service.”¹³² In passing, the court “note[d] that the FCC itself has defined the Internet as an information service, not as a cable service.”¹³³

Dissenting from this aspect of the Eleventh Circuit’s decision, Judge Carnes argued that “the plain language” of the Pole Attachment Act “mandates the . . . conclusion” that the FCC does have “authority to regulate . . . Internet service providers.”¹³⁴ He quoted section 224(b)(1)’s direc-

127. 47 U.S.C. § 522(6) (Supp. IV 1998).

128. *Gulf Power*, 208 F.3d at 1276.

129. *Id.* (quoting H.R. REP. NO. 104-204, at 97 (1996), *reprinted in* 1996 U.S.C.C.A.N. 10, 64).

130. *Id.*

131. *Id.* at 1277.

132. *Id.* (citing *In re Implementation of Section 703(e) of the Telecommunications Act of 1996*, 13 F.C.C.R. 6777, 6795 (1998) (codified at 47 C.F.R. §§ 1.1401-1418) (“The Universal Service Order concluded that Internet service is not the provision of a telecommunications service under the 1996 Act.”); *In re Federal-State Joint Bd. on Universal Serv.*, 12 F.C.C.R. 87, 123-24 (1996) (“Internet service does not meet the statutory definition of a ‘telecommunications service.’”)).

133. *Id.* (citing *In re Federal-State Joint Bd. on Universal Serv.*, 13 F.C.C.R. 11,501, 11,533 (1998) (“Internet service providers themselves provide information services . . .”)).

134. *Id.* at 1280 (Carnes, J., concurring in part and dissenting in part). Judge Carnes agreed with the majority’s dismissal of the utility companies’ takings clause challenge. *See id.* at 1279-80.

tive that the FCC “shall regulate the rates, terms, and conditions for pole attachments to provide that such rates, terms, and conditions are just and reasonable.”¹³⁵ He emphasized the breadth of the statute’s definition of “pole attachment”: “any attachment by a cable television system or provider of telecommunications service to a pole, duct, conduit, or right-of-way owned or controlled by a utility.”¹³⁶ According to Judge Carnes, these sections in concert “require[] the FCC to ensure just and reasonable rates for all pole attachments, including those used to provide Internet service.”¹³⁷

On January 22, 2001, the Supreme Court granted certiorari.¹³⁸

III. THE PROPER CLASSIFICATION OF CABLE BROADBAND

A. The Clarifying Role of *Gulf Power*

Collectively, *Henrico*, *Portland*, and *Gulf Power* bode ill for coherence in the regulation of high-speed Internet access. *Henrico* did not cite the district court decision in *Portland I*. The two decisions managed to take opposing positions on the legality of state and local open access rules despite agreeing that cable broadband should be classified as a cable service. Although it also hinged on the statutory difference between cable and telecommunications service, *Gulf Power* similarly ignored the *Portland* litigation. Among other provisions, *Portland II* cited the Pole Attachment Act¹³⁹ but did not mention *Gulf Power*—which had been decided ten weeks earlier—even though pole attachment litigation had been raging in the Eleventh Circuit since 1998. The cable broadband trilogy of 2000 thus represents a legal battlefield “where ignorant armies clash by night.”¹⁴⁰

Of these decisions, the one that appears least directly related to the issue of open access for cable broadband platforms might carry the greatest weight. In due course, *Gulf Power* may become the case that resolves questions of regulatory authority over open access in cable broadband. Neither *Portland*, *Henrico*, nor any other case directly presenting that issue is before the Supreme Court. *Gulf Power* is.

135. *Id.* at 1279 (quoting 47 U.S.C. § 224(b)(1) (Supp. IV 1998)).

136. *Id.* (quoting 47 U.S.C. § 224(a)(4) (Supp. IV 1998)).

137. *Id.* at 1281.

138. *See* FCC v. *Gulf Power Co.*, 121 S. Ct. 879 (2001).

139. *See* AT&T Corp. v. *City of Portland*, 216 F.3d 871, 879 (9th Cir. 2000) (citing, *inter alia*, 47 U.S.C. § 224(d)(3) (Supp. IV 1998)).

140. MATTHEW ARNOLD, *Dover Beach*, in *DOVER BEACH* 9, 10 line 37 (Jonathan Middlebrook ed., 1970).

Gulf Power's potential impact on the cable broadband debate will fade with the Supreme Court's probable resolution of that controversy. The Eleventh Circuit grossly misinterpreted the Pole Attachment Act. That statute, shorn to its essentials, imposes a single duty on utility companies and grants a correlative power to the FCC. Every covered utility¹⁴¹ "shall provide a cable television system or any telecommunications carrier with nondiscriminatory access to any pole, duct, conduit, or right-of-way owned or controlled by it."¹⁴² The Act directs the FCC broadly to "regulate the rates, terms, and conditions for pole attachments to provide that such rates, terms, and conditions are just and reasonable."¹⁴³ "The term 'pole attachment,'" in turn, "means any attachment by a cable television system or provider of telecommunications service to a pole, duct, conduit, or right-of-way owned or controlled by a utility."¹⁴⁴

Both the duty to grant access to utility poles and the power to regulate pole attachment rental rates speak in terms of "cable television system[s]." Under the Communications Act, "the term 'cable system' means a facility, consisting of a set of closed transmission paths and associated signal generation, reception, and control equipment that is designed to provide cable service which includes video programming and which is provided to multiple subscribers within a community."¹⁴⁵ All that matters is that the cable facility at issue be "designed to provide cable service which includes video programming."¹⁴⁶ The use of the verb "include" in the statutory definition suggests that a cable system may provide services in addition to "video programming." Consequently, the addition of a broadband Internet access platform neither strips a "cable television system" of its right to use utility poles nor limits the FCC's power to prescribe just and reasonable rates. A "system that distributes both video and non-video communications does not necessarily disqualify itself from being a cable television system."¹⁴⁷

141. See 47 U.S.C. § 224(a)(1) (Supp. IV 1998) ("The term 'utility' means any person who is a local exchange carrier or an electric, gas, water, steam or other public utility, and who owns or controls poles, ducts, conduits, or rights-of-way used, in whole or in part, for any wire communications.").

142. *Id.* § 224(f)(1).

143. *Id.* § 224(b)(1).

144. *Id.* § 224(a)(4); see also *id.* § 224(a)(5) (excluding ILECs from the definition of "telecommunications carrier" for purposes of the Pole Attachment Act).

145. *Id.* § 522(7); see also *id.* § 153(8) (adopting the definition given in § 522(7)).

146. See *id.* § 522(7).

147. *Texas Utils. Elec. Co. v. FCC*, 997 F.2d 925, 931 (D.C. Cir. 1993); see also *id.* at 933 (upholding the FCC's power to "regulate . . . any attachment by a cable operator so long as it [is] part of its cable television system").

The exceptions from the definition of a cable system offer no escape from this conclusion. The only plausibly applicable exception among the five named in section 522(7) would require the characterization of a cable system with a high-speed Internet access platform as “a common carrier which is subject, in whole or in part to the provisions of subchapter II.”¹⁴⁸ Since subchapter II regulates telecommunications carriers, achieving this legal feat would merely sweep the cable operator back within the coverage of the Pole Attachment Act insofar as the operator had become a “provider of telecommunications service.”¹⁴⁹

As Judge Carnes indicated in his Eleventh Circuit dissent,¹⁵⁰ the *Gulf Power* majority misconstrued the significance of subsections (d)(3) and (e)(1) of the Pole Attachment Act. The Eleventh Circuit assumed that these subsections confined the FCC’s authority to pole attachments used for cable service or telecommunications service, but not other purposes. A closer look at statutory language and structure reveals that these provisions channel the FCC’s implementation of the Pole Attachment Act after its 1996 amendments, but they do not otherwise circumscribe the Commission’s jurisdiction according to hermetically sealed compartments for “telecommunications service” and for “cable service.”

Subsection (d)(1), embedded in the statute before its 1996 amendments, clarifies the meaning of “just and reasonable” rates by placing a floor beneath and a ceiling above the FCC’s ratemaking discretion:

[A] rate is just and reasonable if it assures a utility the recovery of not less than the additional costs of providing pole attachments, nor more than an amount determined by multiplying the percentage of the total usable space . . . which is occupied by the pole attachment by the sum of the operating expenses and actual capital costs . . . attributable to the entire pole, duct, conduit, or right-of-way.¹⁵¹

148. 47 U.S.C. § 522(7)(C) (Supp. IV 1998). This provision also excludes from the definition of cable system

(A) a facility that serves only to retransmit the television signals of . . . television broadcast stations; (B) a facility that serves subscribers without using any public right-of-way; . . . (D) an open video system . . . ; or (E) any facilities of any electric utility used solely for operating its electric utility system.

Id. § 522(7).

149. *Id.* § 224(a)(4).

150. *See Gulf Power Co. v. FCC*, 208 F.3d 1263, 1280-81 (11th Cir. 2000) (Carnes, J., concurring in part and dissenting in part), *cert. granted*, 121 S. Ct. 879 (2001).

151. 47 U.S.C. § 224(d)(1) (Supp. IV 1998).

Subsections (d)(3) and (e)(1) reconcile this preexisting limitation on the Commission's ratemaking power with the expansion of the Act in 1996 to cover pole attachments used for telecommunications services. Subsection (e)(1) directs the Commission, "no later than 2 years after February 8, 1996, [to] prescribe [new] regulations . . . to govern the charges for pole attachments used by telecommunications carriers to provide telecommunications services."¹⁵² Subsection (d)(3) specifies that the traditional floor-and-ceiling approach to just and reasonable rates "shall apply to the rate for any pole attachment used by a cable television system solely to provide cable service."¹⁵³ It further provides that until the FCC's new regulations on pole attachments used for telecommunications service take effect, the traditional approach "shall . . . apply to . . . any pole attachment used by a cable system or any telecommunications carrier . . . to provide any telecommunications service."¹⁵⁴

Narrower in scope than the general ratemaking mandate stated in subsection (b)(1), subsections (d)(3) and (e)(1) do no more than channel the Commission's discretion in developing a new ratemaking formula for pole attachments used in telecommunications. Contrary to the Eleventh Circuit's holding, these new subsections do not define the FCC's jurisdiction under the Pole Attachment Act strictly according to the Communications Act's definitions of "cable service" and "telecommunications service."

The relevant legislative history does not contradict the plain meaning of the 1996 amendments to the Pole Attachment Act. The FCC interpreted the pre-1996 version of the Pole Attachment Act to confer ratemaking authority over all pole attachments by cable systems, without regard to the type of service transmitted over such attachments.¹⁵⁵ In the *Texas Utilities* litigation, the Fifth Circuit upheld this interpretation of the Act.¹⁵⁶ Cable operators' entry into new lines of business created a regulatory imbalance. In amending the Pole Attachment Act, the Senate "intended to remedy the anomaly of [previous] law, under which cable systems providing telecommunications [were] able to obtain a regulated pole attachment rate . . . , while other providers of telecommunications services" were forced to pay unregulated market rates.¹⁵⁷ The House likewise decried "the inequity

152. *Id.* § 224(e)(1).

153. *Id.* § 224(d)(3).

154. *Id.*

155. See *Heritage Cablevision Assocs. of Dallas, L.P.*, 6 F.C.C.R. 7099, 7100-01 (1991), *reconsideration dismissed*, 7 F.C.C.R. 4192 (1992).

156. See *Texas Utils. Elec. Co. v. FCC*, 997 F.2d 925, 933 (D.C. Cir. 1993).

157. S. REP. NO. 103-367, at 65 (1994).

for pole attachments among providers of telecommunications services.”¹⁵⁸ But the 1996 amendments addressed the imbalance in the pole attachment market by “*expand[ing]* the definition of a ‘pole attachment’ to include attachments by all providers of telecommunications services.”¹⁵⁹ It would be truly anomalous for this amendment and its supporting provisions to restrict the FCC’s previously asserted power to set rates for cable operators’ pole attachments. Silent on *Texas Utilities*, but emphatic on extending the ratemaking reach of the FCC, the legislative history evinces no such intent.

In short, the Supreme Court can, should, and probably will reverse the Eleventh Circuit without having to decide whether the cable broadband is a cable service, telecommunications service, or neither. The Commission interpreted the Pole Attachment Act to permit regulation of the terms, conditions, and rates governing pole attachments used for cable broadband service. Of their own force, the statute’s references to “cable television system[s]” support this reading, and the legislative history favors an expansive rather than restrictive reading of the 1996 amendments. Any remaining ambiguity will be resolved in the agency’s favor.¹⁶⁰ *Gulf Power’s* significance in the open access debate lies in its conclusion that cable broadband cannot be classified as either a cable service or a telecommunications service. Although a proper interpretation of the Pole Attachment Act would have obviated the need to resolve the proper statutory classification of broadband Internet access over cable, the Eleventh Circuit correctly defined this activity as an information service once it reached the issue.

B. Laying the “Cable” Interpretation to Rest

From *Gulf Power’s* incidentally correct legal conclusion, it follows that *Henrico* and both decisions in *Portland* erred. Little if any value can be salvaged from *Henrico*. In particular, that court’s decision to equate the adoption of an open access rule with the imposition of common carrier

158. H.R. REP. NO. 104-204, at 92 (1996), *reprinted in* 1996 U.S.C.C.A.N. 10, 58; H.R. CONF. REP. NO. 104-458, at 206 (1996), *reprinted in* 1996 U.S.C.C.A.N. 124, 220; S. REP. NO. 104-230, at 206 (1996).

159. H.R. REP. NO. 104-204, at 92 (1996) (emphasis added), *reprinted in* 1996 U.S.C.C.A.N. 10, 58; H.R. CONF. REP. NO. 104-458, at 206 (1996) (emphasis added), *reprinted in* 1996 U.S.C.C.A.N. 124, 220; S. REP. NO. 104-230, at 206 (1996) (emphasis added).

160. *See* *Chevron U.S.A. Inc. v. Natural Res. Defense Council, Inc.*, 467 U.S. 837, 842-43 (1984); *Texas Utils.*, 997 F.2d at 930.

status is a double-barreled, devastating error.¹⁶¹ *Henrico* not only mischaracterized cable broadband as a cable service but also misconstrued the nature of common carrier regulation. This twofold mistake is devastating insofar as it would transform 47 U.S.C. § 541(e)'s flat command—that no cable system “be subject to regulation as a common carrier or utility by reason of providing any cable service”—into an absolute prohibition against open access requirements at any level, federal, state, or local.¹⁶²

Portland II, by contrast, is at least three-quarters correct. Although the Ninth Circuit fell short in its valiant effort to distinguish the “content” and “conduit” components of the product delivered by ISPs, the court of appeals decisively eliminated the possibility of treating cable broadband as a cable service. Much wisdom lies in the Ninth Circuit's observation that “[t]he essence of cable service . . . is one-way transmission of programming to subscribers generally.”¹⁶³ Both of the elements in this succinct formula—one-way transmission from the cable headend and the delivery of programming to subscribers as a general class—are “[c]ritical” to the definition of cable service.¹⁶⁴

The Communications Act, we should recall, defines cable service as “(A) the one-way transmission to subscribers of (i) video programming, or (ii) other programming service, and (B) subscriber interaction, if any, which is required for the selection or use of such video programming or other programming service.”¹⁶⁵ According to the Act, “the term ‘video programming’ means programming provided by, or generally comparable to programming provided by, a television broadcast station.”¹⁶⁶ Rather ironically, the type of Internet-based information that most closely resembles video programming is streaming video—the very sort of Internet-based information that most cable-based ISPs prohibit their subscribers from receiving. The term “other programming service” covers “information that a cable operator makes available to all subscribers generally.”¹⁶⁷ The definition of “cable system” similarly distinguishes between “the transmission of video programming directly to subscribers,” which is regulated as a cable service, and the provision of “interactive on-demand

161. See *MediaOne Group, Inc. v. County of Henrico*, 97 F. Supp. 2d 712, 715 (E.D. Va. 2000).

162. 47 U.S.C. § 541(c) (Supp. IV 1998).

163. *AT&T Corp. v. City of Portland*, 216 F.3d 871, 876 (9th Cir. 2000).

164. Esbin, *supra* note 26, at 88.

165. 47 U.S.C. § 522(6) (Supp. IV 1998); see also *id.* § 153(7) (adopting the definition given in § 522(6)).

166. *Id.* § 522(20).

167. *Id.* § 522(14).

services,” which is not.¹⁶⁸ As far back as 1984, Congress recognized that “unlimited keyword searches of information stored in databases”—a strikingly prescient description of Internet surfing—“goes beyond providing information retrieval and becomes a variety of data processing” outside the definition of “other programming service.”¹⁶⁹

The Telecommunications Act of 1996 added “or use” to the definition of cable service in section 522(6).¹⁷⁰ This legislative change has acquired talismanic significance out of proportion to its true meaning. AT&T relied on the phrase “or use” to undermine the FCC’s power to impose open access rules during the AT&T/TCI merger proceedings.¹⁷¹ That strategy backfired when the district court opinion in *Portland I* used this amendment to define cable broadband as a cable service within the franchising jurisdiction of state and local governments.¹⁷²

Congress evidently intended the addition of the words “or use” to “reflect[] the evolution of video programming toward interactive services.”¹⁷³ According to the conference report accompanying the 1996 Act, this amendment was intended to “reflect the evolution of cable to include interactive services such as game channels and information services made available to subscribers by the cable operator, as well as enhanced services.”¹⁷⁴ Even one commentator favoring the classification of cable broadband as a cable service concedes that “the text” of section 522(6) “arguably does not support the result the conferees intended.”¹⁷⁵ Congress failed to “delete the phrase ‘one-way transmission’ from the definition of cable services.”¹⁷⁶ Though the phrase “one-way transmission” does not

168. *Id.* § 522(7)(C).

169. H.R. REP. NO. 98-934, at 43 (1984), *reprinted in* 1984 U.S.C.C.A.N. 4655, 4680; *accord* Duffy, *supra* note 54, at 1271 (deriving further evidence against the classification of Internet access as cable service from the legislative history of the Cable Communications Policy Act of 1984, Pub. L. No. 98-549, 98 Stat. 2779 (codified as amended in scattered sections of 47 U.S.C.)).

170. *See* Telecommunications Act of 1996, Pub. L. No. 104-104, § 301(a)(1), 110 Stat. 56, 114.

171. *See In re Tele-Communications, Inc. & AT&T Corp.*, 14 F.C.C.R. 3160, 3200 (1999).

172. *See AT&T Corp. v. City of Portland*, 43 F. Supp. 2d 1146, 1153 (D. Or. 1999), *rev'd*, 216 F.3d 871 (9th Cir. 2000).

173. H.R. REP. NO. 104-204, at 97 (1996), *reprinted in* 1996 U.S.C.C.A.N. 10, 64.

174. H.R. CONF. REP. NO. 104-458, at 169 (1996), *reprinted in* 1996 U.S.C.C.A.N. 124, 182.

175. Speta, *supra* note 18, at 73; *cf. id.* at 74 (“I think that [cable broadband] services are ‘cable services’ . . .”).

176. Antonia M. Apps & Thomas M. Dailey, *Non-Regulation of Advanced Internet Services*, 8 GEO. MASON L. REV. 681, 690 (2000).

directly govern subsection (B), the term “subscriber interaction” is defined by reference to “video programming” and “other programming services.” Both of these terms appear after subsection (A)’s reference to “one-way transmission” and are therefore controlled by that phrase. *Gulf Power* correctly declined to interpret the addition of the words “or use” as “expand[ing] the scope of the ‘cable service’ definition from its traditional video base to include all interactive services, video and non-video.”¹⁷⁷

A deeper look at the legislative background reveals what Congress really intended. The conference report’s reference to “game channels” is clear enough; cable operators had already begun to offer video game services “for a flat monthly fee, much like premium cable channels such as HBO and Showtime.”¹⁷⁸ The more cryptic reference to “interactive services” must be understood in context. While Congress debated the 1996 Act, the cable industry was working to develop an interactive television technology primarily designed to enable viewers to order merchandise while watching television.¹⁷⁹ Interactive television, though frequently mocked, may yet become technologically feasible and commercially viable. If it does, conventional cable operators may well dominate the market.¹⁸⁰

Perhaps the 1996 conference report came closer to the mark than anyone imagined when it stated that the addition of the words “or use” to section 522(6) was “not intended . . . to cause dial-up access to information services over telephone lines to be classified as a cable service.”¹⁸¹ Whether accessed over narrowband phone lines or any sort of broadband connection, Internet-based communication is two-way and subscriber-specific. Those are the very characteristics that disqualify it from being classified as a cable service.¹⁸² In other words, “classifying cable-delivered Internet service as cable service is like forcing a square peg into a round hole: It just does not fit.”¹⁸³

177. *Gulf Power Co. v. FCC*, 208 F.3d 1263, 1266-67 (11th Cir. 2000), cert. granted, 121 S. Ct. 879 (2001); accord Apps & Dailey, *supra* note 176, at 690 n.50.

178. Jason Whiteley, Note, *AT&T Corp. v. Portland: Classifying “Internet over Cable” in the “Open Access” Fight*, 2000 BYU L. REV. 451, 465-66.

179. *See id.* at 465.

180. *See In re Nondiscrimination in the Distribution of Interactive Television Services over Cable*, No. 01-15, 2001 F.C.C. LEXIS 1155 (Jan. 18, 2001).

181. H.R. CONF. REP. NO. 104-458, at 169 (1996), reprinted in 1996 U.S.C.C.A.N. 124, 182.

182. H.R. REP. NO. 98-934, at 43 (1984), reprinted in 1984 U.S.C.C.A.N. 4655, 4679; accord Apps & Dailey, *supra* note 176, at 690 & n.49.

183. Duffy, *supra* note 54, at 1269.

Eliminating “cable service” as the proper statutory classification of cable broadband bars state and local authorities from demanding open access. Clarifying this legal issue prevents state and local governments from mandating open access not only under their general power to franchise cable operators,¹⁸⁴ but also under their federally guaranteed power to “prohibit[] the ownership or control of a cable system . . . in circumstances in which the State or franchising authority determines that the acquisition of such a cable system may eliminate or reduce competition in the delivery of cable service in such jurisdiction.”¹⁸⁵ Although some commentators believe that this provision could authorize open access requirements at the local level,¹⁸⁶ the power to regulate in anticipation of “eliminate[d] or reduce[d] competition” withers away once we recognize that cable broadband is not a cable service.¹⁸⁷

The vitality of *Portland II* depends on a different proposition—that cable broadband is a telecommunications service. I now turn to the task of refuting that argument.

C. An Informative Look at Telecommunications Service

“[T]he Internet is not simply a means of communication, but a conduit for transporting digitized information goods such as software, data, music, graphics, and videos. . . .”¹⁸⁸ We are now entering a transition from a market in which “most Internet service providers . . . do not provide either the local transport for their data . . . or the long-distance backbone transportation” to a market in which a single firm provides both the conduit connecting users with the Internet and the content they see when they arrive.¹⁸⁹ The economically significant boundary between conduit and content separates the twin cash registers of a cable-based ISP.¹⁹⁰ *Portland II* relied on the difference between content and conduit when it distinguished between “Internet service” and the “pipeline” through which such service is con-

184. 47 U.S.C. § 541(b)(1) (Supp. IV 1998) (“a cable operator may not provide cable service without a franchise”); *cf. id.* § 544(a) (“Any franchising authority may not regulate the services, facilities, and equipment provided by a cable operator except to the extent consistent with this subchapter.”).

185. *Id.* § 533(d)(2).

186. See Marcus Maher, Comment, *Cable Internet Unbundling: Local Leadership in the Deployment High Speed Access [sic]*, 52 FED. COMM. L.J. 211, 235-36 (1999); Rider, *supra* note 43, at 406-09.

187. See Whiteley, *supra* note 178, at 482.

188. Dan L. Burk, *Federalism in Cyberspace*, 28 CONN. L. REV. 1095, 1125-26 (1996).

189. Apps & Dailey, *supra* note 176, at 688.

190. See Rubinfeld & Singer, *supra* note 6, at 600.

veyed.¹⁹¹ The Ninth Circuit gave this distinction legal significance by classifying the provision of content as “information service” while treating “Internet transmission over [a] cable broadband facility” as “a telecommunications service.”¹⁹²

This facile distinction would open the door to full-blown FCC regulation of cable broadband, including the imposition of common carrier regulation.¹⁹³ This argument’s awesome breadth explains why the Ninth Circuit invited the FCC to consider the use of its forbearance authority¹⁹⁴ and why the Commission has solicited comments on the use of this power.¹⁹⁵ Of course, the FCC can invoke its forbearance authority only insofar as the Communications Act or the Commission’s implementing regulations apply “to a telecommunications carrier or telecommunications service, or class of telecommunications carriers or telecommunications services.”¹⁹⁶

Only two things foreclose the Ninth Circuit’s conclusion that the provision of access to the Internet over a cable platform is a telecommunications service. One of them is the Communications Act. The other is the FCC’s application of that statute to ISPs.

The Communications Act defines “information service” as “the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing.”¹⁹⁷ The term “does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.”¹⁹⁸ Not once, not twice, but three times the statute takes pains to distinguish information services from telecommunications.

By contrast, “telecommunications” is defined as “the transmission, between or among points specified by the user, of information of the user’s choosing, without change in the form or content of the information as sent and received.”¹⁹⁹ “The term ‘telecommunications service’ means the offering of telecommunications for a fee directly to the public . . . regardless of

191. AT&T Corp. v. City of Portland, 216 F.3d 871, 878 (9th Cir. 2000).

192. *Id.*

193. *See id.* at 879.

194. *See id.* at 879-80 (citing 47 U.S.C. § 160(a) (Supp. IV 1998)).

195. *See In re Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities*, 15 F.C.C.R. 19,287, 19,307-08 (2000).

196. 47 U.S.C. § 160(a) (Supp. IV 1998).

197. *Id.* § 153(20).

198. *Id.*

199. *Id.* § 153(43).

the facilities used.”²⁰⁰ Although “any provider of telecommunications services” is a “telecommunications carrier,” a “telecommunications carrier shall be treated as a common carrier . . . only to the extent that it is engaged in providing telecommunications services.”²⁰¹

The boundary between information and telecommunications service predates the Telecommunications Act of 1996. The Bell breakup decree restricted the newly divested BOCs from providing “information services,” which were defined as “the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information which may be conveyed via telecommunications.”²⁰² The decree confined the BOCs primarily to the business of “providing telephone service among parties within each local exchange and granting access to the exchanges to [independent] long-distance carriers.”²⁰³ The BOCs eventually secured a waiver of the information services restriction.²⁰⁴ Though there never was more than an “amorphous risk that the Bell companies, in their zeal to diversify, will neglect relatively pedestrian . . . operations” in favor of “more glamorous, albeit more speculative, business[es],”²⁰⁵ the information services restriction was the only line-of-business provision of the Bell breakup decree that Judge Harold Greene relaxed during his twelve-year tenure as the de facto chief commissioner of American telecommunications.²⁰⁶

The Bell breakup decree’s category of information services “substantially overlap[ped], but [was] not identical to, the FCC’s [definition of] ‘enhanced services.’”²⁰⁷ That category consisted of “services . . . which

200. *Id.* § 153(46).

201. *Id.* § 153(44).

202. *United States v. Am. Tel. & Tel. Co.*, 552 F. Supp. 131, 229 (D.D.C. 1982), *aff’d mem. sub nom. Maryland v. United States*, 460 U.S. 1001 (1983), *terminated by Telecommunications Act of 1996*, Pub. L. No. 104-104, § 601(a)(1), 110 Stat. 56, 143-44, *reprinted in* 47 U.S.C. § 152 note (Supp. IV 1998); *see also United States v. W. Elec. Co.*, 569 F. Supp. 1057 (D.D.C.), *aff’d mem. sub nom. California v. United States*, 464 U.S. 1013 (1983).

203. *Illinois Bell Tel. Co. v. FCC*, 988 F.2d 1254, 1257 (D.C. Cir. 1993).

204. *See United States v. W. Elec. Co.*, 993 F.2d 1572 (D.C. Cir.), *cert. denied*, 510 U.S. 984 (1993).

205. *United States v. W. Elec. Co.*, 673 F. Supp. 525, 599 (D.D.C. 1987), *aff’d in part, rev’d in part*, 900 F.2d 283 (D.C. Cir.), *cert. denied*, 498 U.S. 911 (1990).

206. *See generally* Joseph D. Kearney, *From the Fall of the Bell System to the Telecommunications Act: Regulation of Telecommunications Under Judge Greene*, 50 HASTINGS L.J. 1395 (1999) (tracing the history and the enduring legal significance of the Bell breakup decree); Glen O. Robinson, *The Titanic Remembered: AT&T and the Changing World of Telecommunications*, 5 YALE J. ON REG. 517 (1988).

207. *California v. FCC*, 905 F.2d 1217, 1226 & n.13 (9th Cir. 1990).

employ computer processing applications [that] . . . act on the format, content, code, protocol or similar aspects of the subscriber's transmitted information, or provide the subscriber additional, different or restructured information, or involve subscriber interaction with stored information."²⁰⁸ The distinction between "basic" and "enhanced" helped the FCC patrol the boundary between "regulated common carrier communications services, which consist largely of plain old telephone service ("POTS"), and unregulated data processing services which use the telephone network to convey information from remote computers to customers' terminals."²⁰⁹

The 1996 amendments transformed the administrative category of "enhanced service" into the legislative category of "information service."²¹⁰ Today's ISPs are but a subclass of the "enhanced service providers" that "offer[ed] data processing services," often by "linking customers and computers via the telephone network."²¹¹ Time and again, the FCC has placed Internet access on the "information" side of the divide, not the "telecommunications" side. For example, in a report on universal service, the Commission stated that "Internet access services are appropriately classified as information, rather than telecommunications, services," because "Internet access providers do not offer a pure transmission path; they combine computer processing, information provision, and other computer-mediated offerings with data transportation."²¹² Just as consistently as it has declined to adopt open access rules for cable broadband, the Commission has declared that Internet access cannot be defined as a telecommunications service,²¹³ much less regulated as common carriage.²¹⁴

208. *In re* Amendment of Section 64.702 of the Commission's Rules and Regulations (Second Computer Inquiry), 77 F.C.C.2d 384, 387 (1980) (codified at 47 C.F.R. § 64.702(a)).

209. *California v. FCC*, 905 F.2d at 1223 n.3. For subsequent developments in the FCC's struggle to tame "enhanced" services, see *California v. FCC*, 4 F.3d 1505 (9th Cir. 1993); *California v. FCC*, 39 F.3d 919 (9th Cir. 1994), *cert. denied*, 514 U.S. 1050 (1995); *California v. FCC*, 75 F.3d 1350 (9th Cir. 1996). On the difference between POTS and PANS ("pretty amazing new services"), see HENK BRANDS & EVAN T. LEO, *THE LAW AND REGULATION OF TELECOMMUNICATIONS CARRIERS* 703 (1999).

210. See *In re* Federal-State Joint Bd. on Universal Serv., 13 F.C.C.R. 11,501, 11,520 (1998); *Inter-Carrier Compensation for ISP-Bound Traffic*, 14 F.C.C.R. 3689, 3689 n.1 (1999), *vacated on different grounds*, *Bell Atlantic Tel. Cos. v. FCC*, 206 F.3d 1 (D.C. Cir. 2000).

211. *Bell Atlantic*, 206 F.3d at 7; see also *MCI Telecomms. Corp. v. FCC*, 57 F.3d 1136, 1138 (D.C. Cir. 1995) (identifying ISPs as a subclass of the older category of enhanced service providers).

212. *In re* Federal-State Joint Bd. on Universal Serv., 13 F.C.C.R. at 11,536.

213. See, e.g., *In re* Implementation of Section 703(e) of the Telecommunications Act of 1996, 13 F.C.C.R. 6777, 6795 (1998); *In re* Access Charge Reform, 12 F.C.C.R.

Basic service, or “pure transmission over a communications path,”²¹⁵ eventually became “telecommunications service” under the Telecommunications Act of 1996.²¹⁶ This category cannot overlap with the definition of “information service.” The 1996 Act, after all, defines telecommunications as “the transmission . . . of information . . . *without change* in [its] form or content.”²¹⁷ No ISP can meet this stringent statutory test. Even the least intrusive of ISPs supplies some modest measure of information caching, if only to overcome limitations on available bandwidth.²¹⁸ Indeed, every deviation from strict end-to-end transmission moves an ISP away from the statutory definition of telecommunications and toward the definition of information service. “[I]f the user can receive nothing more than pure transmission, the service is telecommunications service. If the user can receive enhanced functionality, such as manipulation of information and interaction with stored data, the service is an information service.”²¹⁹

Function, not form, dictates the statutory classification of Internet access; the “nature of the service” and not the technological basis for delivery is the central inquiry.²²⁰ The exception proves the rule: in some rare instances, Internet services are in fact telecommunications. Internet telephony is the paradigmatic example of a telecommunications service provided through the Internet.²²¹

Finally, excluding cable broadband from the definition of telecommunications service clarifies the meaning of 47 U.S.C. § 541(b)(3). Despite disagreeing on the statutory classification of cable broadband, *Henrico* and

15,982, 16,131 n.498 (1997); *In re Federal-State Joint Bd. on Universal Serv.*, 12 F.C.C.R. 87, 123-24 (1996); *In re Implementation of the Non-Accounting Safeguards of Sections 271 and 272 of the Communications Act of 1934*, 11 F.C.C.R. 21,905, 21,955-56 (1996). See generally Esbin, *supra* note 26, at 40.

214. See *Howard v. Am. Online, Inc.*, 208 F.3d 741, 752 (9th Cir. 2000).

215. *In re Amendment of Section 64.702 of the Commission's Rules and Regulations (Second Computer Inquiry)*, 77 F.C.C.2d at 420.

216. See Apps & Dailey, *supra* note 176, at 687.

217. 47 U.S.C. § 153(43) (Supp. IV 1998) (emphasis added).

218. See I. Trotter Hardy, *Computer RAM "Copies": Hit or Myth? Historical Perspectives on Caching as a Microcosm of Current Copyright Concerns*, 22 U. DAYTON L. REV. 423, 436 (1997).

219. *In re Federal-State Joint Bd. on Universal Serv.*, 13 F.C.C.R. 11,501, 11,530 (1998).

220. *Id.*

221. *Id.* at 11,544. See generally Robert M. Frieden, *Dialing for Dollars: Should the FCC Regulate Internet Telephony?*, 23 RUTGERS COMPUTERS & TECH. L.J. 47 (1997); Seth A. Cohen, Note & Comment, *Deregulating, Defragmenting and Interconnecting: Reconsidering Commercial Telecommunications Regulation in Relation to Internet Telephony*, 18 J.L. & COM. 133 (1998).

Portland II both relied on this section to preempt a local open access rule. *Portland II* stressed the statutory guarantee that “a cable operator [that] . . . is engaged in the provision of telecommunications services . . . shall not be required to obtain a franchise.”²²² *Henrico* emphasized that “a franchising authority may not require a cable operator to provide any telecommunications service or facilities . . . as a condition of the initial grant of a franchise, a franchise renewal, or a transfer of a franchise.”²²³

Congress, however, scarcely imagined that section 541(b)(3) would apply in a circumstance resembling cable broadband. The legislative history of the Telecommunications Act of 1996 suggests that Congress meant to facilitate cable operators’ entry into the market for local telephone carriage.²²⁴ Throughout its deliberations, Congress consistently envisioned cable operators as “meaningful facilities-based competition” for local telephone companies.²²⁵ No other set of assumptions can explain why Congress worked so diligently to restrict the cross-ownership of cable operators and local exchange carriers²²⁶ by erecting “one of the strongest forms of structural separation in the entire 1996 Act.”²²⁷

Internet access over cable facilities is neither cable service nor telecommunications service under the Communications Act of 1934. Of the statutory definitions made available by the Telecommunications Act of 1996, information service seems to provide the best fit. The sole remaining statutory question involves the authority *vel non* of the FCC to regulate an activity that is neither cable service nor telecommunications service.

D. Toward Sui Generis Classification—and FCC Authority

The amount of attention devoted to the statutory definitions of cable, telecommunications, and information services has obscured the hidden wealth of the Communications Act. Contrary to the impression that this Article has conveyed so far, federal communications law is studded with

222. 47 U.S.C. § 541(b)(3)(A)(i) (Supp. IV 1998); see *AT&T Corp. v. City of Portland*, 216 F.3d 871, 878 (9th Cir. 2000).

223. 47 U.S.C. § 541(b)(3)(D) (Supp. IV 1998); see *MediaOne Group, Inc. v. County of Henrico*, 97 F. Supp. 2d 712, 714 (E.D. Va. 2000).

224. See H.R. REP. NO. 104-204, at 93 (1996), reprinted in 1996 U.S.C.C.A.N. 10, 60; Whiteley, *supra* note 178, at 479-80.

225. H.R. CONF. REP. 104-458, at 148 (1996), reprinted in 1996 U.S.C.C.A.N. 124, 160; accord Jim Chen, *Titanic Telecommunications*, 25 SW. U. L. REV. 535, 561-62 (1996).

226. See 47 U.S.C. § 572 (Supp. IV 1998). See generally Michael Botein, *Cable/Telco Mergers and Acquisitions: An Antitrust Analysis*, 25 SW. U. L. REV. 569 (1996).

227. Chen, *supra* note 20, at 1523.

definitions that fit ISPs—narrowband and broadband—far more appropriately than the definitions of cable, telecommunications, and information services. In its effort to provide a safe harbor for the blocking and screening of offensive materials, the Communications Decency Act defines an interactive computer service as “any information service, system, or access software provider that provides or enables computer access by multiple users to a computer server, including specifically a service or system that provides access to the Internet.”²²⁸ Several courts have defined America Online as an interactive computer service,²²⁹ one has gone so far as to hold that this classification and common carriage are mutually exclusive.²³⁰ The Child Online Protection Act of 1998 defines the “term ‘Internet access service’ [as] a service that enables users to access content, information, electronic mail, or other services over the Internet,” including “access to proprietary content, information, and . . . services.”²³¹ Notably, “[s]uch term does not include telecommunications services.”²³² The Internet Tax Freedom Act of 1998 adopts an almost identical definition of Internet access service.²³³

None of these definitions, however, unequivocally authorizes the FCC to issue open access rules in all branches of the market for broadband Internet services. In the quest for such a grant of jurisdiction, commentators have focused on two potential sources of law.²³⁴ First, section 706 of the Telecommunications Act of 1996 instructs the Commission to “encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans” through “price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulatory methods that remove

228. 47 U.S.C. § 230(f)(2) (Supp. IV 1998).

229. See, e.g., *Zeran v. Am. Online, Inc.*, 129 F.3d 327, 330 n. 2 (4th Cir. 1997); *Blumenthal v. Drudge*, 992 F. Supp. 44, 49-50 (D.D.C. 1998). See generally David R. Sheridan, *Zeran v. AOL and the Effect of Section 230 of the Communications Decency Act upon Liability for Defamation on the Internet*, 61 ALB. L. REV. 147 (1997).

230. See *Am. Online, Inc. v. Greatdeals.net*, 49 F. Supp. 2d 851, 855-56 (E.D. Va. 1999).

231. 47 U.S.C. § 231(e)(4) (Supp. IV 1998), *enjoined*, *ACLU v. Reno*, 217 F.3d 162 (3d Cir. 2000).

232. *Id.*

233. See Pub. L. No. 105-277, Div. C, Title XI, § 1101(e)(3)(D), 112 Stat. 2681, 2681-719 (1998) (codified as a note to 47 U.S.C. § 151 (Supp. IV 1998)).

234. See Steven A. Augustino, *The Cable Open Access Debate: The Case for a Wholesale Market*, 8 GEO. MASON L. REV. 653, 675-77 (2000); Esbin, *supra* note 26, at 99, 117 n.77; Duffy, *supra* note 54, at 1267-68, 1275; Whiteley, *supra* note 178, at 483-88.

barriers to infrastructure investment.”²³⁵ For purposes of section 706, the “term ‘advanced telecommunications capability’” means, “without regard to any transmission media or technology . . . high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications.”²³⁶ Any authority granted to the FCC under section 706, however, is concurrently awarded authority to “[s]tate commission[s] with regulatory jurisdiction over telecommunications services.”²³⁷ This provision may therefore lack the preemptive effect of other means for asserting FCC jurisdiction.²³⁸

The definition of advanced telecommunications capability readily embraces broadband access to the Internet over cable. What is less clear is whether an open access rule would fall within any of the four prongs of jurisdiction granted under section 706. Open access bears no resemblance to “price cap regulation.” Moreover, affirmatively requiring the operator of a cable broadband platform to deal with unaffiliated ISPs would be the antithesis of “regulatory forbearance.”

The full weight of this statutory claim therefore falls upon the third and fourth prongs of section 706. Open access most comfortably fits within section 706’s authorization of “measures that promote competition in the local telecommunications market.” Some difficulty arises from the language of the fourth prong: “other regulatory methods that remove barriers to infrastructure investment.” One could plausibly argue that *all* measures authorized by section 706 must “remove barriers to infrastructure investment.” The Supreme Court has occasionally endorsed such an “across-the-board” reading of a condition following the last item in a series. In *United States v. Bass*,²³⁹ for example, the Court confronted a statute that punished “[a]ny person who . . . receives, possesses, or transports in commerce or affecting commerce [any] firearm.”²⁴⁰ The *Bass* majority construed “the phrase ‘in commerce or affecting commerce’” to be an element “of all three offenses.”²⁴¹ It seems silly, however, to subject price cap regulation to a requirement that it “remove barriers to infrastructure

235. Telecommunications Act of 1996, Pub. L. No. 104-104, § 706(a), 110 Stat. 56, 153 (codified as a note to 47 U.S.C. § 157 (Supp. IV 1998)).

236. *Id.* § 706(c).

237. *Id.* § 706(a).

238. See Whiteley, *supra* note 178, at 488; cf. Maher, *supra* note 186, at 236-37 (arguing that section 706 should sustain state and local power to impose open access requirements).

239. 404 U.S. 336 (1971).

240. 18 U.S.C. § 1202(a) (1994).

241. 404 U.S. at 347.

investment.” At best the condition is redundant; courts and regulators routinely praise price caps for their ability to reduce the law’s tendency to distort the investment incentives of regulated firms.²⁴² Moreover, even if such a requirement governed all four jurisdictional prongs of section 706, an open access rule would arguably satisfy it. The entire debate focuses on the impact of open access or its absence on private incentives to invest in broadband infrastructure. The requirement of “remov[ing] barriers to infrastructure investment” should therefore be confined to the fourth and final item in section 706. The last antecedent rule prevails in the request, “I would like to have a cat, a dog, or a cow that jumps over the moon.”²⁴³ That rule of construction should also govern section 706.

In addition to section 706, the FCC may issue an open access rule for cable broadband platforms under any of several general grants of rulemaking power. The Communications Act embraces “all interstate and foreign communication by wire or radio and all interstate and foreign transmission of energy by radio.”²⁴⁴ The FCC correspondingly enjoys “a comprehensive mandate . . . [with] not niggardly but expansive powers.”²⁴⁵ Under 47 U.S.C. § 154(i), the “Commission may perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with [the Communications Act], as may be necessary in the execution of its functions.”²⁴⁶ Section 201(b), at the head of the Act’s subchapter on common carriers, declares that the “Commission may prescribe such rules and regulations as may be necessary in the public interest to carry out the provisions of this chapter.”²⁴⁷ The Supreme Court “think[s] that the grant in § 201(b) means what it says: The FCC has rulemaking authority to carry out the ‘provisions of this Act’”²⁴⁸ Finally, 47 U.S.C. § 303(r) gives the Commission power to “[m]ake such rules and regulations and prescribe such restrictions and conditions, not inconsistent with law, as may be necessary to carry out the provisions of this chapter.”²⁴⁹ In unison, these provisions authorize the Commission to issue regulations “reasona-

242. See, e.g., *Nat’l Rural Telecom Ass’n v. FCC*, 988 F.2d 174, 178 (D.C. Cir. 1993).

243. *Bass*, 404 U.S. at 352 (Blackmun, J., dissenting).

244. 47 U.S.C. § 152(a) (Supp. IV 1998).

245. *Nat’l Broad. Co. v. United States*, 319 U.S. 190, 219 (1943); accord *United States v. Southwestern Cable Co.*, 392 U.S. 157, 173 (1968).

246. 47 U.S.C. § 154(i) (Supp. IV 1998).

247. *Id.* § 201(b).

248. *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 378 (1999).

249. 47 U.S.C. § 303(r) (Supp. IV 1998).

bly ancillary to the effective performance of [its] various responsibilities.”²⁵⁰

IV. CHANGES IN ATTITUDE, CHANGES IN LATITUDE

Before comprehensive reform of communications law in 1996, touting the convergence of “telecommunications technologies and media” was the field’s favorite “trivial ritual.”²⁵¹ Developments since 1996 have added an equally popular, equally empty gesture: trashing the Telecommunications Act. “It would be gross understatement,” the Supreme Court itself has complained, “to say that the Telecommunications Act of 1996 is not a model of clarity.”²⁵² “[F]or a piece of legislation that profoundly affects a crucial segment of the economy worth tens of billions of dollars,” the Telecommunications Act is allegedly “in many important respects a model of ambiguity or indeed self-contradiction.”²⁵³ On the question of open access for cable broadband platforms, however, the Act speaks clearly enough. The FCC has the power to demand open access in all segments of the market for broadband Internet services.

The FCC should equalize the regulatory treatment of DSL and cable broadband. There is no need to prove that the regulatory treatment of the leading methods of high-speed Internet access is as conspicuously uneven as the asymmetrical regulation at issue in *FCC v. Beach Communications, Inc.*²⁵⁴ In that case the failure to subject a satellite master antenna television system to cable franchising requirements sparked a minor constitu-

250. *United States v. Southwestern Cable Co.*, 392 U.S. 157, 178 (1968).

251. Thomas G. Krattenmaker & L.A. Powe, Jr., *Converging First Amendment Principles for Converging Communications Media*, 104 YALE L.J. 1719, 1719 (1995).

252. *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 397 (1999); *accord* *MCI Telecomms. Corp. v. U.S. West Communications*, 204 F.3d 1262, 1266 (9th Cir. 2000); *Pacific Bell v. Cook Telecom, Inc.*, 197 F.3d 1236, 1244 n.3 (9th Cir. 1999); *Puerto Rico Tel. Co. v. Telecomms. Regulatory Bd.*, 189 F.3d 1, 19 (1st Cir. 1999); *Sprint Spectrum, L.P. v. Willoth*, 176 F.3d 630, 641 (2d Cir. 1999); *Michigan Bell Tel. Co. v. MCI Metro Access Transmission Servs., Inc.*, 128 F. Supp. 2d 1043, 1050 (E.D. Mich. 2001); *AT&T Communications of the Southwest, Inc. v. Southwestern Bell Tel Co.*, 86 F. Supp. 2d 932, 939 (W.D. Mo. 1999), *rev'd in part and vacated in part sub nom.* *Southwestern Bell Tel. Co. v. Missouri Pub. Serv. Comm'n*, 236 F.3d 922 (8th Cir. 2001).

253. *Iowa Utils. Bd.*, 525 U.S. at 397; *accord, e.g.*, *Texas Office of Pub. Util. Counsel v. FCC*, 183 F.3d 393, 449 (5th Cir. 1999); *Bell Atlantic-Pa., Inc. v. Pennsylvania Pub. Util. Comm'n*, 107 F. Supp. 2d 653, 655 (E.D. Pa. 2000); *see also* *Aegerter v. Delafield*, 174 F.3d 886, 887 (7th Cir. 1999) (describing the Act as the ambiguous product of a “complex balancing act among many conflicting” interests); *BellSouth Telecomms., Inc. v. MCI Metro Access Transmission Servs., Inc.*, 97 F. Supp. 2d 1363, 1368 (N.D. Ga. 2000) (describing the Act as a “quagmire”).

254. 508 U.S. 307 (1993).

tional crisis until the Supreme Court restored order to the D.C. Circuit's analysis of equal protection claims. Rather, bolstered by the "intuitive appeal" of equalizing the regulatory status of cable and DSL as the leading modes of broadband Internet access,²⁵⁵ the FCC can require open access to cable-based Internet platforms on the strength of multiple rulemaking mandates.

Open access matters, not only as a matter of static equity, but also as a matter of innovation and dynamic economic development.²⁵⁶ "An architecture that maximizes the opportunity for innovation maximizes innovation."²⁵⁷ Reluctant to seize the regulatory initiative over cable broadband, the FCC has argued that its policy of "unregulation" has fostered much of the growth and innovation attributable to the Internet.²⁵⁸ This assertion has no basis in fact. "Policy intervention, not 'unregulation,' [has] forced network incumbents to open their networks to [the] new entrants"²⁵⁹ who fueled much of the growth in the U.S. high-technology sector and in the American economy at large throughout the 1990s.²⁶⁰ The Internet is a far cry from an object lesson in the virtues of laissez-faire economics; much of the wealth accumulated in the Internet owes its origins to a systematic policy of favoring Internet use.²⁶¹ ISPs are simultaneously exempt from

255. Howard A. Shelanski, *The Speed Gap: Broadband Infrastructure and Electronic Commerce*, 14 BERKELEY TECH. L.J. 721, 743 n.99 (1999).

256. See generally Mark A. Lemley & Lawrence Lessig, *Open Access to Cable Models*, 22 WHITTIER L. REV. 3 (2000). Cf. Julian Epstein, *A Lite Touch on Broadband: Achieving the Optimal Regulatory Efficiency in the Internet Broadband Market*, 38 HARV. J. ON LEGIS. 37 (2001) (urging legislative reform of the Communications Act to prevent the loss of innovation that results from the "tipping" of communications media to a uniform standard).

257. Mark A. Lemley & Lawrence Lessig, *The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era*, 48 UCLA L. REV. 925, 938 (2001). See generally LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* (1999).

258. See JASON OXMAN, *THE FCC AND THE UNREGULATION OF THE INTERNET* 6 (1999) (FCC, Working Paper No. 31, 1999), available at http://www.fcc.gov/Bureaus/OPP/working_papers/oppwp31.pdf.

259. François Bar et al., *Access and Innovation Policy for the Third-Generation Internet*, 24 TELECOMM. POL'Y 489, 494 (2000).

260. For evidence that the inflation-free growth experienced by the United States during the 1990s may represent a fundamental and enduring economic change, see ANDREA BASSANINI, *KNOWLEDGE, TECHNOLOGY AND ECONOMIC GROWTH: RECENT EVIDENCE FROM OECD COUNTRIES* (2000); U.S. DEP'T OF COMMERCE, *ECONOMICS & STATISTICS ADMIN., DIGITAL ECONOMY 2000* (2000). See generally CARL SHAPIRO & HAL R. VARIAN, *INFORMATION RULES* (1999) (describing the rules of the "New Economy").

261. See Steve Bickerstaff, *Shackles on the Giant: How the Federal Government Created Microsoft, Personal Computers, and the Internet*, 78 TEX. L. REV. 1, 53-55, 82-

interstate access charges²⁶² and eligible to receive reimbursement from the Universal Service Fund for the below-cost component of Internet access prices charged to schools, libraries, and rural health-care providers.²⁶³ These decisions privilege ISPs over “all other players in the telecommunications industry.”²⁶⁴ These modest advantages pale in comparison with the massive infrastructural support that the federal government gave to the networks that became the Internet.²⁶⁵

One objection to open access for cable broadband is legal in nature. The other is rooted in policy. Neither withstands closer scrutiny.

Opponents of open access criticize it as a badge and incident of common carrier regulation. Cable operators evidently fear that their relationship with ISPs will resemble certain aspects of their video programming business. Vis-à-vis the unaffiliated programmers who are entitled by law to lease a certain number of channels, cable operators “act less like editors . . . than like common carriers, such as telephone companies.”²⁶⁶ But open access is not the same as common carriage.²⁶⁷ Admittedly, the Telecommunications Act offers little help. It tautologically defines “‘common carrier’ or ‘carrier’ . . . [as] any person engaged as a common carrier for hire.”²⁶⁸ Absent meaningful statutory guidance, courts and regulators have adopted a functional definition of common carriage.²⁶⁹ Any “particular [communications] system” qualifies as a common carrier solely “by virtue of its functions,” and not according to “the regulatory goals” that the FCC “seeks to achieve.”²⁷⁰ The Supreme Court’s 1979 decision in *FCC v.*

85 (1999). For further discussion of the interaction between government and private standard-setting organizations, see Philip J. Weiser, *Internet Governance, Standard-Setting, and Self-Regulation*, 28 N. KY. L. REV. (forthcoming 2001).

262. See *Southwestern Bell Tel. Co. v. FCC*, 153 F.3d 423, 541-44 (8th Cir. 1998).

263. See *Tex. Office of Pub. Util. Counsel v. FCC*, 183 F.3d 393, 445-46 (5th Cir. 1999).

264. Chen, *supra* note 20, at 1532.

265. See generally, e.g., Michael A. Geist, *The Reality of Bytes: Regulating Economic Activity in the Age of the Internet*, 73 WASH. L. REV. 521, 525-30 (1998); Maureen A. O'Rourke, *Fencing Cyberspace: Drawing Borders in a Virtual World*, 82 MINN. L. REV. 609, 615-19 (1998).

266. *Denver Area Educ. Telecomms. Consortium, Inc. v. FCC*, 518 U.S. 727, 739 (1996) (Breyer, J., plurality opinion).

267. See generally Ridder, *supra* note 43, at 409-12.

268. 47 U.S.C. § 153(10) (Supp. IV 1998).

269. See, e.g., *FCC v. Midwest Video Corp.*, 440 U.S. 689, 701 n.10 (1979); *Frontier Broad. Co. v. Collier*, 24 F.C.C. 251, 254 (1958).

270. *Nat'l Ass'n of Regulatory Util. Comm'rs v. FCC*, 525 F.2d 630, 644 (D.C. Cir.), *cert. denied*, 425 U.S. 992 (1976); accord *Comstock & Butler, supra* note 38, at 7.

*Midwest Video Corp.*²⁷¹ clarified the meaning of common carriage “in the communications context.”²⁷² According to *Midwest Video*, a common carrier “makes a public offering to provide [communications facilities] whereby all members of the public who choose such facilities may communicate or transmit intelligence of their own design and choosing.”²⁷³

The filing of tariffs and accession in the setting of just and reasonable rates by a governmental agency are two of the traditional indicia of common carriage.²⁷⁴ Open access demands neither. Nor does it require collocation of equipment or interconnection at a special place in a cable broadband platform.²⁷⁵ Cable operators would retain the freedom “to set reasonable terms and conditions in private negotiations” with ISPs, “as long as the same terms and conditions they grant to their affiliates are available to nonaffiliate[s].”²⁷⁶ Interconnection and nondiscrimination, two concepts often associated with common carrier status, are present. Those factors alone, however, do not constitute common carriage.

Nor does open access hinge upon the imposition of common carrier status. Antitrust law routinely requires monopolists to deal with rivals on nondiscriminatory terms.²⁷⁷ Although antitrust and public utility regulation

271. 440 U.S. 689 (1979).

272. *Id.* at 701.

273. *Id.* (quoting *Indus. Radiolocation Serv.*, 5 F.C.C.2d 197, 202 (1966)).

274. *Cf. id.* at 702 (observing that the FCC’s unlawful cable access rules “delimit[ed] what operators may charge for access and use of equipment”). “The tariff-filing requirement,” in particular, is “the heart of the common-carrier section of the Communications Act.” *MCI Telecomms. Corp. v. Am. Tel. & Tel. Co.*, 512 U.S. 218, 229 (1994). *See generally* *Maislin Indus., U.S., Inc. v. Primary Steel, Inc.*, 497 U.S. 116, 126-29 (1990) (discussing the centrality of the filed rate doctrine to the regulation of common carriers).

275. Lemley & Lessig, *supra* note 257, 969; *cf.* 47 U.S.C. § 251(c)(6) (Supp. IV 1998) (requiring incumbent local exchange carriers to facilitate “physical collocation of equipment necessary for interconnection or access to unbundled network elements” unless “physical collocation is not practical for technical reasons or because of space limitations”); *cf.* *Bell Atlantic Tel. Cos. v. FCC*, 24 F.3d 1441, 1446-47 (D.C. Cir. 1994) (rejecting pre-1996 collocation rules on the grounds that the FCC lacked the authority under the Communications Act of 1934 to condemn a carrier’s property and reassign it to a competitor).

276. Mark Cooper, *Open Access to the Broadband Internet: Technical and Economic Discrimination in Closed, Proprietary Networks*, 71 U. COLO. L. REV. 1011, 1023 (2000).

277. *See, e.g.*, *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985); *Otter Tail Power Co. v. United States*, 410 U.S. 366 (1973); *United States v. Terminal R.R. Ass’n*, 224 U.S. 383 (1912); *cf.* *Lorain Journal Co. v. United States*, 342 U.S. 143 (1951) (punishing a monopolist for refusal to deal with a competitor’s customers). These decisions, I hasten to note, are the exception rather than the rule. Antitrust law ordinarily permits a firm to declare the terms and conditions under which it will buy and

represent dramatically different approaches to the similar economic problems,²⁷⁸ “regulatory and antitrust principles are, in fact, complementary.”²⁷⁹ If anything, simply requiring a carrier to interconnect with its competitors, much less on nondiscriminatory terms, is alien to the common law understanding of common carriage.²⁸⁰

To be sure, DSL carriage *is* subject to common carrier obligations.²⁸¹ But this classification flows more from the historical posture of telecommunications regulation than from anything inherent in the definition of common carriage. An open access regime for DSL is also justified by the telephone companies’ sorry record of deployment. Despite having possessed DSL technology since the late 1980s, incumbent local exchange carriers were loath to roll out DSL service because this broadband technology would cannibalize the phone companies’ lucrative side business of selling T1 broadband service to businesses.²⁸² In any event, the regulation of DSL under a common carrier model does not dictate that open access for cable proceed on identical legal terms. Even though the Ninth Circuit’s decision in *Portland I* had apparently authorized the Commission to subject cable broadband to the rules governing common carriage,²⁸³ FCC Chairman William Kennard immediately retreated from any suggestion that “[this] service [would be] subject to all the common carrier regulations that apply to telephone companies.”²⁸⁴

sell, at least in the absence of a showing of monopoly power. *See United States v. Colgate & Co.*, 250 U.S. 300, 307 (1919).

278. *See generally* Jim Chen, *Regulatory Education and Its Reform*, 16 YALE J. ON REG. 145, 147-49 (1999) (contrasting the legal legacies of the Interstate Commerce Act of 1887 and the Sherman Act of 1890).

279. *Midland Telecasting Co. v. Midessa Tel. Co.*, 617 F.2d 1141, 1148 (5th Cir. 1980) (finding “no repugnancy . . . between . . . FCC carriage rules and antitrust principles”); *accord* Ridder, *supra* note 43, at 411.

280. *See The Express Package Cases*, 118 U.S. 1 (1886).

281. *GTE Operating Cos.*, 13 F.C.C.R. 22,466 (1998).

282. *See* LATHEN, *supra* note 4, at 27; William P. Rogerson, *The Regulation of Broadband Telecommunications, the Principle of Regulating Narrowly Defined Input Bottlenecks, and Incentives for Investment and Innovation*, 2000 U. CHI. LEGAL F. 119, 140-41 & n.27 (2000).

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

284. Kennard Press Release, *supra* note 33, *quoted in* Apps & Dailey, *supra* note 176, at 693; *cf.* *National Ass’n of Regulatory Util. Comm’rs v. FCC*, 533 F.2d 601, 608 (D.C.Cir.1976) (“Since it is clearly possible for a given entity to carry on many types of activities, it is at least logical to conclude that one can be a common carrier with regard to some activities but not others.”); *McDonnell Douglas Corp. v. Gen. Tel. Co.*, 594 F.2d 720, 725 n.3 (9th Cir.1979).

The Telecommunications Act's provisions facilitating telephone company entry into video programming demonstrate that legal obligations to deal with competitors do not of their own force impose common carrier status. "Open video systems" operated by telephone companies must comply with special antidiscrimination rules designed to curb self-preference and cross-subsidization.²⁸⁵ One such rule prevents the "operator . . . and its affiliates from selecting the video programming services for carriage on more than one-third of the activated channel capacity on [the] system" whenever "demand exceeds the [system's] channel capacity."²⁸⁶ Despite this preference for competitors, the Telecommunications Act takes care to distinguish video programming over an open video system from "common carriage of video traffic."²⁸⁷ Open video systems can bear one obligation to deal with competitors while enjoying an exemption from other interconnection obligations associated with common carrier status.²⁸⁸ Indeed, open video systems are freed from numerous regulatory burdens—including leased access, public access, and mandatory carriage obligations—that other cable systems must discharge.²⁸⁹ These are the very burdens borne by a class of regulated entities to whom the Communications Act extends the promise of freedom from "regulation as a common carrier."²⁹⁰

Suffice it to say that an open access rule, standing alone, does not transform the operator of a cable broadband platform into a common carrier.²⁹¹ The FCC long ago declared that "the term 'common carriers' . . .

285. See 47 U.S.C. § 573(b) (Supp. IV 1998). See generally Glen O. Robinson, *The New Video Competition: Dances with Regulators*, 97 COLUM. L. REV. 10, 16 (1997) (examining the legal requirements governing open video systems).

286. 47 U.S.C. § 573(b)(1)(B) (Supp. IV 1998).

287. Compare *id.* § 572(a)(2) (outlining legal obligations of "a common carrier [that] provid[es] transmission of video programming on a common carrier basis") with *id.* § 571(a)(3) (outlining the legal obligations for open video systems, which presumptively "provid[e] video programming . . . in [a] manner other than that described in" § 571(a)(2)); see also *id.* § 571(a)(4) (providing that a common carrier of video traffic may elect instead to follow the rules governing open video systems).

288. See *id.* § 571(b) (exempting a "local exchange carrier that provides cable service through an open video system" from common carrier obligations "to make capacity available on a nondiscriminatory basis to any other person for the provision of cable service directly to subscribers").

289. See *id.* § 573(c). See generally Denver Area Educ. Telecomms. Consortium, Inc. v. FCC, 518 U.S. 727, 733-36 (1996) (Breyer, J., plurality opinion).

290. 47 U.S.C. § 541(c) (Supp. IV 1998).

291. See Ridder, *supra* note 43, at 311 (observing that a single requirement such as open access does not necessarily "constitute 'regulation as a common carrier'").

does not include ISPs.”²⁹² Nothing in the Commission’s notice of inquiry on high-speed Internet access or any other legal document hints at a reversal of this policy. The archaic cable-law precedent that illuminates the contemporary controversy over cable broadband is not the definition and condemnation of common carriage in *Midwest Video*,²⁹³ but rather the initial endorsement of FCC jurisdiction over cable in *Southwestern Cable*.²⁹⁴ The decision that launched contemporary federal regulation of the cable industry, *Southwestern Cable*, authorized any FCC action that is “reasonably ancillary to the effective performance of [its] various responsibilities.”²⁹⁵ In a field as dynamic as communications in general and Internet communications in particular,²⁹⁶ courts will seek to maximize “the flexib[ility] . . . of federal regulatory agencies to industries in transition.”²⁹⁷ “[R]egulatory measures,” after all, “are temporary expedients, not eternal verities.”²⁹⁸

The policy-based argument against open access fares no better. The strongest defense of the unregulated status quo is the preservation of incumbents’ incentives to roll out cable broadband.²⁹⁹ In practice, however, this argument translates directly into a plea that cable operators cannot re-

292. *In re Non-Accounting Safeguards*, 11 F.C.C.R. 21,905, 22,034 (1996) (citing 47 U.S.C. § 153(10) (Supp. IV, 1998)); *accord In re Federal-State Joint Bd. on Universal Serv.*, 12 F.C.C.R. 87, 479 (1996); *see also* *Howard v. Am. Online, Inc.*, 208 F.3d 741, 753 (9th Cir. 2000) (“AOL is not a common carrier under the Communications Act.”); *CompuServe, Inc. v. Cyber Promotions, Inc.*, 962 F. Supp. 1015, 1025 (S.D. Ohio 1997) (“[ISPs] have been held not to be common carriers.”); *Religious Tech. Center v. Netcom On-Line Communication Servs., Inc.*, 907 F. Supp. 1361, 1369 n.12 (N.D. Cal. 1995) (holding that an ISP is not a common carrier).

293. *See FCC v. Midwest Video Corp.*, 440 U.S. 689, 700-01 (1979) (holding that FCC rules requiring a cable company to reserve four channels for use by unaffiliated broadcasters violated an implicit norm against regulating cable operators as common carriers).

294. *See United States v. Southwestern Cable Co.*, 392 U.S. 157 (1968). *See generally* Jim Chen, *The Last Picture Show (On the Twilight of Federal Mass Communications Regulation)*, 80 MINN. L. REV. 1415, 1459-64 (1996).

295. *Southwestern Cable*, 392 U.S. at 178.

296. *See, e.g.*, *MCI Telecomms. Corp. v. Am. Tel. & Tel. Co.*, 512 U.S. 218, 235 (1994) (Stevens, J., dissenting); *Nat’l Broad. Co. v. United States*, 319 U.S. 190, 219 (1943); *FCC v. Pottsville Broad. Co.*, 309 U.S. 134, 138 (1940); *Phila. Tel. Broad. Co. v. FCC*, 359 F.2d 282, 284 (D.C. Cir. 1966).

297. Jim Chen, *TELRIC in Turmoil, Telecommunications in Transition: A Note on the Iowa Utilities Board Litigation*, 33 WAKE FOREST L. REV. 51, 80-81 (1998).

298. *FPC v. East Ohio Gas Co.*, 338 U.S. 464, 489 (1950) (Jackson, J., dissenting).

299. *See Shelanski, supra* note 255, at 739; Christopher S. Yoo, *Vertical Restraint Theory and Media Regulation in the New Economy*, 19 YALE J. ON REG. (forthcoming 2002).

coup their investment in broadband facilities unless they are permitted to exclude nonaffiliated ISPs and charge all that the market can bear.³⁰⁰ An extreme, even bizarre variation on this argument posits that cable operators should be allowed to restrict ISP choice so that other broadband modes will become more attractive by comparison.³⁰¹ The underlying assumption that cable operators have no incentive to discriminate against nonaffiliated providers of content and Internet access³⁰² is contradicted by sophisticated econometrics³⁰³ and by simple empirical observations. Already we are witnessing cable-affiliated ISPs ban the downloading of streaming videos of any substantial length.³⁰⁴ Cable operators, so it seems, will go to any length to shelter the revenues they derive from premium channels.

Accumulated experience with open access in another segment of the broadband market undermines the cable industry's complaints. Contrary to the ILECs' argument that open access rules for DSL have retarded that technology,³⁰⁵ DSL rollout has proceeded apace under full-blown common carrier regulation.³⁰⁶ Seen in this light, the argument that cable operators be allowed to restrict their subscribers' choice among ISPs in order to optimize the Internet's performance is reminiscent of the old Bell System's relentless battle against "foreign attachments."³⁰⁷ The cable companies' recitation of "technical reasons" is no more persuasive than Bell's stun-

300. See Speta, *supra* note 18, at 87; James B. Speta, *The Vertical Dimension of Cable Open Access*, 71 U. COLO. L. REV. 975, 995 (2000); Phil Weiser, *Competing Paradigms in Telecommunications Regulation*, 71 U. COLO. L. REV. 819, 830 (2000).

301. See Daniel Shih, *Open Access or Forced Access: Should the FCC Impose Open Access on Cable-Based Internet Service Providers?*, 52 ADMIN. L. REV. 793, 807 (2000).

302. See, e.g., Speta, *supra* note 18, at 84-85; Speta, *supra* note 300, at 1007.

303. See Rubinfeld & Singer, *supra* note 6, at 35-42.

304. See *id.* at 12-18 (describing the economics of producing streaming content deliverable over high-speed Internet connections).

305. See, e.g., Tele-Communications, Inc. & AT&T Corp., 14 F.C.C.R. 3160, 3188-89, 3197-98, 3202 (1999). See generally Thomas M. Jorde, J. Gregory Sidak & David J. Teece, *Innovation, Investment, and Unbundling*, 17 YALE J. ON REG. 1 (2000).

306. See Lemley & Lessig, *supra* note 257, at 961 n.102.

307. See, e.g., Jordaphone, Inc., 18 F.C.C. 644, 671 (1954); Hush-a-Phone Corp., 20 F.C.C. 391, 420 (1955) (concluding that the Hush-a-Phone was "deleterious to the telephone system" and that, in general, "telephone equipment should be supplied by and under control of the carrier") *rev'd*, 238 F.2d 266 (D.C. Cir. 1956); *In re* Use of the Carterfone Device in Message Toll Tel. Servs., 13 F.C.C.2d 420 (1968). See generally Jim Chen, *The Legal Process and Political Economy of Telecommunications Reform*, 97 COLUM. L. REV. 835, 843-44 (1997).

ning claim that a rubber attachment to a telephone mouthpiece would damage the national telephone network.³⁰⁸

Continued inaction on cable broadband reinforces the impression that federal communications law has learned nothing from its experience with the Bell divestiture. The restructuring of local and long-distance telephone markets sparked "an unprecedented flowering of innovation."³⁰⁹ In today's market for broadband Internet access, asymmetrical regulation threatens to retard intermodal competition. Much of the growth in DSL is attributable to the efforts of a single ISP: America Online.³¹⁰ Once merged with Time Warner, AOL will no longer have such a strong incentive to promote high-speed alternatives to cable broadband.³¹¹

These are the precise grounds on which the Federal Trade Commission ("FTC") based its consent order in the AOL/Time Warner merger.³¹² For the next five years, the combined firm has agreed to allow its subscribers a choice of at least three nonaffiliated ISPs offering Internet access over a cable broadband platform. The order's five-year term, described by FTC chairman Robert Pitofsky as "the shortest duration of [any] competition order," reflects "the uncertainty of developments in" broadband markets and "the dynamic quality of innovation."³¹³ The combined firm has also committed to continue offering DSL as an alternative mode of broadband access, and it has promised not to interfere in the delivery of Internet content or interactive television by independent suppliers. Perhaps one should not make too much of the FCC's relative passivity vis-à-vis the FTC; after all, the FCC is completing its fifth consecutive decade of forgoing its power to enforce the Clayton Act.³¹⁴ The FTC did not hesitate to fashion

308. See *Hush-a-Phone Corp. v. United States*, 238 F.2d 266, 269 (D.C. Cir. 1956) (describing the overly broad tariff provisions against foreign attachments as "an unwarranted interference with the telephone subscriber's right reasonably to use his telephone in ways which are privately beneficial without being publicly detrimental").

309. *United States v. W. Elec. Co.*, 890 F. Supp. 1, 9 (D.D.C. 1995), *vacated as moot*, 84 F.3d 1452 (D.C. Cir. 1996).

310. See *Cooper*, *supra* note 276, at 1040-41.

311. See *id.* at 1041.

312. See *In re Am. Online, Inc. & Time Warner Inc.*, No. C-3989, 2000 F.T.C. LEXIS 170 (Dec. 14, 2000).

313. Robert Pitofsky, *Antitrust and Intellectual Property: Unresolved Issues at the Heart of the New Economy*, 16 BERKELEY TECH. L.J. 535 (2001).

314. Compare 15 U.S.C. § 21(a) (2000) (empowering the FCC to enforce the Clayton Act "where applicable to common carriers engaged in wire or radio communication or radio transmission of energy") with James R. Weiss & Martin L. Stern, *Serving Two Masters: The Dual Jurisdiction of the FCC and the Justice Department over Telecommunications Transactions*, 6 COMMLAW CONSPECTUS 195, 198 (1998) (declaring that a review of the FCC's record in reviewing mergers had "not found a case in the last forty

an open access rule when confronted with a combination of Time Warner's media and cable empire with AOL's dominant posture in the market for online services. To the extent that any merger involving a common carrier within the FCC's jurisdiction may "substantially . . . lessen competition, or . . . tend to create a monopoly,"³¹⁵ the FCC's antitrust enforcement powers are no less robust, at least in theory, than those of the FTC.

One kernel of the FCC's "unregulation" policy nevertheless retains its vitality. No court has conclusively upheld—and the FCC has not encouraged—the power of state and local governments to impose a patchwork of open access laws across the nation. As in an earlier age when cable was the ascendant technology for the delivery of video programming, "only federal pre-emption of state and local regulation can assure cable systems the breathing space necessary to expand vigorously."³¹⁶ As it adjusts its own approach to high-speed Internet access over cable, the FCC would do well to issue an "authoritative . . . determination that" broadband Internet services are "best left *unregulated* by the states."³¹⁷

Certainty, always a rare commodity in the law of economic regulation, has proved frustratingly elusive in the cable broadband debate. The daunting complexity of telecommunications law has undermined the ability of the FCC and reviewing courts to fashion a cogent approach toward rationalizing the market for high-speed Internet access. The line between broadcasting and common carriage, once technologically and legally clear, has blurred beyond recognition.³¹⁸ Cable broadband falls into the fissure between cable services and telecommunication services, and the Commission's authority to issue rules regarding this market is anything but intuitively

years where the Commission proceeded under the Clayton Act"). See generally Rachel E. Barkow & Peter W. Huber, *A Tale of Two Agencies: A Comparative Analysis of FCC and DOJ Review of Telecommunications Mergers*, 2000 U. CHI. LEGAL F. 29.

315. 15 U.S.C. § 18 (Supp. IV 1998).

316. *Capital Cities Cable, Inc. v. Crisp*, 467 U.S. 691, 708 (1984); accord *Duffy*, *supra* note 54, at 1279.

317. *Arkansas Power Elec. Coop. Corp. v. Arkansas Pub. Serv. Comm'n*, 461 U.S. 375, 384 (1983); accord, e.g., *Transcontinental Gas Pipe Line Corp.*, 474 U.S. 409, 422 (1986); cf. 47 U.S.C. § 230(b)(2) (Supp. IV 1998) ("It is the policy of the United States . . . to preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services, unfettered by Federal or State regulation.")

318. See generally Howard A. Shelanski, *The Bending Line Between Conventional "Broadcast" and Wireless "Carriage"*, 97 COLUM. L. REV. 1048 (1997). See also Frank H. Easterbrook, *Statutes' Domain*, 50 U. CHI. L. REV. 533, 537-39 (1983) (illustrating the problem of statutory applicability through a description of the regulation of cable operators under a Communications Act originally drafted to "regulate[] the practices of radio and television broadcasts").

tively clear. Once again regulation's "embarrassing question[s]"³¹⁹ have exposed telecommunications law and its cousins as "the most speculative undertaking[s] . . . in the history of [Anglo-American] jurisprudence."³²⁰

In short, "neither law nor economics has yet devised generally accepted standards for the evaluation" of regulatory success.³²¹ In governing the Internet and formulating communications law at large, we routinely "wager our salvation upon some prophecy based upon imperfect knowledge."³²² Wisdom begins with the recognition that "the body of the law" regulating telecommunications, "at any time or place, is an unstable mass in precarious equilibrium."³²³ For the moment, and perhaps no longer, that equilibrium consists of one statutory truth and one rule of thumb. The FCC does have the authority to require open access to all cable-based broadband platforms. And mindful that the law owes incumbent monopolists no indemnification "against the risks of changing technology and new entrants,"³²⁴ the Commission should unflinchingly adopt an open access regime. Timely intervention in the flawed market for high-speed Internet access would help fulfill the Telecommunication Act's as yet unrealized promise to "promote competition and reduce regulation," "secure lower prices and higher quality services . . . and encourage the rapid deployment of new telecommunications technologies."³²⁵

319. *Smyth v. Ames*, 169 U.S. 466, 546 (1898); *accord Duquesne Light Co. v. Barasch*, 488 U.S. 299, 308 (1989).

320. *West v. Chesapeake & Potomac Tel. Co.*, 295 U.S. 662, 689 (1935) (Stone, J., dissenting).

321. *Permian Basin Area Rate Cases*, 390 U.S. 747, 790 (1968).

322. *Abrams v. United States*, 250 U.S. 616, 630 (1919) (Holmes, J., dissenting).

323. GRANT GILMORE, *THE AGES OF AMERICAN LAW* 110 (1977).

324. Jim Rossi, *The Irony of Deregulatory Takings*, 77 *TEX. L. REV.* 297, 316 (1998).

325. Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, pmb. at 56.

V. STATUTORY APPENDIX: SELECTED PROVISIONS OF THE COMMUNICATIONS ACT OF 1934, AS AMENDED BY THE TELECOMMUNICATIONS ACT OF 1996

(All citations are to 47 U.S.C. unless otherwise indicated)

A. Definitions and Other General Provisions

§ § 153(7), 522(6): “[T]he term ‘cable service’ means—(A) the one-way transmission to subscribers of (i) video programming, or (ii) other programming service, and (B) subscriber interaction, if any, which is required for the selection or use of such video programming or other programming service”

§ 522(14): “The term ‘other programming service’ means information that a cable operator makes available to all subscribers generally”

§ 522(20): “[T]he term ‘video programming’ means programming provided by, or generally considered comparable to programming provided by, a television station.”

§ § 153(8), 522(7): “[T]he term ‘cable system’ means a facility, consisting of a set of closed transmission paths and associated signal generation, reception, and control equipment that is designed to provide cable service which includes video programming and which is provided to multiple subscribers within a community, but such term does not include (A) a facility that serves only to retransmit the television signals of . . . television broadcast stations; (B) a facility that serves subscribers without using any public right-of-way; (C) a common carrier which is subject, in whole or in part to the provisions of subchapter II . . . ; (D) an open video system . . . ; or (E) any facilities of any electric utility used solely for operating its electric utility system”

§ 153(10): “The term ‘common carrier’ or ‘carrier’ means any person engaged as a common carrier for hire, in interstate or foreign communication by wire or radio or interstate or foreign radio transmission of energy . . . ; but a person engaged in radio broadcasting shall not, insofar as such person is so engaged, be deemed a common carrier.”

§ 153(20): “The term ‘information service’ means the offering of a capability for generating, acquiring, storing, transforming, processing, retriev-

ing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.”

§ 153(43): “The term ‘telecommunications’ means the transmission, between or among points specified by the user, of information of the user’s choosing, without change in the form or content of the information as sent and received.”

§ 153(44): “The term ‘telecommunications carrier’ means any provider of telecommunications services A telecommunications carrier shall be treated as a common carrier only to the extent that it is engaged in providing telecommunications services”

§ 153(46): “The term ‘telecommunications service’ means the offering of telecommunications for a fee directly to the public . . . regardless of the facilities used.”

B. Pole Attachment Act

§ 224(a)(1): “The term ‘utility’ means any person who is a local exchange carrier or an electric, gas, water, steam or other public utility, and who owns or controls poles, ducts, conduits, or rights-of-way used, in whole or in part, for any wire communications.”

§ 224(a)(4): “The term ‘pole attachment’ means any attachment by a cable television system or provider of telecommunications service to a pole, duct, conduit, or right-of-way owned or controlled by a utility.”

§ 224(b)(1): “[T]he Commission shall regulate the rates, terms, and conditions for pole attachments to provide that such rates, terms, and conditions are just and reasonable”

§ 224(d)(1): “For purposes of [§ 224(b)], a rate is just and reasonable if it assures the utility the recovery of not less than the additional costs of providing pole attachments, nor more than an amount determined by multiplying the percentage of the total usable space . . . which is occupied by the pole attachment by the sum of the operating expenses and actual capital costs . . . attributable to the entire pole, duct, conduit, or right-of-way.”

§ 224(d)(3): “This subsection shall apply to the rate for any pole attachment used by a cable television system solely to provide cable service.

Until the effective date of the regulations required under [§ 224(e)], this subsection shall also apply to . . . any pole attachment used by a cable system or any telecommunications carrier . . . to provide any telecommunications service.”

§ 224(e)(1): “The Commission shall, no later than 2 years after February 8, 1996, prescribe regulations . . . to govern the charges for pole attachments used by telecommunications carriers to provide telecommunications services, when the parties fail to resolve a dispute over such charges. Such regulations shall ensure that a utility charges just, reasonable, and nondiscriminatory rates for pole attachments.”

§ 224(f)(1): “A utility shall provide a cable television system or any telecommunications carrier with nondiscriminatory access to any pole, duct, conduit, or right-of-way owned or controlled by it.”

C. Cable Provisions

§ 541(b)(1): “[A] cable operator may not provide cable service without a franchise.”

§ 541(b)(3)(A)(i): “[A] cable operator [that] . . . is engaged in the provision of telecommunications services . . . shall not be required to obtain a franchise.”

§ 541(b)(3)(D): “[A] franchising authority may not require a cable operator to provide any telecommunications service or facilities, other than institutional networks, as a condition of the initial grant of a franchise, a franchise renewal, or a transfer of a franchise.”

§ 541(c): “Any cable system shall not be subject to regulation as a common carrier or utility by reason of providing any cable service.”

§ 544(a): “Any franchising authority may not regulate the services, facilities, and equipment provided by a cable operator except to the extent consistent with this subchapter.”

§ 544(e): “No State or franchising authority may prohibit, condition, or restrict a cable system’s use of any type of subscriber equipment or any transmission technology.”

§ 544(f)(1): “Any Federal agency, State, or franchising authority may not impose requirements regarding the provision or content of cable services, except as expressly provided in this subchapter.”

D. Miscellaneous Provisions

Communications Decency Act of 1996, 47 U.S.C. § 230(f)(2): “The term ‘interactive computer service’ means any information service, system, or access software provider that provides or enables computer access by multiple users to a computer server, including specifically a service or system that provides access to the Internet.”

Child Online Protection Act of 1998, 47 U.S.C. § 231(e)(4); *cf.* Internet Tax Freedom Act of 1998, § 1101(f)(2)(B): “The term ‘Internet access service’ means a service that enables users to access content, information, electronic mail, or other services over the Internet, and may also include access to proprietary content, information, and other services as part of a package of services offered to consumers. Such term does not include telecommunications services.”

§ 154(i): “The Commission may perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with this chapter, as may be necessary in the execution of its functions.”

§ 201(b): “The Commission may prescribe such rules and regulations as may be necessary in the public interest to carry out the provisions of this chapter.”

§ 303(r): “[T]he Commission from time to time, as public convenience, interest, or necessity requires, shall— . . . [m]ake such rules and regulations and prescribe such restrictions and conditions, not inconsistent with law, as may be necessary to carry out the provisions of this title.”

INNOVATION, UNCERTAINTY, AND STABILITY IN ANTITRUST LAW

By David McGowan[†]

ABSTRACT

This Article discusses challenges courts face in assessing antitrust claims in which a party alleges that a defendant's conduct limited the rate or extent of innovation. The Article first establishes that we know little about the optimal length and scope of intellectual property protection, or about the relationship between market structure and innovation. Uncertainty on these points makes it difficult to predict the economic consequences of decisions in antitrust cases in which a defendant who possesses intellectual property rights is alleged to have harmed innovation.

The Article then briefly surveys the history of the Sherman Act and the Cellar-Kefauver Amendments to the Clayton Act. The history of the former suggests that Congress failed to resolve conflicts among economic interests affected by the antitrust laws, leaving such a resolution to the courts. The history of the latter suggests that Congress eventually chose to use merger policy to protect small firms. The Supreme Court tried to implement this policy choice in merger cases during the 1960s. The Court ultimately failed to create a body of cases that satisfied the minimum standards of common-law adjudication, however. In particular, the Court was unable to decide cases using reasons that lawyers and clients could apply to future transactions with reasonable reliability. The interests of particular firms were not a reliable proxy for the interests of consumers, or social welfare generally, and the Court eventually had to return to a more context-based approach.

The Article draws a limited analogy between the merger cases of the 1960s and the problem courts face in innovation cases. Both types of cases require projections about future market conditions. Though economic analysis and antitrust policy have evolved significantly since the merger cases of the 1960s, innovation cases will require courts to take into account the interests of particular firms or institutions whose innovative work is alleged to have been harmed through anticompetitive acts.

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Without particular innovators to provide concrete evidence of the alleged harm, innovation cases are likely to be unmanageable. Courts must therefore take such interests into account without returning to a version of antitrust policy that seeks to protect particular firms.

The Article offers several recommendations to assist in this effort. The first is that courts should not attempt to use the antitrust laws to limit the economic power Congress has granted in intellectual property rights. In practical terms, this means that unilateral, unconditional refusals to license protected works should not be held to be a violation of the antitrust laws. Joint or conditional refusals should be subject to antitrust scrutiny where the facts warrant it. Courts should also interpret antitrust laws to advance the goal of maximizing total surplus, also to reduce the chance of doctrinal conflicts between the antitrust and intellectual property laws.

In addition, in all but exceptional cases courts should require evidence of harm to innovation generally, rather than only to particular firms. In considering the question of causation in monopoly maintenance cases, courts should take into account the structure of the market, the type of claim advanced, and the feasibility of tailored remedies. The degree to which technology facilitates transitions among products and product generations is also relevant to such claims. Last, remedies in antitrust innovation cases should be tailored to reflect market structure and the strength of the evidence on causation.

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I. INTRODUCTION

What should we do when we are not sure what to do? With slight variations, this question could describe many of the choices lawyers and judges must make. Uncertainty about the consequences of judicial decisions is the norm, not the exception. Dealing with such uncertainty is at the heart of the relationship between antitrust law and innovation in intellectual property markets. In greatly simplified terms, there are two ways of looking at this problem.

The first way to approach the problem is to focus on how little we know either about the returns necessary to induce investment in creative works or the market structure most congenial to innovation. We do not know the optimal term or scope of the patent or copyright laws.¹ Congress has decided that some protection, implying the possibility of some market power, is necessary to give persons and firms the incentive to create and market works. Some of these works will be innovations.

Absent intellectual property protection, other firms could free ride on the innovator's work.² For much intellectual property, most costs are incurred in perfecting the initial copy of the work. Copying the original is cheap, implying low marginal costs and also implying that free-riding would be easy, possibly undercutting incentives to innovate. Intellectual property has also traditionally been classified as a public good; intellectual property rights provide the legal basis for excluding others from a creator's work, which in turn allows the creator to charge for the work.³

Probably no single term or scope of rights is best for the wide range of works covered by the relevant intellectual property statutes. We do not know enough about each category of works to derive multiple optimal

1. In this context, optimal intellectual property rights are those for which the term and scope are such that the marginal gains in creative work exceed the marginal social costs of excluding the public from access to innovative work plus the administrative costs of the rights system.

2. ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 12-13 (2d ed. 2000).

3. *Id.*

terms, however, and laws must be enforced by administrators and judges. A menu of different terms would create problems of classification, increase the cost of administration, and decrease the certainty of the return structure from the perspective of a potential investor. These effects would increase the risk associated with work protected by intellectual property rights and thereby reduce investment. Uncertainty on these topics is probably going to persist.

Nor are we certain about which market structure best facilitates innovation.⁴ Schumpeter argued persuasively that some market power is necessary for innovation.⁵ Innovation requires investment. Competition increases the riskiness of the investment by reducing the probability of successful exploitation. Market power enables innovators to reap significant returns from investment, coordinate work and the use of the innovation, and have a ready source of capital (retained earnings) to fund research and development ("R&D"). All this allows the innovator with market power to amortize R&D costs and align investment incentives and returns.

In contrast, Arrow argued persuasively that competition promotes innovation better than monopoly.⁶ Monopolists may resist innovation that would supplant their monopoly. Firms in competitive markets maximize profits at higher levels of output than monopolists, thereby spreading the benefits of innovation more broadly through society. Other analysts, such as F.M. Scherer, have argued that monopolists prefer incremental innovation to radical improvement, and tend to innovate mostly in reaction to new ideas from smaller firms.⁷ On balance, as Gilbert and Sunshine say,

4. Opinions vary on how much progress a work must embody before it is considered an innovation, or even creative enough to warrant intellectual property protection. Debates over what level of progress is necessary for a work to receive intellectual property protection highlight a point made more fully in Part III.C.1: antitrust and intellectual property laws rest on different methodologies. Antitrust has no tools to measure what amount of progress is necessary to justify the social costs of intellectual property protection. In this Article, I use innovation broadly, to refer both to incremental advances over existing technology and radical improvements in existing technology. In both cases, the term designates the creation of new capabilities or steps that allow for the more efficient use of existing capabilities.

5. JOSEPH A. SCHUMPETER, *CAPITALISM, SOCIALISM AND DEMOCRACY*, ch. VIII (3d ed. 1950).

6. Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in *THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS* 609 (1962).

7. E.g., F.M. Scherer, *Antitrust, Efficiency, and Progress*, 62 N.Y.U. L. REV. 998 (1987). For a recent survey of the debate, see Richard J. Gilbert & Stephen C. Sunshine, *Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets*, 63 ANTITRUST L.J. 569, 574-81 (1995).

theories of the relationship between market structure and innovation “provide a wide range of predictions, making it difficult to make strong conclusions The impact of competition on innovation furthermore depends on many firm and industry-specific factors that complicate the task of making such predictions.”⁸

By focusing on our lack of knowledge, this first approach implies minimalist antitrust enforcement. Because antitrust is about market structure, and the manner in which property rights are exploited, ignorance of how these variables are related to innovation is fatal to intelligent analysis. Courts might arrive at correct decisions, but it would be through luck rather than determinate analysis. Judges (or juries) also might be wrong, which would reduce welfare by prohibiting efficient practices. Judge Easterbrook has argued for many years that costs from bad decisions (efficient conduct condemned) are higher than benefits from good decisions (inefficient conduct condemned).⁹ On this view, perhaps judges should borrow from the Hippocratic oath and dismiss antitrust cases in which the plaintiff alleges nothing more than harm to innovation.

There is something to these arguments, though perhaps not as much as is sometimes claimed. We indeed know very little about the operation of the variables most important to the intelligent analysis of innovation and competition in works protected by intellectual property rights. Uncertainty is even more acute when courts attempt to measure harm by a reduction in the likelihood that innovation will succeed, a harm that was central to the analysis in *United States v. Microsoft Corp.*¹⁰ The conclusion that courts should do little or nothing is debatable for a variety of reasons, but its premises are certainly defensible.

The second way to approach the problem also recognizes that information about market structure, intellectual property rights, and innovation is imperfect. The essence of this argument is that imperfect information cuts both ways. We may not be confident that antitrust suits enhance innovation, but we cannot be confident that they retard it either. We may not be confident that a particular innovation would have succeeded absent anti-competitive conduct, but neither can we be confident that it would have failed. To decide for or against the use of antitrust law to promote innova-

8. Gilbert & Sunshine, *supra* note 7, at 576.

9. E.g., Frank H. Easterbrook, *Allocating Antitrust Decisionmaking Tasks*, 76 GEO. L.J. 305 (1987); Frank H. Easterbrook, *On Identifying Exclusionary Conduct*, 61 NOTRE DAME L. REV. 972 (1986); Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1 (1984).

10. 87 F. Supp. 2d 30 (D.D.C. 2000).

tion, either in general or in particular cases, requires more analysis than simply pointing to our lack of knowledge.

Indeed, it is not fair to compare the uncertainty facing courts in anti-trust cases with an imagined world of certainty in other fields of law. We do not know marginal deterrence rates of criminal penalties either, or whether the value created by marginal disclosures induced by the attorney-client privilege exceeds the harm caused by protecting the information from discovery. Because uncertainty is the rule, not the exception, it does a poor job of distinguishing between cases in which the law should defer to private ordering and cases in which laws should be enforced aggressively.¹¹

Antitrust law presents a special case, not because we have better knowledge about the consequences of other rules, but because the language of the antitrust laws is expansive enough to sustain a wide range of interpretations. That the statutory language will accommodate a large degree of judicial risk aversion does not imply that the language compels it, however. Nor does the capacious language imply that judges should place risk aversion ahead of other values the language might embody. The risk aversion approach outlined above rests ultimately on the empirical claim that markets correct market failure more quickly and surely than courts. Though this is an empirical question, we are unlikely to get conclusive answers.

As a general matter, markets almost certainly do correct market failures faster and more surely than courts. General statements about average outcomes imply, at a minimum, a healthy degree of skepticism in the ability of judges to better market outcomes. But general propositions rarely decide particular cases. One would hope that judges trying to craft a sensible and coherent body of law within the broad confines of the antitrust statutes would at least keep an open mind to data and analysis relevant to the possibility of welfare-enhancing judicial intervention. Where the facts of a particular case suggest that the general statement may not hold, it certainly should not bar further inquiry.

The claim that markets fix market failures better than courts rests on some premise about individual contracting behavior. If individual contracting behavior resembles the model of perfect competition, markets do better than courts almost by definition. Increased prices will induce substitution, or entry followed by substitution, and market power will evaporate. But few markets resemble the model very closely. Externalities are the

11. For a similar argument, see Herbert Hovenkamp, *Rhetoric and Skepticism in Antitrust Argument*, 84 MICH. L. REV. 1721 (1986).

norm, not the exception.¹² What happens when contracting decisions are not atomistic and economies of production and consumption are high?

For example, network effects suggest that individual contracting decisions are influenced by the choices or expected choices of others. One might prefer the MacOS to Windows but choose Windows anyway because of the greater array of applications available for it, and that greater array exists because software developers write first for the largest installed base of consumers. Judicial intervention might be worse than judicial abstention in this sort of feedback-influenced contracting, but the conclusion is at least not self-evident. Comparing imperfect judicial decisionmaking unfavorably with hypothetical contracting under conditions of perfect competition is little more than a variation on the Nirvana fallacy.¹³

Perhaps we know enough about market structure to make some informed judgments. A monopolist might readily fund R&D through retained earnings, for example, but there is no reason why that is a better source of funding than venture capital. If anticompetitive conduct is allowed to run free without any check from competition policy, we have to worry about capital markets as well as product markets. Will investment flow only to firms that do not compete with a dominant player, or to firms that wish only to be acquired by a dominant player, rather than focusing on radically innovative technology? Might not rigorous enforcement of the antitrust laws be necessary to give confidence to investors in a way similar to the confidence we attribute to the disclosure and antifraud provisions of the securities laws?¹⁴ Perhaps we do not know that such claims are right, but neither do we know that they are wrong. They are at least grounded in economic analysis of irrelevant variables.

Anecdotal evidence suggests that innovation from dominant firms has tended to be in reaction to new ideas from new entrants.¹⁵ Should we be sanguine about the rate of progress if entrants may be drawn and quartered at the will of an incumbent firm? There is wide consensus that antitrust

12. MICHAEL J. TREBILCOCK, *THE LIMITS OF FREEDOM OF CONTRACT* 58 (1993) ("The problem of third-party effects from exchange relationships is pervasive and not aberrational.").

13. The Nirvana fallacy occurs when an advocate tries to support a claim only by pointing out the flaws in an institution, system, or procedure without also comparing the subject of the criticism to available alternatives. Put differently, it is the fallacy of forgetting that comparative advantage is the only kind.

14. *E.g.*, *United States v. O'Hagan*, 521 U.S. 642 (1997).

15. Scherer, *supra* note 7, at 1014-15. By durable monopoly in the present context, I have in mind a firm with market power that persists across multiple product generations or types of products performing particular functions.

policy exists to promote the efficient use and allocation of resources, including through innovation. This goal implies that antitrust does not exist to aid competitors, including new firms that may be radical innovators. But if we believe there is at least some relationship between market structure and the rationality of various forms of conduct, can competition policy remain totally indifferent to structure? Should we not at least consider whether structural elements present opportunities for welfare-reducing strategic behavior?

On this view, imperfect information does not imply total ignorance, nor does it imply that all choices based on imperfect information are equally risky. While one might not be able to choose, in theory, between perfect competition and monopoly as the structure most conducive to innovation, there is a loose consensus that something short of durable monopoly is likely to produce the best results.¹⁶ Judgments on such matters may be difficult and uncertain, but someone will make them. Flat assertions either way are likely to rest as much on ideological predisposition as on evidence. What is required is the articulation of a theory on which antitrust intervention may be said to have a positive net present value.

The rejoinder to this defense of antitrust is that it is based on wishful thinking and hubris only slightly less flawed than the Nirvana fallacy. Capital markets might assign a positive value to the antitrust laws, but then again they might not. Are we sure that more business plans are funded on the theory that the new firms will out-innovate a dominant firm than receive funding on the theory that they will be bought by the dominant firm? Perhaps the dominance of a firm increases venture money by decreasing risk. When a leading student of the problem confesses with admirable candor that his fears that strong incumbent responses to entrant innovation would eventually deter entry "have been more wrong than right,"¹⁷ we must ask how much cost we should let judges inflict to as-

16. For an overview of the debate, see F.M. SCHERER & DAVID ROSS, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* 660 (3d ed. 1990). For an overview linking efficiency considerations to antitrust policy, see Scherer, *supra* note 7. For some useful studies, see, for example, Glenn C. Loury, *Market Structure and Innovation*, 93 Q.J. ECON. 395 (1979); F.M. Scherer, *Research and Development Resource Allocation Under Rivalry*, 81 Q.J. ECON. 359 (1967); Oliver E. Williamson, *Innovation and Market Structure*, 73 J. POL. ECON. 67 (1965).

17. Scherer, *supra* note 7, at 1015. The statement is worth quoting in full: The principle is simple: if a market-dominating incumbent regularly reacts with all guns blazing to interlopers offering improvements over its own products' performance, sooner or later would-be challengers will get the message and stop trying. When that happens, pace-forcing challenges will cease and progress will slow. I have long feared that

suage the suspicions of regulators or satisfy the rent-seeking of competitors.

A reply might be that aggressive responses by incumbent firms mean that the rate and direction of innovation will continue to be influenced, if not controlled, by the incumbent. Such control might lead to stagnation and a reduction in output compared to what could be achieved by innovation outside the incumbent's domain. The rejoinder to this is, of course, that unless prospective entrants are in fact intimidated into quiescence, the risk of such losses is lower than the risk that antitrust enforcement will impede innovation by the incumbent through antitrust enforcement. Why would a rational incumbent forego a profitable innovation? The anecdotal history is more of incumbents aggressively embracing new technology than of suppressing it to protect an existing position.

Is society any worse off if a dominant firm buys innovations rather than producing them internally? Society still gets the innovation, and consumers arguably benefit from whatever efficiencies, such as economies of scale in production or consumption, the dominant firm enjoys. Whether to innovate in-house, acquire a firm that owns an innovation, or license technology without acquiring the firm is a decision dictated by the relative costs of the different types of transactions. To complain that an IBM or a Microsoft acquires innovations rather than produces them is simply to mistake firms for persons rather than the complex nexus of contractual relations that they really are.¹⁸

And what about bargaining? Increasing the strength of intellectual property rights might have ambiguous results for innovation; subsequent innovation might not occur because it would infringe on earlier work. Bargaining is at least possible, however, particularly if an entrant has a valuable but potentially infringing innovation. Strategic behavior might render bargaining costly, though, eating up the gains from innovation or even causing negotiations to fail. Ex ante contracting might alleviate these problems, as in a profit sharing or joint venture relationship, but these

IBM's "fast second" behavior would cause this to happen. But at least thus far, I have been more wrong than right. Probably because the underlying knowledge base is so rich, constantly spewing forth new possibilities, the stream of would-be challengers has not dried up. They keep coming and coming. If my fears continue to be unfounded, then the courts probably made the "right" decisions in the plug-compatible peripherals and computer leasing cases. Yet nagging doubts remain.

Id.

18. See Ronald H. Coase, *The Nature of the Firm*, in *THE FIRM, THE MARKET, AND THE LAW* 33 (1988).

types of ex ante contracts present antitrust questions of their own.¹⁹ If anti-trust makes ex ante bargaining over subsequent innovation difficult, it might do more harm than good.²⁰

So imperfect information and logical indeterminacy are hard problems that antitrust law has to confront if it wishes to enhance welfare by facilitating innovation. What, then, should we do? An advocate of the first approach would say that, since both sides admit at least some level of ignorance on variables both sides agree are vital to sensible analysis, then those who claim that antitrust intervention may promote innovation bear the burden of proof. Plain-vanilla enforcement is all that is warranted, and it has little to say on most innovation questions.

Skepticism about the ability of antitrust to promote innovation is warranted by the difficulty of the problem and the uneven history of courts and enforcement officials in enhancing welfare through antitrust. But skepticism is not surrender. It instead demands nothing more than a clear-eyed look at evidence of market structure and behavior, and rigorous analysis of the implications of both for social welfare.

As a practical matter, debates about judicial enforcement of the anti-trust laws boil down to debates on the presumptions, heuristics, filters, rules of thumb, or whatever term the reader may prefer, that judges use to make sense of the conduct before them and to assess the likely consequences of their decisions. Judges have no choice but to economize on the cost of information posed by the complex relations among market structure, strategic behavior, the financial economics behind intellectual property rights, and the marginal-cost pricing emphasis of antitrust. Judges' time and other resources are scarce as well.²¹

19. See U.S. Dep't of Justice & FTC, Antitrust Guidelines for the Licensing of Intellectual Property § 1.0 (1995), <http://www.usdoj.gov/atr/public/guidelines/ipguide.htm> (Apr. 1995) [hereinafter IP Licensing Guidelines]; U.S. Dep't of Justice & FTC, Antitrust Guidelines for Collaborations Among Competitors § 2.1 (1995), <http://www.ftc.gov/os/2000/04/ftcdojguidelines.pdf> (Apr. 2000).

20. E.g., Suzanne Scotchmer, *Cumulative Innovation in Theory and Practice*, at http://socrates.berkeley.edu/~scotch/cum_r&d.pdf (Feb. 1999).

21. Professor Llewellyn discussed the point in typically insightful terms. See K. N. Llewellyn, *The Effect of Legal Institutions Upon Economics*, 15 AM. ECON. REV. 665 (1925). It is true that most judges probably will not grasp the complexity of game-theoretic models of behavior, which some have argued are not useful to policy analysis because they yield no strong predictions. E.g., Sam Peltzman, *The Handbook of Industrial Organization: A Review Article*, 99 J. POL. ECON. 201, 208-09 (1991). For better or worse, however, the point is generalizable. Most busy district court judges would have little interest in the relatively straightforward graphs of price theory, which might seem as exotic to them as any game-theoretic analysis. (I do not mean this as a criticism. A judge

Regardless whether one believes that economics is a science, law is not. It is a social discipline, or perhaps more precisely, a combination in applied form of various social disciplines, and rests ultimately on theories of human behavior. Judges tend to cope with the variety of behavior they see, and the different contexts in which they see it, by invoking strong rational actor assumptions. Antitrust in the courtroom involves explaining incentives and rational behavior in particular economic contexts, and drawing inferences from the predictions the rational actor assumption generates.²² Antitrust is not formal modeling, but it is consistent with approaches that emphasize strategic behavior, which courts concerned about applying the antitrust laws will therefore take into account.

Judicial presumptions and rules of thumb are influenced not only by the varied purposes of the antitrust laws and the complexity of the cases, but also by the demands of the judicial office and the requirements of coherent common-law decisionmaking. The interesting legal questions having to do with antitrust and innovation, therefore, involve the articulation of principles and standards judges can apply to evaluate information relevant to the purposes of the antitrust laws in a way that allows judges to develop a body of law that is consistent with the goals of antitrust and is internally consistent as well.

who hears arguments in an antitrust matter during the hour or two each week she can devote to law and motion practice, and who has thirty other matters in different fields of law to hear during the same time span, cannot be expected to be an expert in each field. A law professor or economist asked to rule on a question of criminal law, trademark law, contract law, corporate law, immigration law, employment law, a habeas petition, and a social security dispute within the space of forty-five minutes would be hard-pressed to do better, on average, than a district judge.) That judges have limitations on their ability to grasp formal economic theory is too strong an argument to be useful in distinguishing among claims and cases.

22. Most practicing lawyers will understand this point. For a good example, see *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30, 37 (D.D.C. 2000) (“[O]ver the past several years, Microsoft has comported itself in a way that could only be consistent with rational behavior for a profit-maximizing firm if the firm knew that it possessed monopoly power, and if it was motivated by a desire to preserve the barrier to entry protecting that power.”); *id.* at 38 (“Proof that a profit-maximizing firm took predatory action should suffice to demonstrate the threat of substantial exclusionary effect; to hold otherwise would be to ascribe irrational behavior to the defendant.”); *id.* at 42 (“[T]hese sacrifices could only have represented rational business judgments to the extent that they promised to diminish Navigator’s share of browser usage and thereby contribute significantly to eliminating a threat to the applications barrier to entry.”); *id.* at 44 (“Microsoft has expended wealth and foresworn opportunities to realize more in a manner and to an extent that can only represent a rational investment if its purpose was to perpetuate the applications barrier to entry.”).

In this Article, therefore, I focus on the questions of law and policy that must be resolved if courts are to deal coherently with the concept of innovation as a theory of harm sufficient to state an antitrust claim. My main point is that the analytical tools judges use to assess innovation claims have to be reasonably consistent over different types of claims and cases. At a minimum, this requires that judges evaluate such claims using a total surplus standard, meaning that they are indifferent as between the welfare of consumers and producers, preferring only the set of rules that maximizes welfare overall. The particular doctrines relevant to assessing innovation claims, such as doctrines of causation and the fit between violations and remedies, must also be governed by a total surplus mandate.

The coherence requirement and the total surplus mandate together imply several things for particular cases. In particular, they imply: (1) anti-trust should not penalize unilateral refusals to license technology but should review conditional refusals generally under the rule of reason; (2) courts applying antitrust regulation should explicitly seek to increase total surplus; (3) courts evaluating innovation claims should demand evidence of harm beyond harm to particular firms; (4) causation analysis in innovation cases should take into account the structure of the market, the type of claim advanced, and the feasibility of tailored remedies; (5) technology facilitating transition among products and product generations should be favored; and (6) remedies should reflect market structure and the strength of the evidence on causation.

The last four recommendations describe questions that judges should ask in order to develop a coherent body of antitrust innovation law. The recommendations embody analytical approaches, not bright-line rules. Real world antitrust litigation is too complex and messy for bright-line approaches to such difficult issues as causation. These recommendations, which I discuss in detail in Part III, are designed to help judges analyze claims that welfare has suffered because innovation has been impeded.

Taken together, these recommendations suggest that courts in innovation cases reject the protection of particular firms and traditional populist notions under which harm to such firms either establishes or nearly establishes antitrust liability. In other words, courts should not try to protect innovators in the name of protecting innovation. To do so both contradicts an emphasis on overall welfare and is likely to undermine the stability antitrust needs to function as a viable common-law system of regulation.

Part II of this Article traces some antitrust history relevant to the problem of judicial predictions of future harm based on current market structure. Part II.A shows that the Sherman Act was not passed to promote innovation, may in fact have been prompted by a fear of innovation, and

does not give judges clear policy choices among the interests that trade off in the relevant cases. Part II.B discusses the Cellar-Kefauver Amendments to the Clayton Act, in which Congress attempted to protect small firms but did not embody that mandate in the relevant statutory language. Part II.C explains how the Supreme Court's effort to make sense of small-firm antitrust policy led to costly and counterproductive decisions that undermined the status of the antitrust laws as a respectable body of common-law rules.

In particular, Part II draws a limited parallel between the merger cases of the 1960s, particularly the doctrine of incipiency, and the structure of antitrust innovation claims today. I emphasize at the outset that the parallel is a limited one. Among other differences, the economic analysis brought to bear on modern cases is more sophisticated and better-suited to the judicial process than was the case with the approach enforcement officials took in the 1960s, which focused largely if not exclusively on market structure. Competition policy as a whole has benefited from the unhappy experience of that decade. But the problem of predicting future performance from current structure and conduct persists, as do the risks that undermined the Court's effort to develop a coherent body of antitrust law aimed at protecting the welfare of small firms.

Part III draws on this historical discussion to offer some recommendations to assist in the development of a coherent body of innovation-based antitrust law. Part III.A summarizes some of the difficulties in correlating market structure and innovation. Part III.B discusses some particular points in the context of the district court's findings in *United States v. Microsoft*. Part III.C discusses the recommendations listed above.

II. A BRIEF AND HIGHLY STYLIZED HISTORY OF SOME OF ANTITRUST'S PURPOSES

It is the unlawful combination, tested by the rules of common law and human experience, that is aimed at by this bill, and not the lawful and useful combination.²³

The Sherman Antitrust Act and the cases interpreting it are an interesting mixture of statutory interpretation and common-law decisionmaking. The legal process and its constraints strongly affect the way judges can and will approach claims of harm to innovation. I therefore begin with a brief discussion of the Act's legislative history and purposes. This conventional, if not retrograde, approach is a reminder of the ambivalence the

23. 21 CONG. REC. 2460 (Mar. 21, 1890) (speech of Sen. Sherman), *reprinted in* 1 KINTNER, FEDERAL ANTITRUST, LAWS AND RELATED STATUTES 116 (1978).

Sherman Act embodies. I do not contend that this history answers any questions about how to treat modern innovation claims. I do believe that a brief review of the context surrounding the Sherman Act and the Cellar-Kefauver Amendments to the Clayton Act will focus our attention on the challenges courts face in applying the antitrust laws to innovation claims.

The Sherman Act's history suggests that the open-ended language of that statute embodies a wide array of interests a court might choose as the purpose the law seeks to advance. This familiar point contrasts with Congress's relatively clear intention in the Cellar-Kefauver Amendments to advance the interests of small firms, and to do so by trying to stop market concentration in its "incipiency." Courts trying to implement this intention found themselves imposing significant costs on consumers and small firms that were not mandated by the statutory language. These same courts found themselves unable to write opinions that collectively satisfied the minimal standards of coherence and predictability necessary to sustain a regime of common-law adjudication.

A. Senator Sherman's Act

The Sherman Act was not passed to promote innovation. At the most general level, Congress passed the Act because Congress was concerned that large firms or groups of firms were doing bad things. That the Act was passed does not imply as much consensus as one might expect on what those bad things were, or even on what sort of things counted as "bad." It does not follow that Congress had nothing on its collective mind when it took up the Act, however.²⁴

Considerable evidence supports a public-choice explanation of the statute. This theory holds that Congress was worried that farmers and small firms were being squeezed by the market position and superior efficiency (lower costs) of larger firms and combinations. Congress intended

24. Richard Hofstadter offers one perspective on this point: Men who used the vaguest language when they talked about "the trusts" and monopolies, who had not thought through the distinction between size itself and monopolistic practices, who had found no way of showing how much competition was necessary for efficiency, who could not in every case say what competitive acts they thought were fair or unfair, or who could not state a rational program that reconciled their acceptance of size with their desire for competition, were reasonably clear about what it was that they were trying to avoid: they wanted to keep concentrated private power from destroying democratic government.

Richard Hofstadter, *What Happened to the Antitrust Movement?*, in *THE PARANOID STYLE IN AMERICAN POLITICS* 205-06 (1965).

the Sherman Act to protect these small players from more efficient competitors.²⁵ Congress also was concerned that large firms might raise prices to consumers. This concern may have been less keen than congressional concern for farmers or small dealers, however, because consumer interests were more diffuse and less-well represented in congressional counsels. And there is reason to question the degree to which concern over prices actually mattered. As Professor Hovenkamp says, “the firms against which Congress directed its wrath, big oil and big sugar refining, showed extreme reductions in cost and prices during the previous decade, making it almost certain that the intent was to protect small business from more efficient competitors.”²⁶ Lower consumer prices were a constant theme of the debates, however, and there is no basis for concluding that Congress was hostile or even truly indifferent to consumer welfare.²⁷

Because Congress focused on economic effects and their political implications, the legislative history relevant to innovation is as ambiguous and infused with ideology and interest-group politics as it is on most other points.²⁸ The groups advocating a federal law to complement the several state statutes passed in 1889 and 1890 were complaining of economic conditions caused largely by innovation and the increasing adoption and widening influence of technology.²⁹ For example, expansion of rail lines

25. See, e.g., Herbert Hovenkamp, *The Robinson-Patman Act and Competition: Unfinished Business*, 68 ANTITRUST L.J. 125, 130 (2000) (“The legislative histories of the Sherman Act, the Clayton Act, and certainly the 1950 Amendments to Section 7 of the Clayton Act were fairly dominated by a fear of big business that we would today regard as exaggerated, and by a strong desire to protect small business from the ravages of excessive competition.”).

26. *Id.* at 131.

27. A term I use in the conventional sense of consumer surplus and not in the manner employed by Judge Bork, which corresponds better to the welfare concept of allocative efficiency than to the narrower concept of consumer surplus. Some members of Congress appeared to believe that low prices in industries controlled by “trusts” were a temporary phenomenon, and that the trusts would raise prices once small-firm competition had been stamped out. See *id.* at 131 (“[M]any of these members of Congress may have believed that low prices by large firms would eventually drive out small business and produce higher prices. But their fears were exaggerated and, in any event, the phenomenon that triggered their concern was low prices, not high ones.”).

28. See generally Robert H. Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust: The Efficiency Interpretation Challenged*, 34 HASTINGS L.J. 65 (1982); George J. Stigler, *The Origin of the Sherman Act*, 14 J. LEGAL STUD. 1 (1985); see also Robert H. Lande, *Chicago's False Foundation: Wealth Transfers (Not Just Efficiency) Should Guide Antitrust*, 58 ANTITRUST L.J. 631 (1989).

29. On state adoption of antitrust laws, see Donald J. Boudreaux et al., *Antitrust Before the Sherman Act*, in *THE CAUSES AND CONSEQUENCES OF ANTITRUST: THE PUBLIC CHOICE PERSPECTIVE* 250 (Fred McChesney & William F. Shughart II eds., 1995).

and innovations such as refrigeration subjected farmers and ranchers to competition from distant firms, which could take advantage of innovation to capture economies of scale and undercut relatively inefficient local production.³⁰

Congress would not disavow the benefits of technological progress, but several representatives condemned its adverse effects on those whose production methods were outdated or who faced new competition in previously isolated markets.³¹ Neither the legislative history nor the statutory language explain how to resolve conflicts between innovation and other interests, such as the protection of inefficient firms or farmers.³² Congress instead left this and other concrete problems to the courts, appearing to believe that it had enacted an interstate version of the common law of restraints of trade.³³

30. See HERBERT HOVENKAMP, ENTERPRISE AND AMERICAN LAW: 1836-1937, at 241-42 (1991) (noting the relationship between technology, economies of scale, and threats to small firms). One of Professor Baxter's hypotheses to explain the enactment of the antitrust laws posited that some degree of localized market power has been common historically. As technology has improved, this hypothesis posits, transportation and economies of scale and scope allow efficient firms to expand their production and reach, thus encroaching on the domains of smaller, less efficient firms that had benefited from the localized power. Professor Baxter hypothesized that the antitrust laws might have been prompted by inefficient firms seeking legislative protection of their localized market power. WILLIAM BAXTER, THE POLITICAL ECONOMY OF ANTITRUST: PRINCIPAL PAPER BY WILLIAM BAXTER 8-11 (Robert D. Tollison ed., 1979).

31. See HOVENKAMP, *supra* note 30, at 246-49.

32. On the legislative history of the Sherman Act in general, and on innovation in particular, one is reminded of nothing so much as the candidate who, when asked for his views on prohibiting whiskey, answered that if by whiskey the questioner meant the demon that addicted the youth and plagued the elderly, then he was for it. If by whiskey the questioner meant the glass of solace and relaxation awaiting a man after a hard day's work, then he was against it.

33. Senator Sherman stated several times that he intended the statute to embody the common law principles used to evaluate alleged restraints of trade. *E.g.*, 20 CONG. REC. 1167 (Jan. 25, 1889) (speech of Sen. Sherman), *reprinted in* 1 KINTNER, *supra* note 23, at 69 (arguing that Senate Bill 3445, a precursor to the Sherman Act, "sets out in the most specific language the rule of the common law").

The purpose of this bill is to enable the courts of the United States to apply the same remedies against combinations which injuriously affect the interests of the United States that have been applied in the several States to protect local interests. . . This bill . . . has for its single object to invoke the aid of the courts of the United States . . . and in this way to supplement the enforcement of the established rules of the common and statute law by the courts of the several States . . .

21 CONG. REC. 2455 (Mar. 21, 1890) (speech of Sen. Sherman), *reprinted in* 1 KINTNER, *supra* note 23, at 115-16; *id.* at 116 ("It is the unlawful combination, tested by the rules of

Perhaps Congress as a whole did not perceive a conflict between consumers and small businesses, perceived it only dimly, or chose to paper over the conflict through the general language of the statute and trust the courts to arrive at sensible results consistent with the evolving common law of restraints of trade. Either way, in the vague language of the Act the legislative branch failed to resolve a conflict inherent in the economic activity at which the statute aimed.

The floor debates over Senate Bill 1 in the 51st Congress confirm that Congress did not resolve conflicts among the principle economic groups affected by the Act. A few brief examples illustrate the point. Senator George of Mississippi, who opposed the bill on constitutional grounds, pointed out that its language would apply “to an agreement, a combination, not of a business character . . . [but] to such as is purely moral and defensive.”³⁴ His examples?

If this bill passes as it now stands, the farmers and laborers of this country who are sending up their voices to the Congress . . . will find that they themselves in their most innocent and necessary arrangements, made solely for defensive purposes against the operation of these trusts will be brought within the penalty provisions of this bill. . . .

By this provision is drawn within the punitive provisions of this bill every agreement made by farmers not to sell any particular article of their production unless they receive a certain price for it, for that would be an agreement which . . . would tend to advance the cost to the consumer³⁵

common law and human experience, that is aimed at by this bill”); *id.* at 126 (“what is this bill? A remedial statute to enforce by civil process in the courts of the United States the common law against monopolies.”); *see also* 21 CONG. REC. 3145 (Apr. 8, 1890) (speech of Sen. Hoar), *reprinted in* 1 KINTNER, *supra* note 23, at 293 (“The great thing that this bill does, except affording a remedy, is to extend the common-law principles, which protected fair competition in trade in old times in England, to international and interstate commerce in the United States.”).

34. 20 CONG. REC. 1457 (Feb. 4, 1889) (speech of Sen. George), *reprinted in* 1 KINTNER, *supra* note 23, at 78.

35. *Id.* To this point, directed at farmers as consumers, Senator George added an example of farmers organizing as consumers. Referring to a “trust” involved in manufacturing the jute bagging used by many farmers, Senator George pointed out that [u]pon the formation of this bagging trust the cotton farmers of the South, many of them in their granges and in their alliances, agreed that they would not purchase jute bagging, and by that agreement to a very large extent the rich rewards anticipated by the men who formed that trust were defeated.

The Senator's reference to pleas from farmers demanding antitrust legislation points to one of the main groups pressuring Congress to protect their interests.³⁶ Professors Boudreaux, DeLorenzo, and Parker examined the wave of state antitrust statutes adopted in 1889 and 1890 and concluded that "[t]he political impetus for some kind of antitrust law came primarily from the farm lobbies of the Midwestern agricultural states such as Missouri. Rural cattlemen and butchers were especially eager for statutes that would thwart competition from the newly centralized meat processing facilities in Chicago."³⁷ Centralized slaughtering technology and refrigerated railroad cars resulted in lower beef prices for ranchers and a slightly smaller reduction for consumers.³⁸ In sum, many agrarian producers had more reason to fear innovation than to favor it, even though consumers were better off.

When the 51st Congress again took up the statute over a year after Senator George's comments, the risk that the statute could be used against farm cartels was raised again. This time Senator Teller pointed out that "there has been recently organized all over the country what is called the Farmers' Alliance. What is the object and what is the purpose of it? The very purpose of it is to increase the price of farm products, and that I regard as a most desirable thing to be done"³⁹ Teller went on to denounce the bill as interfering with the Knights of Labor, and with labor organizing more generally. We may infer from his argument that Teller believed appeals to farmer and labor interests were useful, presumably because those groups were politically powerful.⁴⁰

What is particularly interesting about these arguments, both topical and timeless in American history, is Senator Sherman's response. It is economically hollow even for the time, but politically prudent. From either a legal or economic perspective, it offered no resolution:

Id. It is possible to read this statement as implying that the Sherman Act should not apply to monopsony, but it is better read as a paean to the strong agricultural interests weighing in on the statute.

36. *See, e.g.*, Boudreaux et al., *supra* note 29, at 250.

37. *Id.* at 270.

38. *Id.*

39. 21 CONG. REC. 2556 (Mar. 24, 1890) (speech of Sen. Teller), *reprinted in* 1 KINTNER, *supra* note 23, at 159.

40. The power of agrarian interests probably explains Senator Vest's statement that "[t]he Farmers' Alliance are cooking now, and there is no dish that can be put on this Senatorial table which will not go down with a gusto that will astonish any gourmand from the restaurants of Paris." 21 CONG. REC. 2639 (Mar. 26, 1890) (speech of Sen. Vest), *reprinted in* 1 KINTNER, *supra* note 23, at 229.

The bill as reported contains three or four simple propositions which relate only to contracts, combinations, agreements made with a view and designed to carry out a certain purpose, which the laws of all the States and of every civilized community declare to be unlawful. . . . It does not interfere with the Farmer's Alliance at all, because that is an association of farmers to advance their interests and to improve the growth and manner of production of their crops and to secure intelligent growth and to introduce new methods. No organizations in this country can be more beneficial in their character than the Farmers' Alliances and farmers' associations. They are not business combinations. They do not deal with contracts, agreements, etc. They have no connection with them. And so the combinations of workingmen to promote their interests, promote their welfare, and increase their pay, if you please, to get their fair share of the division of production, are not affected in the slightest degree, nor can they be included in the words or intent of the bill as now reported.⁴¹

As a prediction of how courts would interpret the statute ultimately passed, this statement was wrong.⁴² Twelve of the first thirteen reported decisions finding liability under the Sherman Act went against labor unions.⁴³ But that was only partly Senator Sherman's fault. The day after this exchange he proposed an amendment excluding agreements among laborers or agricultural producers to raise their prices.⁴⁴ The Senate binged on amendments the next two days, however,⁴⁵ and the bill was eventually

41. 21 CONG. REC. 2556 (Mar. 24, 1890) (speech of Sen. Sherman), *reprinted in* 1 KINTNER, *supra* note 23, at 162.

42. *See, e.g.,* Bedford Cut Stone Co. v. Journeyman Stone Cutters' Ass'n, 274 U.S. 37 (1927) (holding that refusal to work on stone that had been cut by non-union workers violated antitrust laws); Duplex Printing Ass'n v. Deering, 254 U.S. 443 (1921) (holding that refusal by union workers to work on printing presses violated antitrust laws); WILLIAM E. FORBATH, LAW AND THE SHAPING OF THE AMERICAN LABOR MOVEMENT 60-61 (1991); HOVENKAMP, *supra* note 30, at 207-38.

43. HOVENKAMP, *supra* note 30, at 229.

44. 21 CONG. REC. 2597 (Mar. 25, 1890) (speech of Sen. Sherman), *reprinted in* 1 KINTNER, *supra* note 23, at 206.

45. By March 26, 1890, the bill had sixteen sections and imposed a punitive tax and regulatory scheme on options and futures. The end of section one of the March 26 version is eloquent testimony for the public-choice explanation of the Act and for congressional fence-straddling on consumer welfare. That version of section one provided that

[T]his act shall not be construed to apply to any arrangements, agreements, or combinations between laborers made with a view of lessening the number of hours of their labor or of increasing their wages; nor to any arrangements, agreements, associations or combinations among persons engaged in horticulture or agriculture made with the view of enhancing the price of their own . . . products: Provided further, That

sent to the Judiciary Committee, which produced the leaner form with which we are familiar.

This conflict between increasing farm prices and lowering consumer costs was not the only conflict whose resolution the statute avoided. Senator Edmunds commented that at least some trusts had lowered consumer prices demonstrably,⁴⁶ a contention supported by some authors at the time⁴⁷ and by subsequent research.⁴⁸ Senator Edmunds thought the reduction a short-run illusion, however, and opposed trusts on the ground that they were tyrannical. At the same time, Senator Edmunds reassured Senator Kenna that a dealer in shorthorn cattle who, "by virtue of his superior skill in that product" has a monopoly for orders coming from Mexico,⁴⁹

this act shall not be construed to apply to or to declare unlawful combinations or associations made with a view or which tend, by means other than by a reduction of the wages of labor, to lessen the cost of production or reduce the price of any of the necessities of life; nor to combinations or associations made with a view or which tend to increase the earnings of persons engaged in any useful employment; nor to any arrangements, agreements, associations, or combinations among persons for the enforcement and execution of the laws of any State enacted in pursuance of its police powers. . . .

Id. at 256. The language in the last sentence was the result of Senator Wilson's desire to exempt the Woman's Christian Temperance Union and Temperance Alliance. *Id.* at 251-52.

46. Senator Edmunds stated:

I am in favor of the scheme in its fundamental desire and motive . . . directed to the breaking up of great monopolies which get hold of the whole of a particular business or production in the country and are enabled, therefore, to command everybody, laborer, consumer, producer, and everybody else, as the sugar trust and the oil trust and whatever. *Although for the time being the sugar trust has perhaps reduced the price of sugar, and the oil trust has certainly reduced the price of oil immensely, that does not alter the wrong of the principle of any trust . . . in the long run, however seductive they may appear in lowering prices to the consumer for the time being, all human experience and human philosophy have proved that they are destructive of the public welfare and come to be tyrannies, grinding tyrannies, that have sometimes in other countries produced riots, just riots in the moral sense, and so on.*

21 CONG. REC. 2723 (Mar. 27, 1890) (speech of Sen. Edmunds), *reprinted in* 1 KINTNER, *supra* note 23, at 264-65 (emphasis added); *see also* 20 CONG. REC. 1167 (Jan. 25, 1889) (statement of Sen. Hoar), *reprinted in* 1 KINTNER, *supra* note 23, at 69 (noting that some mergers reduced costs and were therefore desirable).

47. *E.g.*, George Gunton, *The Economic and Social Aspects of Trusts*, 3 POL. SCI. Q. 385, 403 (1888).

48. *See* Boudreaux et al., *supra* note 29, at 257-61; Hovenkamp, *supra* note 25.

49. Senator Kenna's cattle monopolist was probably not a monopolist in the sense that we currently use that term. Senator Kenna instead had in mind a cattle dealer who "is

would not be penalized under the statute. The reason? “[I]n the case stated, the gentleman has not any monopoly at all. He has not bought off his adversaries. He has not got the possession of all the horned cattle in the United States. He has not done anything but compete with his adversaries in trade, if he had any, to furnish the commodity for the lowest price.”⁵⁰

As this exchange suggests, senators were not very clear on what they meant, in practical terms, by either “monopoly” or “competition.” Although senators tended to use “competition” in contexts suggesting that it referred to the process of rivalry among firms,⁵¹ such a reading would be at odds with Senator Edmunds’ benign view of the cattle “monopolist” and with the notion that some mergers were beneficial because they reduced costs. For both terms, however, as for the statute in general, a dominant theme was that the courts would clear up ambiguities in the language and apply the statute sensibly to concrete facts. As Senator Sherman put it, “I admit that it is difficult to define in legal language the precise line between lawful and unlawful combinations. This must be left for the courts to determine in each particular case.”⁵²

B. The Cellar-Kefauver Amendments to the Clayton Act

Congress was not always happy with the way the courts used the power it gave them. The Supreme Court originally held that the Sherman Act did not apply to tying arrangements, for example.⁵³ And the turn of the century saw a great increase in the number and size of mergers, in part to escape Sherman Act scrutiny of combinations of different firms.⁵⁴ For

the only one in the United States to whom an order comes from Mexico for cattle of that stock for a considerable period. . . .” 21 CONG. REC. 3145 (April 18, 1890) (statement of Sen. Kenna), *reprinted in* 1 KINTNER, *supra* note 23, at 292.

50. *Id.* (statement of Sen. Edmunds).

51. *E.g.*, 21 CONG. REC. 1765 (Feb. 27, 1890) (statement of Sen. George), *reprinted in* 1 KINTNER *supra* note 23, at 97.

If we may, as this bill does, apply the action indicated by the verb ‘to compete’ to inanimate and insensible subjects, . . . we can only do it in the sense that the separate owners of these articles are maintaining a contest . . . that is, each is striving to sell his own article, as against the other, in the same market and to the same set of customers or buyers.

Id.

52. 21 CONG. REC. 2455 (March 21, 1890) (statement of Sen. Sherman), *reprinted in* 1 KINTNER, *supra* note 23, at 122; *see also* 21 CONG. REC. 4088 (May 1, 1890) (statement of Rep. Culbertson), *reprinted in* 1 KINTNER, *supra* note 23, at 300 (“[J]ust what contracts, what combinations in the form of trusts, or what conspiracies will be in restraint of trade or commerce mentioned in the bill will not be known until the courts have construed and interpreted this provision.”).

53. *Henry v. A.B. Dick & Co.*, 224 U.S. 1 (1912).

54. *See, e.g.*, HOVENKAMP, *supra* note 30, at 241-42.

these and other reasons, Congress adopted the Clayton Act in 1914. Section 3 of the Act condemned tying and exclusive dealing, and section 7 condemned stock acquisitions where the effect of the transaction "may be to substantially lessen competition" that otherwise would occur "between the company whose stock is so acquired and the corporation making the acquisition."⁵⁵

The Clayton Act's "substantially to lessen competition" language could have been clearer. Among other things, it did not explicitly choose between producer or consumer interests, or between the interests of large producers and small ones where the interests of large producers aligned with the interests of consumers. Congress found some judicial interpretations of the Clayton Act problematic as well, particularly the Supreme Court's determination that the Act did not apply to asset acquisitions.⁵⁶ Over time many observers became dissatisfied with the scale of transactions the Court permitted under the Act.⁵⁷

Traditional fears of large corporations led Congress in 1950 to pass the Cellar-Kefauver Amendments to the Clayton Act. Though eliminating the asset-acquisition loophole, the Act substantially retained the original statutory language. The amendment cured the split infinitive in the original and prohibited mergers where "the effect of such acquisition may be substantially to lessen competition, or tend to create a monopoly."⁵⁸

Though the Cellar-Kefauver Amendments did not clarify what the antitrust laws mean by "competition," the legislative history suggests the protection of small firms was an important aim of the statute. For example, in supporting the bill in the House, Representative Cellar argued that

Small, independent, decentralized business of the kind that built up our country . . . first, is fast disappearing, and second, is being made dependent upon monster concentration. It is very difficult now for the small business to compete against the financial, purchasing, and advertising power of mammoth corporations. . . . Bigness does not mean efficiency, a better product, or lower prices.⁵⁹

55. 15 U.S.C. § 18 (1950).

56. *Fed. Trade Comm'n v. W. Meat Co.*, 272 U.S. 554 (1926).

57. *See United States v. Colum. Steel Co.*, 334 U.S. 495 (1948) (rejecting challenge to acquisition by United States Steel of largest West Coast producer of fabricated steel).

58. 15 U.S.C. § 18 (1950).

59. 95 CONG. REC. 11484, *reprinted in* 4 KINTNER, FEDERAL ANTITRUST, LAWS AND RELATED STATUTES 3476 (1980).

Cellar also rejected what he described as the big-business argument that the Amendments would hurt small firms by preventing them from merging to gain the scale they needed to compete. “[S]everal small business associations interested in the welfare of small business and the maintenance of free enterprise testified very vigorously in support of this bill,” he said. “No small-business group appeared against it.”⁶⁰

In the Senate, Senator O’Conor began the debate by saying that “the passage of this bill will go far to curb further growth of monopoly. In achieving this desirable objective, the interests of small business as an important competitive factor in the American economy will be advanced.”⁶¹ He later stressed that post-war merger activity had been highest in markets traditionally populated by small firms, and that “the outstanding characteristic of the current merger movement has been the absorption of smaller independent enterprises by larger concerns.”⁶² Senator Kefauver reinforced the point with a rhetorical question:

[W]ould not this bill . . . be of assistance to small business enterprises, to keep them from being gobbled up? We all know that some of the great corporations, which are the producers of some of our basic products, have a substantial monopoly over some products. Unfortunately, if those big corporations are led to think that perhaps by depriving small business of contracts and subcontractors, or by depriving them of necessary raw materials, they are going to be able to force them to sell their outfits, then the temptation would be present to do so; whereas, if the smaller firms had the protection of this bill, it seems to me the temptation would not be so great for the big corporations to bring about conditions under which the small fellow would be forced to sell out to him.⁶³

Perhaps the most succinct summary of the purpose of the bill is found in the Senate Judiciary Committee report: “[t]he purpose of the proposed bill

60. *Id.* at 3477; *see also id.* at 3482 (“There can also be little doubt that if this trend of mergers and acquisitions continues, small business will ultimately disappear as an important factor in American industry.”) (statement of Rep. Keating).

61. *Id.* at 3540.

62. *Id.* at 3542.

63. *Id.* at 3572. Senator Kefauver also emphasized the political aspects of concentration: “If our democracy is going to survive in this country we must keep competition, and we must see to it that the most basic materials and resources of the country are available to any little fellow who wants to go into business.” *Ford Motor Co. v. United States*, 405 U.S. 562, 569 n.5 (1972) (quoting Sen. Kefauver).

... is to limit future increases in the level of economic concentration resulting from corporate mergers and acquisitions."⁶⁴

Cellar-Kefauver gave courts that cared about legislative history a relatively clear mandate: protect the interests of small firms. Small-firm interests trumped the interests of larger firms, and were presumed to be consistent with the interests of consumers on the ground that maximizing rivalry maximized consumer welfare. Unfortunately, this premise turned out not to be true. Courts trying to apply the Clayton Act according to Congress's intent ultimately found themselves unable to create a body of law that could be applied consistently across cases, and which could serve as a reliable basis on which lawyers could advise clients. Courts failed, in other words, to produce a body of decisions worthy of being called "law" at all.

C. Antitrust and Common-Law Adjudication

Debates over the origins and original meaning of the Sherman Act are a notorious quagmire; debates over the congressional purposes behind the Cellar-Kefauver Amendments are a little clearer,⁶⁵ but the grammatical change in the original section 7 language left the statute as open-ended as it had been before.⁶⁶ That left it to the courts to discern which mergers threatened to limit competition substantially. The highlights of legislative history we have seen in the last two sections illustrate a problem for courts interpreting the antitrust laws. The statutes emerged from political struggles involving conflicting economic interests, but the statutory language does not resolve the conflicts. This lack of direction in the statutory language has both by congressional design and by default given considerable power and responsibility to courts to choose among a range of interests. The upshot is that neither the statutory language nor the legislative history provides courts with a clear rule of decision for evaluating innovation claims or weighing innovation as against other considerations.

64. 95 CONG. REC. 11484, *reprinted in* 4 KINTNER, *supra* note 59, at 3522.

65. Judge Bork has argued that the legislative history of the Cellar-Kefauver Act is less clear than I suggest in the text. ROBERT H. BORK, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* 200 (1979) (Apart from extending the Clayton Act to cover asset acquisitions as well as stock acquisitions "the diffuse legislative history of the bill give remarkably little guidance."). For an analysis supporting that in the text, see HERBERT HOVENKAMP, *FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE* 500 (2d ed. 1999) ("In 1950 protection of the 'viability' of small businesses who were being 'gobbled up' by larger companies was much more on Congress's mind than low consumer prices or high product quality.").

66. The amended language did extend the reach of section 7 of the Clayton Act to asset acquisitions and to vertical and conglomerate mergers. *Brown Shoe Co. v. United States*, 370 U.S. 294, 317 (1962).

Judges have long concluded that the Sherman Act gives them common-law authority to interpret the statute in a dynamic manner, taking changes in economic practices and understanding into account. Chief Justice Hughes's famous dictum that "[a]s a charter of freedom, the [Sherman] act has a generality and adaptability comparable to that found to be desirable in constitutional provisions" is a strong, but representative statement.⁶⁷ In the modern era, the Court has said that "the general presumption that legislative changes should be left to Congress has less force with respect to the Sherman Act in light of the accepted view that Congress 'expected the courts to give shape to the statute's broad mandate by drawing on common-law tradition,'" and that "the term 'restraint of trade,' as used in § 1, also 'invokes the common law itself, and not merely the static content that the common law had assigned to the term in 1890.'"⁶⁸

Antitrust scholars have tended to agree with this assessment. Judge Posner has written that "[t]he body of antitrust doctrine is largely the product of judicial interpretation of the vague provisions of the antitrust laws and thus can be changed by the courts within the very broad limits set by the language and what we know of the intent behind it."⁶⁹ Judge Easterbrook gave the Sherman Act as an example of a law that "effectively authorizes courts to create new lines of common law"⁷⁰ and has elsewhere said that the statute "does not contain a program; it is a blank check."⁷¹ Professor Baxter analogized antitrust courts to Congress;⁷² and Professor Hovenkamp has suggested that we regard the Sherman Act as "'enabling' legislation—an invitation to the federal courts to learn how businesses and markets work and formulate a set of rules that will make them work in socially efficient ways."⁷³ This position is reasonable,⁷⁴ particularly because the statute adopted common-law terminology and its

67. *Appalachian Coals, Inc. v. United States*, 288 U.S. 344, 359-60 (1933).

68. *State Oil v. Khan*, 522 U.S. 3, 20-21 (1998) (quoting *Nat'l Soc'y of Prof'l Eng'rs v. United States*, 435 U.S. 679, 688 (1978), and *Bus. Elecs. Corp. v. Sharp Elecs.*, 485 U.S. 717, 732 (1988)); see also *Continental TV, Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36, 53 n.21 (1978).

69. RICHARD A. POSNER, *ANTITRUST LAW: AN ECONOMIC PERSPECTIVE* 7 (1976).

70. Frank H. Easterbrook, *Statutes' Domains*, 50 U. CHI. L. REV. 533, 544 (1983).

71. Frank H. Easterbrook, *Workable Antitrust Policy*, 84 MICH. L. REV. 1696, 1701 (1986).

72. William F. Baxter, *Separation of Powers, Prosecutorial Discretion, and the "Common Law" Nature of Antitrust Law*, 60 TEX. L. REV. 661, 672 (1982).

73. HOVENKAMP, *supra* note 65, at 52.

74. For criticism of this view, see Thomas C. Arthur, *Farewell to the Sea of Doubt: Jettisoning the Constitutional Sherman Act*, 74 CALIF. L. REV. 266 (1986).

leading proponent insisted that the bill merely enacted into federal law the existing common law of each state.

Most commentators who note the common-law nature of Sherman Act interpretation emphasize the flexibility of the common-law approach, as does the Court.⁷⁵ From the judicial perspective, this emphasis is useful to explain to readers why opinions in a field resting nominally on statutes spend so little time on the statutory language. Where the statutory command is to engage in common-law analysis, that analysis is itself a proper form of statutory interpretation.

But the common-law method is not about flexibility alone. A reasonable degree of stability and a high degree of reasoned evolution are at least as important as flexibility, though any serious participant in common-law adjudication will acknowledge that perfect certainty is neither achievable nor required.⁷⁶ Lawyers cannot advise clients, and clients cannot obey the law, if the "dynamic potential" of common-law antitrust decisionmaking is not balanced by constraints that render the decisions reasonably predictable.

Reasonable predictability requires that each decision rest on reasons that identify the purposes the law seeks to advance, orders them to resolve conflicts, and classifies the behavior at issue relative to those purposes in an analytically rigorous manner that can be understood and replicated by attorneys advising clients. The clarity with which purposes are identified and ranked and the rigor of the analysis of behavior relative to those purposes are what allow lawyers operating in the real world to advise clients with a degree of confidence that, while not reaching certainty, allows business to get done.

The need for reasonable stability and coherence of purpose in common-law adjudication has in the past caused the Supreme Court some difficulty in developing its antitrust jurisprudence. Much criticism has been levied against antitrust decisions handed down during the 1960s and early 1970s;⁷⁷ from an efficiency point of view, much criticism has been warranted. The failures of the period were not due to a willful ignorance of economics, however, and the change was not due to a newfound appreciation of economics. At least part of the story of antitrust during this time has to do with the efforts of courts to reconcile irreconcilable policy goals,

75. See *State Oil v. Khan*, 522 U.S. 3 (1998); *Continental TV, Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36 (1978).

76. See, e.g., MELVIN A. EISENBERG, *THE NATURE OF THE COMMON LAW* 44-49 (1988); KARL N. LLEWELLYN, *THE COMMON LAW TRADITION: DECIDING APPEALS* 4-5; 17-18 (1960).

77. E.g., BORK, *supra* note 65, chs.9-15, 19.

the dissatisfaction of courts with the garbled and inconsistent jurisprudence these efforts produced, and the efforts of courts to produce decisions that satisfied the judicial conception of the minimum standards of common-law adjudication.

The lesson of this history for modern innovation cases is that antitrust policy that pursues sharply conflicting purposes, or that uses the welfare of particular firms as a proxy for total welfare, is unstable and likely to be self-defeating. Consider the question of consumer surplus. In legislative debate, it might be possible to argue that consumers benefit from competition defined as a process of rivalry, which implies an antitrust policy that seeks to sustain a large number of competitors. The standard version of this argument is that competition benefits consumers but requires competitors, so protecting competitors protects consumers as well. The argument allowed legislators to avoid confronting trade-offs while appealing both narrowly to focused producer groups and broadly to consumers. Then-current industrial organization models predicting supracompetitive profits from concentrated markets, implying a shift in wealth from consumers to producers, supported this approach.⁷⁸

Politically advantageous as it might be, this approach was unstable for courts because the assumption that the interests of small producers were invariably aligned with the interests of consumers was not true. Conduct that harmed competitors sometimes benefited consumers, and could enhance total welfare even if consumer surplus was not maximized. Legislators could ignore or paper over such conflicts, but judges could not. When called upon to decide cases, one of the competing groups must lose, and for reasons that, when stated in an opinion, will create general categories of winners and losers. Against this background, antitrust in the 1960s and early 1970s is easier to understand.

1. *The Merger Cases*

In *Brown Shoe Co. v. United States*, Chief Justice Warren noted that the Cellar-Kefauver Amendments “culminated extensive efforts over a number of years, on the parts of both the FTC and some members of Congress, to secure revision of a section of the antitrust laws considered by many observers to be ineffective in its then-existing form.”⁷⁹ His review of

78. See Joe S. Bain, *Relation of Profit Rate to Industry Concentration: American Manufacturing 1936-1940*, 65 Q. J. ECON. 293 (1951).

79. 370 U.S. 294, 311 (1962) (affirming order that Brown Shoe divest itself of its interest in Kinney Shoes following a merger with both vertical and horizontal aspects). The efforts to which Chief Justice Warren referred date back at least to 1938, when President Roosevelt attacked monopoly as a threat to democracy akin to fascism:

the legislative history suggested to him that “[t]he dominant theme pervading congressional consideration of the 1950 amendments was a fear of what was considered to be a rising tide of economic concentration in the American economy,”⁸⁰ and he noted that “the desirability of retaining ‘local control’ over industry and the protection of small business” were particular arguments advanced in support of the Act.⁸¹

Chief Justice Warren concluded from this review that “a keystone in the erection of a barrier to what Congress saw was the rising tide of economic concentration, was its provision of authority for arresting mergers at a time when the trend to a lessening of competition . . . was still in its incipiency.”⁸² The incipiency concept was important precisely because “Congress saw the process of concentration in American business as a dynamic force; it sought to . . . brake this force at its outset and before it gained momentum.”⁸³ As emphasized later in the opinion, Congress used the words “may be substantially to lessen competition” because “its concern was with probabilities, not certainties.”⁸⁴ Thus, “the very wording of § 7 requires a prognosis of the probable effects of the merger,”⁸⁵ and it is these effects “upon the *future* as well as the present which the Clayton Act commands the Courts and the Commission to examine.”⁸⁶

The Court’s approach in *Brown Shoe* is interesting because the Court gave effect to what it reasonably believed was Congress’s purpose in amending the Clayton Act, even though the amendment did not change the

[T]he liberty of a democracy is not safe if the people tolerate the growth of private power to a point where it becomes stronger than their democratic state itself. That, in its essence, is fascism—ownership of the government by an individual, by a group, or by any other controlling private power.

S. DOC. NO. 173, 75th Cong. 3d Sess. 1938, reprinted in 4 KINTNER, *supra* note 59, at 3404.

80. *Brown Shoe*, 370 U.S. at 315.

81. *Id.* at 315-16.

82. *Id.* at 317-18.

83. *Id.*

84. *Id.* at 323.

85. *Id.* at 332. In *Ford Motor Co. v. United States*, 405 U.S. 562, 567 n.4 (1972), the Court quoted legislative history adding further support to its interpretation of the incipiency concept in *Brown Shoe*. The relevant history stated that the use of the words “may be” in the statute indicated that “the concept of reasonable probability . . . is a necessary element in any statute which seeks to arrest restraints of trade in their incipiency and before they develop into full-fledged violations of the Sherman Act. A requirement of certainty and actuality of injury to competition is incompatible with any effort to supplement the Sherman Act by reaching incipient restraints.” *Id.* (quoting S. Rep. No 1775, at 6) (emphasis added).

86. *Brown Shoe*, 370 U.S. at 333 (emphasis added).

substance of the relevant statutory language. The incipency concept, and the practice of inferring likely harm to competition from even modest trends toward concentration, produced a merger policy that treated efficiencies as harmful because increased efficiency of large firms hurt the small firms Congress wished to protect. On this point the Court was explicit: "Congress appreciated that occasional higher costs and prices might result from the maintenance of fragmented industries and markets."⁸⁷

The results of this approach were not happy.⁸⁸ *Brown Shoe* itself condemned a merger with vertical as well as horizontal aspects, and for which plausible efficiency justifications could be advanced.⁸⁹ The more interesting question was how long that approach could last when the Court encountered conflicts for which Congress provided no resolution and found itself imposing costs not clearly compelled by the statutory language.

Brown Shoe was followed a year later by *United States v. Philadelphia National Bank*,⁹⁰ in which the Court said explicitly that the "intense congressional concern with the trend toward concentration warrants dispensing, in certain cases, with elaborate proof of market structure, market behavior, or probable anticompetitive effects."⁹¹ This statement elevated market structure from an important fact to an essentially conclusive presumption that certain levels of concentration were illegal because they necessarily entailed suboptimal performance.⁹² As in *Brown Shoe*, the Court was admirably candid in stating that it was willing to accept costs in reduced efficiency to achieve what it perceived as Congress's goals. The Court said that

a merger the effect of which "may be substantially to lessen competition" is not saved because, on some ultimate reckoning of social or economic debits and credits, it may be deemed beneficial. . . . Congress determined to preserve our traditionally competitive economy. It therefore prescribed anticompetitive

87. *Id.* at 344.

88. For a summary of the cases and their place in the evolution of antitrust jurisprudence, see Daniel J. Gifford, *The Jurisprudence of Antitrust*, 48 SMU L. REV. 1677, 1685-86 (1995).

89. *Brown Shoe*, 370 U.S. at 304 n.8; see also BORK, *supra* note 65, at 212-13; HOVENKAMP, *supra* note 65, at 500.

90. 374 U.S. 321 (1963).

91. *Id.* at 363.

92. Professor Hovenkamp makes this step an important part of his analysis of the Court's use of the structure-conduct-performance approach to antitrust problems. HOVENKAMP, *supra* note 65, at 43-46; see also *infra* text accompanying notes 134-36.

mergers, the benign and malignant alike, fully aware, we must assume, that some price must be paid.⁹³

The Court also said that horizontal mergers involving combined market share of 30% or more were presumptively unlawful, though it cautioned that smaller levels of concentration might be vulnerable too.⁹⁴ This statement was somewhat curious, for the Court in *Brown Shoe* had read the legislative history of the Clayton Act as reflecting "a conscious avoidance of exclusively mathematical tests."⁹⁵ Further, the Court there had focused on combined market shares as low as 5% in some geographic markets, warning that if a merger achieving even 5% market share "were now approved, we might be required to approve future efforts by Brown's competitors seeking similar shares."⁹⁶

The *Philadelphia National Bank* Court expressed concern that business officials be able to plan their affairs with some predictability, however, and it therefore sought to "simplify the test of illegality" in a manner it believed was "fully consonant with economic theory."⁹⁷ The Court believed the consensus view in economics held "[t]hat '(c)ompetition is likely to be greatest when there are many sellers, none of which has any significant market share.'"⁹⁸ By 1966, the Court was condemning post-merger market shares of 7.5% in *United States v. Von's Grocery Co.*⁹⁹ and 4.49% (nationally) in *United States v. Pabst Brewing Co.*¹⁰⁰

By 1968, the Justice Department's merger guidelines defined a highly concentrated market as one with four-firm concentration levels of 75% or more.¹⁰¹ Even mergers between small firms in such a market were suspect,¹⁰² with the result that small dealers could not sell their businesses to large firms and exit the market (a trend suggested by the facts in *Von's*); nor could they merge themselves to achieve economies that were making larger firms more competitive. They would instead be left with a depreciating asset, to wither until they could qualify as a failing company and be

93. 374 U.S. at 371.

94. *Id.* at 364.

95. 370 U.S. at 321 n.36.

96. 370 U.S. at 344.

97. 374 U.S. at 362-63.

98. *Id.* at 363.

99. 384 U.S. 270 (1966).

100. *United States v. Pabst Brewing Co.*, 384 U.S. 546 (1966). For a description of this evolution see Gifford, *supra* note 88, at 1684-86.

101. Gifford, *supra* note 88, at 1685 n.46.

102. *Id.*

bought out under the limited defense available for such acquisitions, or simply to give up and let the bankruptcy trustee lease their old store and other assets to a larger firm.¹⁰³

2. *Non-Merger Cases*

Antitrust policy in non-merger cases was troubling as well. The small grocer who could not sell out under *Von's* also could not band together with other small grocers to back a brand that would compete with the in-house brands of larger stores, or nationally known brands, if they also allocated exclusive selling areas to each grocer.¹⁰⁴ Building the brand required advertising, however, and exclusive dealing was a way to promote local advertising by eliminating free rider incentives. The Court had no time for such arguments, deeming such "horizontal" arrangements to be unlawful per se.¹⁰⁵

Even vertical territorial restrictions over resale were condemned as unlawful per se in *United States v. Arnold Schwinn & Co.*,¹⁰⁶ perhaps the most frustrating case of the period. *Schwinn* held that it was "unreasonable without more for a manufacturer to seek to restrict and confine areas or persons with whom an article may be traded after the manufacturer has parted with dominion over it."¹⁰⁷ Though dealing with section 1 of the Sherman Act rather than section 7 of the Clayton Act, the Court's rule expressed a strong preference for distribution by resale to independent firms rather than franchisees.¹⁰⁸ The Court appeared to stop short of condemning

103. See HOVENKAMP, *supra* note 65, at 500-01; POSNER, *supra* note 69, at 105.

104. *United States v. Topco Assocs.*, 405 U.S. 596 (1972) (holding territorial licensing restrictions unlawful per se, though no price fixing was involved and despite plausible claim that restrictions increased competition); see also *United States v. Sealy, Inc.*, 388 U.S. 350 (1967) (holding unlawful per se a set of restrictions, including exclusive territories, ancillary to sale of Sealy-brand mattresses by manufacturers who were joint venturers in Sealy).

105. The *Topco* and *Sealy* cases involved joint ventures, and the restraints at issue in both were, in effect, ancillary. Characterizing the cases as involving "horizontal" restraints detracts more from the analysis than it adds. See William F. Baxter & Daniel P. Kessler, *Toward A Consistent Theory of the Welfare Analysis of Agreements*, 47 STAN. L. REV. 615, 626-30 (1995).

106. 388 U.S. 365 (1967).

107. *Id.* at 379.

108. The Court's language reflected a fairly intrusive conception of antitrust as industrial policy:

If the manufacturer parts with dominion over his product or transfers risk of loss to another, he may not reserve control over its destiny or the conditions of its resale. To permit this would sanction franchising and confinement of distribution as the ordinary instead of the unusual method which may be permissible in an appropriate and impelling

all vertical restraints under the per se rule only because such a rule "might severely hamper smaller enterprises resorting to reasonable methods of meeting the competition of giants and of merchandising through independent dealers, and it might sharply accelerate the trend towards vertical integration of the distribution process."¹⁰⁹

3. *The Failure to Create a Common-Law Incipency Rule for the Protection of Small Firms*

In part the merger cases reflected the view that in the Cellar-Kefauver Amendments Congress wanted to toughen the antitrust laws to protect small firms, particularly small retailers who might be threatened by cost-reducing mergers. From this "traditional" angle, competition meant the process of rivalry, not the state of affairs in which resources were allocated most efficiently and total surplus maximized. These decisions can be criticized from an efficiency point of view, but the Court read congressional intent correctly and applied it in at least a defensible manner to the facts in each case.¹¹⁰ Congress wanted the antitrust laws to protect small firms, and that is what it got. In non-merger cases, however, even small firms lost out to flat statements that "horizontal" actions harmed "competition" in the sense of conduct that produced lower prices for consumers. That the rule emerging from cases such as *Schwinn*, *Topco*, and *Sealy* harmed both producers and consumers is interesting, but the main jurisprudential point is that the Court's decisions pursued incompatible goals both within and among different categories of cases.

Trying to advance both small-firm and consumer welfare was untenable for a policy that sought a consistent approach across types of cases, and was largely untenable within categories of cases as well. Justice Stewart's statement in *Von's* that "the sole consistency that I can find is that in litigation under § 7, the Government always wins"¹¹¹ is best read as expressing frustration that no coherent rule of law had emerged from the Court's merger cases or was available to guide parties or the Court in future cases. The problem in merger cases was that the Court focused almost exclusively on the degree and trend of concentration and disregarded other

competitive setting, since most merchandise is distributed by means of purchase and sale.

Id.

109. *Id.* at 380.

110. A firmer ground of criticism is that Congress has never decreed that small dealers must be protected at any cost, and the costs inflicted by these decisions were far higher than the Court seemed to anticipate.

111. 384 U.S. 270, 301 (1966).

facts relevant to competition within the relevant market.¹¹² In terms of the then-prevailing structure-conduct-performance model,¹¹³ the problem was that the Court took structure as an adequate indicator of performance, and chose to ignore conduct and economic facts that might have put the structural analysis in a context in which efficiency implications could be assessed. This was not an accident, for the analytical leap across conduct was given explicit sanction in *Philadelphia National Bank*, partially for the sake of simplicity and predictability, partially out of deference to what the Court thought was the prevailing economic wisdom.

Focusing on structure without regard to conduct or market context destabilized merger law in three ways. First, by treating productive efficiency as a harm, it imposed costs in the form of lost opportunities for profitable expansion. This cost harmed both consumers and producers—in some cases the small firms the policy was supposed to protect. Because it divorced efficiency considerations from the protection of small firms, the Court's approach was self-defeating from the start. Second, because rational actors in real markets would see profit opportunities in mergers the Court would condemn, the merger doctrine was under constant assault by creative lawyers and business officials trying to get around the rules to realize the value the rules declared off limits. The Court's merger jurisprudence was therefore under stress precisely because of its weaknesses, and the stress only made the weaknesses more evident.

Third, and most importantly, the Court's efforts to rank Congress's desire to help small firms higher than any other antitrust goal detached the structure of a law concerned with economic behavior from the economic costs and benefits of that behavior. The economic article of faith associated with the political purpose was that the preservation of small firms necessarily enhanced "competition" and thus necessarily enhanced either total or at least consumer welfare. Because this article of faith was false, the Court's decisions could not satisfy the minimum conditions of coherence and predictability necessary for common-law adjudication to produce something recognizable as, and usable as, law.

In this light it is no surprise that in *United States v. General Dynamics Corp.*,¹¹⁴ the case most often cited as a harbinger of a new approach to merger cases and perhaps antitrust in general, the Court signaled its changed priorities by returning to *Brown Shoe's* caution against relying on mathematical tests. The Court instead reaffirmed the statement in *Brown*

112. See HOVENKAMP, *supra* note 65, at 42-46, 493-94.

113. See *infra* text accompanying notes 134-36 (discussing this model).

114. 415 U.S. 486 (1974).

Shoe that “Congress indicated plainly that a merger had to be functionally viewed, in the context of its particular industry.”¹¹⁵ Adding contextual factors to the purely structural inquiry gave the Court breathing room to consider common-sense facts bearing on efficiency, as well as to think about what sorts of behavior would be rational in the relevant market. This more contextual approach eventually allowed the Court and antitrust enforcers to move toward a more efficiency-based approach to mergers, reversing the policy choice expressed in *Brown Shoe*. Though the Court in *General Dynamics* did not claim to be adopting a new form of economic analysis, its unwillingness to jump from market structure to a holding represented a partial retreat from its strong-form use of the structure-conduct-performance approach.

Doctrinal confusion and instability also drove changes in non-merger cases. The best evidence for this claim is the widespread resistance to *Schwinn* by lower courts who found its implications too much at odds with both consumer and producer interests, and the Court’s relatively rapid overruling of *Schwinn* in *GTE Sylvania*. The *GTE Sylvania* Court began its analysis by saying “we are convinced that the need for clarification of the law in this area justifies reconsideration” of *Schwinn*, which the Court characterized as an “abrupt departure” from earlier cases.¹¹⁶ The result of the departure in *Schwinn* had been “continuing controversy and confusion, both in the scholarly journals and in the federal courts.”¹¹⁷ The Court cited with approval one commentator who said that lower courts had “struggled to distinguish or limit *Schwinn* in ways that are a tribute to ingenuity.”¹¹⁸ And the Court rejected the argument of a lower-court dissent that the Sherman Act was intended to prohibit restrictions on the autonomy of independent businessmen even though they have no impact on “price, quality, and quantity of goods and services,”¹¹⁹ on the ground that “an antitrust policy divorced from market considerations would lack any objective benchmarks.”¹²⁰

The Court could shift its approach to both merger and non-merger cases so significantly because the open-ended language of the relevant statutes did not prevent it from doing so. But precisely because it was so

115. *Id.* at 498 (quoting *Brown Shoe Co. v. United States*, 370 U.S. 294, 322 (1962)).

116. *Continental TV, Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36, 47 (1978).

117. *Id.*

118. *Id.* at 48 (quoting Robinson, *Recent Antitrust Developments: 1974*, 75 COLUM. L. REV. 243, 272 (1975)).

119. *Id.* at 54 n.21 (quoting *GTE Sylvania, Inc. v. Continental TV, Inc.*, 537 F.2d 980, 1019 (Browning, J., dissenting)).

120. *Id.*

capacious, the language did not compel the Court to change, either. So what explains the changes? To some degree the changes can be explained by the Court's acceptance of Chicago criticisms of its cases. *GTE Sylvania* extensively cited Judge Posner's criticism of *Schwinn*, for example, and the analytical approach of *Matsushita* can safely be said to reflect a Hyde Park influence.¹²¹ But the notion that judges adopted a particular price-theory approach to antitrust seems both too strong and incomplete. Too strong because the justices did not say they were embracing a particular economic approach to antitrust,¹²² and have not done so to this day.¹²³ Incomplete because efficiency-based criticisms had been around for some time before 1977,¹²⁴ and because the Court on occasion continues to deviate from the outcomes a Chicago-style analysis would predict.¹²⁵

At least in part, courts altered their approach to antitrust cases because they needed to build a body of precedent that satisfied the minimum requirements of a law. Such a subjective assertion is difficult to prove, but this one enjoys at least reasonable evidentiary support. Justice Stewart's frustration in *Von's* and the lower-court rebellion against *Schwinn* are prominent examples. In 1976, Judge Posner wrote that "the course of judicial interpretation has been so marked by contradiction and ambiguity as to leave the law in an exceedingly uncertain and fluid state."¹²⁶ In the *Anti-trust Paradox*, Judge Bork summarized the law as "pull[ing] in opposite

121. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574 (1986) (affirming summary judgment dismissing claim that Japanese firms had conspired to price consumer electronics at predatory levels).

122. See Louis Kaplow, *Antitrust, Law and Economics, and the Courts*, 50 LAW & CONTEMP. PROBS. 181 (1987).

123. The Supreme Court has decided several recent cases in a manner consistent with the goal of efficiency. See, e.g., *State Oil v. Khan*, 522 U.S. 3, 20-21 (1998); *Brooke Group, Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209 (1993); *Bus. Elecs. Corp. v. Sharp Elecs.*, 485 U.S. 717 (1988); *Matsushita*, 475 U.S. 574; *GTE Sylvania*, 433 U.S. 36. The Court has also decided recent cases arguably at odds with the goal of efficiency. See, e.g., *Eastman Kodak Co. v. Image Technical Servs.*, 504 U.S. 451 (1992); *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985).

124. See Robert H. Bork, *The Rule of Reason and the Per Se Concept: Price Fixing and Market Division Part I*, 74 YALE L. J. 775 (1965); Robert H. Bork, *The Rule of Reason and the Per Se Concept: Price Fixing and Market Division Part II*, 75 YALE L.J. 373 (1966); Robert H. Bork, *Vertical Integration and the Sherman Act: The Legal History of an Economic Misconception*, 22 U. CHI. L. REV. 157 (1954); Ward S. Bowman, Jr., *Tying Arrangements and the Leverage Problem*, 67 YALE L.J. 19 (1957); John S. McGee, *Predatory Price Cutting: The Standard Oil (N.J.) Case*, 1 J.L. & ECON. 137 (1958); Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 U. PA. L. REV. 925, 926 (1979) (discussing earlier work).

125. See, e.g., *Eastman Kodak*, 504 U.S. 451; *Aspen Skiing*, 472 U.S. 585.

126. POSNER, *supra* note 69, at 3.

directions, producing a pattern of results without policy coherence.”¹²⁷ He also recounted a meeting of the American Bar Association’s Antitrust Section, at which he listened to the views of a leading antitrust practitioner (whom Bork did not name) who later became an associate justice of the Supreme Court. According to Bork, this practitioner argued that it was fruitless to worry over the intellectual problems of antitrust and analogized antitrust law to the method of a frontier sheriff: “he did not sift evidence, distinguish between suspects, and solve crimes, but merely walked the main street and every so often pistol-whipped a few people.”¹²⁸

These statements portray the antitrust jurisprudence of the time as, in the most fundamental sense, lawless. Decisions cohere by virtue of their relationship to common purposes. Fragmented or shifting purposes fracture coherence and make the law less certain. During the period in question, courts became dissatisfied with their application of the laws because they could not provide reasons supporting reasonably consistent outcomes, both of which are necessary to allow lawyers to make reasonably accurate predictions when advising clients.

Courts dealing with antitrust innovation problems can draw useful lessons from the history of antitrust merger problems. Merger cases are inherently forward-looking, as will be cases in which a party alleges harm to innovation as antitrust injury. In each case a court must examine existing market structures and the conduct they support to predict future economic performance. What does this history imply for modern innovation cases? Antitrust policy that pursues sharply conflicting purposes, or which uses the welfare of particular firms as a conclusive proxy for total welfare, foregoing the factual analysis of markets that provides the context needed to interpret behavior, is unstable and likely self-defeating.

Innovation cases will be slightly easier than merger cases, because the allegedly actionable conduct will already have occurred. With respect to the effects of those actions on the rate or path of innovation, however, both types of cases require projections about the unknown. The history of merger analysis is therefore useful for thinking about harm to innovation as antitrust injury. As we see in Part III, innovation cases will require some analysis of how allegedly unlawful conduct affects particular firms. The experience of the 1960s merger policy is useful because the Court in those cases interpreted the laws to promote the interests of small dealers. The difficulty this mandate produced for common-law decisionmaking provides a caution for antitrust courts facing claims of harm to innovation.

127. *Id.* at 405.

128. BORK, *supra* note 65, at 6.

III. HARM TO INNOVATION AS ANTITRUST INJURY

Clearly, this is not the kind of question which is susceptible of a ready and precise answer in most cases. It requires not merely an appraisal of the immediate impact . . . upon competition, but a prediction of its impact upon competitive conditions in the future . . .

¹²⁹

In this Part, I first examine these problems with particular reference to deciding what “competition” should be interpreted to mean in antitrust cases. That term has been interpreted in different ways by different courts in different contexts, some examples of which we saw in Part II. It cannot mean “perfect competition” in the sense of the model that bears that name,¹³⁰ and cases that have attempted to enforce rivalry for its own sake, such as *Von’s Grocery*, stand as warnings against such a reading. But at what point do deviations from that model violate the law and, however such a point may be stated conceptually, how do courts identify that point in concrete cases with complex facts? The last section in this Part takes up that question, and offers suggestions for courts to follow in analyzing claims alleging harm to innovation as antitrust injury.

A. Innovation and Concentration

Economic theory in its pure form provides little help to judges who might wish to relate market structure to innovation. Consider two excerpts from testimony given by two of the Justice Department’s economic experts in *United States v. Microsoft*. First, from Frederick Warren-Boulton:

If Microsoft were to simply rest on its laurels and not innovate, to simply shut down its R&D version and say, “here is Windows 98, we are never going to change it,” that should it do that, it would probably los[e] its monopoly power within a reasonable time period. It’s just that why would you expect them to do that? It’s not a rational thing. . . . There is not an economic theory that tells you that a monopolist will not innovate. The economic theory is really simple on this. It say[s] the monopolist charges higher prices and makes a lot of money and has a big profit margin. There is nothing in economic theory that says if an industry is monopolized, the rate of technological change will either speed up or slow down. It may do either, but there is no particular bias here. And so, if you ask the question, would I expect a

129. *United States v. Phila. Nat’l Bank*, 374 U.S. 321, 362 (1963).

130. See George Stigler, *Perfect Competition Historically Contemplated*, 65 J. POL. ECON. 1 (1957).

monopoly of the operating system to continue to innovate, the answer is, not only would I expect it to continue to innovate if it's a profit-maximizing firm, but I wouldn't expect the fact that it was a monopoly to particularly systematically affect the rate of innovation.¹³¹

Not surprisingly in light of this testimony, the district court concluded that Microsoft's "efforts at technical innovation" were not "inconsistent with the possession of monopoly power."¹³²

The indeterminacy of pure theory is further complicated when the acts in question appear both to have threatened innovation in the future and to have increased the adoption and use of innovation in the present. As Franklin Fisher, another of the Justice Department's economic experts, explained:

Q. At the present time, have—in your analysis—consumers been hurt by Microsoft's conduct?

A. On balance?

Q. Yes.

A. That's very hard to know. The reason that it's mostly hard—on balance, I would think the answer was no, up to this point. The reason for that is that Microsoft has used its power to protect its operating system monopoly from a threat that might not have

131. Testimony of Frederick Warren-Boulton at 42, *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000) (Nos. 98-1232, 98-1233), available at <http://www.microsoft.com/presspass/trial/transcripts/nov98/11-19-pm.asp> (Nov. 19, 1998).

132. *Microsoft*, 87 F. Supp. 2d at 37. The court's finding of fact on this point states that:

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. 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.

Findings of Fact, ¶ 61, *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9, 26 (D.D.C. 2000) [hereinafter *Microsoft Findings of Fact*].

materialized by this time anyway. And, in doing that, it has given away a lot of things.¹³³

Together, these quotations frame two problems that judges in antitrust innovation cases are likely to face: how to assess trade-offs between the conduct that confers present benefits but poses a risk of future costs, and whether to infer anything about this subject from the existing market structure. These are the first two elements of the well-known structure-conduct-performance method of analysis that has been either famous or infamous depending on one's point of view.¹³⁴ The model held that certain market structures induce profit-maximizing firms to engage in conduct that would produce inefficient outcomes. Concentrated markets, for example, make oligopoly pricing easier, harming consumers and benefiting producers.¹³⁵

Because the objectionable conduct flowed from conventional rational actor assumptions in the context of particular market structures, this model

133. Testimony of Franklin M. Fisher at 29-30, *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000) (Nos. 98-1232, 98-1233), available at <http://www.microsoft.com/presspass/trial/transcripts/jan99/01-12-am.asp> (Jan. 12, 1999). Professor Fisher qualified this testimony when the trial recommenced in June, 1999, stating:

That has been much misquoted. As I explained the last time, that was in the context of a question about the pricing of the browser at zero. And as in any predatory campaign, it is the case that, while the predatory campaign is going on, consumers are not injured by the low prices involved. But any injury to competition is an injury to consumers . . . And in the meantime, consumers have been injured by having their choices restricted.

Direct Testimony of Franklin M. Fisher at 19, *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000) (Nos. 98-1232, 98-1233), available at <http://www.microsoft.com/presspass/trial/transcripts/jun99/06-02-am.asp> (June 2, 1999). The point remains, however, that determining the net effect of Microsoft's conduct is at best a difficult and complex task. Since the trial, Professor Fisher has co-authored a paper arguing that Microsoft's conduct has in fact harmed consumers. Franklin M. Fisher & Daniel L. Rubinfeld, *United States v. Microsoft, An Economic Analysis* at 74 (Univ. of California at Berkeley School of Law, Public Law & Legal Theory Working Paper No. 30, 2000).

134. This method of analysis is of course most famously associated with Professor Bain. *E.g.*, JOE S. BAIN, *BARRIERS TO NEW COMPETITION* (1956); Bain, *supra* note 78. For a succinct history of the approach, see HOVENKAMP, *supra* note 65, at 42. For an argument that the older version of the structure-conduct-performance model was dead as of 1986, see Easterbrook, *supra* note 71, at 1698.

135. *E.g.*, BAIN, *supra* note 134; HOVENKAMP, *supra* note 65, at 43; Edward S. Mason, *Price and Production Policies of Large Scale Enterprise*, 29 AM. ECON. REV. 61, 61-74 (1939); Edward S. Mason, *The Current State of the Monopoly Problem in the United States*, 62 HARV. L. REV. 1265 (1949).

recommended filing claims designed to alter the structures themselves rather than to analyze and attack anticompetitive behavior, which was presumably inherent in the structure. This model implied that courts should keep markets fragmented, which fit well with the Court's understanding of Congress's desire to keep small firms from being gobbled up. As noted above, however, keeping markets fragmented sometimes hurts small firms, and concentration sometimes helps them.¹³⁶

The small-dealer view of antitrust has a story to tell about innovation. On this account, small firms are presumptively more creative than big firms, in part because small firms do not spend their time looking backward at their successes or trying to preserve existing market power. As Professors Fox and Sullivan put it, the "realist/traditionalist" view of market structure and innovation holds that "[e]ffective innovation is more likely to come from highly entrepreneurial firms and from a system that promotes diversity in the size, shape, and character of firms than from bureaucratic enterprise and an environment that encourages homogeneity and concentration."¹³⁷ This view is supplemented by the further claim that innovative "efficiencies have a much greater potential to increase social wealth than do allocative efficiencies obtained by preventing output limitation."¹³⁸

In one sense, this view of innovation simply states a position on the empirical question whether innovation is more likely to originate with small dealers than to be opposed by them. One gets the sense, however, that it is something of an article of faith as well. The political purposes of traditionalist antitrust thinking focus on the constraint of private power as against the government, the diffusion of economic resources and decisions throughout the economy, and the provision of a level playing field for entrepreneurs. All these purposes are served regardless whether decentralized markets out-innovate concentrated ones.

136. Oligopoly might facilitate collusion, for example, but that would benefit smaller firms by giving them a price umbrella to work under. See *Atl. Richfield Co. v. USA Petroleum, Co.*, 495 U.S. 328 (1990).

137. Eleanor M. Fox & Lawrence A. Sullivan, *Antitrust—Retrospective and Prospective: Where Are We Coming From? Where are We Going?*, 62 N.Y.U. L. REV. 936, 976 (1987). For a historical perspective on the populist fear that concentration would reduce innovation, see Hofstadter, *supra* note 24, at 216-17.

138. Fox & Sullivan, *supra* note 137, at 976; see also Joseph Brodley, *The Economic Goals of Antitrust: Efficiency, Consumer Welfare, and Technological Progress*, 62 N.Y.U. L. REV. 1020, 1026 (1987) ("Of the three types of efficiencies, innovation efficiency provides the greatest enhancement of social wealth, followed by production efficiency, with allocative efficiency—the main focus of current enforcement efforts—ranking last.").

Denying any conflict between the political purposes of antitrust and innovation makes the traditionalist view more appealing, but gives little guidance in the event a conflict appears. Lack of guidance is a problem. Relatively large firms have been innovative, and many small firms have demanded antitrust protection because they were threatened by innovation. As noted above, economic theory provides no strong reason to believe that fragmented markets are inherently more innovative than concentrated ones, and the small-dealer account of antitrust might require us to sacrifice innovation for the protection of smaller firms if forced to choose. Here as elsewhere, strong presumptions about the relationship between market structure and performance are risky. They may lead courts to ignore evidence and jump to conclusions, risking efficiency losses in the name of a presumption that is more an article of political faith than the product of economic analysis.

As applied to antitrust, modern industrial organization work relies heavily on game theory to investigate strategic behavior. This work fits well with the tendency of judges to think through problems using rational actor assumptions to test the plausibility of a litigant's claim.¹³⁹ Aggressive or even below-cost pricing to gain market share rapidly in an early round of competition for a market characterized by network effects is one example,¹⁴⁰ as would be the announcement of products well in advance of their release (vaporware), which a dominant firm might use to lower the demand for an entrant's product.¹⁴¹ Other classic examples include the expansion of productive capacity to deter entry,¹⁴² various means of raising the costs of rival firms,¹⁴³ and various means of exploiting an installed customer base.¹⁴⁴

139. Cf. *supra* note 22 (noting some of the district court's uses of rational actor assumptions to interpret conduct in the *Microsoft* case).

140. Both Netscape and Microsoft gave browsers away for free in the early stages of their competition, for example. MICHAEL E. CUSUMANO & DAVID B. YOFFIE, *COMPETING ON INTERNET TIME* 6-10 (1998).

141. See Joseph Farrell & Garth Saloner, *Standardization, Compatibility, and Innovation*, 16 RAND J. ECON. 70 (1985); Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 AM. ECON. REV. 424 (1985); Michael L. Katz & Carl Shapiro, *Technology Adoption in the Presence of Network Externalities*, 94 J. POL. ECON. 822 (1986).

142. E.g., DOUGLAS G. BAIRD ET AL., *GAME THEORY AND THE LAW* 57-63 (1994) (discussing game theoretic analysis of predatory commitments).

143. E.g., Fisher & Rubinfeld, *supra* note 133, at 42; Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power Over Price*, 96 YALE L.J. 209 (1986).

144. See *Eastman Kodak Co. v. Image Technical Servs.*, 504 U.S. 451, 451 (1992) ("Kodak adopted policies to limit the availability to ISO's of replacement parts for its

Game-theoretic analysis of differing market structures is useful because it helps direct the attention of antitrust enforcers and judges to facts and probabilities relevant to the purposes of the antitrust laws. It is also useful because it helps judges explore the most probable actions in particular circumstances and to assess the possible welfare effects of such actions, rather than simply presuming that welfare losses will follow from certain structures. Clear-eyed analysis of economic facts and incentives is essential to sensible antitrust analysis. The risk is not that game theory is too technical for judges. As noted at the outset, most judges are not going to work through the mathematics of any model from any field of economics. The risk is instead that judges will let the moves and options of the players distract them from the purpose of the game.

B. Some Ambiguities in the District Court's Opinion in *Microsoft*

As we saw in Part II, Congress's failure to choose among possible goals of antitrust left the courts with the unhappy task of reconciling aims that sometimes conflict. The cases thus include ambiguous strands of decisions and dicta supporting a variety of goals, sometimes contradictory, and sometimes in the same opinion. Below-cost pricing of a web browser, for example, is a short run boon to consumers and a disaster for competitors. The standard response to such points is that consumers might lose in the long run, but it is hard either to demonstrate that such future losses will occur or to separate such consumer interests from the short-run interests of competitors. After all, on the logic of the standard response it is harm to competitors in the short-run that causes harm to consumers in the long run.

The district court's findings of fact and conclusions of law in *United States v. Microsoft* are to a degree troubled by this ambiguity. Consider the court's factual finding on the prospects for Navigator and Java to become viable platform competitors:

The actions that Microsoft took against Navigator hobbled a form of innovation that had shown the potential to depress the applications barrier to entry sufficiently to enable other firms to compete effectively against Microsoft in the market for Intel-compatible PC operating systems. That competition would have conduced to consumer choice and nurtured innovation. The campaign against Navigator also retarded widespread acceptance of Sun's Java implementation.

This campaign, together with actions that Microsoft took with the sole purpose of making it difficult for developers to write

equipment and to make it more difficult for ISO's to compete with it in servicing such equipment."); CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES 142-71 (1999).

Java applications with technologies that would allow them to be ported between Windows and other platforms, impeded another form of innovation that bore the potential to diminish the applications barrier to entry.

There is insufficient evidence to find that, absent Microsoft's actions, Navigator and Java already would have ignited genuine competition in the market for Intel-compatible PC operating systems. It is clear, however, that Microsoft has retarded, and perhaps altogether extinguished, the process by which these two middleware technologies could have facilitated the introduction of competition into an important market.¹⁴⁵

Judge Jackson states with admirable candor that he cannot conclude that but for Microsoft's actions, either Netscape or Sun would have perfected and introduced competition-enhancing innovation. He does say that Microsoft "hobbled," "impeded," "retarded," and "perhaps extinguished" the process by which Sun and Netscape might have enhanced competition through innovation. The last phrase has to be discounted somewhat in light of Judge Jackson's statement that the facts do not warrant the conclusion that Microsoft's monopoly could not have been maintained without its objectionable conduct.

One is left wondering, however, what these adjectives mean. On the scale between a trivial and insignificant effect and a but-for cause of the extension of monopoly power, where do "hobbled," "impeded," and "retarded" lie? At what point on that continuum do an incumbent firm's acts violate the law? Are the acts alone a violation, or must the effects be proved as well? This background highlights the importance of the district court's conclusions of law. The most important of these conclusions with respect to innovation is as follows:

In essence, Microsoft mounted a deliberate assault upon entrepreneurial efforts that, left to rise or fall on their own merits, could well have enabled the introduction of competition into the market for Intel-compatible PC operating systems. While the evidence does not prove that they would have succeeded absent Microsoft's actions, it does reveal that Microsoft placed an oppressive thumb on the scale of competitive fortune, thereby effectively guaranteeing its continued dominance in the relevant market. More broadly, Microsoft's anticompetitive actions

145. Microsoft Findings of Fact, *supra* note 132, ¶ 411, at 111-12.

trammled the competitive process through which the computer software industry generally stimulates innovation and conduces to the optimum benefit of consumers.¹⁴⁶

Judge Jackson's language is suggestive but ambiguous. To the earlier list of adjectives the court adds "trammled," and says that absent such trammeling the innovation of entrants "could well have" resulted in a competitive marketplace for platform technologies. The court's use of the term "competition" is interesting as well. Familiar questions present themselves at once. Is "competition" solely a process of rivalry among firms, a state of affairs in which the resources are allocated efficiently and total surplus is as high as it can be, or something else?¹⁴⁷ The court's reference to "competitive process" tends toward the former definition. Describing the process as a means of benefiting consumers tends, though perhaps less strongly, toward the latter. If by "competition" one means the process of rivalry among firms rather than the state of affairs in which social welfare is maximized, perhaps the placing of an oppressive thumb is actionably anticompetitive. But if one reads "competition" as a means to the ultimate end of maximizing total surplus,¹⁴⁸ then the oppressive thumb may serve mostly to distract attention from more relevant facts, such as the economic effects the thumb does or does not produce.

More concretely, it is possible to read Judge Jackson as straddling a conflict between consumer and producer surplus. From an entrant's point of view, probably the worst thing Microsoft did to tilt the scales of competitive fortune was to give its browser away for free and require hardware manufacturers to include it on personal computers. These actions reduced Netscape's revenues and, under certain assumptions, raised its distribution costs relative to a world in which manufacturers could select which browser to install.¹⁴⁹ Microsoft's pricing hurt Netscape and, at least in the

146. *United States v. Microsoft*, 87 F. Supp. 2d 30, 44 (D.D.C. 2000). This conclusion was slightly weaker than, though consistent with, the court's finding that "Microsoft's refusal to offer a version of Windows 98 in which its Web browser is either absent or removable, however, had no such purpose. Rather, it had the purpose and effect of quashing innovation that exhibited the potential to facilitate the emergence of competition in the market for Intel-compatible PC operating systems." *Microsoft Findings of Fact*, *supra* note 132, ¶ 194, at 57.

147. Judge Bork identified five different meanings of the term in antitrust jurisprudence. BORK, *supra* note 65, at 58-61.

148. *Cf. Morrison v. Murray Biscuit Co.*, 797 F.2d 1430, 1437 (7th Cir. 1986) ("The purpose of antitrust law, at least as articulated in the modern cases, is to protect the competitive process as a means of promoting economic efficiency.").

149. The validity of the cost-raising point depends on particular facts. If Microsoft were prevented from requiring manufacturers to install its browser, that would simply

short-run, helped consumers by giving them valuable technology for free. Which effect is more important? If the question is a trade-off between short-term gains and possible long-term losses, how do we discount the losses to determine the present cost of the activity?

Because the court could not conclude that innovative entrants would have succeeded in displacing Microsoft's monopoly position, its findings did not establish that but for Microsoft's actions innovations would have reduced market power in the monopolized market. Consumers may or may not have received less sophisticated technology because of Microsoft's actions.¹⁵⁰ The court criticized Explorer as not being superior to Navigator,¹⁵¹ and pointed to particular instances in which it found that Microsoft

give OEMs a choice of browsers to install. If consumers strongly preferred Netscape's browsers, OEMs would have an incentive to load Navigator even if they also loaded Explorer. OEMs might be able to pass their installation cost on to Netscape, which would value the installed base that preinstallation would help build, so in this scenario Netscape's costs might be increased by Microsoft's licensing practices. But even if Microsoft were prohibited from requiring OEMs to load Explorer, if consumers were indifferent as between the browsers, or became indifferent at some point in the evolution of technology, OEMs might sell preinstallation rights to the highest bidder. It is therefore not obvious that freeing OEMs to choose between suppliers would have lowered Netscape's distribution costs, implying that Microsoft's practices might not have raised those costs relative to the most likely alternative state of affairs. For a discussion of this point in the context of causation, see *infra* text accompanying notes 241-43.

150. Both Explorer and Navigator traced their roots to the development of the Mosaic program at the University of Illinois. CUSUMANO & YOFFIE, *supra* note 140, at 3, 95-99. After an initial sharp disparity in performance, strongly favoring Netscape, the two browsers reached rough parity in the eyes of many analysts. Mark A. Lemley & David McGowan, *Could Java Change Everything? The Competitive Propriety of a Proprietary Standard*, 43 ANTITRUST BULL. 715, 740-43 (1998).

151. The court said that

Internet Explorer is not demonstrably the current "best of breed" Web browser, nor is it likely to be so at any time in the immediate future. The fact that Microsoft itself was aware of this reality only further strengthens the conclusion that Microsoft's decision to tie Internet Explorer to Windows cannot truly be explained as an attempt to benefit consumers and improve the efficiency of the software market generally, but rather as part of a larger campaign to quash innovation that threatened its monopoly position.

Microsoft, 87 F. Supp. 2d at 40. This statement should be read in light of the more guarded finding of fact that

product evaluations generally compare Internet Explorer with Navigator by identifying the beneficial and detrimental features of each. Because the evaluations disagree as to which features are most important, there is no consensus as to which is the best browser overall. When read together, the evaluations also do not identify any existing Web

slowed innovation by other firms,¹⁵² but drew no general conclusion on platform-level innovation other than the one quoted above.

The district court's method of analysis was very different from the analysis of the merger cases we have examined. Rather than inferring suboptimal performance from market structure and ignoring conduct, the court analyzed the conduct within the market using the rational actor assumption to make sense of what it saw. This change is probably due in large part to the greater economic sophistication of the government's case-in-chief compared to the suits of the 1960s. Courts are better able to deal with probable human behavior in light of particular market structures than with the fact of the market structures themselves. There are similarities to those cases as well, however. Even though Judge Jackson did not necessarily equate consumer welfare with the notion of competition as rivalry, he saw the two as bound very tightly together: it is "the competitive process through which the computer software industry generally stimulates innovation and conduces to the optimum benefit of consumers."¹⁵³

Judge Jackson's focus on the process of rivalry created some tension with the economic theories the government advanced. The government's contention that network effects created an applications barrier to entry into the operating systems market, combined with significant economies of scale, implied that a significant degree of concentration was to be expected in an efficient operating systems market.¹⁵⁴ The desirability of maintaining and improving software standards has similar implications.¹⁵⁵ Congress's decision to grant intellectual property protection to software implies a decision to tolerate some degree of market power in Microsoft's products. These facts suggest that the "competitive process" to which Judge Jackson referred has to be analyzed carefully, in the context of the economic characteristics of the market at issue. A small number of operating systems vendors does not necessarily imply welfare losses.

Also worth noting is the district court's decision to infer, as a finding of fact, that Microsoft had suppressed innovation by deterring rational en-

browser as being "best of breed" in the sense of being at least as good as all others in all significant respects.

Microsoft Findings of Fact, *supra* note 132, ¶ 195.

152. *E.g.*, Microsoft Findings of Fact, *supra* note 132, ¶ 101, at 35 (concluding that Microsoft slowed Intel's research into Native Signal Processing Software, though recognizing that Intel did not intend this software to become a substitute platform).

153. *Microsoft*, 87 F. Supp. 2d at 44.

154. Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CALIF. L. REV. 479, 502 (1998); Mark A. Lemley, *Antitrust and the Internet Standardization Problem*, 28 CONN. L. REV. 1041, 1068 (1996).

155. *See* Lemley & McGowan, *supra* note 150, at 744-45.

trants from investing in innovations that might compete with Microsoft. The court said that, of all the harms it found,

[m]ost harmful of all is the message that Microsoft's actions have conveyed to every enterprise with the potential to innovate in the computer industry. Through its conduct toward Netscape, IBM, Compaq, Intel, and others, Microsoft has demonstrated that it will use its prodigious market power and immense profits to harm any firm that insists on pursuing initiatives that could intensify competition against one of Microsoft's core products. Microsoft's past success in hurting such companies and stifling innovation deters investment in technologies and businesses that exhibit the potential to threaten Microsoft. The ultimate result is that some innovations that would truly benefit consumers never occur for the sole reason that they do not coincide with Microsoft's self-interest.¹⁵⁶

There is a complex relationship between the goals of antitrust, incumbent conduct, and entrant expectations. Modeling the investment decision of a prospective entrant is a delicate task, because an entrant would take into account the risk to its expected returns from both competitive and anticompetitive acts. For instance, the Justice Department conceded in its submission to the D.C. Circuit that if Microsoft had only offered "[Internet Explorer] to OEMs in a bundle with Windows at no extra charge" then "it would not have violated the antitrust laws."¹⁵⁷ The Justice Department probably conceded this point because Microsoft's free-browser policy unambiguously enhanced short-term consumer welfare. Potential entrants would view the emergence of a viable zero-cost competitor as unambiguously bad, however, and there is little question that the risk of facing such competition would make entry much less likely from an *ex ante* perspective. Basing decisions on the preferences of innovative entrants is therefore a risky endeavor, and the inferences drawn from rational actor assumptions applied to such entrants must be treated with care.

Judge Jackson's decision illustrates the complexity of harm to innovation as a theory of antitrust injury. Innovation may fail to reduce market power regardless of an incumbent's actions, and the incumbent's actions may benefit consumers in the short run. How is a judge to weigh the benefits against the costs? Must a plaintiff show that an innovation was likely

156. Microsoft Findings of Fact, *supra* note 132, ¶ 412, at 112.

157. Brief for Appellees United States and the State Plaintiffs at 63-64, *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30 (D.D.C. 2000) (Nos. 00-5212, 00-5213), available at http://www.usdoj.gov/atr/cases/ms_index.htm (Feb. 9, 2001) [hereinafter Brief for United States].

to have reduced market power absent the defendant's acts? If so, how can it do that, and how strong must the showing be? How is a judge to distinguish harm to a particular innovator from harm to innovation generally? If a judge cannot do that, how is innovation-based antitrust policy different from antitrust policy that seeks to protect competitors? If high-technology markets are likely to be highly concentrated, with one dominant firm supplanting another in leapfrog competition, how do we prevent antitrust law from becoming a code of business conduct for such markets, indistinguishable from state tort law or unfair business practice statutes? If antitrust seeks to safeguard the efficiency of markets rather than to police bad acts, judges must have some way of distinguishing acts that harm welfare from acts that are merely mean.

C. Recommendations for a Stable Antitrust Approach to Innovation

Pointing out that harm to innovation is a difficult concept for antitrust courts to work with is easy. Coming up with analytical approaches that courts can use to develop a coherent body of law pertaining to innovation cases is considerably harder. In this section, I offer six recommendations for how courts should deal with innovation cases. These recommendations are driven primarily by the institutional demands of courts and the purposes of the antitrust laws. While a purely economic analysis might differ from these recommendations at some points, the institutional decision to administer the antitrust laws through the courts requires modes of analysis that allow judges to satisfy the constraints of common-law adjudication. Judges in antitrust innovation cases must develop a reasonably predictable body of law that coheres around purposes explicitly stated and rests on reasoning that can be understood and replicated by lawyers advising clients. The recommendations in this section are analytical tools that will be useful in that effort.

I begin with a cautionary note on navigating the intersection between the antitrust laws and the intellectual property laws. Judges must give effect to congressional decisions about the scope, term, and substance of intellectual property rights as well as to the decisions embodied in the antitrust laws. The language of the intellectual property statutes implies a core of behavior that should not be considered to violate the antitrust laws, with behavior outside that core being subject to antitrust scrutiny in cases where the facts warrant it. I suggest that unilateral, unconditional refusals to license are the relevant core behavior to which antitrust liability should not attach, and that joint or conditional refusals are proper subjects of antitrust analysis. I then suggest that courts analyzing claims of harm to inno-

vation seek to maximize total, rather than consumer, surplus, a suggestion that will help courts better align the purposes and structure of the antitrust laws and intellectual property rights.

My last four recommendations offer analytical tools to help judges determine when application of the antitrust laws will enhance innovation. I suggest that courts require evidence of harm to innovation or welfare generally, rather than to particular firms claiming to be innovators. I also suggest three analytical approaches for dealing with the very difficult question of determining when an incumbent's conduct should be deemed to have extended the duration of its monopoly—the question of causation. This question is difficult because different types of conduct with different and sometimes contradictory effects are likely to be present in many cases. The question is important, however, because causation serves an important role in defining what is and is not lawful under the antitrust laws. I conclude with recommendations for tailoring remedies in innovation cases to the degree of confidence with which answers to these other questions can be given, as well as to the structure of the relevant markets.

1. *Notwithstanding Rent-Seeking in Intellectual Property Protection, Antitrust Claims Should Not Be Used to Limit the Economic Power Conferred by Congress in Intellectual Property Rights*

Reconciling intellectual property rights and the antitrust laws requires careful analysis. As noted above, we do not know the optimal term or scope of intellectual property rights. For many reasons, we are not likely to find out. Some reasons for this difficulty are economic, such as the different costs and economies of production and consumption for different goods covered by the same rights. Others are legal, such as the ability of one work to be protected under multiple rights (e.g., software code might be copyrighted, might be a trade secret, or might be patented). As Professor Kaplow emphasized, the returns that can be obtained from intellectual property rights depend to a degree on the surrounding legal terrain, including such fields as contract and antitrust law.¹⁵⁸ We do not even know for sure that the gains from some rights outweigh the costs. Typically, however, we also do not know whether eliminating a system in place would be worse than keeping it.¹⁵⁹ As Mark Lemley has put it, “[t]he problem is, quite frankly, that we don’t have a clue how innovation works.”¹⁶⁰

158. Louis Kaplow, *The Patent-Antitrust Intersection: A Reappraisal*, 97 HARV. L. REV. 1813, 1817 (1984).

159. See STAFF OF SENATE SUBCOMM. ON PATENTS, TRADEMARKS & COPYRIGHTS, 85TH CONG., AN ECONOMIC REVIEW OF THE PATENT SYSTEM: STUDY NO. 15, at 80

One can argue that the intellectual property laws have, or have recently acquired, a ratchet-like quality.¹⁶¹ Benefits to increases in the scope and term of intellectual property rights are relatively concentrated, while costs are relatively diffuse. Rent-seeking by producers, such as software firms, recording companies, and movie studios, means that terms always get longer, exceptions always get narrower, and penalties for infringement always get higher.¹⁶² There is evidence to support this theory.¹⁶³ If it is true, what does it imply about innovation?

Suppose one believes that intellectual property rights and innovation are positively correlated for any level of protection, i.e., that increasing the scope, term, and penalties of intellectual property rights always increases innovation. If one believed that, then the ratchet theory describes a desirable state of affairs, at least from an innovation point of view. Or suppose one believes that strengthening intellectual property rights increases innovation only up to a certain (unascertainable) level, but causes no harm beyond that point because bargaining will result in allocative efficiency through licensing to future innovators.¹⁶⁴ From that point of view, a ratchet to intellectual property rights would seem at worst neutral.

There are problems with the bargaining solution, though. Even with a strong rational-actor assumption—the incumbent firm is willing to license

(Comm. Print 1958) (prepared by Fritz Machlup) (cited in Mark A. Lemley, *Reconceiving Patents in the Age of Venture Capital*, 4 J. SMALL & EMERGING BUS. LAW 137, 139 (2000)).

160. Lemley, *supra* note 159, at 139.

161. See Pamela Samuelson, *Copyright, Commodification, and Censorship: Past as Prologue—But to What Future?*, at http://www.sims.berkeley.edu/~pam/papers/haifa_priv_cens.pdf (2000); Mark A. Lemley, *Romantic Authorship and the Rhetoric of Property*, 75 TEX. L. REV. 873, 886-87 (1997) (book review).

162. See Frank H. Easterbrook, *Cyberspace Versus Property Law*, 4 TEX. REV. L. & POL. 103, 108 (1999).

Recent amendments to the copyright statutes provide special rules (and benefits) for semiconductor chip producers, management systems, and digital audio devices. . . Industry-specific rules are the playgrounds of interest groups, and once factions get to work it is predictable that at least some of the laws will favor concentrated groups at the expense of the broader public.

Id.

163. *E.g.*, Copyright Term Extension Act of 1998, Pub. L. No. 105-298, § 102(b)(1), (d), 112 Stat. 2827 (1998) (extending copyright term for both future and existing works); Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified at 17 U.S.C. § 1201) (prohibiting circumvention of measures that control access to copyrighted works and providing relatively narrow exceptions for research or reverse engineering).

164. Easterbrook, *supra* note 162, at 110-11.

subsequent innovations so long as the license maximizes its profits—incentives for both the initial and subsequent innovators may be misaligned.¹⁶⁵ Strategic behavior is also possible. If an incumbent cannot produce the innovation, the entrant has an incentive to hold out for a high division of profits. If the innovation is certain to infringe on an intellectual property right, the incumbent has an incentive to make credible threats that might cause the entrant to abandon the project. Chicken, in other words, is a costly game with considerable variance in possible outcomes.¹⁶⁶

If one doubts that bargaining will lead to efficiency, either because of deviations from rational behavior or because of a divergence between conduct that maximizes a firm's profits and conduct that maximizes social welfare, then the ratchet may be desirable in some cases and neutral or undesirable in others. If one believes that strengthening intellectual property rights eventually results in negative correlations with innovation, as might be the case if reverse-engineering were prohibited, for example, then the ratchet is undesirable. Even this belief, however, does little to tell us what the optimal scope and term for any given right might be.

A ratchet in intellectual property protection might make antitrust litigation look like a promising way to reduce the social cost of rent-seeking by intellectual property producers. Arguments for that position are easy to make. The antitrust laws are more general than the intellectual property laws, they tend to view intellectual property rights as analogous to other forms of property,¹⁶⁷ and the variables relevant to antitrust enforcement map imperfectly onto the economic position of rights holders. Intellectual property producers therefore have less of a sense of whether they would favor or oppose antitrust action in general (though they will know where they stand on particular issues) and are therefore less likely to pursue changes in the antitrust laws, or to be successful if they make the attempt, than they are in lobbying for intellectual property rights.¹⁶⁸

165. Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, 5 J. ECON. PERSP. 29 (1991).

166. Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 1052-61 (1997); Scotchmer, *supra* note 20.

167. IP Licensing Guidelines, *supra* note 19, at § 2.1 ("An intellectual property owner's rights to exclude are similar to the rights enjoyed by owners of other forms of private property.").

168. There are limits to this principle, of course. Rights holders may lobby intensively for antitrust action against particular firms, as occurred when Netscape and other Silicon Valley firms lobbied the Justice Department to pursue Microsoft. *See, e.g.*, William H. Page, *Microsoft and the Public Choice Critique of Antitrust*, 44 ANTITRUST BULL. 5 (1999).

Some lawyers and clients appear to favor this strategy. An energetic plaintiffs' antitrust bar does its best to keep interest alive in aftermarket cases and insists in all available fora that courts are interpreting intellectual property rights to allow too much anticompetitive behavior.¹⁶⁹ Thus we have private aftermarket cases based on software and patented parts,¹⁷⁰ and essential facilities cases based on a refusal to license,¹⁷¹ in addition to the Justice Department's monopolization claims based in part on Microsoft's refusal to allow alteration to a first screen displayed when its work is run.¹⁷²

There is nothing inherently wrong with such claims, so long as courts do not use them to truncate the scope of rights granted by an intellectual property statute, or to limit the means of exploiting those rights implied in the statutory structure. As an institutional matter, courts cannot and should not try to use the antitrust laws to reign in what may appear to a judge to be excessive congressional grants of economic power through the intellectual property laws. The lack of knowledge of the optimal scope or term of intellectual property rights implies the lack of a reliable baseline for making such judgments. If there is a ratchet to intellectual property protection, that is an issue for Congress.¹⁷³

Some legal doctrines limit the economic power of intellectual property rights working within the structures of the rights themselves. Examples of such doctrines include patent and copyright misuse, and copyright fair use.¹⁷⁴ Such doctrines work directly with the statutory language Congress

169. *E.g.*, Ronald S. Katz et al., *Intellectual Property vs. Antitrust: A False Dilemma*, SD72 ALI-ABA 1 (1999); Ronald Katz & Adam J. Safer, *Why Is One Patent Court Deciding Antitrust Law for the Whole Country?*, SF37 ALI-ABA 219 (2000).

170. *E.g.*, *Alcatel USA, Inc. v. DGI Techs., Inc.*, 166 F.3d 772 (5th Cir. 1999); *Image Technical Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195 (9th Cir. 1997); *PSI Repair Servs., Inc. v. Honeywell, Inc.*, 104 F.3d 811 (6th Cir. 1997); *Digital Equip. Corp. v. Uniq Digital Techs., Inc.*, 73 F.3d 756, 761 (7th Cir. 1996) (holding that a tie between operating system and hardware would not be unlawful absent market power); *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147 (1st Cir. 1994); *Serv. & Training, Inc. v. Data Gen. Corp.*, 963 F.2d 680, 687 (4th Cir. 1992).

171. *Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346 (Fed. Cir. 1999) (reversing district court finding of liability on essential facility and other theories).

172. *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30, 40-41 (D.D.C. 2000).

173. *E.g.*, Richard A. Posner, *Antitrust in the New Economy* (John M. Olin Law & Econ. Working Paper No. 106, 2000).

174. On patent misuse, see Mark A. Lemley, Comment, *The Economic Irrationality of the Patent Misuse Doctrine*, 78 CALIF. L. REV. 1599 (1990) (commenting on the odd codification of the patent misuse doctrine). On copyright misuse, see *Alcatel USA*, 166 F.3d 772; *Lasercomb Am., Inc. v. Reynolds*, 911 F.2d 970 (4th Cir. 1990). On fair use, see 17 U.S.C. § 107 (1994).

used to define the rights and limitations that it thought necessary to induce investment in creative work. Neither the antitrust statutes, the case law interpreting them, nor the economic models on which modern decisions rest have this benefit.¹⁷⁵

Because intellectual property laws tolerate market power, which is an economic fact that might contribute to a finding of liability under the anti-trust laws, judges must reconcile the demands of the two systems in the context of particular cases. The intersection between the two statutory schemes and economic methodologies is notoriously contentious. At worst, cases involve antitrust plaintiffs (or infringement defendants) insisting that intellectual property rights provide no exemption from the anti-trust laws, and antitrust defendants (or infringement plaintiffs) insisting that the antitrust laws cannot truncate a valid congressional grant of power. Nothing could be drearier.

Judges have traditionally tried to reconcile the two sets of laws by looking to the scope of intellectual property rights granted by statute. This approach implies that the exercise of validly obtained intellectual property rights cannot, standing alone, support an antitrust claim.¹⁷⁶ When rights holders do no more than refuse to license protected work, for example, courts are almost invariably hostile to antitrust claims.¹⁷⁷ This hostility is wise; compulsory dealing under the antitrust laws would strike at the heart of the right to exclude and would require some sort of judicial supervision over price.¹⁷⁸ Judges are ill-equipped for this task, which Congress implicitly addresses in the combination of rights and limitations in the various intellectual property statutes.¹⁷⁹

This approach is desirable, but it needs to be stated a bit more precisely. A unilateral refusal to license a work protected by a lawfully acquired intellectual property right is nothing more than the exercise of economic power that Congress has granted, and it should not be made the

175. For more on this, see David McGowan, *Networks and Intention in Antitrust and Intellectual Property*, 24 J. CORP. L. 485, 485-86, 493-95 (1999).

176. E.g., *In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d 1322 (Fed. Cir. 2000); *Intergraph*, 195 F.3d 1346; *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195, 1206 (2d Cir. 1981), *cert. denied*, 455 U.S. 1016 (1982) (stating that conduct legally permitted under a lawfully acquired patent cannot establish antitrust liability); see also *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1182 (1st Cir. 1994) (creating a rebuttable presumption that unilateral refusals to license intellectual property rights have a legitimate business justification).

177. The exception is *Image Technical Services Inc. v. Eastman Kodak Co.*, 125 F.3d 1195 (9th Cir. 1997).

178. For a more detailed discussion of these points, see McGowan, *supra* note 175.

179. *Id.*

basis for a claim under the antitrust laws.¹⁸⁰ Conditional refusals are different; they may extend a patentee's economic power beyond the scope of an intellectual property right.

Conditional refusals therefore pose a risk of welfare-reducing strategic behavior that goes beyond the scope of power granted by Congress and which therefore may require antitrust analysis.¹⁸¹ For example, suppose a rights holder supplies technology to a firm for use in one market but competes with that firm in another. A refusal to license the input unless the other firm agreed to fix prices in the market where the two competed would be a conditional refusal, but it should not be immune from antitrust scrutiny on the ground that intellectual property rights were involved.¹⁸²

The Federal Circuit's recent *In re Independent Service Organizations* ("ISO") decision, which held that refusals to license lawfully acquired patents do not violate the antitrust laws,¹⁸³ is best read as affirming the distinction between pure exclusion and conditional refusals. The court there recognized that tying agreements involving patented works might be subject to antitrust liability.¹⁸⁴ This exception was compelled by the Supreme Court's *Image Technical Services* opinion, which said that a rights holder might incur antitrust liability if it extended the economic power of a patent beyond the scope of the patent grant.¹⁸⁵

180. With respect to patent rights, the Patent Misuse Reform Act, 35 U.S.C. § 271(d)(4) (1994), states that unilateral refusals to deal are not misuse. The language does not say that unilateral refusals cannot support antitrust claims, but that conclusion is consistent with the purposes of that Act. McGowan, *supra* note 175, at 493-94. The Federal Circuit has cited the statute as one reason for holding that unilateral refusals to license a lawfully acquired patent do not violate the antitrust laws. *Indep. Serv. Orgs.*, 203 F.3d at 1326.

181. See PHILLIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION* ¶ 704.2, at 234 (2d ed. 2000); McGowan, *supra* note 175, at 496-97.

182. McGowan, *supra* note 175, at 497; IP Licensing Guidelines, *supra* note 19, § 3.1 ("A restraint in a licensing arrangement may harm . . . competition, for example, if it facilitates market division or price-fixing.").

183. *Indep. Serv. Orgs.*, 203 F.3d at 1326. With respect to copyright, the court endorsed the First Circuit's rebuttable presumption that unilateral refusals to license do not violate the antitrust laws. *Id.* at 1329 (citing *Data. Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1182 (1st Cir. 1994) (creating a rebuttable presumption that unilateral refusals to license intellectual property rights have a legitimate business justification)).

184. *Id.* at 1326-27.

185. *Eastman Kodak Co. v. Image Technical Servs.*, 504 U.S. 451, 480 n. 29 (1992) ("[P]ower gained through some natural and legal advantage such as a patent, . . . can give rise to liability if 'a seller exploits his dominant position in one market to expand his empire into the next.'").

In discussing this exception, the Federal Circuit's opinion mentions only the tying agreements that were at issue when *Image Technical Services* was before the Supreme Court.¹⁸⁶ But the Federal Circuit rightly read the *Image Technical Services* language "as restating the undisputed premise that the patent holder cannot use his statutory right to refuse to sell patented parts to gain a monopoly in a market *beyond the scope of the patent*."¹⁸⁷ This reading suggests that the exception the Federal Circuit explicitly recognized for tying arrangements includes conditional agreements that have the same possible economic effects—extending the economic power of a patent beyond the scope of the patent grant—as the *Image Technical Services* Court attributed to tying.¹⁸⁸

186. Because the opinion mentions only tying agreements by name, it is possible to read its exception from the per se legality of unilateral refusals to deal as applying only to tying claims. Such a reading would make little economic sense, however, because some conditional agreements are analytically equivalent to tying. See Posner, *supra* note 173, at 7. Such a reading would also bring the opinion into tension with, if not direct conflict with, the Supreme Court's precedent. The reading of *ISO* advocated in the text is therefore preferable.

187. *Indep. Serv. Orgs.*, 203 F.3d at 1327.

188. The Federal Circuit went on to note that "absent exceptional circumstances, a patent may confer the right to exclude competition altogether in more than one antitrust market." *Id.* This statement is best read as saying that unconditional unilateral refusals to license are lawful even if they exclude competition in several antitrust markets, as might be the case in the sort of single-firm aftermarkets at issue in *Image Technical Services*. To read the statement more strongly, as applying to conditional refusals as well, would create a conflict within the opinion and at least a tension between the Federal Circuit's and the Supreme Court's opinion. Professors Lopatka and Page rightly point out that both tying and monopolization claims in the *Image Technical Services* context involve allegations that a rights holder attempted to extend the economic power conferred by an intellectual property right practiced in one market to gain revenues in another market. (In that case the extension was from parts to service.) Because the conduct and economic effects are substantially equivalent, it makes little sense to treat the two claims differently. John E. Lopatka & William H. Page, *Monopolization, Innovation, and Consumer Welfare*, 69 G.W. UNIV. L. REV. (forthcoming 2001).

With respect to either patents or copyright, the only notable exception to the legality of unconditional refusals to license is the remand decision in *Image Technical Services, Inc. v. Eastman Kodak Co.*, 125 F.3d 1195 (9th Cir. 1997). The Ninth Circuit there accepted the rule the First Circuit stated in *Data General Corp. v. Grumman System Support Corp.*, 36 F.3d 1147, 1187 (1st Cir. 1994), under which the exercise of intellectual property rights is a presumptively valid justification for allegedly anticompetitive behavior. But the court then allowed that presumption to be rebutted by evidence that Kodak did not genuinely intend its refusal to license as an exercise of its IP rights and had asserted the rights only as a pretext to cover its anticompetitive intentions. *Image Technical Services*, 125 F.3d at 1219-20. As I have argued elsewhere, the notion that a refusal to license a work covered by an IP right can violate the antitrust laws if the rights holder was motivated by a desire to restrain trade rather than to earn revenues from its

In short, judges assessing antitrust innovation claims may give proper effect to the congressional choice to confer (at least potentially) some degree of market power on rights holders by holding that unconditional unilateral refusals to license protected works do not violate the antitrust laws. Judges may give effect to both the antitrust and intellectual property laws by analyzing joint or conditional refusals under the antitrust laws where the facts warrant such analysis. In some cases, this may require courts to assess the degree of economic power the intellectual property laws imply. Judge Jackson's conclusion (in denying summary judgment) that software enjoys only relatively "thin" copyright protection is one example of this fact.¹⁸⁹ So long as such determinations are based on the language and purposes of the intellectual property laws, they are as desirable as they are necessary. Courts should not use antitrust principles to measure or truncate the strength of the legislative grant, however.

2. *Courts in Innovation Cases Should Seek to Advance Total Surplus*

The Supreme Court has not specified a single purpose to guide antitrust decisions. In some areas, standard tools of statutory construction might argue against an efficiency standard and in favor of small firms as against large firms and consumers. Our current doctrine, however, is a triumph of experience over hope. Development of an efficiency defense in merger cases,¹⁹⁰ the diminishing scope of the per se rule,¹⁹¹ the greater emphasis on market power as necessary to establish liability,¹⁹² and the establishment of a dangerous probability requirement for attempted monopolization cases,¹⁹³ all suggest that efficiency should be considered the principal goal of antitrust across a broad range of cases.

work is unsound and should not be followed. McGowan, *supra* note 175, at 511-18. The Federal Circuit was right to reject this approach in *Indep. Serv. Orgs.*, 203 F.3d at 1329; see also AREEDA & HOVENKAMP, *supra* note 181, at ¶ 704.1, at 231.

189. *United States v. Microsoft Corp.*, Nos. 98-1232, 98-1233, 1998 WL 614485 at *16 (D.D.C. Sept. 14, 1998) ("whatever policy justifications that may exist for a moral right of integrity in works of art are substantially weaker when the work at issue is a computer program, whose value lies in its functionality, not its artistry.").

190. *E.g.*, U.S. Dep't of Justice and FTC, Horizontal Merger Guidelines § 4, available at http://www.usdoj.gov/atr/public/guidelines/horiz_book/hmg1.html (Apr. 8, 1997).

191. *State Oil v. Khan*, 522 U.S. 3, 20-21 (1998); *Bus. Elecs. Corp. v. Sharp Elecs.*, 485 U.S. 717, 731 (1988); *Broad. Music, Inc. v. Columbia Broad. Sys.*, 441 U.S. 1 (1979); *Continental TV, Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36 (1978).

192. *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 38 (1984) (O'Connor, J., concurring).

193. *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447 (1993).

Saying that efficiency trumps small-firm protection does not answer every question. As a doctrinal matter we do not know whether the interests of consumers trump those of producers even where a decision in favor of consumers would reduce total welfare.¹⁹⁴ The Supreme Court has not said which interest trumps in case of a conflict, and the Court's *Image Technical Services* opinion may be read as making a reduction in consumer surplus actionable even where total surplus is not likely to have been reduced. While the economic case for a total surplus standard probably seems obvious to many observers, it is not clear that this standard is binding as a doctrinal matter, and a significant portion of the political history of the antitrust laws, born of small firms seeking protection from large innovators, cuts against this view.

The unhappy history of antitrust during periods when conflicts in its purposes were sharply posed and put under pressure by litigants suggests that if innovation is to be a manageable theory of harm in future antitrust cases, antitrust courts assessing claims of harm to innovation must apply a total welfare standard. Most, if not all, cases in which innovation is at issue will also involve intellectual property rights, which deliberately give producers some economic power to extract from consumers the revenues necessary to induce investment in innovation.¹⁹⁵ The power intellectual property rights confer is not invariably or even often monopoly power, and in competitive markets may not be much power at all. If one presumes that the rights are necessary to induce creation in the first place, intellectual property rights do not shift existing wealth from consumers to producers. Nevertheless, the ability of producers to use intellectual property rights to extract revenues from consumers suggests that innovation cases are likely to pose conflicts between consumer and producer welfare.

Explicit recognition of a total surplus standard does not entail major changes in antitrust law, because many judges apply the standard already, and in most cases there is no conflict between consumer and total surplus.

194. See Peter J. Hammer, *Antitrust Beyond Competition: Market Failures, Total Welfare, and the Challenge of Intramarket Second-Best Tradeoffs*, 98 MICH. L. REV. 849, 869-70 (2000).

195. *E.g.*, *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 546 (1985) ("The rights conferred by copyright are designed to assure contributors to the store of knowledge a fair return for their labors."); *Diamond v. Chakrabarty*, 447 U.S. 303, 307 (1980) ("The patent laws promote this progress by offering inventors exclusive rights for a limited period as an incentive for their inventiveness and research efforts."); *Mazer v. Stein*, 347 U.S. 201, 219 (1954) ("The economic philosophy behind the clause empowering Congress to grant patents and copyrights is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare through the talents of authors and inventors in 'Science and useful Arts.'").

Some cases, such as both the Supreme Court and Ninth Circuit opinions in *Image Technical Services*, might have to be reconsidered, or limited to their facts, but at least at the circuit level, judges have been limiting the scope of those decisions already.¹⁹⁶

3. *Courts Assessing Harm to Innovation Should Require Evidence of Harm Beyond Injuries to Particular Firms*

Antitrust innovation cases walk a fine line between general efficiency concerns and the welfare of particular firms. In order to make harm to innovation a concrete enough prospect to state a plausible claim, a plaintiff will have to introduce evidence of the type of innovation it has in mind, explain why it would enhance efficiency if successfully exploited, and explain how the defendant's conduct frustrates the innovation. The only realistic way to do that is to point to firms or other institutions (universities, perhaps) presently working on efficiency-enhancing innovation. Without the example of individual competitors to illustrate the nature of innovation allegedly harmed by wrongful conduct, and to show that the innovation promises some concrete chance of real social benefits, innovation claims will be unmanageable. With such examples, innovation claims present the risk that the antitrust laws might once again be interpreted to benefit individual firms. The experience with using particular firms as proxies for larger antitrust policy goals suggests that such efforts would lead to doctrinal incoherence and, for jurisprudential reasons if no other, would ultimately be unsustainable.

Consider the browser wars, for example. Both Netscape's Navigator and Microsoft's Explorer descended from the development of the University of Illinois' Mosaic program.¹⁹⁷ Suppose that Microsoft had discovered

196. See, e.g., *PSI Repair Servs., Inc. v. Honeywell, Inc.*, 104 F.3d 811 (6th Cir. 1997); *Digital Equip. Corp. v. Uniq Digital Techs., Inc.*, 73 F.3d 756, 761 (7th Cir. 1996).

197. See CUSUMANO & YOFFIE, *supra* note 140, at 3, 95-99. Netscape, originally named Mosaic Communications, hired nine of the eleven students who had worked on the Mosaic browser at the University of Illinois National Center for Supercomputing Applications ("NCSA") including, of course, Marc Andreessen. Netscape paid the University of Illinois approximately two million dollars to settle claims the university asserted based on Netscape's use of the Mosaic name and technology. Netscape's Navigator browser did not use any Mosaic code, however. Testimony of Jim Barksdale, *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000) (Nos. 98-1232, 98-1233), available at <http://www.usdoj.gov/atr/cases/f1900/1999.htm> (Oct. 13, 1998) [hereinafter Testimony of Jim Barksdale]. Roughly twenty other firms produced web browsers when Netscape was founded. *Id.*; see also CUSUMANO & YOFFIE, *supra* note 140, at 95-96. In early 1994, the NCSA began licensing Mosaic for a \$100,000 flat fee and a royalty of \$5 per copy. In August 1994, Spyglass, an NCSA spin-off firm, became the master licensee for Mosaic.

the Mosaic team before Jim Clark did, hired them away from Illinois, as Netscape (originally Mosaic Communications) did, and had introduced a competent browser in 1994. Suppose further that no other firms were working on the technology. If a consumer filed a complaint alleging that Microsoft's bundling of browser code with Windows was unlawful because it would discourage other firms from browser-related innovation, how should a court respond? I suspect that Microsoft would file a motion to dismiss, and that it would (and should) win. Such an abstract claim would not give the court any way to estimate the alternative path of innovation or its probable success, and permitting such claims to go forward would discourage desirable innovative work by incumbents.

Adding Netscape and Sun to the Microsoft case takes care of this problem, but it introduces another one. How are we to separate the path, rate, and probable success of innovation from the welfare of these particular firms?¹⁹⁸ The Justice Department used Netscape and Sun to represent middleware innovation that might have evolved into substitutes for Windows by exposing interfaces to application writers that could compete with the Windows application programming interfaces ("API") set. This may or may not have been a plausible business model; it appears not to have been the business model that Netscape had.¹⁹⁹ The claim is more plausible with respect to Sun's Java technologies. But moving the industry standard API set up a notch in the computing hierarchy would not obviously result in more firms offering the standard technology, particularly because Sun insisted on retaining intellectual property rights in Java itself. (It was this insistence that ultimately doomed its efforts to have Java recognized as an international standard by the International Organization for Standardiza-

Microsoft licensed the Mosaic code in December 1994. *Id.* Netscape's settlement with the NCSA gave it a cost advantage; while firms that licensed Mosaic from Spyglass paid a \$5 per copy royalty, Netscape did not. *Id.* at 99.

198. The intellectual property laws are no help here, for they see no conflict. They actively seek to advance the welfare of rights holders in general, presuming that the benefits will outweigh the costs. But all the firms in the hypothetical are rights holders, or at least licensees, and they all innovate.

199. See Testimony of Jim Barksdale, *supra* note 197.

Q. Did you believe in 1995 that it was possible for Navigator to serve as a substitute for at least the platform characteristics of Windows?

A. No.

Q. And Netscape, as a company, did not hold that belief? A. We have always believed, and we still believe, that it can substitute for some of the characteristics. But we have never maintained in any serious way that it could substitute for all of it.

Q. Platform characteristics? A. Platform characteristics.

Id.; see also CUSUMANO & YOFFIE, *supra* note 140, at 210.

tion.)²⁰⁰ Judicial backing of Sun over Microsoft might result in higher output or lower costs, but such an outcome is at least not self-evident.

History is instructive here. Antitrust innovation claims are risky to the extent particular firms cast as innovative entrants are used as a proxy for innovation generally. The protection of particular (small) firms has in the past been an unstable basis on which to rest any competition policy that is also concerned with efficiency. For antitrust decisions to amount to a workable rule of law, they must cohere around an identifiable purpose or purposes. The reasoning for the decisions must be explained sufficiently for lawyers and clients to understand and replicate it. If antitrust courts embrace theories of harm to innovation that cannot transcend the interests of particular firms, they run the risk that their decisions will fail to create a workable body of law. Firm-specific antitrust innovation policy would not only be worse than total welfare antitrust innovation policy, there is a risk that it could discredit efforts to use the antitrust laws to promote innovation altogether.²⁰¹

In most cases, therefore, theories of harm to innovation should rest upon more than the welfare of particular firms. A plaintiff who could show only that another firm with its own intellectual property rights had been hampered should not prevail absent additional evidence or analysis providing a reasonable basis to conclude that the swapping of one dominant firm for another would enhance social welfare net of litigation and related costs. For example, if an entrant firm could make credible commitments that limited its ability to engage in strategic behavior if it became dominant, a court evaluating an innovation claim should take such commitments into account. If such commitments were concrete enough for courts to enforce in the future, through either estoppel or antitrust theories,²⁰² a court might reasonably consider harm to a particular firm a sufficient basis to state a claim. If no such evidence existed, a court should treat the claim with great skepticism.

200. See Lemley & McGowan, *supra* note 150; David McGowan, *The Problems of the Third Way; A Java Case Study*, in REGULATING THE GLOBAL INFORMATION SOCIETY 243 (Christopher T. Marsden ed., 2000).

201. In addition to these legal institutional considerations, the switching of one dominant firm for another is not self-evidently superior to other, less costly, methods of bringing innovations to market, such as licensing. An exclusively firm-based innovation policy in an era of serial monopoly poses the risk of invoking the judicial power to do nothing more than swap one dominant firm for another based on judicial assessments of welfare. Maybe such swaps would, on average, enhance welfare, but that is at least not a foregone conclusion.

202. See Lemley & McGowan, *supra* note 150, at 771.

Some firm-independent theories of harm to innovation are easy to articulate. Claims based on conduct aimed at channels of distribution are the most obvious example. To borrow again from the *Microsoft* case, at least in theory Microsoft's exclusive dealing agreements with Internet service and content providers had the potential to extend the duration of its operating system power.²⁰³ This potential existed regardless of the identity of particular innovators, or the precise nature of their innovations. These claims, on which Microsoft partially retreated at the outset of the case,²⁰⁴ are good examples of the manner in which strategic antitrust enforcement can help maintain market conditions congenial to innovation.²⁰⁵ Microsoft's requirement that original equipment manufacturers ("OEM") include Internet Explorer with Windows is another example of a general claim, because it would affect any firm wishing to distribute browsers through OEM installation. That Netscape was the most obvious of the browser competitors does not vitiate this fact. Preventing firms from blocking the distribution of competitive products through conduct that cannot be justified on efficiency grounds moves up the date at which an uncompetitive market becomes competitive.

Other claims of harm are harder to articulate without blurring significantly with the welfare of particular firms. The Java-related theories in the litigation were unquestionably firm-specific theories of harm; Sun clung tightly to its intellectual property rights in Java and its position as the official sponsor and maintainer of the Java technologies. In the litigation Java was characterized as only one form of "middleware," albeit a particularly interesting form because of its cross-platform aspirations and its backing by a major firm. But Java was never a legally "open" technology, in the sense that some open-source software projects may be.²⁰⁶ Sun's determination to maintain control of Java and the failure of the government to

203. Cf. Posner, *supra* note 173, at 6-7; Eric B. Rasmusen et al., *Naked Exclusion*, 81 AM. ECON. REV. 1137 (1991).

204. See Defendant Microsoft Corporation's Answer to the Complaint Filed by the U.S. Department of Justice, §§ 31, 34; Fifth Defense (1998), *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30 (D.D.C. 2000), available at http://www.microsoft.com/presspass/doj/7_28answerdoj.asp (July 28, 1998).

205. It is therefore ironic that these are the only claims on which the district court found in Microsoft's favor, on the ground that the agreements did not foreclose enough channels of distribution to establish a claim for violation of section 1. *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30, 50-54 (D.D.C. 2000). The Justice Department did not appeal this ruling, because the relief granted on the section 2 claims effectively prohibited such agreements. See Brief for United States, *supra* note 157, at 5.

206. See David McGowan, *Legal Implications of Open-Source Software*, 2001 U. ILL. L. REV. (forthcoming 2001) (discussing the open-source structure).

identify enforceable commitments limiting Sun's ability engage in strategic behavior makes it hard to classify the Java aspect of the litigation as anything other than a theory of firm-specific harm.

There may be cases in which it makes sense for harm to a particular firm to count as harm to innovation in general even without a commitment constraining strategic behavior. In general, one might argue that no entrant will ever displace an incumbent unless the entrant's technology represents a big enough advance over the incumbent's to justify consumers in incurring the cost of switching to the new technology. This is a logical prediction, but its implications are ambiguous. Does it mean that every firm should be treated as a potentially radical innovator, such that harm to any firm counts as harm to innovation? Judicial history in dealing with forward-looking antitrust claims by seeking to protect small firms so that they could compete in the future counsels strongly against such an approach. Not only would courts probably wind up maximizing the welfare of particular firms, with the attendant risk of imposing serious costs and possibly retarding innovation, but the logic of winner-take-most markets does not support such a result. That logic says that an entrant will not supplant an incumbent unless the gains to consumers outweigh switching costs; it does not imply that every firm that tries to leapfrog the incumbent has the same likelihood of success, or even any likelihood of success.

At the other end of the spectrum, one could also infer from this premise that antitrust actions are superfluous in winner-take-most markets, because we need only wait for a sufficiently radical entrant to come along for market dominance to change, and nonradical innovations can be licensed through the dominant firm in the interim. This inference is as unwarranted as the first. Even if some level of innovation would displace an incumbent, that fact does not imply that the incumbent has no ability to extend its dominant position and delay the date at which the transition occurs.²⁰⁷ On balance, it is best to say that firm-specific harm should not be enough to sustain antitrust innovation claims in most cases, leaving open the possibility of establishing a claim solely through firm-specific harm in extraordinary cases where the facts demonstrate that the welfare of a particular entrant could serve as a reliable proxy for total surplus.

207. Some entry-delaying acts would be desirable. Improvements in the incumbent technology, for example, would narrow the gap between the two and make consumers less willing to incur switching costs. Such improvements would not violate the antitrust laws, however.

4. *A Coherent Approach to Causation in Monopoly Maintenance Cases Must Be Developed*

Many have argued that the economics of the “New Economy,” generally meaning software and Internet-related lines of business, imply sequential monopolies in which dominant firms leapfrog each other’s market position.²⁰⁸ To the extent this argument is correct, entrants will challenge incumbents through innovation, incumbents will respond aggressively, and antitrust courts will be called upon to evaluate claims that dominant incumbent firms extended monopolies through anticompetitive acts. To evaluate such claims, courts will have to develop analytical tools to answer the question of causation: What does it mean to say that a dominant firm’s aggressive acts “maintained” a monopoly?²⁰⁹

Apart from a defendant in current litigation, it is hard to find anyone willing to say that a monopoly maintenance claim should require proof that monopoly power would have been eroded but for the allegedly unlawful acts. It is not clear why this should be so. Assuming the defendant acquired market power legally, the only wrong in such cases is the extension of that power by anticompetitive acts. If a plaintiff cannot show by a preponderance of the evidence that market power would have been reduced but for a defendant’s anticompetitive acts, on what basis can a court hold the defendant liable under the antitrust laws?

Perhaps theories of causation used in tort cases can answer this question. Tort law sometimes imposes liability for a known wrong even though the plaintiff could not identify which of several defendants caused the harm.²¹⁰ Tort law also sometimes imposes liability for a known wrong if the plaintiff can prove the defendant’s conduct was a “substantial factor” in causing the harm.²¹¹ This standard, adopted by the *Restatement*,²¹² “generally produces the same results as does the ‘but for’ rule of causa-

208. *E.g.*, SHAPIRO & VARIAN, *supra* note 144, at 173 (“The industrial economy was populated with oligopolies . . . the information economy is populated by temporary monopolies.”).

209. *E.g.*, PHILLIP E. AREEDA & HERBERT HOVENKAMP, 3 ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION ¶ 650(c), at 69 (rev. ed. 1996) (“there is much doubt about how clear and significant the causal relation must be between reprehensible conduct and monopoly power.”).

210. *E.g.*, *Sindell v. Abbott Labs.*, 26 Cal. 3d 588 (1980) (imposing market share liability on producers of fungible drug that harmed plaintiff, who could not identify which firm produced the drug she took); *Summers v. Tice*, 33 Cal. 2d 80 (1948) (imposing joint and several liability on two hunters who fired at plaintiff, who could not identify whose bullet hit him).

211. *E.g.*, *Bird v. Saenz*, 103 Cal. Rptr. 2d 131, 136-37 (Cal. Ct. App. 2001).

212. RESTATEMENT (SECOND) OF TORTS § 431(a) (1965).

tion” but reaches beyond the but-for test “to satisfactorily address other situations, such as those involving independent or concurrent causes in fact.”²¹³ Under either the but-for or substantial factor test to establish causation-in-fact, the harm suffered by the plaintiff is generally taken as a given. The question of causation involves only the relationship of the defendant’s conduct to that harm.

The causation issue in monopoly maintenance cases is harder, however, because the harm in question is not so readily apparent as the death or injury of a tort plaintiff. Assuming the legality of market power in the first instance, if that power has not been preserved by anticompetitive means a court cannot assume that any harm to welfare has occurred. The question whether harm exists depends in significant part on whether the defendant’s anticompetitive actions caused the extension of power that otherwise would have been eroded. Harm therefore cannot be taken as a given for purposes of causation analysis. This problem is particularly acute in markets where dominance by an incumbent firm is to be expected and does not itself imply welfare losses. As this analysis suggests, the standard of causation a court applies in monopoly maintenance cases plays a fundamental role in defining what conduct the antitrust laws condemn.

The interesting problem for courts in monopoly maintenance cases is to develop a standard of causation that reflects the goals and assumptions of antitrust policy, the institutional limitations of courts, and the relative risk and cost of error.²¹⁴ A strict standard of causation, for example, reduces the chance that liability will be found where welfare has not been reduced and increases the chance that liability will not be found where welfare has been reduced. A low standard does the opposite.

Analyzing these variables is a complex process that is hard to separate from one’s background beliefs, such as how strongly one prefers market ordering to regulation, or vice versa. Approaches to causation in the past

213. *Rutherford v. Owens-Illinois, Inc.*, 16 Cal. 4th 953, 1214 (1997).

214. The same is true in tort law. *Summers*, for example, imposed joint and several liability on two hunters who had shot toward the plaintiff on the ground that both had acted negligently and the two were in a better position than the plaintiff to identify whose bullet hit the plaintiff in the eye. *Summers*, 33 Cal. 2d at 86.

When we consider the relative position of the parties and the results that would flow if plaintiff was required to pin the injury on one of the defendants only, a requirement that the burden of proof on that subject be shifted to defendants becomes manifest. They are both wrongdoers—both negligent toward plaintiff. They brought about a situation where the negligence of one of them injured the plaintiff, hence it should rest with them each to absolve himself if he can.

Id.

appear to have been driven in significant part by the assumption that monopoly is aberrational and inherently bad. From that assumption, it follows that the acts of monopolists should be treated with great skepticism, and doubts about the evidence should be resolved against the monopolist. As Areeda and Hovenkamp state the point, "because monopoly will almost certainly be grounded in part in factors other than a particular exclusionary act, no government seriously concerned about the evil of monopoly would condition its intervention solely on a clear and genuine chain of causation from exclusionary act to the presence of monopoly."²¹⁵

The assumption that monopoly is an evil aberration implies to some that monopolists should bear the risk of uncertainty. The Areeda-Hovenkamp treatise gives a qualified endorsement to this concept, stating that in some cases it may be appropriate to presume that an exclusionary act is causally related to monopoly power, with the defendant being "made to suffer the uncertain consequences of its own undesirable conduct."²¹⁶ In part through the influence of this treatise, risk allocation has played an important role in setting the standard of causation in monopoly maintenance cases.²¹⁷

The gist of the uncertainty argument is that it is better to place the risk of error on monopolists who engage in ambiguous conduct, and who have the power to steer clear of the ambiguity, than to err in the other direction. The effect of this approach is to deter monopolists from competing as aggressively as the law would allow in a world of perfect information. Perhaps overdeterrence to compensate for informational deficiencies would be a good thing in a world where monopoly was an evil aberration, though even there the concept is inconsistent with cases saying that a monopolist is allowed to compete as aggressively as any other firm,²¹⁸ and it is at least not obvious that the benefits of overdeterrence are greater than the costs. But even setting such questions aside, why is systematic overdeterrence desirable in markets where monopoly is the rule rather than the exception?

215. AREEDA & HOVENKAMP, *supra* note 209, at 77. Such assumptions probably explain the oft-heard objection that setting the level of causation too high will put an end to monopoly maintenance cases. From an efficiency perspective, that objection seems to miss the point that whether monopoly maintenance cases are desirable depends on whether the behavior they condemn actually reduces welfare, which in turn depends on what behavior is deemed sufficient to establish causation.

216. *Id.* at 78.

217. *See infra* note 221.

218. *E.g.*, *Olympia Equip. Leasing Co. v. W. Union Tel. Co.*, 797 F.2d 370, 375 (7th Cir. 1986) ("A monopolist, no less than any other competitor, is permitted and indeed encouraged to compete aggressively on the merits . . .") (quoting *Foremost Pro Color, Inc. v. Eastman Kodak Co.*, 703 F.2d 534, 544 (9th Cir. 1983)).

What are we to say of causation in a world in which monopoly is the norm and the only question is who will possess it?

At this point in the analysis, background assumptions and ideological commitments play a relatively large role. Analysts who favor intervention will look at the serial monopoly structure and see a reason for enforcement officials to intervene more aggressively than they have in the past. This view implies setting the standard of causation relatively low, so that incumbent firms face a greater risk of antitrust suits. The argument is roughly that monopoly power in winner-take-most markets will tend to be more durable than in more traditional markets, and worries about monopoly maintenance are therefore higher because incumbent firms will find it easier to suppress leapfrogging innovation than they have in the past. Antitrust intervention may be necessary, on this account, to ensure that the dominant firm is the one with the best technology. The Justice Department's fairly explicit view that platform-independence through Java would enhance welfare relative to a Windows-dominated world tends to confirm this implication.

Analysts who view antitrust intervention skeptically will look at the same structure and conclude that monopoly is no longer inherently suspicious but has been normalized. According to this view, because there is no reason to consider monopoly aberrational there is no reason to lower the standard of causation to increase the risk, and therefore the deterrent effect, of antitrust suits. This view would also argue that incumbents will be replaced when the advantages of entrant technology justify switching costs, and that enforcement officials and judges have little if any ability to measure the costs or benefits of technology adoption decisions.

Whatever one's antitrust predilections, the serial monopoly concept, and the models of winner-take-most markets on which much discussion of competition in high-technology markets has rested, suggest that the traditional assumptions driving causation doctrine need to be reconsidered when these models apply. Perhaps the only suggestion for a modification of traditional theory that might gain widespread support would be to tie remedies strictly to the strength of the plaintiff's proof of causation. Under this approach, if an incumbent's conduct could not be justified on efficiency grounds but also could not support a finding that market power would have been eroded but for the conduct, then any finding of liability under section 2 could support only tailored damages or injunctive relief,

but not structural remedies such as divestiture.²¹⁹ In such a world, for example, Microsoft could be enjoined from threatening Intel in order to deter that firm from supporting Netscape or Sun—an act with virtually no competitive justification but which also probably did little to extend or maintain market power—without the liability finding being used to rearrange the structure of the market.²²⁰

It makes sense to tailor remedies in such cases to take account of uncertainty. But that approach still does not come to grips with the question of causation, which both logic and precedent require judges to analyze. Competing assertions of contrary background assumptions and beliefs are not likely to advance that analysis very much. More importantly, background assumptions form an uneven basis for the reasoned elaboration of a coherent body of causation doctrine in innovation cases. Such assumptions tend to be very broad, cutting across markets and types of conduct. To the extent they rest on ideological underpinnings, they make it harder for judges to develop an antitrust innovation doctrine through reasoned discussion that can be understood and replicated by lawyers and clients. At least where the plaintiff's economic theory implies that sequential monopoly is a likely market structure, judges need more tailored approaches and analytical methods that allow them to test such background assumptions against the facts of particular cases.

The first practical question for judges is what level of evidence should be required to support a finding of causation and how the evidence should be analyzed. Verbal formulations of a causation standard seem unlikely to help judges very much. For example, the First and Tenth Circuits have endorsed the test suggested by Areeda and Hovenkamp, in which exclusionary conduct is defined as acts that “reasonably appear capable of making a significant contribution to creating or maintaining monopoly power.”²²¹ In its brief to the D.C. Circuit, Microsoft cited the Areeda and Hovenkamp treatise to argue that a plaintiff alleging monopoly maintenance should be required to show “that reprehensible behavior has contributed significantly

219. See Part III.C.6. (proposing this result as a limitation on remedies); see also AREEDA & HOVENKAMP, *supra* note 209, at 67-68, 91-92 (discussing relationship between remedies and strength of findings on causation).

220. See Daniel J. Gifford & David McGowan, *A Microsoft Dialog*, 44 ANTITRUST BULL. 619, 651-53 (1999) (discussing Microsoft's threats against Intel).

221. *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1182 (1st Cir. 1994); see also *Multistate Legal Studies, Inc. v. Harcourt Brace Jovanovich Legal & Prof'l Publ'ns, Inc.*, 63 F.3d 1540, 1550 (10th Cir. 1995).

to the achievement or maintenance of the monopoly.”²²² The Justice Department cited the test adopted by the First and Tenth Circuits, which is stated at a later point in the treatise.²²³ It is hard to see how debating the difference between these two standards, even on the nonobvious assumption that there is one, will help judges decide cases.

A more contextual approach is only slightly more helpful. If an innovation has virtually no chance of succeeding, or of increasing welfare if it does succeed, how does harm to that innovation “maintain” monopoly power? To punish an incumbent firm for squashing an entrant that had no real hope of displacing it would be to adopt a theory of antitrust in which “bad acts” create liability even where there is virtually no reason to believe they cause any economic harm. Such an approach would be in tension with Supreme Court authority.²²⁴ In addition, both the total welfare mandate advocated above and our experience with antitrust enforcement divorced from economic consequences counsels against adopting a standard in which “bad acts” are unlawful without regard to the evidence (or lack thereof) of their economic effects. Causation analysis therefore has to consider whether the entrant’s technology would actually have succeeded in increasing welfare.²²⁵

At the same time, it would be unrealistic to require a plaintiff to prove conclusively that an entrant would have displaced an incumbent but for the incumbent’s alleged misconduct. There is always a risk that an innova-

222. Brief for Defendant-Appellant, *United States v. Microsoft* at 72-73, *United States v. Microsoft Corp.*, 165 F.3d 952 (D.C. Ct. App. 1999) (Nos. 98-5399, 98-5400), available at <http://www.microsoft.com/PressPass/doj/9-1finalcourt.asp> (Sept. 1, 1998).

223. Brief for United States, *supra* note 157, at 51-52.

224. See *Brooke Group, Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 225 (1993) (“Even an act of pure malice by one business competitor against another does not, without more, state a claim under the federal antitrust laws; those laws do not create a federal law of unfair competition or ‘purport to afford remedies for all torts committed by or against persons engaged in interstate commerce.’”) (quoting *Hunt v. Crumboch*, 325 U.S. 821, 826 (1945)).

The purpose of the Act is not to protect businesses from the working of the market; it is to protect the public from the failure of the market. The law directs itself not against conduct which is competitive, even severely so, but against conduct which unfairly tends to destroy competition itself. It does so not out of solicitude for private concerns but out of concern for the public interest.

Spectrum Sports, Inc. v. McQuillan, 506 U.S. 447, 458 (1993)

225. As noted above, one might argue that this concern is irrelevant because no entrant would displace an incumbent unless its technology was good enough to induce consumers to incur switching costs. Assuming that this point is correct, it should be relatively easy to explain to a court why the entrant technology in question fits that model.

tion will fail to fulfill its promise, and perhaps fail to produce any useful advances at all. If any risk of failure is enough to break the causal connection between anticompetitive conduct and unlawful “maintenance” of monopoly power, then antitrust innovation claims would always fail because there is always a risk that an entrant will fail. Unless we are confident that the antitrust laws could not enhance welfare unless a plaintiff met his standard, then a lower causation requirement is necessary.

Such conceptual analysis of the causation doctrine does little to help courts interpret actual evidence in real cases, which is the most important part of the problem. If we accept that monopolists should be allowed to compete as vigorously as anyone else,²²⁶ particularly in winner-take-most markets where monopoly is not an aberration, then how are judges to decide cases involving a mixture of aggressively competitive and anticompetitive acts? Because courts cannot measure very well the probability that an innovator would succeed in displacing a dominant firm, judges will have to resort to rules of thumb, presumptions, and proxies for this information. These rules of thumb, presumptions, and proxies will become vitally important to the evolution of harm to innovation as an antitrust theory. The first step in developing such approaches is to eschew labels in favor of analytical tools—questions to ask and rebuttable presumptions to impose.

One presumption-based approach is to use the incumbent firm’s actions as a proxy for the probability of an entrant’s success and, by extension, the probability that the incumbent’s market power would have been eroded absent the misconduct at issue. Judge Jackson employed this approach to a degree in his conclusions of law, noting that “[p]roof that the defendant’s conduct was motivated by a desire to prevent other firms from competing on the merits can contribute to a finding that the conduct has had, or will have, the intended, exclusionary effect.”²²⁷ His findings of fact also relied heavily on motivation. Though he could not conclude that Netscape or Java would have introduced competition, he thought it important that the “sole purpose” of some of Microsoft’s Java-related conduct was to frustrate Sun’s cross-platform efforts.²²⁸ The Justice Department advanced a similar argument on appeal. The gist of the argument is that a rational

226. *Olympia Equip. Leasing Co. v. W. Union Tel. Co.*, 797 F.2d 370, 375 (7th Cir. 1986).

227. *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30, 37 n.1 (D.D.C. 2000) (“consideration of intent may play an important role in divining the actual nature and effect of the alleged anticompetitive conduct”) (citing *United States v. United States Gypsum Co.*, 438 U.S. 422, 436 n.13 (1978)).

228. *United States v. Microsoft*, 84 F. Supp. 2d 9, 106 (D.D.C. 1999).

incumbent would not take action to combat an entrant technology unless that technology had a significant likelihood of succeeding and, therefore, of displacing the incumbent.²²⁹ On this view, defensive actions imply causation.

Logical inferences may be drawn from incumbent responses, and anyone who believes that firms understand market realities better than lawyers or judges should be inclined to give some weight to incumbent perceptions. But there are problems with such analysis, too. The incumbent firm might be wrong about the entrant's abilities or intentions, for example. Microsoft may have feared that Netscape planned to expand its API set to become a true substitute for Windows, but Netscape appears not to have had such plans.²³⁰ Microsoft might fear that the GNU/Linux operating system, or some other Unix variant, will become a viable operating system substitute. Maybe so, but if it happens it will be because of the nature of the entrant technology and market conditions. In some cases the incumbent's fears may be the best evidence of the probabilities these other facts imply, but it is not obvious that this is the case.²³¹ After all, the stereotypical monopolist is bad for innovation precisely because it has its eye on the past and does a poor job of analyzing new developments.

More fundamentally, focusing exclusively on the fact of incumbent responses is both indeterminate and unrealistic. If one knew nothing other than that an incumbent had reacted aggressively to a prospective innovative entrant, one would logically conclude both that the incumbent believed the prospective entrant had at least a reasonable likelihood of displacing the incumbent and that the incumbent's ability to exercise whatever market power it had was constrained, perhaps substantially, by the prospective entrant's threat. Without further facts, one could not say how likely the entrant was to succeed nor how significant a constraint—if any—it placed on the incumbent.²³²

Arguments based solely on incumbent responses will always suffer from this dual nature. That analysis of an incumbent's beliefs and inten-

229. See Brief for United States, *supra* note 157, at 85.

230. See *supra* note 199.

231. At oral argument, counsel for the United States and State plaintiffs appeared to concede that the test of causation was objective rather than a subjective inquiry into the beliefs of an incumbent. Trial Transcript, *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30 (D.D.C. 2000) (Nos. 00-5212, 00-5213), available at <http://207.46.230.218/presspass/trial/transcripts/feb01/02-26.asp> (Feb. 26, 2001).

232. The latter point is not directly relevant to causation, but is relevant to the degree of harm to welfare and to the remedy that might be justified in the event liability was established.

tions will always support contradictory inferences, however, does not imply that the competing inferences will be equally strong. It does imply that an incumbent's beliefs and intentions have to be analyzed in a broader factual context in order to decide whether one inference is stronger than another, or whether one effect (i.e., maintenance of monopoly or constraint on power) is likely to be greater.

It is therefore the combination of the analysis of incumbent beliefs with a close analysis of other market-related facts that makes those beliefs and intentions useful at all. Indeed, because the point at which a court believes that causation has been established defines the type of conduct the law regulates, and therefore is closely related to the purposes the law seeks to advance, there is every reason to engage in an integrated analysis on the question of causation as well. At least to some degree, the nature of the technology and market conditions can be analyzed directly, and there is no reason to use incumbent beliefs to the exclusion of such analysis.²³³

Opinions will vary on how much weight to give incumbent beliefs in an integrated causation analysis. I am content to say that an incumbent's beliefs and actions may be used to interpret ambiguous evidence, and an incumbent's beliefs might be used to tip the scales toward a finding of causation if other evidence is almost evenly balanced. In that case, however, there will by definition be a substantial independent evidentiary and analytical basis for concluding that the conduct at issue reduced either the rate at which innovative technology advanced or was adopted. Any inferences a judge draws from incumbent beliefs, however, should be subject to rebuttal by hard evidence, such as the testimony that Netscape did not in fact seek to become a full platform substitute for Windows.

Reserving the incumbent firm's intention for these purposes, we face squarely the problem of how to analyze incumbent conduct and its probable effects in winner-take-most markets where there is no reason to believe that monopoly is aberrational. This is, of course, the hard part. The best we can do is to adopt a flexible standard of causation that takes into account structural facts about the market, the nature of the claim being asserted (e.g., whether the conduct at issue is directed at a single firm, a type of technology, or at access to a channel of distribution), and whether a

233. Indeed, it is difficult, if not impossible, to imagine any enforcement official or antitrust plaintiff bringing a case solely on the basis of incumbent responses alone. Explicitly or implicitly, any party bringing such a claim will consider facts in addition to incumbent beliefs, and will use those facts to test and try to make sense of the beliefs. The key is to make the reasoning explicit so it can be tested by courts and, potentially, adopted by courts in a way that lawyers can understand and replicate in advising clients.

remedy tied to the conduct at issue could reasonably be expected to increase welfare.

Market structure is relevant to causation in an innovation claim to the extent the standard of causation expresses background assumptions about whether monopoly is inherently evil and aberrational. A model of winner-take-most competition implies that monopoly is not aberrational and that traditional doctrines designed to do away with monopoly and facilitate a return to "normal" market structure need to be rethought. As suggested above, that rethinking may do no more than reflexively express the same background assumptions in a different way. That outcome is not inevitable, however, and one hopes that rigorous analysis can avoid it. Either way, market structure is relevant to causation analysis and has to be taken into account for that reason.

At a more detailed level, market structure is relevant because it tells us something about how secure the incumbent's market position is and, by implication, how difficult it would be for an entrant technology to displace the incumbent. If the incumbent's market is characterized by large economies in production and consumption, for example, or by barriers to entry created by the incumbent's possession of de facto standard technology, then the incumbent's market position is likely to be durable. Assuming that consumers would incur costs in adopting an entrant's technology, then even without any illegal action by the incumbent one would expect displacement to be difficult. An entrant's innovation would run a significant risk of failure unless it was a truly significant improvement that could entice the incumbent's installed base of users to bear the cost of (and overcome collective action problems associated with) switching to the entrant's product. Entrant efforts to lower transition costs, are of course, relevant as well.

As noted above, in an ideal world the standard of causation would be tied to the available remedies, so that liability based on ambiguous acts could not support structural remedies. Setting that possibility aside for the moment, however, and envisioning a binary world in which any liability finding justified any remedy, then courts generally should demand stronger evidence of the connection between specific acts and the maintenance of market power in cases where the economic facts suggest that such power would be durable. Where the market structure implies durable power, it also implies a relatively low probability that ambiguous acts extended or increased power that would have eroded but for the defendant's acts.

In at least some cases, this recommendation implies that the stronger and more stable a firm's market position is, the more "bad acts" it can en-

gage in without fear of being found to have maintained its monopoly by unlawful means. Many analysts would view this implication as very odd (at best) and as reason enough to reject the recommendation. Any rule that says the more dominant a firm is, the meaner it can be, the argument would go, has got to be wrong. This sort of reaction is understandable, but the reasoning behind it is less solid than one might think. For example, this criticism rests implicitly on the notion that monopolists are forbidden from doing things that a firm in a competitive market could do, a position for which there is support in the cases.²³⁴ But why might this be? If the antitrust laws are designed to punish “bad acts,” defined without regard to economic effects, then it should not matter whether the firm that commits them is a monopolist.

Holding a monopolist to a higher standard is consistent with the view that antitrust is not a code of fair business conduct and is instead concerned with the effects of that conduct on social welfare.²³⁵ The reflexive objection to allowing any “bad acts” of a monopolist to go unpunished rests on an implicit definition that would allow an act to be deemed “bad” without regard to its economic consequences.²³⁶ Such a definition of prohibited conduct divorces antitrust law from the requirement of harm to welfare that distinguishes antitrust from generic unfair business practice statutes and run-of-the-mill business torts. Taking market structure into account as part of the causation inquiry is an important step in maintaining the economic consequences of behavior as the primary focus of antitrust. If and to the extent that antitrust is about economic harm rather than “bad acts,” then “bad acts” that cause no appreciable harm should not be held to violate the antitrust laws.

The alternative basis for this objection is a variation on the overdeterrence theme we examined earlier. The argument here would be that we cannot know enough about the consequences of a monopolist’s actions to safely excuse any conduct that might plausibly, possibly (or under some

234. *E.g.*, *Eastman Kodak Co. v. Image Technical Servs.*, 504 U.S. 451, 488 (1992) (Scalia, J., dissenting) (“Where a defendant maintains substantial market power, his activities are examined through a special lens: Behavior that might otherwise not be of concern to the antitrust laws—or that might even be viewed as procompetitive—can take on exclusionary connotations when practiced by a monopolist.”).

235. *See Brooke Group, Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209 (1993); *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447 (1993).

236. No doubt some acts condemned under this approach would have adverse economic consequences. My point is only that the reflex objection to which I am responding would not require a showing of such consequences in order to condemn the acts. It is to that extent, whatever it may be, that the objection detaches antitrust from its concern with welfare and moves it toward a code of fair business practices.

other such term) reduce welfare. Knowledge of the economic consequences of a monopolist's actions is indeed imperfect, so there is something to this point. But imperfect knowledge is not total ignorance; still less is it a reason to ignore evidence that might increase our knowledge and make our inferences sharper. It is true that causation analysis requires courts to draw inferences about the likely effects of actions, but the inferences will better reflect the goals of antitrust policy if they take market structure into account because that structure is relevant to the purposes of the inquiry. We should not ignore evidence relevant to the question whether monopoly power has been maintained by unlawful conduct simply because that evidence might suggest that conduct that has traditionally been unlawful in fact has little if any economic consequence.

Adding structure to the causation inquiry might tend to favor defendants, but there is no reason to expect this tendency to be universal. In some cases taking market structure into account might lead courts to give greater weight to conduct than they otherwise would. For example, in and of itself, Microsoft's insistence that Intel not publicly support Netscape and Sun's Java technologies might appear trivial. Those acts appear more significant when one considers the importance of consumer expectations in markets where network effects are strong, and the role Intel plays in the hierarchy of personal computing competition. Such concerns would be relevant to analysis of an immature market as well.²³⁷

The nature of the claim being asserted is relevant because incumbent actions that block any entrant firm, as through exclusive dealing arrangements that make distribution more expensive for entrants, pose greater risks of foreclosing innovation in general than do acts directed at particular firms, such as allegations that the incumbent "polluted" an entrant technology or intimidated other firms into not supporting a particular entrant's technology. In part this is for the reasons stated above. With respect to causation, the nature of the claim is relevant because any particular firm may fail for any number of reasons—including a host of firm-specific risks such as poor management. The variance associated with the success of Netscape's browser alone, in other words, is higher than the variance associated with the success of browser technology in general. The generality of the claim probably should be given less weight than either the market structure or the ability to devise a remedy, but it is a relevant point and therefore should be considered.

237. See David Dranove & Neal Gandall, *Network Effects, Standardization and the Internet: What Have We Learned from the DVD vs. DIVX Battle?* (2000) (unpublished manuscript, on file with author).

Asking whether a remedy directed solely at objectionable conduct could reduce the incumbent's market power is a hypothetical question designed to serve as a sort of acid test for causation. If putting a stop to the objectionable conduct would leave the incumbent in the same position, then some explanation should be given as to why that conduct "maintained" the defendant's monopoly. If no explanation can be given, a court should be less willing to find that the conduct caused market power to persist artificially.

This is not to say that no explanation can be given for any particular case or sort of claim. My only point is that the thought experiment of analyzing the effects of tailored remedies will make causation analysis more precise. Once again let us use the Microsoft case as an example. Suppose the argument is made that forcing computer manufacturers to install Explorer was anticompetitive because it raised Netscape's cost of distribution.²³⁸ Presumably this is because Netscape would have to pay OEMs a fee to cover their costs of installing Navigator in addition to Explorer, including the cost of customer support.²³⁹ A rational OEM would demand such a fee and would take it when offered, assuming some level of demand for Navigator. (In fact, Netscape appears to have paid such a fee to Compaq in 1999.)²⁴⁰ Suppose further that Microsoft is enjoined from requiring OEMs to preinstall Explorer. What happens next?

Enjoining Microsoft from requiring OEMs to install Explorer might lower Netscape's cost of distribution, but that conclusion is not self-evident and might be unlikely. Enjoining the practice would leave OEMs free to install whatever browser they chose. Two situations are possible. In the first, consumers have strong preferences for either Navigator or Explorer, presumably because one or the other offers decisively better performance. In the second, consumers are indifferent between the two because any difference in performance is worth less than the cost of downloading whatever browser is not preinstalled. In the first case, OEMs would install the browser consumers demanded. In the second, however, consumer indifference would imply a profit opportunity for OEMs, who could sell exclusive preinstallation rights to the highest bidder.

Netscape's distribution cost would be lower if Navigator were the preferred browser in the first case; they would not be lower if Explorer were the preferred browser. Netscape's distribution cost also would not be lower in the second case, characterized by consumer indifference, because

238. See Fisher & Rubinfeld, *supra* note 133, at 48-49.

239. *Id.*

240. *Id.* at 49 n.67.

then OEMs would demand preinstallation fees. These fees might be higher (and would not be lower) than OEMs' cost of installation, a cost Netscape would face whenever consumers were indifferent as between browsers, regardless of Microsoft's policies.²⁴¹

The concept of raising rivals' costs requires a benchmark for measurement. If one asks whether Microsoft's OEM policies raised Netscape's costs relative to an assumed world of free OEM preinstallation, then the answer is obviously yes. That benchmark is plausible only with respect to a market in which consumers express a clear preference for Navigator over Explorer, however. Consumers did in fact express such a preference in 1995 and part of 1996, when even Microsoft acknowledged that Explorer was a poor product.²⁴² During this period, Microsoft's ability to insist that OEMs install Explorer can plausibly be read as the exercise of market power in a manner calculated to maintain that power.²⁴³

In a world in which consumers are largely indifferent between browsers, the assumption of free OEM distribution is not plausible. In that situation, OEMs would rationally exact preinstallation fees from either Netscape or Microsoft, and it would be an error to say that Netscape's costs had been raised. Analyzing the consequences of a tailored injunction therefore allows us to focus the causation inquiry more precisely. For some period of time, Netscape's superior quality implied that it could obtain free OEM distribution. If it had to pay fees or was denied preinstallation during this period, then its costs were raised by anticompetitive acts. (If OEMs installed Navigator without charge during this period, however, then the opposite conclusion would of course follow.) After that period of time, the presumption of free distribution is not plausible, and the conclusion that Netscape's costs had been raised is harder to maintain.

The causation question then boils down to whether the economic effects of the period during which Netscape's costs were increased due to Microsoft's defensive exercise of market power were significant enough to "maintain" Microsoft's monopoly. That question does not answer itself. Analyzing market behavior on the assumption that a tailored remedy is in

241. And if the OEM distribution channel were not valuable enough to warrant such payments, then one would reasonably question how much welfare would be reduced by increasing the cost of using that channel.

242. See Lemley & McGowan, *supra* note 150, at 768 (describing the temporal aspect of the browser wars).

243. In a world in which consumer preferences were reversed, no market power would be necessary and Microsoft's policies would be surplusage. In that case, one would not want to say the policies had caused its market power to be maintained, even if one gave Microsoft's insistence on the terms some weight in favor of such a finding.

place, however, allows us to analyze the question of causation more clearly than do general arguments about the raising of rivals' costs

These suggestions do not establish a comprehensive approach to causation in monopoly maintenance cases based on harm to innovation. Most glaringly, the suggestions deal poorly with the fact that markets are messy arenas of human behavior in which many variables work together, and might work very differently if only small changes were made in any one of them. What about a series of acts each of which, on its own, could not extend the monopoly? Could their cumulative effect have caused market power to be maintained? Maybe so, and the possibility of cumulative causation should not be ignored. My suggestions do not provide much help in summing such effects.

Perhaps all that can be said on the problem of cumulative effects and mixed conduct is that acts by which an incumbent innovates or distributes innovative technology more rapidly—think here of Microsoft's improvement of Explorer and its Java Virtual Machine ("JVM")—should not count against the incumbent. If anything, the effects of such acts should be offset against the cumulative effects of anticompetitive acts.²⁴⁴ But at this point measurement problems are likely to be insurmountable, as a practical matter, and we must leave it to judges to exercise their best judgment after analyzing the relevant facts as rigorously as possible.

Lastly, theories of causation that rest on rational actor predictions that incumbent conduct will scare off potential entrants, thereby reducing consumer choice, should be viewed skeptically. By this I mean that before accepting such arguments as establishing causation, courts should require evidence and analysis linking rational entrant behavior directly to an incumbent's anticompetitive actions and should, to the extent possible, weigh against a finding of causation the deterrent effect of any incumbent actions the court finds to have promoted efficiency. If lawful incumbent conduct would have been sufficient to deter entry by a rational firm, then the argument from entrant expectations should not weigh in favor of a finding of causation.

It is easy to say that a rational entrant will not bother to take on a powerful incumbent if the entrant expects to get squashed. But a rational entrant would consider the risk posed by any incumbent response, including

244. For a detailed discussion along similar lines, which argues that in antitrust innovation cases where the conduct at issue "produced immediate and significant consumer benefits" courts should "create a presumption in favor of the defendant" that could be rebutted only by "compelling evidence that the expected cost of future consumer harm exceeds the immediate benefits," see Lopatka & Page, *supra* note 188, at 9-10.

responses the antitrust laws view as desirable and seek to promote. Improved product quality and free upgrades from an incumbent, for example, increase the risk associated with the entrant's revenues and therefore make entry less likely. More concretely, why would any firm bother making a Java Virtual Machine for a particular platform when everyone knows Microsoft will pour enough resources into its effort to have the best JVM in the market? Why would anyone bother introducing a browser when they know that Microsoft will pour enormous resources into making its own browser that will quickly become roughly as good as the entrant's? Perhaps no rational entrant would bother, but it does not follow that such efforts are anticompetitive—quite the contrary. That the Justice Department did not challenge Microsoft's free-browser policy adds further weight to this point.

In addition, the entrant-deterrence argument is hard to assess. Even though firms such as Sun, Netscape, and, at an earlier date, Microsoft, continue to emerge, one can always assert that more entry would have occurred with less aggressive incumbent firms. That being said, the argument has difficulty accounting for the rate of progress we have seen, a point Professor Scherer made in his assessment of how the argument has fared over time.²⁴⁵ Finally, the argument poses a risk of confusing the welfare of particular firms with social welfare generally. An entrant who wishes to introduce a product and then license or sell it to an incumbent still produces innovation that is dispersed quickly and at low cost. What is the social value differential between incumbent ownership and exploitation, and entrant ownership and exploitation? Perhaps an incumbent would suppress the technology, but in a world of strong rational actor assumptions and network effects, how likely is this to happen?

By saying such arguments should be viewed skeptically, I mean no more than that. I do not say that the entrant-deterrence argument is always wrong, or that courts should reject it out of hand as too speculative. The entrant-deterrence argument distinguishes poorly among different types of responses that contribute differently to welfare and which therefore should be treated differently by the antitrust laws, however. For that reason, it should be treated skeptically and scrutinized closely when it is advanced.

245. Scherer, *supra* note 17.

5. *Measures That Lower the Cost of Entry or Transition Among Technologies Should Be Favored, So Long As Intellectual Property Rights Are Not Truncated*

The serial monopoly thesis also suggests that antitrust courts should look favorably on measures that make it cheaper for consumers to switch from an incumbent technology to a new technology. This contention is more debatable than one might think, but in at least some circumstances interoperability seems desirable as a matter of antitrust policy. First the critique.

Several analysts have explored the trade-offs between competition within a standard—competition in a market—and competition to supplant an existing standard with a new one—competition for a market.²⁴⁶ Compatibility trades off with the incentive for radical innovation. Within a firm, for example, the desire to make new products compatible with earlier versions (backwards compatibility) may counsel against introducing the greatest possible improvement in the product. From the firm's point of view, the decision sacrifices some degree of innovation for the security of an installed base of users, which might be up for grabs if each user had to incur costs to adopt either the new product version or a competitive product. Backwards compatibility over product generations may be of interest to antitrust enforcers in some circumstances—the need for it may, for example, constrain strategic behavior—but it is less interesting than the question of compatibility between programs that are actual or potential substitutes.²⁴⁷

The main criticism of compatibility from an innovation point of view is that adopting legal rules that allow firms to compete within a standard may divert R&D resources away from competition to establish a new standard. This diversion might result in a larger number of modest improvements and fewer radical improvements than would occur in a regime of incompatibility. To this may be added the point that competition within a standard, such as producing more video games for an existing dominant hardware architecture, should at least lower the cost of compatible games and might increase their number, both effects tending to strengthen the existing standard by increasing the losses incurred (cost) in switching to a new one.

246. *E.g.*, SHAPIRO & VARIAN, *supra* note 144, at 227-33, 236-37, 285-87; Joseph Farrell & Michael L. Katz, *The Effects of Antitrust and Intellectual Property Law on Compatibility and Innovation*, 43 ANTI-TRUST BULL. 609 (1998).

247. *See* Michael L. Katz & Carl Shapiro, *Antitrust in Software Markets* 38, at <http://www.haas.berkeley.edu/~shapiro/software.pdf> (1998) (analyzing this distinction).

The innovation effects of the rule of cases such as *Sega v. Accolade*²⁴⁸ and *Sony v. Connectix*²⁴⁹ are thus at least in theory ambiguous. Against the tendency of reverse-engineering to reinforce an existing standard one would have to compare not only lower prices and greater choice of games, but also the relationship between learning and innovation. Reverse-engineering tends to facilitate the dispersion of knowledge, which anecdotal evidence²⁵⁰ and legal doctrines such as fair use and the idea-expression dichotomy suggest is positively correlated with innovation.²⁵¹

Not all forms of compatibility pose equivalent risks, however. Technology that allows users to transfer their own learning investments to a new standard program, for example,²⁵² or allows them to convert data inexpensively, or to continue to use applications written for one platform on another, would more clearly favor innovation. Consumers evaluate adoption decision on a cost-benefit basis. Whether consumers switch from an incumbent standard to an entrant depends not only on the degree of improvement the entrant represents but also on the cost of switching.²⁵³ While there in theory exist levels of innovation that would justify almost any cost, as a practical matter legal rules that lower transition costs make it more likely that innovations will be adopted and widely used by lowering the degree of improvement required to make switching cost-effective.

Though lowering the cost of transition would make more modest improvements viable, and therefore is to a degree vulnerable to the criticism that cost reductions will cause firms to forego research into radical improvements in favor of safer, incremental change, this effect is not a foregone conclusion. Ignoring transition costs for a moment, innovations that represent radical improvement over existing technology will allow the innovator to charge higher prices. Because consumers make adoption decisions on a total cost basis, transition costs lower the price the innovator can charge. Innovators who can lower those costs should be able to capture the difference in higher prices for the innovation. It is therefore at least not obvious that transitional technologies would divert the innova-

248. *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992).

249. *Sony Computer Entm't, Inc. v. Connectix Corp.*, 203 F.3d 596 (9th Cir. 2000).

250. See Ronald J. Gilson, *The Legal Infrastructure of High Technology Industrial Districts: Silicon Valley, Route 128, and Covenants Not to Compete*, 74 N.Y.U. L. REV. 575 (1999).

251. See MERGES ET AL., *supra* note 2, at 15-18.

252. *Lotus v. Borland*, 49 F.3d 807, 821 (1st Cir. 1995), *aff'd*, 516 U.S. 233 (1996).

253. See, e.g., SHAPIRO & VARIAN, *supra* note 144, at 184-86; McGowan, *supra* note 175, at 521-22.

tor's efforts away from more radical spreadsheet design, for example, and there is good reason to believe that they would not.

Various doctrines support interoperability. Within copyright, fair use and the developing defense of copyright misuse get at the issue most directly. Within antitrust, interoperability has played a role in merger enforcement. The FTC's open interface order in Silicon Graphics' acquisition of Alias and Wavefront is an example of interoperation playing a role in antitrust policy;²⁵⁴ a requirement that Microsoft commit to an open interface policy for Windows has often been suggested as one remedy in that case.²⁵⁵

In addition to these relatively conventional uses of interoperability, when antitrust courts analyze causation in innovation claims they should consider the degree to which transitional technology is legal and feasible. The lower the cost of transition from an incumbent to an entrant, the more likely the entrant's technology is to be adopted. By parity of reasoning, of course, this inquiry affects the court's view of the degree of incumbent market power as well. In some cases, requiring an incumbent to take steps to lower transition costs—such as by distributing source code, allowing unimpeded access to interfaces, allowing copying for user interface compatibility, and similar measures—might be an appropriate remedy to insure that choices within a market occur on the basis of price and performance.

6. *Remedies Should Reflect Market Structure and the Degree of Confidence in the Finding of Causation*

The normalization of monopoly implied by winner-take-most models of competition implies a cautious approach to remedies. The notion that divestiture should be favored to return a market to a "normal," competitive state is at least more questionable in such markets than it has been in the past. Even in more traditional markets, as the Areeda-Hovenkamp treatise maintains, equitable relief beyond enjoining anticompetitive acts, "particularly remedies such as divestiture designed to eliminate monopoly altogether . . . require a clearer indication of a significant causal connection between the conduct and creation of maintenance of the market power."²⁵⁶

A practical approach to innovation-based antitrust cases would seek tailored remedies that take into account the market structure implied by factors relevant to investment in research and development and the pro-

254. Katz & Shapiro, *supra* note 247, at 23; Lemley & McGowan, *supra* note 154, at 537-38.

255. See Ken Auletta, *Final Offer*, NEW YORKER, Jan. 15, 2001, at 40.

256. AREEDA & HOVENKAMP, *supra* note 209, at 91-92.

duction of innovative works, as well as the degree of confidence a court has in its findings that an incumbent's unlawful conduct had impeded innovation. If nothing else, tailoring remedies tightly to causation analysis prevents courts from attempting to restructure markets based on causation doctrines that express little more than background assumptions and risk aversion.

One obvious risk here is fragmenting markets to a degree where the rate of innovation and its adoption are harmed. The desirability of standardization and significant economies of production and consumption imply concentrated markets and, perhaps, durable market power for some firms. Some level of concentration, cooperation, and standardization may be necessary for network markets to perform optimally. Agreement on technical standards for compact discs and players, or DVDs and players, are examples. In extreme cases, a market might not emerge at all without a relatively high degree of concentration and significant cooperation within the concentrated market.

A particular market structure might be necessary to make unlawful behavior rational, but it does not follow that the structure necessarily should be disassembled to prevent the behavior. The tailored, purpose-based analysis necessary for developing useful standards of causation is also necessary to ensure that remedies do not conflict with the ultimate end of enhancing social welfare. Remedies that try to decentralize markets to limit opportunities for strategic behavior run the risk of sacrificing efficiency-enhancing aspects of the market.

This risk can be minimized by requiring a relatively strong degree of fit between the objectionable acts identified, their economic consequences and the degree of confidence a court has in its linking of the latter to the former. The mistake of 1960s merger policy was to infer liability from structure and therefore to try to eliminate structures the courts found worrisome. It would be a similar though more understandable mistake for modern courts to infer from the existence of objectionable conduct that the structures that made the conduct rational had to be dismantled in the name of innovation.²⁵⁷

257. Or, as Professor Scherer has said, "[t]he trouble with structural variables is that they have quite limited power in predicting behavior and, as a result, their application is likely to lead to many errors, which could be either on one side or on the other." F.M. Scherer, *Making the Rule of Reason Analysis More Manageable*, 56 ANTITRUST L.J. 229, 229 (1987).

IV. CONCLUSION

Innovation claims present an important opportunity for antitrust enforcers and judges in antitrust cases to enhance social welfare through the application of the antitrust laws. Because the relationship between market structure and innovation is a complex and imperfectly understood problem, and because federal intellectual property policy conflicts to a degree with the economic approach behind modern antitrust, enforcement decisions and judicial analysis should be tempered by skepticism and humility commensurate with the difficulty of the problems such cases present. A skeptical approach does not imply surrender, however; it demands only the rigorous analysis of the relevant facts.

Innovation claims also present some jurisprudential risks to courts. Intellectual property rights imply some degree of economic power that producers can deploy to extract returns from consumers. Antitrust policy in innovation cases should therefore be guided by a total surplus measure, and should not attempt to maximize consumer over producer surplus. This goal will aid in reconciling the different methods of the two statutory schemes and lessen the likelihood and severity of true conflicts. Antitrust policy also must be wary of allowing innovation claims to become a means of favoring the interests of small firms over large firms. The history of small-firm antitrust policy is not a happy one, and it is likely to be less happy in technology markets where significant economies of production and consumption combine with the need for standards to imply that significant levels of market concentration may be efficient.

Lastly, theories of causation in monopoly maintenance cases must be worked out in a thorough and rigorous manner. Causation analysis should take into account the degree to which concentration is maintained by unobjectionable economic factors such as the realization of scale economies, as well as the degree to which the claim advanced asserts harm to innovation generally rather than to a particular firm. Theories of causation also should constrain remedies in innovation cases, which run the risk of doing more harm than good if not tied closely to analytically sound theories of the manner in which objectionable acts have caused economic losses.

FOSTERING CUMULATIVE INNOVATION IN THE BIOPHARMACEUTICAL INDUSTRY: THE ROLE OF PATENTS AND ANTITRUST

By Arti K. Rai[†]

ABSTRACT

This Article addresses the question of how the tools of patent and antitrust law can best be used to foster the cumulative process that is biopharmaceutical innovation. This issue is of particular moment because we have begun in recent years to see a substantial amount of vertical and horizontal integration in the biopharmaceutical industry. The Article argues that although horizontal concentration may be useful for appropriating the value of a lengthy and expensive research and development process, a role for competition needs to be preserved. In the context of the biopharmaceutical industry, broad patents, particularly on upstream invention, represent the main threat to competition. Thus patent law needs to take the lead in preserving competition, primarily by limiting the scope of patents on upstream invention. Antitrust law, and especially the theory of innovation markets, should play a secondary role. In this secondary role, innovation markets theory will actually support certain market transactions that aggregate patent rights, in particular procompetitive patent pools. Innovation markets theory will, however, have an important impact in restricting market transactions if the transactions will give a single entity control over what appears to be a fundamental platform technology.

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I. INTRODUCTION

The complementary industries of biotechnology and pharmaceuticals (collectively, the “biopharmaceutical” industry) raise a number of vexing issues that lie at the intersection of intellectual property and antitrust. For example, settlements of patent infringement lawsuits between drug manufacturers and their potential generic competitors often raise antitrust concerns.¹ These settlements, which have been much discussed and are currently being investigated by the Federal Trade Commission (“FTC”),² forestall competition in traditional end-product, or goods markets.³ Less

1. See, e.g., Sheryl Gay Stolberg & Jeff Gerth, *Keeping Down the Competition; How Companies Stall Generics and Keep Themselves Healthy*, N.Y. TIMES, July 23, 2000, at 1; Alfred B. Engelberg, *Special Patent Provisions for Pharmaceuticals: Have They Outlived Their Usefulness?*, 39 IDEA 389, 416-17 (1999) (critiquing such agreements).

2. See *FTC Rx Drug Patent Investigation Moving Forward; Information Requests Expected By Spring*, 13 HEALTH NEWS DAILY 3 (2001) (discussing pending investigations and future study).

3. Notably, settlements of patent disputes between brand-name pharmaceutical manufacturers and generic companies are often quite different from patent settlements in other industries. Drug Price Competition and Patent Term Restoration (Hatch-Waxman) Act, Pub. L. No. 98-417, 98 Stat. 1585 (codified as amended in scattered sections of 15 U.S.C., 21 U.S.C., 28 U.S.C., and 35 U.S.C.), which specifically addresses pharmaceutical patenting, has a peculiar structure that allows brand-name manufacturers to forestall *all* generic competition for a period of time through the simple expedient of settling with the first competitor to challenge the patent. See, e.g., Carl Shapiro, *Navigating the Patent Thicket: Cross-Licenses, Patent Pools, and Standard-Setting*, in 1 INNOVATION POLICY AND THE ECONOMY (Joshua Lerner & Scott Stern, eds. forthcoming 2001) (manuscript at 28-29, at <http://haas.berkeley.edu/~shapiro/thicket.pdf>) (noting that “the branded manufacturer may be able to stall competition by entering into a suitable agreement with the uniquely-placed generic manufacturer, knowing that subsequent rivals will face some delay”). This settlement procedure operates without regard to how marginal the patent being challenged is. Indeed, the structure of Hatch-Waxman strongly encourages brand-name pharmaceutical companies to secure marginal drug patents that supplement the main patent application on the chemical entity that is the drug. Even patents that encompass such dubious subject matter as methods of administration, dosage, or tablet shape can be the basis for an automatic 30-month delay in a competitor’s ability to market. For a lengthy discussion of the incentives created by Hatch-Waxman, see Arti K. Rai, *The*

discussed, but equally important, are antitrust and competition issues raised by patent rights in the cumulative innovation process that leads to an end-product drug.⁴ This Article addresses the question of how patent and antitrust law should be structured in order to promote such innovation.

In order to understand the process of cumulative innovation in the biopharmaceutical industry, it is necessary to appreciate the basic structure of the industry and the science on which it relies. In the 1970s and 1980s, the biotechnology industry functioned relatively independently of the pharmaceutical industry. Biotechnology companies used recombinant DNA technology to produce therapeutic proteins such as insulin or erythropoietin.⁵ Although pharmaceutical companies may have assisted biotechnology

Information Revolution Reaches Pharmaceuticals: Balancing Innovation Incentives, Cost, and Access in the Post-Genomics Era, 2001 ILL. L. REV. (forthcoming 2001).

4. In most industries, cumulative innovation also includes innovation that improves upon (and hence competes with) the first-generation end product. In the biopharmaceutical industry, however, most cumulative innovation occurs in the pre-commercial stage, before the initial marketable product (typically a drug) is produced. Once the marketable drug has been developed, it is generally not the subject of significant improvement by competitors in the end-product market. Rather, to the extent the initial innovator faces competition, it is from so-called “me-too” drugs (that is, drugs that perform the same function as the breakthrough drug but manage to do so without infringing the breakthrough patent) or by generic competitors (once the drug goes off patent). One notable exception to this generalization has arisen in situations where the patented drug is not a traditional small molecule chemical but, rather, a biologic (e.g., a protein or other macromolecule) and the improver has come up with a dramatically different method for producing the biologic. *See, e.g.*, *Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 126 F. Supp. 2d 69 (D. Mass. 2001); *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565 (Fed. Cir. 1991)). Because this Article focuses on sequential innovation at the pre-commercial stage, it does not examine antitrust and patent policy issues raised by the possibility of collusive licensing where the second-generation product is a substitute in the end-product market for the first-generation product. *Compare* Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, 5 J. ECON. PERSP. 29, 33-34 (1991) (giving limited endorsement of such collusion on the theory that it would allow the first innovator to profit from the externality conferred on later innovators) with Howard F. Chang, *Patent Scope, Antitrust Policy, and Cumulative Innovation*, 26 RAND J. ECON. 34 (1995) (arguing that such collusive licensing should not be permitted). In addition, because this Article focuses on cumulative innovation, it does not address questions of patent breadth that arise when only a single innovator is involved. For articles that address patent breadth in the context of a single innovator, see, for example, Richard Gilbert & Carl Shapiro, *Optimal Patent Length and Breadth*, 21 RAND J. ECON. 106 (1990); Paul Klemperer, *How Broad Should the Scope of Patent Protection Be?*, 21 RAND J. ECON. 113 (1990).

5. *See* Rebecca S. Eisenberg, *Re-Examining the Role of Patents in Appropriating the Value of DNA Sequences*, 49 EMORY L.J. 783, 784 (2000) (noting that biotechnology in the 1980s focused on “cloned genes that enabled the production of proteins through recombinant DNA technology”).

firms in shepherding these biological macromolecules through the Food and Drug Administration's ("FDA") mandated clinical testing and approval process, the two categories of companies typically did not collaborate at the pre-clinical research stage. For their part, pharmaceutical companies produced small molecule chemical drug therapies based on "wet lab" testing of these therapies against a relatively small library of proteins thought to be involved in various disease processes.⁶

By contrast, in today's world, there is no clear distinction between the research paths taken by biotechnology and pharmaceutical companies. Although pharmaceutical companies still tend to focus on small molecule drugs,⁷ almost all pharmaceutical research is based on genetic or proteomic information. Because this information is often owned by biotechnology companies, pharmaceutical companies now need to work quite closely with biotechnology companies.⁸ Thus, for example, a pharmaceutical company that was interested in developing a drug for Alzheimer's disease would need access to gene fragments or genes relevant to the disease. This "upstream" research (i.e., research that is relatively far removed from a commercial end product)⁹ might be owned by one or more biotechnology firms, thus making it necessary for the pharmaceutical firm to negotiate with the biotechnology firm. Alternatively, a pharmaceutical company that was interested in developing a "precision" drug targeted to individuals with a particular genetic subtype of a given phenotypic disease¹⁰ would need information on the slight DNA variations, or single nucleotide poly-

6. See *From Sequence to Sales, The Genomics Payoff*, MED AD NEWS, July 1, 2000, at 29 [hereinafter *The Genomics Payoff*] (quoting Mark D. Gessler, president of Gene Logic, as saying that drugs developed by the traditional pharmaceutical industry affected fewer than five hundred proteins).

7. Small molecule drugs can be taken orally, as contrasted with macromolecular therapies, which have to be injected.

8. See JOSH LERNER & ROBERT P. MERGES, *THE CONTROL OF STRATEGIC ALLIANCES: AN EMPIRICAL ANALYSIS OF BIOTECHNOLOGY COLLABORATIONS* 1, tbl. 2 (Nat'l Bureau of Econ. Research, Working Paper No. 6014, 1997) (noting substantial increase in number of collaborations between biotechnology and pharmaceuticals between 1981 and 1995).

9. Throughout this Article, I will use the terms "upstream" and "downstream" to identify the proximity (temporal and conceptual) of particular research to a particular end product. It should be emphasized, however, that these classifications are quite fluid. Thus, for example, research identifying a gene linked to a disease might be quite "upstream" if the commercial goal is a drug therapy. By contrast, if the commercial goal is a diagnostic test, research identifying the gene might be relatively "downstream."

10. Conditions that appear to be the same disease phenotypically (i.e., in clinical presentation) often differ in their genetic basis. Thus drugs that treat one subtype of a particular phenotype may be ineffective in treating another subtype.

morphisms (“SNPs”) that are responsible for, or linked to, the subtype.¹¹ Because much of this SNP research has been done by biotechnology companies (e.g., CuraGen),¹² the pharmaceutical firm would need to negotiate with the biotechnology firm.

In fact, negotiations between biotechnology and pharmaceutical companies have moved well beyond arm’s-length licensing. Indeed, research collaborations between the two industries have become widespread and have taken a variety of forms. On occasion, we have seen complete vertical integration, either through a biotechnology company’s downstream expansion or through a pharmaceutical company’s upstream expansion. Thus, for example, the pharmaceutical company Novartis has established a research laboratory known as the Genomics Institute that has been given a substantial degree of independence in its operations.¹³ Similarly, Pfizer has established a new Global Research and Development Center that conducts basic research in drug discovery using genomics tools.¹⁴ Conversely, biotechnology companies like Human Genome Sciences, Millennium, and Abgenix have moved downstream into clinical research and development (“R&D”).¹⁵

Where pharmaceutical and biotechnology companies have stopped short of complete vertical integration, they have formed strategic alliances, many of which involve a tight linkage between the collaborating partners. For example, biotechnology companies often sign deals with pharmaceutical companies in which collaboration starts very early in the research process.¹⁶ In some of these alliances, even such early-stage research as the

11. For a discussion of SNP-based “precision” therapies, see Allen D. Roses, *Pharmacogenetics and the Practice of Medicine*, 405 NATURE 857 (2000). SNP information may also be useful to pharmaceutical companies for the purposes of predicting adverse drug reactions and finding disease genes. See, e.g., Leslie Roberts, *SNP Mappers Confront Reality and Find It Daunting*, 287 SCI. 1898 (2000).

12. See *The Genomics Payoff*, *supra* note 6 (discussing extensive work on SNPs by CuraGen).

13. See Genomics Institute of the Novartis Foundation, *About GNF*, at <http://www.gnf.org/smenu/about.htm> (last visited Apr. 22, 2001).

14. Ronald Rosenberg, *Discovery Zone Amid a Reshaping of the Drug Industry; Giant Pfizer Inc. Opens Itself to a New Environment*, BOSTON GLOBE, Jan. 17, 2001, at D4.

15. See Jennifer Van Brunt, *Grand Ambitions*, SIGNALS MAG., Feb. 24, 2001, at <http://www.signalsmag.com> (discussing how investor financing enabled these companies to raise money and move into product development).

16. See LERNER & MERGES, *supra* note 8, at 15 (indicating that in two-thirds of collaborations studied, preclinical development had not yet begun); see also Gregory B. Abbott, *Joint Ventures and Collaborative Agreements for Developing and Commercializing Technology in the Life Sciences*, 1193 PLI/CORP 247, 252-53 (2000) (noting that over

identification of targets for drug development in a particular disease area or areas can be part of the collaborative agreement.¹⁷ When collaboration is this close, the collaborators share not only pre-clinical and clinical R&D costs but also the overall profits from the drugs developed.¹⁸ The downstream pharmaceutical company may also buy an equity stake in the upstream company.¹⁹

The industry has also, in recent years, seen a substantial level of horizontal merger activity. A significant number of prominent pharmaceutical companies, including Novartis, GlaxoSmithKline, and Aventis, are products of horizontal mergers that have occurred over the last few years.²⁰ In addition, there has been some merger activity that is both horizontal and vertical in nature. Integrated companies such as Millennium and Abgenix that have both upstream and downstream research capabilities have lately been acquiring upstream companies, thereby increasing their vertical strength.²¹

This increased level of integration through alliance formation or merger raises the question of what type of industry structure is best suited for biopharmaceutical innovation. Arguments that address the relationship between industry structure and innovation tend to divide into two categories.

half of the \$1.9 billion in strategic alliance revenues earned by the one hundred leading pre-commercialization biotechnology companies in 1999 came from licensing of "platform" technologies); *id.* at 252 (discussing "broad-based small molecule alliance" between Bayer and Millennium); Millennium Pharmaceuticals, Inc., *About Millennium Pharmaceuticals, Inc. Alliances*, at <http://www.mlnm.com/about/alliances> (last visited Apr. 21, 2001) (discussing eleven alliances between Millennium and various pharmaceutical companies, including Wyeth-Ayerst, Aventis, Bayer, and Eli Lilly); *The Genomics Payoff*, *supra* note 6 (discussing research alliances with pharmaceutical companies formed by biotechnology companies like CuraGen and Genome Therapeutics).

17. Lisa Jarvis, *Bayer, CuraGen in \$1.5 Billion Drug Deal*, CHEM. MKT. RPTR., Jan. 22, 2001, at 3 (reporting that collaboration between Bayer and CuraGen includes identification of targets in areas of obesity and diabetes).

18. *Id.* (noting that Bayer/CuraGen deal involves "shared risks resulting in shared rewards").

19. *See, e.g.*, Andrew Pollack, *Bayer and CuraGen in \$1.5 Billion Pact to Develop Drugs*, N.Y. TIMES, Jan. 17, 2001, at C3 (discussing Bayer's acquisition of an equity stake in CuraGen).

20. *See* David A. Balto & James F. Mongoven, *Antitrust Enforcement in Pharmaceutical Industry Mergers*, 54 FOOD DRUG L.J. 255, 255 (1999) (noting that "[t]he pharmaceutical industry is in the midst of a wave of consolidation").

21. *See* Van Brunt, *supra* note 15; *see also* Pamela Sauer, *Wall Street Gives Biotech a Shot in the Arm*, CHEM. MKT. REP., Mar. 12, 2001 (citing analyst predictions that reduced available cash will lead to greater numbers of mergers and acquisitions in the biotechnology sector in 2001).

ries: those that extol the virtues of concentration and those that valorize the role of competition. The former view, often associated with the work of economist Joseph Schumpeter, holds that entities with monopoly or quasi-monopoly power are the major engines of innovation.²² The Schumpeterian perspective posits that monopoly profits give firms security, and therefore freedom to innovate, in a manner not available to nonmonopoly firms. In addition, monopoly power may help firms appropriate more fully the benefits of their efforts by limiting opportunities for diffusion of knowledge to competitors. The Schumpeterian wisdom is challenged by (inter alia) Kenneth Arrow, who argues that competition is essential to innovation, particularly where intellectual property protection for the downstream product is available and the downstream product would substitute for a product already produced by the monopolist.²³

This debate in the economic literature finds a parallel in the patent literature. Patent scholar Edmund Kitch has argued that broad, monopoly-conferring patent rights on “prospects”—that is, upstream research far removed from commercial use—are necessary for two reasons: first, to provide incentives for development by allowing the firm that owns the prospect to appropriate fully the benefits of such development; and second, to allow the prospect owner to coordinate development efforts, thereby reducing duplicative investment in development.²⁴ By contrast, other patent

22. For discussion of the work of Joseph Schumpeter, see *infra* Part II.A.

23. For discussion of Kenneth Arrow’s work, see *infra* Part II.A.

24. See Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 276 (1977). Suzanne Scotchmer and Howard Chang have also suggested a relatively broad patent scope for basic invention. See Scotchmer, *supra* note 4; Chang, *supra* note 4. Their arguments differ significantly from Kitch’s, however, in that Scotchmer and Chang focus on the need to provide incentives for the initial production of such invention, which (as they point out) may have social value that far exceeds its “stand-alone” commercial value. Scotchmer, *supra* note 4, at 31; Chang, *supra* note 4, at 48-49. As such, their arguments bear a family resemblance to arguments that Kenneth Arrow and others have made in favor of public funding of basic research, to the effect that private markets will underproduce such research because its social value exceeds its appropriable private value. See Scotchmer, *supra* note 4, at 39; Chang, *supra* note 4, at 49 (noting alternative of public funding). Rather than rely on public funding, the proposals by Scotchmer and Chang attempt to make more of this social value privately appropriable through the patent system. In the biopharmaceutical area, however, a large proportion of research that has long-term significance for product development is already funded publicly. See Iain Cockburn & Rebecca Henderson, *Public-Private Interaction in Pharmaceutical Research*, 93 PROC. NAT’L ACAD. SCI. USA 12725, 12726 (1995) (determining that publicly funded research was a “critical contributor” to the discovery of almost all of the twenty-five most important drugs introduced between 1970 and 1995); Francis Narin et al., *The Increasing Linkage Between U.S. Technology and Public Science*, 26 RES. POL’Y 317, 318 (1997) (noting that 50 percent of the scientific research cited in drug and

theorists, including Robert Merges and Richard Nelson, have argued that although coordination of research by a single patentee may slightly reduce duplication, swift progress in innovation requires competition.²⁵

In contrast with patent law and general economic theory, antitrust law has traditionally had little to say about innovation. In the past, antitrust law has generally focused on competition in goods markets, and not on the relationship between competition and innovation.²⁶ In recent years, however, the traditional rules have been overturned. Antitrust law has begun to focus not only on innovation but also on the question of what market structure might provide the appropriate conditions for innovation. Officials from the Antitrust Division of the Justice Department have written about the need for antitrust law to adopt innovation markets analysis, which focuses on preserving competition not only in end-product markets but also in the R&D processes that produce end products.²⁷ Similarly, antitrust guidelines for the licensing of intellectual property adopted by the Justice Department and the FTC have emphasized the innovation markets paradigm.²⁸

The issue of whether concentration or competition is the best path for innovation has been discussed with particular vigor and sophistication in the context of the highly publicized Microsoft antitrust case, and in the

medicine patents was funded by the U.S. government). Moreover, public funding of the most basic research is probably superior to broad patent protection in that public funding leaves open the possibility of multiple development paths for the research. *See infra* Part III.A-B. Even when the upstream research is not publicly funded, it is often relatively inexpensive to generate. Thus, although this Article considers incentives for initial production, it focuses on subsequent development.

25. *See* Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 843-44 (1990) (noting that “[w]ithout extensively reducing the pioneer’s incentives, the law should attempt at the margin to favor a competitive environment for improvements, rather than an environment dominated by the pioneer firm”). Merges and Nelson also argue that, as an empirical matter, they could not find a single case where the holder of a broad patent used it effectively through tailored licensing to coordinate the R&D of others. *Id.* at 875. Merges and Nelson do not discuss how many competitors are necessary. Although some commentators have suggested a number greater than four or five, *see, e.g., infra* note 57, it suffices for these purposes to note that more than one competitor should exist.

26. *See* George Hay, *Innovations in Antitrust Enforcement*, 64 ANTITRUST L.J. 7, 8 (1995) (“Traditional merger analysis has generally featured static analysis of price and output because that is where the anticompetitive consequences of the conduct under scrutiny are expected to occur.”).

27. *See infra* note 48.

28. *Id.*

context of the digital industries more generally.²⁹ Thus far, however, innovation theorists in antitrust law have paid less attention to the biopharmaceutical industry.³⁰ This relative inattention is somewhat curious. Patent rights, which figure prominently in this industry, offer stronger protection (and hence tend to threaten competition more directly) than the copyright claims that have, at least historically, been central to the digital industries.³¹ No doubt one reason for the relative inattention is that the intellectually knotty issue of network externalities,³² which leads to standardization and can significantly accelerate concentration (as well as produce troublesome lock-in effects), has not yet been raised in biopharmaceutical development.³³ Moreover, in the biopharmaceutical arena, no firm cur-

29. See, e.g., Howard A. Shelanski & J. Gregory Sidak, *Antitrust Divestiture in Network Industries*, 68 U. CHI. L. REV. 1 (2001); Thomas A. Piraino, Jr., *Identifying Monopolists' Illegal Conduct Under the Sherman Act*, 75 N.Y.U. L. REV. 809 (2000); Ronald A. Cass & Keith N. Hylton, *Preserving Competition: Economic Analysis, Legal Standards and Microsoft*, 8 GEO. MASON L. REV. 1 (1999); Symposium, *The Changing Face of Efficiency*, 7 GEO. MASON L. REV. 485 (1999).

30. A notable exception is John Barton, who has written a series of very useful articles on the intersection of patent law and antitrust in biotechnology, particularly in the context of sequential innovation. See, e.g., John H. Barton, *Patents and Antitrust: A Re-thinking in Light of Patent Breadth and Sequential Innovation*, 65 ANTITRUST L.J. 449 (1997). In addition, an interesting recent article by Jonathan Barnett discusses innovation markets in the biopharmaceutical industry. Jonathan M. Barnett, *Cultivating the Genetic Commons: Imperfect Patent Protection and the Network Model of Innovation*, 37 SAN DIEGO L. REV. 987 (2000). For a discussion of Barnett's article, see *infra* note 64.

31. To be sure, patent law is becoming increasingly important in the digital industries, particularly in the area of computer software. See generally Julie E. Cohen & Mark A. Lemley, *Patent Scope and Innovation in the Software Industry*, 89 CALIF. L. REV. 1 (2001).

32. Network externalities arise in a given product market if the utility that a consumer derives from use of the product increases as the number of other consumers who use the product increases. See generally Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CALIF. L. REV. 479 (1998).

33. With the advent of genomics, which merges digital technology and biotechnology, information regarding genes and their protein products has become valuable not only in biochemical form but also in digital form. Numerous companies license databases of such information as trade secrets. Moreover, at least one company has filed a patent application on DNA sequence information stored in a computer chip. See Eisenberg, *supra* note 5, at 793 (discussing Human Genome Sciences' patent application for the DNA sequence of *H. influenzae*, stored in computer-readable medium). Arguably, network externality issues might arise if a standardized platform for viewing and manipulating computerized genetic and protein data becomes highly desirable. See Scott Hensley, *Software Will Play Big Role in Genome Research*, WALL ST. J., Feb. 14, 2001, at B16 (noting argument that the key to development of genomics is user-friendly interfaces—"new genome browsers that are akin to Internet Explorer offered by Microsoft Corp."). In

rently has market power comparable to that of Microsoft. Rather, there exist approximately twenty significant pharmaceutical companies and about fifty biotechnology companies with market capitalization of at least \$1 billion.³⁴ Nonetheless, as noted above, we are beginning to see significant consolidation, both vertical and horizontal, in the industry. It is therefore important to think proactively about which types of consolidation (if any) will foster innovation in the industry. One of the more salient features of biopharmaceutical innovation is the length, expense, and risk of the cumulative process that leads to a drug that is patentable and ready for clinical testing. On average, this process takes two to five years and can cost tens, if not hundreds, of millions of dollars.³⁵ Given the length and expense of the process, and the knowledge spillovers that may result, the patent that is ultimately received on the end-product drug does not necessarily appropriate the full value of the R&D expended. At a minimum, there may be significant uncertainty about whether a drug patent that captures the full value of R&D will issue. Thus the biopharmaceutical sector is, to some extent, tailor-made for the Schumpeterian/Kitchian thesis, which emphasizes the importance of broad, monopoly-conferring patent rights³⁶ in incentivizing the R&D process by allowing appropriation of its full value.

In this Article, I embrace the proposition that, given the high cost associated with biopharmaceutical R&D and the difficulty of recovering all of that cost in an end-product drug patent, relatively upstream patent rights

that context, a company that could copyright such a standard might achieve market power by virtue of network externalities. That topic is, however, beyond the scope of this paper.

34. Van Brunt, *supra* note 15.

35. Because the drug therapy being tested is almost always the subject of patent protection, the arduous clinical testing process does not argue in favor of patenting upstream research. It also bears mention that, in the not-too-distant future, the cost of pre-clinical development (and clinical development for that matter) may be reduced by the integration of digital technology into drug development. *See generally* Rai, *supra* note 3.

36. Monopoly power has been defined as "the power to control prices or exclude competition." *United States v. E.I. duPont de Nemours & Co.*, 351 U.S. 377, 391-392 (1956). Patents do not always, or even generally, convey monopoly power. Indeed, the presumption that monopoly power follows from a patent right is one that scholars and courts must resist. *See* Edmund Kitch, *Elementary and Persistent Errors in the Economic Analysis of Intellectual Property*, 53 VAND. L. REV. 1727, 1729-1739 (2000). *Cf.* *Jefferson Parish Hosp. Dist. v. Hyde*, 466 U.S. 2 (1984) (suggesting such a presumption). However, broad patents on upstream research can convey a type of monopoly power over the research and development process. Indeed, Kitch himself has asserted that his theory of cumulative innovation may "clarify the process and conditions under which a *monopolistic* industry will be more efficient than a competitive one." Kitch, *supra* note 24, at 286 (emphasis added).

may have a role to play in promoting innovation. Nonetheless, I argue that because multiple independent research paths are important for promoting creative development of early-stage research, competition must also play a role.

The question then becomes one of how the law, specifically patent and antitrust law, should be deployed in order to preserve sufficient competition. In some industries, particularly industries characterized by network externalities, antitrust may have a significant role to play. In those industries, even intellectual property rights that are relatively weak may not forestall the possibility of monopoly concentration. By contrast, in the area of biopharmaceuticals, broad patent rights provide the primary mechanism by which an anticompetitive situation might arise. This industry-specific reality places particular pressure on the patent system. After all, if we can narrow the reach of the patent law in a manner that does not unduly hamper innovation incentives, we can largely avoid the need for antitrust intervention. Indeed, if patent content and scope are defined carefully, many of the remaining impediments to innovation will involve situations where it is necessary to aggregate patent rights, not disperse them. The only significant context in which antitrust analysis based on innovation markets theory will need to impose procompetitive conditions on patent aggregation will arise when the aggregation threatens to give a private party broad control over a promising upstream technology.

Part II of this Article briefly outlines and discusses the rival theories of cumulative innovation noted above. Part III then analyzes the application of these theories to the current structure of the biopharmaceutical industry, arguing that some level of competition (i.e., two or more firms in any given area of innovation) is essential. It also points to restrictions on the content and scope of patent protection that could be used to encourage competition. Finally, Part IV addresses the dual role that antitrust law should play in working to encourage aggregation under certain circumstances and discourage it under other circumstances.

II. CONCENTRATION VERSUS COMPETITION: THE BACKGROUND THEORY

A. Economic and Patent Perspectives

Monopoly theorists favor concentration as a means of promoting innovation. The basic tenets of monopoly theory are manifested in both Schumpeter's general thesis on innovation and Kitch's more patent-specific prospect argument. The Schumpeterian view on innovation is relatively straightforward. Monopolies foster innovation, particularly risky

innovation, because they can appropriate fully (or at least more fully than competitive markets) the surplus generated by such investment.³⁷ Relatedly, the possibility of a monopoly rate of return should attract capital investment and provide a hedge against loss. Schumpeter also argues that because monopolies are always susceptible to challenges by new technology, those monopolies that become complacent about innovation are likely to be replaced by new monopolies.³⁸ Although Schumpeter's work does not focus on intellectual property, the prospect theory put forward by Kitch suggests a mechanism by which intellectual property can convey a type of monopoly right, at least in the context of R&D. As Kitch notes, broad patents, granted early in the development process, should give the patentee control over future development.³⁹ Kitch's argument about the need for monopoly rights very much follows Schumpeter's. According to Kitch, absent patent protection of nascent invention, no one would invest in subsequent development of the invention for "fear that the fruits of the investment [would] produce unpatentable information appropriable by competitors." Kitch also argues that granting broad property rights on nascent invention will allow the rightsholder to coordinate subsequent development efficiently: because all potential developers will have to identify themselves to the rightsholder before they begin such development, the rightsholder will be able to eliminate duplicative investments in development and facilitate the exchange of information among developers.⁴⁰ Mark Grady and Jay Alexander have made the related argument that granting patent rights early in the development process reduces the possibility of rent-dissipating patent races.⁴¹ In particular, nascent invention that "signals" many different, possibly patentable, improvements should be given a broad scope so as to avoid the possibility of races to patent these improvements.⁴²

37. See generally JOSEPH A. SCHUMPETER, *CAPITALISM, SOCIALISM AND DEMOCRACY* 81-106 (1942).

38. *Id.* at 83 (arguing that the pursuit of market power is a creative force that "incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one").

39. Kitch, *supra* note 24, at 276.

40. *Id.* Kitch's argument appears to ignore the possibility that, under current patent doctrine, a second-generation inventor can secure an improvement patent without negotiating a license from the initial patentee. However, to the extent that Kitch's is a normative (as contrasted with descriptive) theory of the patent law, his omission is not crucial.

41. See Mark F. Grady & Jay I. Alexander, *Patent Law and Rent Dissipation*, 78 VA. L. REV. 305, 318 (1992).

42. *Id.* at 310. Obviously enough, both of the problems identified by prospect theorists—underinvestment in innovation and duplicative investment in innovation—cannot occur simultaneously. Presumably underinvestment arises if the innovation is unlikely to

In contrast with monopoly theorists, advocates of competition argue that innovation incentives are often smaller under monopolistic conditions than under competitive conditions. For example, as Arrow has emphasized, if a new or superior product would cannibalize the market for the monopolist's existing product, the monopolist will have no incentive to create that product.⁴³ By contrast, in competitive markets, there is no impediment to the creation of new products, particularly if these new products, once created, can be the subject of intellectual property protection. Moreover, although competition may lead to some duplicative investment, at least some of the redundancy may be more apparent than real. As Merges and Nelson have emphasized, because the different possible goals of improvement are often unknown at the time such improvement starts, "racing" among competitors may yield results that would not have emerged if work on improvement had been restricted to a single party (or even to a few parties).⁴⁴ Indeed, even if we assume that a clear improvement or development goal can be established at the outset, and that all research is directed to the pursuit of that goal, innovators may take different approaches to reach the same goal. These different approaches may prove to have independent social value.

Additional support for the competition argument can be found in the literature on organizational behavior. To the extent that a firm with monopoly power is relatively large,⁴⁵ the firm's hierarchical structure and culture may be inimical to innovation, or at least inimical to radical innovation.⁴⁶ Innovation incentives may also be weak in a large firm because it is difficult to design compensation schemes that accurately reflect responsibility for innovative inputs.⁴⁷

yield patents, while overinvestment arises if innovation is likely to yield patents. Given the uncertainty associated with innovation, however, innovators are not likely to know with any precision whether their work will be patentable or not. By contrast, Kitch's theory appears to presume that innovators will have this foresight.

43. See generally Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Innovation*, in *THE RATE AND DIRECTION OF INVENTIVE ACTIVITY* 609-25 (Nat'l Bureau of Econ. Research ed., 1962).

44. As a consequence, innovation may not be perfectly modeled as a race or common pool problem. See Merges & Nelson, *supra* note 25, at 873-74 (discussing limitations of race and common pool models).

45. Although size often correlates with monopoly power, they are two independent variables.

46. See Barnett, *supra* note 30, at 1024-26 (collecting sources from organizational behavior literature).

47. See OLIVER E. WILLIAMSON, *THE ECONOMIC INSTITUTIONS OF CAPITALISM* 41-42 (1985); see also Barnett, *supra* note 30, at 1022-24 (collecting sources on "managerial risk aversion").

B. Innovation Markets Theory

As noted earlier, antitrust law has, in recent years, begun to take up the question of innovation. In particular, Arrow's work has heavily influenced the innovation markets approach to antitrust enforcement, an approach adopted during the Clinton Administration by the Antitrust Division of the Department of Justice and the FTC.⁴⁸ As defined by the Justice Department and the FTC, an innovation market consists of the research and development directed to particular new or improved goods or processes, and the close substitutes for that research and development.⁴⁹ Close substitutes are those R&D efforts, technologies, and goods that significantly constrain the exercise of market power with respect to the relevant research and development, for example by limiting the ability and incentive of a hypothetical monopolist to retard the pace of research and development.⁵⁰ In contrast with antitrust analysis of product markets, there are no geographic limitations on innovation markets analysis.⁵¹ As indicated by the various written pronouncements of the Justice Department and the FTC, and by the agencies' actual application of the analysis, innovation markets analysis can be applied to horizontal mergers, joint ventures that fall short of a merger, or various types of intellectual property licensing.⁵² If a particular merger, joint venture, or licensing agreement unduly limits the number of competitors in a particular innovation market and yields no offsetting effi-

48. See Richard J. Gilbert & Steven C. Sunshine, *Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets*, 63 ANTITRUST L.J. 569 (1995) [hereinafter Gilbert & Sunshine, *Incorporating Dynamic Efficiency Concerns in Merger Analysis*]; see also Richard J. Gilbert & Steven C. Sunshine, *The Use of Innovation Markets: A Reply to Hay, Rapp, and Hoerner*, 64 ANTITRUST L.J. 75, 76 (1995) [hereinafter Gilbert & Sunshine, *The Use of Innovation Markets*] (noting influence of Arrow's theory on why a monopolist has less incentive to invest in innovation than firms in a competitive industry); U.S. Dep't of Justice & FTC, *Antitrust Guidelines for the Licensing of Intellectual Property* § 3.2.3 (1995), <http://www.usdoj.gov/atr/public/guidelines/ipguide.htm> [hereinafter *Licensing Guidelines*] (defining innovation markets). At the time they wrote the 1995 article, Gilbert and Sunshine were Deputy Assistant Attorneys General in the Antitrust Division of the Department of Justice.

49. *Licensing Guidelines*, *supra* note 48, § 3.2.3.

50. *Id.*

51. See Gilbert & Sunshine, *Incorporating Dynamic Efficiency Concerns in Merger Analysis*, *supra* note 48, at 594-95.

52. See *id.* (discussing mergers and joint ventures); *Licensing Guidelines*, *supra* note 48 (discussing licensing and joint ventures); see also Balto & Mongoven, *supra* note 20 (discussing the FTC's application of innovation markets analysis to pharmaceutical mergers). The issue of whether joint ventures between horizontal competitors should be treated differently from mergers is one I address *infra* note 132-33 and accompanying text.

ciencies in terms of the use of R&D to promote innovation, restrictions may be placed on the transaction.⁵³

To say that innovation markets analysis has been controversial among antitrust scholars would understate the point considerably. Some of the controversy has revolved, however, around questions that are not central to the analysis in this Article. For example, one point of contention has been whether the innovation markets approach can find a plausible doctrinal foundation in existing antitrust law.⁵⁴ For purposes of this paper, I assume that innovation markets analysis does have a doctrinal foundation (or that such a doctrinal foundation can be found).⁵⁵ Putting this question to one side, however, several important issues remain. One issue of particular importance, to which I will return in Part IV, involves the question of whether innovation markets can be defined with any degree of accuracy, particularly in the paradigmatic case where no goods market currently exists.⁵⁶ In addition, there is of course the fundamental question of whether innovation is in fact hindered by concentration, or, in other words, benefited by competition.

In the abstract, it is very difficult to resolve the competing arguments regarding whether concentration is a spur to innovation or an impediment thereto. Moreover, empirical evidence on the general question is relatively sparse and equivocal. Although studies by F.M. Scherer have suggested that there is a negative correlation between high levels of concentration

53. Gilbert & Sunshine, *Incorporating Dynamic Efficiency Concerns in Merger Analysis*, *supra* note 48, at 594-97 (outlining "a Rough Guide to the Innovation Markets Approach" in merger and joint venture contexts). Similarly, the intellectual property licensing guidelines apply to innovation markets. Given the terms of the analysis, it is not surprising that it yields few, if any, per se rules. Indeed, according to Gilbert and Sunshine, the regulator should not always assume that a monopolist will reduce R&D effort. They note that, if the monopolist wants to enter new markets where it does not presently compete, that motivation may militate against reducing R&D. *See id.* at 596.

54. *See* Robert J. Hoerner, *Innovation Markets: New Wine in Old Bottles*, 64 *ANTI-TRUST L.J.* 49, 50-55 (1995) (arguing that innovation markets do not exist under current antitrust doctrine).

55. The likelihood that a doctrinal foundation can be found is substantial given the extremely broad language of the antitrust statutes, particularly the Sherman Act. *See, e.g.*, RICHARD POSNER, *ANTITRUST LAW: AN ECONOMIC PERSPECTIVE* 7 (1976) (noting that "the body of antitrust doctrine is largely the product of judicial interpretation of the vague provisions of the antitrust laws . . .").

56. I call the case where a goods market does not exist the paradigmatic case because in other cases innovation markets analysis may overlap with the potential competition doctrine, which examines the potential emergence of competition in existing goods markets. *See Hay, supra* note 26, at 13-14.

and expenditure on R&D,⁵⁷ other studies indicate that this effect may depend on the particular industry under consideration.⁵⁸ Thus, even proponents of competition in innovation note that analysis of the issue should be industry-specific.⁵⁹ An industry-specific approach is also important in any patent-based analysis. As numerous empirical studies have pointed out, the importance of patents as a mechanism for appropriating the value of R&D varies from industry to industry.⁶⁰ Therefore, in the next part I turn to the specific case of competition versus concentration in the biopharmaceutical industry.

III. CUMULATIVE INNOVATION IN BIOPHARMACEUTICALS: THE ROLE OF COMPETITION

A. Arguments in Favor of Broad Upstream Rights

In the specific context of the biopharmaceutical industry, the claim that broad, monopoly-conferring rights on nascent invention can provide a necessary spur to further innovation may well have merit.⁶¹ As matters

57. F.M. SCHERER, *INNOVATION AND GROWTH: SCHUMPETERIAN PERSPECTIVES* 247 (1984) (noting that "technological vigor appears to increase with concentration mainly at relatively low levels of concentration. When the four-firm concentration ratio exceeds 50 or 55 percent, additional market power is probably not conducive to more vigorous technological efforts and may be downright stultifying.").

58. See Richard C. Levin et al., *R&D Appropriability, Opportunity, and Market Structure: New Evidence on Some Schumpeterian Hypotheses*, 75 AM. ECON. REV. 20 (1985).

59. Gilbert & Sunshine, *Incorporating Dynamic Efficiency Concerns in Merger Analysis*, *supra* note 48, at 580 ("Whatever relationship exists at a general economywide level between industry structure and R&D is likely masked by differences across industries in technological opportunities, demand, and the appropriability of inventions.").

60. See, e.g., WESLEY COHEN ET AL., *PROTECTING THEIR INTELLECTUAL ASSETS: APPROPRIABILITY CONDITIONS AND WHY U.S. MANUFACTURING FIRMS PATENT (OR NOT)* (Nat'l Bureau of Econ. Research, Working Paper No. 7552, 2000) (discussing the importance of patents relative to other mechanisms of appropriation across various industries and concluding that patents are particularly important in the pharmaceutical area); Richard C. Levin et al., *Appropriating the Returns from Industrial Research and Development*, in 3 BROOKINGS PAPERS ON ECONOMICS ACTIVITY 783 (Martin N. Baily et al. eds., 1987).

61. It is important to emphasize, however, that the argument for broad protection of early-stage biopharmaceutical invention is conceptually distinct from the argument for broad protection of end-product drugs. Thus, the ample empirical evidence that patents on end-product drugs are important, *see* Cohen et al., *supra* note 60; Levin et al., *supra* note 60, does not bear upon the empirical case for patents on early-stage invention.

currently stand,⁶² the research path from initial discovery of a potentially relevant DNA sequence or receptor to identification of a drug that is ready for clinical testing can be quite risky, lengthy, and expensive.⁶³ If the initial discovery is not protected by a broad patent, the R&D path may produce knowledge that is appropriable by competitors.⁶⁴

62. See *supra* note 35 (discussing efficiencies that may be produced by genomics).

63. Thus, for example, only 10 percent of drug compounds tested at the preclinical stage pass to the clinical testing stage. See Michael J. Malinowski & Maureen A. O'Rourke, *A False Start? The Impact of Federal Policy on the Genotechnology Industry*, 13 YALE J. ON REG. 163, 206-208 (1996) (discussing the drug approval process). In fact, some commentators have justified the substantially relaxed (and doctrinally anomalous) standard of nonobviousness that the Federal Circuit applies in the biotechnology area by pointing to the risk and expense of biotechnological innovation. See Robert P. Merges, *One Hundred Years of Solicitude: Intellectual Property Law, 1900-2000*, 88 CALIF. L. REV. 2187, 2225-2226 (2000); see also Karen I. Boyd, *Nonobviousness and the Biotechnology Industry: A Proposal for a Doctrine of Economic Nonobviousness*, 12 BERKELEY TECH. L.J. 311 (1997). It is important to emphasize, however, that in many of the cases in which the Federal Circuit has applied the nonobviousness requirement leniently, the economic argument applied most clearly to the economic difficulty of *developing* the early-stage biotechnological inventions, not to the economics of producing them in the first instance. It also bears mention that if the Federal Circuit is in fact applying economic analysis, it should do so explicitly. Its failure to give any hint of an economic policy rationale not only muddies the doctrinal waters (requiring as a matter of doctrinal logic, for example, that the court adopt an excessively cramped view of claim scope in biotechnology, see Arti K. Rai, *Intellectual Property Rights in Biotechnology: Addressing New Technology*, 34 WAKE FOREST L. REV. 827, 831-37 (1999); see also *infra* note 103), but it also forestalls any evaluation of precisely how the Federal Circuit is using the economic rationale.

64. In a provocative recent article, Jonathan Barnett argues that weak patent rights which do not confer full appropriability can nonetheless provide incentives to innovate that are just as strong as those provided by broad patents. See Jonathan M. Barnett, *supra* note 30. Although I endorse weak patents on the most basic research on the grounds that weak patents do not interfere with the multiple research paths that are necessary for the development of such research, see *infra* Part III.A-B, there is reason to question Barnett's optimistic assertion that we can "transcend" the Schumpeterian debate," Barnett, *supra* note 30, at 1031, because weak patents can generate incentives to develop that are just as strong as those generated by broad patents. Barnett first argues that, as an empirical matter, biopharmaceutical research has proceeded expeditiously even with relatively narrow patents. *Id.* at 1008. However, the fact that biopharmaceutical research may have proceeded expeditiously (a contestable proposition in and of itself) does not say anything about whether such research would have proceeded even faster with broad patents. In addition, Barnett makes the theoretical argument that because weak upstream patents "generally cover only part of the innovation's spillover applications, and sometimes only part of the development costs," *id.* at 1011, they encourage upstream researchers to collaborate with downstream firms in order to appropriate at least some (although, given the weak patent, by no means all) of the spillover applications of the patented research. Barnett's argument focuses on the incentives weak patents may give to the upstream re-

Other arguments stemming from the collaborative nature of the biopharmaceutical industry provide further support for broad rights. For example, in the context of a research collaboration between an upstream biotechnology company and a downstream pharmaceutical firm, broad rights may be useful if they give the upstream partner the bargaining power necessary to control the direction of the collaboration.⁶⁵ Empirical analysis of collaboration between biotechnology and pharmaceutical firms indicates that such collaboration is more likely to be successful when the upstream partner has greater control.⁶⁶ Moreover, to the extent that small biotechnology firms own broad upstream rights, any concentration produced by such rights is unlikely to create excessive risk-aversion (as it might, for example, in the context of large firms).⁶⁷ In addition, if upstream compa-

searcher. It does not address the downstream developer's incentives, which are the focus of Kitch's theory (and appropriately so, given that downstream developers are likely to supply much of the capital for development). Both theory and conventional wisdom suggest that collaboration might be more attractive to downstream firms when the development process does not create unpatentable spillovers (i.e., the broad upstream patent situation) than when it does (i.e., the weak patent situation). *See, e.g.*, Andrew Pollack, *Weed-Out Time in Biotechnology*, N.Y. TIMES, Dec. 16, 1998, at C1, C8 (noting industry wisdom that strong patents attract equity financing, including financing from pharmaceutical companies).

65. *See generally* LERNER & MERGES, *supra* note 8 (discussing correlation between bargaining power and control of research). Broad upstream patents may confer bargaining power either directly or by allowing the upstream partner to attract equity financing that enhances its bargaining position. *See, e.g.*, Pollack, *supra* note 64, at C1, C8; Josh Lerner, *The Importance of Patent Scope: An Empirical Analysis*, 25 RAND J. ECON. 319, 325-26 (1994) (observing that broad patents helped biotechnology companies attract venture capital).

66. JOSH LERNER & ALEXANDER TSAI, DO EQUITY FINANCING CYCLES MATTER? EVIDENCE FROM BIOTECHNOLOGY ALLIANCES 20-21 (Nat'l Bureau of Econ. Research, Working Paper No. 7464, 2000).

67. *See supra* notes 45-47 and accompanying text. Indeed, it is not clear that even large companies in a concentrated biopharmaceutical industry would be excessively risk-averse. Because "big pharma" is always concerned about the generic competition that ensues once patent rights have expired, it is necessarily concerned with developing new patented products. Relatedly, "big pharma" may be less concerned than firms in other industries with cannibalizing existing products, as these products will lose their patent protection in a defined period of time in any event. On the other hand, we have, in recent years, seen pharmaceutical companies expending substantial amounts of money on extending patent life beyond the term contemplated by Congress and on the production and marketing of "me-too" drugs whose marginal utility is questionable. *See generally* Rai, *supra* note 3. Similarly, a 1997 survey of leading researchers in the biosciences determined that 53 percent of respondents thought that pharmaceutical companies were not sufficiently innovative; 33 percent of respondents thought that such companies did not provide research freedom. MCKINSEY & CO., RAISING INNOVATION TO NEW HEIGHTS IN PHARMACEUTICAL RESEARCH 54 (1997) (on file with author).

nies own the rights, these companies probably will not fear that innovation will cannibalize existing downstream products. Finally, even if one accepts the argument (and there is good reason to accept it) that multiple research paths are necessary to exploit the full potential of upstream innovation, Kitch's theory does not foreclose the possibility of different research paths. Rather, Kitch posits that the upstream rightsholder would conclude licensing arrangements not simply with one developer but with a number of different developers,⁶⁸ each of whom might be charged with pursuing (or might choose to pursue) a different research path.

B. Why We (Nonetheless) Need Competition

This last argument—that multiple research paths can be pursued under broad upstream rights through multiple tailored licenses—is the weak link that ultimately undermines Kitch's chain of reasoning. Contrary to Kitch's theory, when patents are licensed in improvement contexts, licensing arrangements can be difficult to conclude. Merges and Nelson have assembled persuasive historical evidence that, in a variety of industries that relied on cumulative innovation, broad patents on initial invention could not be licensed effectively and hence hindered subsequent development. The exact nature of the failure to license differed by industry. In the field of incandescent lighting, Thomas Edison's broad patent covering the use of carbon filament as a source of light slowed down the development of the industry because Edison's company itself did not improve on the patent, and it used the patent to shut down competitors who had designed improved products.⁶⁹ In the case of the Wright brothers' broad patent on a stabilizing and steering system, the patent holders sought to license their patent but could not, even over a period of ten years, work out licensing agreements.⁷⁰ Indeed, the United States' entry into World War I and the consequent pressure by the Army and Navy (who were the prime buyers of aircraft) were necessary to bring about a cross-licensing scheme in the industry.⁷¹

Similarly, there are indications in the biopharmaceutical industry that development through tailored licensing will be difficult to achieve. Peter Ringrose, the head of R&D at Bristol-Myers Squibb recently estimated that there were dozens of projects which the company could not pursue because it was unable to conclude the requisite licensing agreements with

68. Kitch, *supra* note 24, at 276.

69. Merges & Nelson, *supra* note 25, at 886-87.

70. See generally JACOB A. VANDERMEULEN, *THE POLITICS OF AIRCRAFT* 19 (1991).

71. *Id.* at 21-22, 26; see also Merges & Nelson, *supra* note 25, at 890-91.

the upstream patent holders.⁷² More generally, an empirical study conducted in 1997 and 1998 by the National Institutes of Health ("NIH") Working Group on Research Tools documented frustration in the biotechnology, pharmaceutical, and academic research sectors with the high transaction costs of licensing negotiations over research tools. Although these transaction cost obstacles could be overcome when a particular licensing arrangement was considered extremely valuable by the parties involved, transaction costs did block the licensing of tools that were perceived as low-value.⁷³ On first examination, the inability to conclude licenses on low-value research might not appear disturbing. However, as NIH Working Group Chair Rebecca Eisenberg has pointed out, because parties often fail to predict accurately which research will ultimately be valuable, there is reason to be concerned when even ostensibly low-value transactions do not go forward.⁷⁴

Indeed, in recent years, various pharmaceutical companies and other downstream developers have endeavored to defeat property rights in upstream information by paying to place this information (for example, information on gene fragments as well as information on SNPs) in the public domain. In the mid-1990s, the pharmaceutical company Merck paid Washington University researchers to place gene fragments in the public domain.⁷⁵ More recently, a group of pharmaceutical companies known as the SNP Consortium have been mapping SNPs and placing this genomic information in the public domain on a quarterly basis.⁷⁶ Similarly, several pharmaceutical companies, in conjunction with Affymetrix, a maker of DNA microarrays, are supporting an effort to sequence the mouse genome and place the results in the public domain.⁷⁷ By making upstream research public, downstream developers hope to generate prior art that will, given the novelty⁷⁸ and nonobviousness⁷⁹ requirements of the patent statute,

72. See Andrew Pollack, *Bristol-Myers and Athersys Make Deal on Gene Patents*, N.Y. TIMES, Jan. 8, 2001, at C2.

73. Rebecca S. Eisenberg, *Bargaining Over the Transfer of Proprietary Research Tools: Is This Market Failing or Emerging*, in EXPANDING THE BOUNDARIES OF INTELLECTUAL PROPERTY: INNOVATION POLICY FOR THE KNOWLEDGE SOCIETY (Rochelle Dreyfuss et al. eds., forthcoming 2001).

74. *Id.*

75. Rebecca S. Eisenberg, *Intellectual Property at the Public-Private Divide: The Case of Large-Scale cDNA Sequencing*, 3 U. CHI. L. SCH. ROUNDTABLE 557, 559 (1996).

76. See Roberts, *supra* note 11.

77. *Public-Private Project to Deliver Mouse Genome in Six Months*, 29 SCI. 242 (2000).

78. See 35 U.S.C. § 102(a) (1994) (requiring that, in order for an invention to be patentable, the invention not be "known or used . . . or patented or described in a written publication . . . before the invention thereof by the applicant for patent").

thwart the ability of upstream developers to obtain patents on the information.⁸⁰

Empirical evidence suggesting the difficulty of achieving development through tailored licensing is in accord with theoretical arguments for why such development might be difficult to attain. Consider first a context that Kitch himself does not consider—the blocking patents situation, where the second-generation inventor comes up with a patentable (that is, novel and nonobvious) improvement on the first-generation invention. Although the second-generation improvement is independently patentable, it nonetheless incorporates the first-generation invention and therefore infringes the first inventor's patent. In order to practice its improvement, the second-generation inventor must therefore seek a license from the first-generation inventor. (Conversely, if the first-generation inventor wants to practice the improvement, it must seek a license from the improver.) Ex post, it may be very difficult for such a licensing negotiation to go forward. As Suzanne Scotchmer has argued, in the context of blocking patents on cumulative innovation, it is impossible to divide the surplus ex post in a manner that provides adequate incentives for both the initial inventor and the improver: in general, the improver will not receive a sufficient share of the surplus.⁸¹ This is especially true where the value of the patented improvement is large relative to that of the initial patented invention. In that case the possibility of strategic bargaining by the initial inventor is quite high.⁸²

Of course, ex ante bargaining between the first and second-generation inventors could be used to avoid the bilateral monopoly problem just identified.⁸³ Indeed, Kitch's exclusive focus on ex ante agreements suggests that he considers blocking patents to be contrary, as a normative matter, to

79. See 35 U.S.C. § 103 (1994) (requiring that a patentable invention not be "obvious at the time the invention was made to a person having ordinary skill in the art to which [it] pertains").

80. See Rebecca S. Eisenberg, *The Promise and Perils of Strategic Publication to Create Prior Art: A Response to Professor Parchomovsky*, 98 MICH. L. REV. 2358 (2000) (discussing creation of prior art through publication of such art).

81. See, e.g., Scotchmer, *supra* note 4, at 34 (noting that in the context of cumulative innovation with two innovators, "the 'natural' system of property rights—requiring every later innovator to license any underlying technology—will on average give deficient incentives for outside firms to develop second generation products").

82. Robert P. Merges, *Intellectual Property Rights and Bargaining Breakdown: The Case of Blocking Patents*, 62 TENN. L. REV. 75, 79 (1994).

83. By ex ante bargaining, I mean negotiation over arm's-length licensing agreements conducted ex ante. I do not include ex ante agreements in which the parties align their interests more closely by, for example, the formation of a strategic alliance in which both risk and profit are shared.

the type of patent system he advocates.⁸⁴ Assuming for the purposes of argument that we had a system without blocking patents, could the coordinated licensing advocated by Kitch work? Scotchmer has been a prominent advocate of ex ante agreements as a mechanism for dividing surplus between first and second-generation inventors.⁸⁵ Scotchmer's case for the superiority of ex ante licensing to bargaining between bilateral monopolies is persuasive. However, Scotchmer appears to underestimate the difficulty of concluding even ex ante licensing agreements, at least given the background legal regime. In order to conclude an agreement ex ante, the improver would have to reveal information about its potential improvement to the first inventor. The improver may be reluctant to do so because at the time it is revealed, this information would be protectable against improper appropriation only through trade secret law, which is a rather weak form of protection.⁸⁶ Moreover, even if trade secret law could protect perfectly against misappropriation, ex ante bargaining over the direction of upstream research would be subject to a great amount of uncertainty. Disagreement about the value of the patented invention relative to the value of the improvement might make it very difficult for the negotiating parties to reach an agreement. As Heller and Eisenberg have emphasized, such disagreement is particularly likely in the context of upstream molecular biology research because the negotiating parties are often scientists who may overestimate the value of their scientific contribution.⁸⁷

One could argue that the difficulty with Kitch's approach is not that it favors broad rights but rather, that it assumes development of such rights

84. Notably, copyright doctrine, which does not have a role for "blocking copy-rights," provides a better model for Kitch's theory than does patent doctrine. See Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989 (1997).

85. Scotchmer, *supra* note 4, at 35. Scotchmer does note, however, that the optimal solution is not an ex ante agreement but, rather, complete vertical integration. *Id.* (arguing that the "solution to the incentive problem would be to integrate all possible innovators into one firm before even the first innovator has invested"); see also Jerry R. Green & Suzanne Scotchmer, *On the Division of Profit in Sequential Innovation*, 26 RAND J. ECON. 20, 31 (1995) ("Ex ante agreements have the potential to increase the expected profits of both parties without inhibiting later research, but even with ex ante agreements, the first innovator cannot collect all the profit from second-generation improvement.").

86. The problem identified here has been discussed extensively and is termed Arrow's information paradox. For discussion of this paradox, see, for example, Lemley, *supra* note 84, at 1050-51; see also Robert Merges, *supra* note 82, at 81-82.

87. See Michael Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 SCI. 698, 701 (1998) (making arguments that natural scientists may have self-serving biases due to commitments to research hypotheses and that they may also have a difficult time gauging probabilities of success).

will occur through licensing rather than through vertical integration. After all, licensing (even *ex ante* licensing) entails steep transaction costs, and movements toward vertical integration can reduce transaction costs, at least over the long term.⁸⁸ Moreover, with vertical integration, the developer does not have to pay a supracompetitive price for the patented input and can thus reduce total R&D costs.⁸⁹ Similarly, Scotchmer's extensive research suggests that vertical integration may be the optimal regime for sequential innovation because vertically integrated parties do not need to divide surplus.⁹⁰ Kitch's overall thesis in favor of broad upstream rights might therefore work in contexts where such vertical integration (or arrangements functionally close to vertical integration) could be implemented. Indeed, in an interesting recent article, John Duffy makes precisely this argument.⁹¹ Duffy also provides empirical support for his argument, drawing upon the examples of xerography, zippers, cellophane, and safety razors.⁹² According to Duffy, improvements in each of these industries progressed quickly after the pioneer patent holder achieved some level of vertical integration with subsequent developers.

However, if in keeping with Kitch's theory, upstream patent rights are extremely broad, such that only a few vertically integrated firms exist, vertical integration considerably narrows the number of different research avenues that are likely to be pursued. Not only is a single vertically integrated firm likely to be relatively large, and hence possibly risk averse and lacking in creativity, but it is also unlikely to license its upstream research to other developers who may pursue alternate research paths. Such licensing would create the very transaction costs that integration was intended to eliminate. It would also be likely to yield competing end products. Notably, none of the products cited by Duffy depended on highly upstream research. Rather, in each example the ultimate commercial manifestation of the pioneer patent was fairly clear. In the case of xerography, for example,

88. See OLIVER E. WILLIAMSON, *THE ECONOMIC INSTITUTIONS OF CAPITALISM* 85-86 (1985); see also Oliver Hart, *An Economist's Perspective on the Theory of the Firm*, 89 COLUM. L. REV. 1757, 1770 (1989) (noting that "highly complementary assets should be owned in common, which may provide a minimum size for the firm."). Of course, the one-time costs of vertical integration can be quite significant.

89. Indeed, to the extent that the licensing agreement with the first-generation inventor would have involved a "reach-through" royalty—that is, a royalty based upon sales of the product—vertical integration could reduce not only R&D cost but also marginal cost and thus allow the integrated company to charge a lower profit-maximizing price.

90. See *supra* note 85.

91. See John F. Duffy, *A Prospect Patent's Power to Coordinate Further Innovation* (2001) (unpublished manuscript, on file with author).

92. *Id.* at 17-20.

the pioneer patents covered reproducing an image via a photo-electrostatic method.⁹³ By way of contrast, consider what might have happened if the broad patent on the Cohen-Boyer method for insertion of a specific gene into a host cell⁹⁴ had been owned and developed solely by a single, vertically integrated firm. It is unlikely that this single firm would have seen the myriad improvements on, or applications of, this technique. Fortunately for the progress of recombinant DNA technology, the patent on the Cohen-Boyer technique was owned by an academic institution (Stanford University) and licensed widely at a reasonable price.⁹⁵

To be sure, if patent rights on upstream research were extremely narrow—so that, for example, a patent on a given product or process covered only the particular use of the product or process identified by the patentee⁹⁶—vertical integration might not pose an undue threat to competition. Because multiple vertically integrated companies would presumably exist in this situation, integration would have the effect of reducing transaction costs without hindering competition. On the other hand, such narrow patents on upstream research might not provide sufficient incentives for innovation—whether initial invention or subsequent development—especially in cases where the upstream research was expensive and not subsidized by public funding.⁹⁷

An approach that would allow slightly broader—albeit still narrow—patents, while permitting the pursuit of multiple research paths, might rely on tightly linked vertical alliances that stop short of complete merger. Under this regime, an inventor with an upstream patent could develop the patent by forming collaborative alliances with multiple downstream companies. Given that the alliances would be tightly linked (e.g., the participants might commit to some level of cross-ownership or they might, from the very outset, share innovation costs and rewards), transaction costs might, over the long term, be lower than in situations of bilateral monopoly or even arm's-length ex ante licensing (albeit perhaps not as low as in the case of complete vertical integration). Indeed, the apparent trend to-

93. *Id.* at 17.

94. See Stanley N. Cohen et al., *Construction of Biologically Functional Bacterial Plasmids in Vitro*, 70 PROC. NAT'L ACAD. SCI. USA 3240 (1973).

95. See Rebecca Eisenberg, *Public Research and Private Development: Patents and Technology Transfer in Government-Sponsored Research*, 82 VA. L. REV. 1663, 1710 (1996).

96. For discussion of how the doctrinal tools of patent law could accomplish this result, see discussion in Part III.C *infra*.

97. See *supra* note 24.

wards tightly linked alliances⁹⁸ suggests that they may represent a mechanism for reducing transaction costs.

One caveat that attends this proposal for tightly linked alliances is that in situations involving cross-ownership, a downstream developer may place pressure on the upstream inventor in which it holds an equity share not to pursue research alliances that could interfere with the downstream developer's existing products. However, to the extent that we allow anything other than the narrowest patents, the goals of creative development and low transaction costs are somewhat in tension with each another. It will be difficult to achieve an optimum result with respect to both goals. Tightly linked vertical alliances hold out the possibility of a reasonable compromise between the two goals.

It bears emphasis that my suggestion for narrow rights on upstream research applies only to cumulative innovation in the biopharmaceutical industry.⁹⁹ Indeed, I would argue that because the language of the patent statute is broad, and because patents play such different roles in different industries, courts can, and should, develop a federal common law of patents that is tailored to the economic realities of different industries. Notably, to the extent that courts have already developed such common law, it has not been as subject to interest group influence in favor of stronger protection as legislative development of *sui generis* regimes for different industries.¹⁰⁰

One final argument against broad upstream patents as a means of coordinating multiple research paths efficiently merits attention. As a doctrinal matter, the idealized Kitchean scenario where downstream developers have to deal with one, and only one, holder of a broad upstream patent is unlikely to arise. This is because patent law does in fact allow blocking patents. For example, even if a patent applicant were granted a broad patent claim on a gene fragment—one that covered not only the fragment but also the parent gene, as well as potential therapeutic applications—an improver might still be able to obtain a patent on the gene itself. As a conse-

98. See *supra* notes 15-18 and accompanying text.

99. However, a regime of narrow rights on upstream research may well be suitable for other industries that rely on cumulative innovation. Cf. Cohen & Lemley, *supra* note 31 (advocating narrow scope for software patents on the grounds that software innovation is cumulative).

100. See, e.g., Julie Cohen, *Lochner in Cyberspace: The New Economic Orthodoxy of "Rights Management,"* 97 MICH. L. REV. 462, 534-36 (1998) (discussing copyright legislation that gives increased intellectual property rights in the computer software and digital media industries). By contrast, judicial decisions in the biotechnology area have afforded upstream patents a relatively narrow scope. See *infra* notes 100-117 and accompanying text.

quence, a third party that wanted to do research on the gene would have to seek licenses from two different parties—the improver and the initial patentee.¹⁰¹

Ultimately, then, the importance of multiple research paths to biomedical research, and the transaction cost difficulties associated with pursuing these multiple paths through tailored licensing of a broad patent, counsel in favor of relatively narrow upstream rights. If the rights in question are extremely narrow, even vertical integration may be acceptable as a means of reducing transaction costs. If upstream rights need to be less narrow, however, vertical alliances that fall short of complete integration might be a useful mechanism for mediating the tension between the goals of creative development and low transaction costs.

C. How Patent Law Can Foster Competition

For the reasons outlined above, we should be wary of situations where a single firm has broad power over upstream research with uncertain and potentially numerous applications. In the biopharmaceutical industry, the acquisition of such broad power is likely to be a function of patent availability and scope. Thus patent law has an obvious role to play in averting attempts to acquire such power *ex ante* (as contrasted with antitrust law, which would have to come in to restrict the power conferred by a patent, or multiple patents, *ex post*). The acquisition of broad power can be thwarted by ensuring that the most upstream research remains outside the bounds of patentability. Even more importantly, various biotechnology-specific doctrines of patent law that have already been developed by the Federal Circuit and the U.S. Patent and Trademark Office (“PTO”) can ensure that rights in research that is patentable but nonetheless quite upstream are defined relatively narrowly. In this regard, it bears emphasis that even narrow patent rights on upstream research may create sufficient incentives for producing this research, either because the research is relatively inexpensive or because it is, at least in part, publicly funded. For example, upstream research on gene fragments or SNPs of unknown function is relatively inexpensive to generate.¹⁰²

101. In fairness to prospect theorists, it should be noted that rights dispersion can be a problem (though not as much of a problem) whether or not broad patents are allowed. I address this issue in Parts III.C and IV.A.

102. See Hugh Reinhoff, President, DNA Sciences, Presentation at Univ. of Calif., Berkeley, Advanced Patent Law Institute (Nov. 10, 2000) (estimating that the cost of finding a gene fragment or SNP of unknown function is about 1 percent of the cost of determining its function).

In various ways, the doctrinal tools of patent law facilitate drawing the line between patentable and unpatentable invention.¹⁰³ In theory, any of the various patentability requirements—patentable subject matter,¹⁰⁴ utility,¹⁰⁵ nonobviousness,¹⁰⁶ or enablement and written description¹⁰⁷—could be used. In practice, however, only the utility requirement serves as a particularly good proxy for differentiating upstream from downstream research.¹⁰⁸ Thus, for example, if the utility requirement were interpreted as strictly as it was in the 1966 Supreme Court case *Brenner v. Manson*,¹⁰⁹ inventions that were useful for further research but had not been associated with a specific therapeutic use would probably not be considered patentable. The *Brenner* case goes too far in its exclusion of virtually all invention with a research use from patentability. After all, only the ultimate end product in the cumulative biopharmaceutical innovation process is likely to have a specific therapeutic use. On the other hand, a stance such as the one the PTO hinted at adopting in the late 1990s—that utility can be shown through a credible assertion of any research use¹¹⁰—goes too far in the opposite direction.

103. In addition to (and in conjunction with) legal doctrine, quasi-private behavior in the form of scientific research norms is an important institution that can be deployed for purposes of limiting the reach of the patent law. See generally Arti K. Rai, *Regulating Scientific Research: Intellectual Property Rights and the Norms of Science*, 94 NW. U. L. REV. 77 (1999). In this Article, however, I focus on legal doctrine.

104. 35 U.S.C. § 101 (1994).

105. *Id.* §§ 101, 112.

106. *Id.* § 103.

107. *Id.* § 112.

108. Of course, to the extent that the Federal Circuit has interpreted the patentable subject matter requirement as nothing more than a utility requirement, see, e.g., *State Street Bank & Trust Co. v. Signature Fin. Group Inc.*, 149 F.3d 1368, 1375 (Fed. Cir. 1998) (noting that “[t]he question of whether a claim encompasses statutory subject matter should not focus on which of the four categories of subject matter a claim is directed to—process, machine, manufacture, or composition of matter—but rather on the essential characteristics of the subject matter, in particular, its practical utility.” (footnote omitted)), the patentable subject matter requirement could presumably also serve a gatekeeping function. A more robust nonobviousness requirement might also play some role in excluding claims to the most upstream research, such as claims to DNA sequences of unknown function that can be generated without much effort. Currently, under the Federal Circuit’s interpretation of nonobviousness, because methods cannot be appropriate prior art for DNA claims, *In re Deuel*, 51 F.3d 1552, 1557-58 (Fed. Cir. 1995), DNA sequences that are easy to generate can nonetheless be patentable. However, strengthening the nonobviousness requirement might be overinclusive, as a more robust requirement would apply not only to upstream research but also to downstream research.

109. 383 U.S. 519 (1966) (holding that process for producing steroid that was being tested for possible tumor-inhibiting effects in mice did not satisfy the utility requirement).

110. See Rai, *supra* note 103, at 106-07 (discussing 1997 PTO announcement).

Fortunately, the PTO's most recent utility guidelines, issued in interim form at the end of 1999 and in final form in January 2001, reveal a more balanced position. The new guidelines appear to exclude most upstream research from patentability, unless it has a "specific, substantial, and credible utility."¹¹¹ Under this standard, the thousands of patent applications that have been filed on DNA sequences (and other genetic or protein information) of unknown function are likely to be rejected.¹¹² If gene fragments of unknown function are not patentable, they cannot be asserted to block research on the full genes to which they correspond. Similarly, SNPs of unknown function cannot be used to block research on precision drugs.

Although excluding certain inventions from patent protection altogether can assist in the preservation of competition, this approach is likely to play a relatively limited role. As noted, a utility requirement that is too robust would exclude most biopharmaceutical inventions from patentability. Thus the central question in most cases should be not whether a patent of some sort should be granted but, rather, precisely how the scope of the patent should be defined. Within patent law, a variety of doctrinal mechanisms can limit the scope of a claim. The most doctrinally grounded limitations on claim scope are those created by the disclosure-related doctrines of enablement and written description.¹¹³ Indeed, in recent years, the Federal Circuit has given both of these doctrines—particularly written description—a rigorous interpretation in the context of biotechnology. In *Regents of the University of California v. Eli Lilly & Co.*, the Federal Circuit applied the written description requirement so as to restrict the patentee (the University of California) to the rat insulin-encoding DNA se-

111. See Utility Examination Guidelines, 66 Fed. Reg. 1092, 1098 (Jan. 5, 2001). Notably, at least at the PTO level, these changes appear to have emerged in part because of pressure from the research science community, a significant portion of which continues to resist broad patenting of the most upstream research. Admittedly, however, these changes in the utility standard have not gone as far as the research science community might have liked. See *NIH Opposes Plans for Patenting "Similar" Gene Sequences*, 405 NATURE 3 (2000) (discussing opposition by NIH and the Association of American Medical Colleges to PTO decision allowing assertions of utility based on homology to known sequences).

112. See PTO, Revised Interim Utility Guidelines Training Material 50-53 (2000), <http://www.uspto.gov/web/offices/pac/utility/utilityguide.pdf>.

113. To be sure, for purposes of limiting patent scope, enablement has a longer doctrinal pedigree than written description. Nonetheless, the Federal Circuit has aggressively revived the role of the written description requirement in recent years. See *Regents of the Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559 (Fed. Cir. 1997); cf. *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200 (Fed. Cir. 1991) (using enablement to restrict the scope of DNA claim).

quences it had actually isolated. The court refused to allow the patentee to extend its patent to analogous sequences in other species.¹¹⁴ According to the Federal Circuit, the University of California could not claim human insulin-encoding DNA simply by relying upon the disclosure of a method of using rat DNA to isolate the human DNA.¹¹⁵ A claim to the human DNA required actual isolation of that DNA. Although *Eli Lilly* goes too far in narrowing claim scope in the context of DNA sequences,¹¹⁶ the decision does have the salutary effect of sounding a warning signal to biotechnology patentees who might be tempted to claim their inventions too broadly.¹¹⁷ In response to *Eli Lilly*, the PTO has promulgated written description guidelines cautioning against sweeping claims on research, particularly in the field of biotechnology.¹¹⁸ To the extent patents on gene fragments are issued (and they will presumably be issued only if the patentee shows a “specific, tangible, and credible” utility), these patents will be quite narrow in scope and are not likely to have blocking power with respect to later-isolated full genes.¹¹⁹ While the PTO guidelines reflect the Federal Circuit’s position, they also respond quite specifically to concerns lodged both by the National Institutes of Health and the academic research community about the problems for subsequent researchers created by broad patents on upstream research.¹²⁰

In most cases, limitations on patent scope created through strict interpretations of the patent law’s disclosure doctrines can avoid the problem of excessive concentration of upstream research power in one firm.¹²¹ But

114. *Regents*, 119 F.3d at 1568-69.

115. *Id.* at 1567.

116. See Janice M. Mueller, *The Evolving Application of the Written Description Requirement to Biotechnological Inventions*, 13 BERKELEY TECH. L.J. 615 (1998) (providing a cogent criticism of the *Eli Lilly* decision).

117. The PTO’s written description guidelines interpreting the *Eli Lilly* decision soften its implications to some extent—the guidelines make it clear that, in the context of a DNA sequence claim, the written description requirement can be met through mechanisms other than actual isolation of the sequence. See Guidelines for Examination of Patent Applications Under the 35 U.S.C. § 112, ¶ 1, “Written Description” Requirement, 66 Fed. Reg. 1099 (Jan. 5, 2001).

118. *Id.*

119. See PTO, *Synopsis of Application of Written Description Guidelines* 30-32, <http://www.uspto.gov/web/menu/written.pdf> (last visited Apr. 21, 2001).

120. See Jack Spiegel, National Institutes of Health, Comment 64 on the Interim Utility Guidelines 10-11 (Mar. 22, 2000), <http://www.uspto.gov/web/offices/com/sol/comments/utilitywd/nihjs.pdf>.

121. Situations in which such concentrations might nonetheless occur, such as mergers or accumulation of a large number of narrow patents by one firm, are discussed in Part IV.B *infra*.

narrowly drafted claims can only mitigate, not prevent, the problem of excessive rights proliferation. Consider, for example, the case of a downstream firm that wants to develop a drug for a disease influenced by multiple genes. Even if the patents on each of these genes are relatively narrow (claiming, for example, only the gene itself), they might be owned by different entities. Thus the downstream developer might be placed in the difficult position of seeking improvement licenses from multiple owners. Similarly, a company that wants to develop a DNA microarray of “chip” SNPs that can determine the likelihood of an adverse drug reaction¹²² might have to seek licenses from numerous different SNP patent owners.¹²³

In these and similar cases, even narrow patent claims can create impediments to competition in research and development, particularly if there is no possibility of “inventing around” even the narrow claims. In the worst case scenario, if firms interested in developing certain downstream products fail to aggregate rights to upstream research (or at least do so in a manner short of horizontal merger of the upstream owners, which recreates the concentration problem all over again), R&D competition may be reduced to zero. To avert this problem, we might be tempted to consider alternative limitations on patent scope that are less doctrinally orthodox. One obvious, albeit controversial, scope-limiting doctrine is compulsory licensing.¹²⁴ Compulsory licensing may or may not require royalty payments.¹²⁴ Rebecca Eisenberg has suggested that in cases of improvement research, firms ought to be allowed to use patented upstream research free of charge.¹²⁵ If the improvement turned out to be commercially valuable, however, the improver would have to pay a reasonable royalty to the upstream researcher. Similarly, John Barton has suggested that improvers that make significant contributions be given a “dependency license,” which requires only the payment of reasonable royalties.¹²⁶

122. For lucid discussions of the use of SNPs in predicting adverse drug reactions, see, for example, Allen D. Roses, *Pharmacogenetics and the Practice of Medicine*, 405 NATURE 857 (2000); John N. Weinstein, *Pharmacogenomics—Teaching Old Drugs New Tricks*, 343 NEW ENGLAND J. MED. 1408 (2000).

123. In this case, the SNPs would be patentable because their function had been identified.

124. The latter case of royalty-free licensing would resemble the copyright fair use doctrine.

125. Rebecca S. Eisenberg, *Patents and the Progress of Science: Exclusive Rights and Experimental Use*, 56 U. CHI. L. REV. 1017, 1076-77 (1989).

126. Barton, *supra* note 30, at 458; cf. Maureen A. O'Rourke, *Toward a Doctrine of Fair Use in Patent Law*, 100 COLUM. L. REV. 1177 (2000) (suggesting five-factor test under which royalty-free or royalty-bearing fair use might be applicable to users of pat-

Although some form of compulsory licensing for upstream research could be advisable in other industries, the use of compulsory licensing in the biopharmaceutical industry may not be wise. The biopharmaceutical industry is heavily dependent on patent law, and a compulsory licensing requirement may be too radical a departure from the existing regime, under which patent owners almost always have the ability to choose whether they want to license.¹²⁷ The patent owner's freedom to choose whether to license is particularly strong where patents are narrow: as discussed further below,¹²⁸ even under a relatively expansive interpretation of antitrust principles, the only situation where a patent owner can plausibly be forced into compulsory licensing is if it accumulates enough narrow patents to confer monopoly power in a relevant market.¹²⁹ Although such a situation may arise on occasion, it is best dealt with under the antitrust law. I therefore address questions of monopoly achieved through patent accumulation in Part IV.¹³⁰

Within patent law itself, compulsory licensing should be used only infrequently. Commercial improvers should not, as a routine matter, be putting courts in the institutionally awkward position of setting royalties for compulsory licenses. A conservative approach to compulsory licensing would encourage the improver to attempt in the first instance to secure a license through an ordinary market transaction. Compulsory licensing would only be allowed if the improver could prove that a market transaction was thwarted by highly strategic behavior on the part of the patentee (for example, if the improver could show that a given upstream patent holder was "holding out" for a large stake of the surplus after the improver had already concluded licenses with other upstream patent holders). Under this proposed regime, compulsory licensing for pure research uses would be presumptively available (and might even be royalty-free). If a research

ented inventions). O'Rourke's proposed test would tend to allow a fair use defense where (1) the infringement represented a significant advance over the patented work, (2) the use was noncommercial or only indirectly commercial (i.e., a step towards production of a noninfringing work), (3) the market failure that thwarted the conclusion of a license was strong, (4) the effect of finding fair use would not unduly detract from the patentee's incentives or overall social welfare, and (5) the patented work itself was not a pioneering invention. *Id.* at 1205-08.

127. See *In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d 1322, 1326 (Fed. Cir. 2000) (emphasizing section 271(d) of the Patent Act, which states that patent owners shall not be guilty of "[patent] misuse or illegal extension of the patent right by reason of . . . having . . . refused to license or use any rights to the patent").

128. See *infra* Part IV.

129. *Id.*

130. *Id.*

use did yield a commercial product, however, the burden of securing a license to market the product would shift back to the improver. Compulsory licensing would be imposed only if the improver could show significant strategic behavior on the part of the patentee.

In sum, appropriate development of upstream research in the biomedical arena requires the pursuit of multiple research paths. If, through the mechanism of a broad patent, power over upstream research is concentrated in one firm, the firm will not be able to pursue plural paths unless it licenses its patent to multiple developers. Transaction costs are likely to impede such coordinated licensing. Restricting the availability and scope of upstream patents would be more conducive to the pursuit of multiple research paths. Indeed, if such patents were extremely narrow—for example, limited to the particular utility discovered by the patentee—even complete vertical integration would not pose a threat to the pursuit of multiple research paths. Because such radically narrow patents might unduly undermine incentives, however, a more cautious approach is probably preferable. This cautious approach would rely on a combination of narrow patents and vertical alliances to mediate the tension between creative development and transaction costs. In addition, a small background threat of compulsory licensing could curb tendencies on the part of upstream patentees to exercise a “holdup” right.

IV. OVERCOMING LINGERING IMPEDIMENTS TO COMPETITION: THE ROLE OF ANTITRUST LAW

If the disclosure requirements of patent law are used to limit the scope of patent claims, and the potential for strategic behavior on the part of the upstream patentee is mitigated through a small background threat of compulsory licensing, what (if any) role should innovation markets analysis play in promoting competition? In this Part, I suggest a variety of situations in which innovation markets analysis could be used to evaluate market transactions, particularly transactions between horizontal competitors, for their impact on competition.¹³¹ In many cases involving cooperation among horizontal competitors, such analysis might actually provide an added impetus for approving such transactions. Indeed, given the difficulty of defining innovation markets, the role of the theory in limiting market actors should be relatively narrow. In a small number of cases, however, where an upstream patent owner is poised to gain control over

131. I focus on horizontal competitors because they pose the main threat to competition. So long as a sufficient number of horizontal competitors exist, vertical integration cannot stymie competition in either R&D or product markets.

what appears to be an important platform technology, innovation markets analysis will play an important restrictive role.

A. Encouraging Cooperative Interactions Between Horizontal Competitors

Innovation markets analysis might encourage certain cooperative interactions between horizontal competitors that promote R&D. For example, joint ventures in which horizontal competitors collaborate on R&D for purposes of a specific project can spread the risks associated with the project without effecting a permanent consolidation of patent rights.¹³² In addition, innovation market theorists have recognized that certain types of joint ventures short of a merger (and perhaps even certain mergers) might enhance overall R&D by creating efficiencies in the R&D process that overcome any anticompetitive effects.¹³³

For purposes of the biopharmaceutical industry in the near future, the most important type of horizontal cooperation between competitors may be cooperation that addresses the rights dispersion problem discussed above. In certain contexts, cross-licensing or patent pool arrangements may be very useful for addressing rights dispersion in a procompetitive manner. In other words, properly designed cross-licensing and patent pooling arrangements can promote innovation markets. As the 1995 Anti-trust Guidelines for the Licensing of Intellectual Property note, such arrangements “may provide procompetitive benefits by integrating complementary technologies, reducing transaction costs, clearing blocking positions, and avoiding costly infringement litigation.”¹³⁴

Patent pools typically function by extending membership to those firms in an industry that agree to assign or license their individual patents

132. The analysis in the text focuses on innovation markets. However, to the extent that the joint venturers continue to compete on price and output, the joint venture may have direct welfare-enhancing effects in end-product markets. Congress has recognized these welfare-enhancing effects by passing legislation that offers protection from antitrust scrutiny for registered research joint ventures as well as registered production joint ventures. These joint ventures are protected under the National Cooperative Research Act of 1984, 15 U.S.C. §§ 4301-4305 (1994), as amended by the National Cooperative Research and Production Act of 1993, 15 U.S.C. §§ 4301-05 (1994). For an analysis that was important in getting the latter legislation passed, see Thomas Jorde & David Teece, *Innovation, Cooperation, and Antitrust: Striking the Right Balance*, 4 HIGH TECH. L.J. 1 (1989).

133. See *supra* note 53 and accompanying text.

134. Licensing Guidelines, *supra* note 48, § 5.5; see also Barton, *supra* note 30, at 462-63 (noting that antitrust analysis is easy in the situation where “firms cross-license in order to enable each other to compete”).

to the pool.¹³⁵ Depending on the sophistication of the pool, members may give one another royalty-free licensing of all the patents or they may pay (or receive) a set fee per patent claim. As for those who cannot contribute patented technology, they may be able to secure a license to the patents in the pool by paying a licensing fee. During the Clinton Administration, the Justice Department approved several different pools that illustrate the central features of a procompetitive pooling scheme. One of these pools comprises various companies that own patents essential for compliance with the MPEG-2 compression technology standard.¹³⁶ Another comprises electronic companies that own patents essential to the manufacture of DVDs and players made in compliance with DVD-ROM and DVD-Video formats.¹³⁷ Because each of these pools is limited to patents that an independent expert has determined are essential¹³⁸—in other words, complementary patents that would not otherwise compete against one another¹³⁹—neither pool forecloses competition. In addition, contributing members of each patent pool agree to license the patent portfolio on a nondiscriminatory basis to all firms that request a portfolio license.¹⁴⁰ Owners of portfolio patents are also free to license their own patents independent of the portfolio.¹⁴¹

In prior writing, I have argued that comprehensive patent pools often emerge only with difficulty,¹⁴² and are probably less likely to arise in the

135. See, e.g., Robert P. Merges, *Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations*, 84 CALIF. L. REV. 1293, 1340-42 (1996).

136. See Business Review Letter, MPEG-2 Patent Pool, from Joel I. Klein, Assistant Attorney General, to Garrard R. Beeney, Esq., Sullivan and Cromwell (June 26, 1997), reprinted in *Technology Licensing and Litigation 1998: Protecting Your Clients' Rights*, 514 PLI/PAT 729 (1998).

137. See Phillips, Sony, and Pioneer Business Review Letter, from Joel I. Klein, Assistant Attorney General, to Garrard R. Beeney, Esq., Sullivan and Cromwell (Dec. 16, 1998), reprinted in *Handling Intellectual Property Issues in Business Transaction*, 55 PLI/PAT 201 (1999).

138. See Klein, *supra* note 136; Klein, *supra* note 137; see also UNITED STATES PATENT AND TRADEMARK OFFICE, PATENT POOLS: A SOLUTION TO THE PROBLEM OF ACCESS IN BIOTECHNOLOGY PATENTS? 13 [hereinafter PATENT POOLS] (summarizing characteristics of recent, "successful" patent pools).

139. To be sure, the question of whether patents are "truly" complementary can be a difficult one. However, it lies at the heart of determining whether a particular patent pool (or merger of patents more generally) is procompetitive or anticompetitive with respect to innovation.

140. See Klein, *supra* note 136; Klein, *supra* note 137.

141. Klein, *supra* note 136; Klein, *supra* note 137.

142. Rai, *supra* note 103, at 130-32.

biopharmaceutical industry than in other areas.¹⁴³ Patent pools are most likely to arise when horizontal competitors who share similar values and are engaged in repeat-play transactions each hold roughly similar portfolios of blocking patents. Where the relevant parties are quite heterogeneous, and each party has a different patent position and attitude toward patents, pools are less likely to arise.¹⁴⁴ Historically, the biopharmaceutical industry, which encompasses academic institutions, upstream biotechnology companies, and downstream pharmaceutical companies, has been characterized by precisely this type of heterogeneity.¹⁴⁵ On the other hand, as we see increasing vertical integration, whether in the form of actual mergers or in the form of tightly linked alliances,¹⁴⁶ heterogeneity in the industry is likely to decrease. Moreover, if patent scope in the biotechnology industry is narrow, as the current positions taken by the PTO and the Federal Circuit suggest it will be, any single patent will be less crucial, and norms of collective exchange may emerge more readily.¹⁴⁷

In the biotechnology context, a patent pool might be formed in cases where multiple patents are absolutely necessary to conduct basic research on a gene or a particular disease. Consider the product patent held by Human Genome Sciences (“HGS”) on the gene for the CCR5 protein. At the time HGS filed for and acquired the patent, the firm knew very little about the ultimate role of the protein. The HGS patent application merely speculated about the protein’s possible role in diseases ranging from cancer to allergies to arthritis. Four different research teams subsequently found that the protein plays a role in HIV infection by promoting virus entry into host cells. All four groups of researchers are now seeking patents covering their research into the role of CCR5 in HIV infection.¹⁴⁸ If these patents are granted, we will have a classic blocking patents situation. Absent a license, neither HGS nor any of the improvers—nor any other company for that matter - will be able to conduct further research on AIDS that uses the CCR5 protein. By contrast, if HGS and the improvers pooled their patents in a manner similar to the pooling found in the MPEG-2 and DVD pools,

143. *Id.* at 133-35; *see also* Heller & Eisenberg, *supra* note 87, at 700-01.

144. Heller & Eisenberg, *supra* note 87, at 700-01.

145. *Id.*

146. *See supra* Part III.B.

147. Some commentators have also perceived a trend towards greater certainty in biotechnology patent law and have argued that this increase in certainty will facilitate the formation of patent pools. *See* Lawrence M. Sung & Don J. Pelto, *Greater Predictability May Result in Patent Pools: As the Federal Circuit Refines Scope of Biotech Claims, Use of Collective Rights Becomes Likely*, NAT’L L.J., June 22, 1998, at C2.

148. *Inside the Industry Gene Patent: CCR5 Dispute May Hamper AIDS Research*, AMERICAN POLITICAL NETWORK-AMERICAN HEALTH LINE, Mar. 17, 2000, at 6.

multiple parties (not simply HGS and the improvers) could conduct AIDS research using the CCR5 protein.

To be sure, the MPEG-2 and DVD patent pools represent something of a high-water mark of procompetitiveness in a patent pool. Since patent pools are often more problematic for competition than these examples suggest, it is important to consider the shortcomings of patent pools. More generally, it is important to consider situations where the innovation market thesis might be used to restrict market transactions.

First, the lack of open access that marks some patent pools is problematic to the extent that the excluded firms cannot compete effectively in the relevant R&D market absent access to the pool.¹⁴⁹ In addition to access restriction, another feature of patent pools that might signal anticompetitive effects would be a grantback requirement, to the effect that members grant licenses to each other for any future technology they developed using the pool license.¹⁵⁰ If pool members were forced to share their successful R&D, incentives to free-ride might diminish innovation. Again, this problem would be particularly acute if the pooling arrangement included a significant fraction of the R&D in an innovation market.¹⁵¹ Finally, patent pools may be problematic if they are used to shield invalid patents or they include patents that are not truly complementary (i.e., patents that could compete against each other).¹⁵²

In the next section, I discuss how innovation markets analysis could address anti-competitive behavior within patent pools and also outside of such pools.

B. Restrictive Implications of Innovation Markets Analysis

If patent rights are kept narrow and are aggregated through procompetitive patent pools rather than horizontal consolidation, innovation markets analysis will, for the most part, encourage market transactions rather than restrict them. However, there will be situations in which innovation markets analysis will have restrictive implications. For example, to the extent that patent pools include patents that could be the basis for competition, include invalid patents, or impose restrictive terms on access, such pools do not promote innovation and should be the basis for antitrust scrutiny. The FTC's complaint that the patent pool created by VISX and

149. Licensing Guidelines, *supra* note 48, at 22.

150. In general, a grantback is an arrangement under which a licensee agrees to extend to the licensor of the patent a right to use the licensee's improvements to the licensed technology.

151. Licensing Guidelines, *supra* note 48, at 23.

152. PATENT POOLS, *supra* note 138, at 10.

Summit Technology, the only two manufacturers of a particular type of laser, included patents that could have been the basis for competition between the two manufacturers, is an example of such scrutiny.¹⁵³ In addition, to the extent that grantback clauses are allowed within patent pools, they should probably be limited to situations where the invention is essential to the operation of the pool.¹⁵⁴

Even outside the context of a patent pool, grantback clauses could be a competitive hindrance. As the DOJ/FTC guidelines note, grantback clauses can adversely affect competition if they “substantially reduce the licensee’s incentive to engage in research and development and thereby limit rivalry in innovation markets.”¹⁵⁵ The guidelines counsel that grantback provisions should be scrutinized to determine whether (1) the licensor has significant market power in the relevant innovation market, (2) the grantback is likely to reduce significantly the licensee’s incentive to invest in improving the licensed technology, and (3) the grantback provision has offsetting procompetitive effects. Thus, as a general matter, grantback clauses should be scrutinized carefully for anticompetitive effects.

Perhaps most obviously, innovation markets analysis may have a restrictive impact in situations where a single entity accumulates patents sufficient to monopolize a given area of R&D. As discussed in the next section, this is most likely to occur in the context of mergers. However, it may also occur in other situations (e.g., aggressive patenting by a particular firm such that it owns all of the relevant, if individually narrow, patents in a given field).¹⁵⁶

153. *Id.* at 16.

154. The MPEG-2 and DVD patent pools contained this restriction on grantbacks. *Id.* at 14.

155. *Id.*

156. As a doctrinal matter, it may be more difficult to apply antitrust analysis to a non-merger situation. While section 7 of the Clayton Act can restrain monopoly power in the context of mergers, the non-merger situation would have to be addressed under section 2 of the Sherman Act. Moreover, even courts like the Ninth Circuit that have applied section 2 analysis liberally caution that there exists a presumption in favor of allowing firms that have monopoly power by virtue of ordinary patent accumulation to refuse unilaterally to license competitors. *See Image Technical Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1218 (9th Cir. 1997). In some recent decisions, the Federal Circuit appears to have made this presumption virtually irrefutable. *See, e.g., In re Independent Serv. Orgs. Antitrust Litig.*, 203 F.3d 1322, 1324-28 (2000). One doctrinal approach that has been used by a few courts invokes the “essential facilities doctrine,” which states that a monopolist cannot deny to its competitors access to facilities that are necessary to compete in a particular market. *E.g., Otter Tail Power Co. v. United States*, 410 U.S. 366 (1973). However, the essential facilities doctrine is somewhat suspect, *see Abbott B. Lipsky & J. Gregory Sidak, Essential Facilities*, 51 STAN. L. REV. 1187, 1219 (1999) (stat-

C. How Do We Define the Innovation Market?

In each case where innovation markets analysis might be used to impose restraints, the central problem is defining the market. The paradigmatic case of innovation markets analysis is a situation where there exists no goods market.¹⁵⁷ Where no goods market currently exists, and where R&D paths are uncertain, it is necessarily difficult to define an innovation market—that is, the potential sources of innovation that might create the goods market. Even proponents of the analysis acknowledge that “[i]n many market circumstances there is so much serendipity in research and development that it is impossible to predict the sources of innovation with reasonable certainty.”¹⁵⁸ They note that in these circumstances, an innovation markets approach should not be used.¹⁵⁹ Because at least some biopharmaceutical R&D is characterized by a large amount of unpredictability and serendipity, it is therefore important to consider very carefully the circumstances under which the analysis could actually be used in the industry.

Where regulators have applied innovation markets analysis to highly downstream, disease-specific areas, they have been able to use the analysis with some confidence. Thus, for example, in a case involving a merger between Glaxo and Burroughs Wellcome, the FTC defined the relevant innovation market as R&D directed to producing an oral drug to treat migraine attacks.¹⁶⁰ Glaxo and Burroughs Wellcome were each quite far along in developing a non-injectable form of the drug, and the expectation was that the drugs, when developed, would compete in the market.¹⁶¹ The FTC complaint alleged that after the merger, Glaxo could eliminate either its own or Wellcome’s R&D efforts to develop a non-injectable drug.¹⁶² If such elimination did occur, it would take years for another firm to produce

ing that “essential facilities principles are inherently inconsistent with intellectual property protection”), and the Federal Circuit recently vacated a case in which the district court had invoked the doctrine. *Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346, 1357-58 (Fed. Cir. 2000) (reversing lower court opinion).

157. *See supra* Part II.B.

158. Gilbert & Sunshine, *Incorporating Dynamic Efficiency Concerns in Merger Analysis*, *supra* note 48, at 596.

159. *Id.*

160. Balto & Mongoven, *supra* note 20, at 267.

161. *Id.*

162. *Id.*

an alternative.¹⁶³ The case was resolved with the divestiture of Wellcome's R&D assets in the area.¹⁶⁴

By contrast, in others cases, the R&D market on which the FTC has focused has been much more upstream. In those contexts, the application of innovation markets analysis has been less certain. Consider, for example, the FTC's evaluation of the merger between Ciba-Geigy and Sandoz to form Novartis. In that case the FTC alleged the existence of an R&D market for gene therapy products that would emerge in the future (including *in vivo* and *ex vivo* gene therapy).¹⁶⁵ It argued that the merged firm's combined patent position in gene therapy would allow it to block competitors from engaging in any R&D with respect to such therapy (and thereby, ultimately, block them from producing competing gene therapy products).¹⁶⁶ By contrast, as separate firms, Ciba-Geigy and Sandoz had been forced to compete against each other in licensing their gene therapy portfolio.¹⁶⁷ In its consent order approving the merger, the FTC required the licensing of certain patent rights to another pharmaceutical company (Rhone-Poulenc Rorer) so that Rhone-Poulenc could compete in gene therapy R&D and could also license rights to the gene therapy patents to other companies.¹⁶⁸ In addition, the consent order required that one crucial patent—which covered the most advanced area of commercial develop-

163. *Id.*

164. *Id.* Similarly, in a case involving a merger between Upjohn and Pharmacia, the FTC alleged that the merger would harm competition in the R&D market for topoisomerase I inhibitors, which are used to treat colorectal cancer. The merging firms were two of a small number of companies in the advanced stages of developing the inhibitors. The FTC alleged that because these drugs took many years to develop, and only a few other firms were currently producing the drugs, it was unlikely that competition would constrain the merged firm from terminating development of one of the drugs. The case was resolved with divestiture of Pharmacia's topoisomerase I assets to another pharmaceutical company. *Id.* at 269.

165. *In re Ciba-Geigy Ltd.*, No. 961-0055, 1996 F.T.C. LEXIS 701, *5 (Dec. 5, 1996). The complaint noted that although the first products would not be available until the year 2000, the product market could grow to \$45 billion by the year 2010. *Id.* at *5-6.

166. The FTC also alleged harm to competition in four R&D markets for more specific gene therapies. These were the R&D markets for: (1) herpes simplex virus-thymidine ("HSV-tk") gene therapy for the treatment of cancer; (2) HSV-tk gene therapy for the treatment of graft versus host disease; (3) gene therapy for the treatment of hemophilia; and (4) chemoresistance gene therapy. *Id.* at *5.

167. Although Ciba-Geigy did not itself own gene therapy patents, it was the largest shareholder in Chiron, which held these patents. As of 1996, Ciba-Geigy owned 46.5 percent of Chiron capital stock, funded Chiron research, had the right to appoint members of the Chiron board of directors, and had the right to veto Chiron's actions. *Id.* at *3-4.

168. *Id.* at *90-92.

ment of gene therapy—be made available to all interested parties at low royalties.¹⁶⁹

It is instructive to compare and contrast the two FTC actions. In the migraines case the R&D market could be defined with great, perhaps even complete, clarity because the relevant research was so close to yielding a marketable end product. It was highly unlikely that innovation which was a “close substitute” for the Glaxo and Wellcome R&D on oral migraine medication would emerge during the short period between the FTC evaluation of the transaction and the production of a marketable end product. Indeed, one can make the generalization that once research enters the FDA-mandated clinical testing phase, the R&D market is going to be relatively easy to define. Not only are we close to the end product but the FDA process itself gives the regulator a great deal of information about the research in question and possible substitutes for that research.¹⁷⁰ On the other hand, the competitive benefit associated with the FTC action at that stage may be relatively small—lower prices in the product market for a single medication.¹⁷¹

By contrast, in the gene therapy case, because the research was relatively upstream, it was difficult to define the R&D market with anything close to complete certainty. It was conceivable (although perhaps not likely) that, during the long lag time before gene therapy yielded a marketable product,¹⁷² other types of innovation that could have been “close substitutes” for gene therapy innovation might have emerged. Indeed, because any closely substitutable research would have been quite upstream, and thus would not have to be disclosed to the FDA, it was certainly possible that close substitutes for the research had already emerged but had been kept secret. However, if these close substitutes did not emerge, and Novartis used its patent power to exclude all competition, the potential

169. *Id.* at *93-95.

170. One caveat to this generalization bears mention. On occasion, drugs that have already been approved for one indication end up being useful for treating another indication. Physicians can prescribe an approved drug for indications other than the approved indication without the drug's having to go through another approval process. Thus, in the case of the oral migraine medication discussed in the text, it was possible that a drug that had already been approved for another indication would emerge, without the FDA's knowledge, as an oral treatment for migraines.

171. Of course, if the medication is a life-saving drug, this is no small benefit.

172. The FTC complaint itself acknowledged that a marketable product would not be likely to emerge until the early part of the 21st century, about five years after its evaluation of the merger. *See id.* at *5-7.

downside was great. After all, the therapy patents are, at least arguably, as fundamental as the Cohen-Boyer patent on recombinant DNA.¹⁷³

These examples suggest a more general conundrum that regulators applying innovation markets theory to biopharmaceuticals will, on occasion, have to address. Although the utility of the theory is often directly proportional to the certainty with which the market can be defined, there will be cases where this rule of thumb does not hold. In the gene therapy case, for example, the imposition of restrictions based on innovation markets analysis may have been useful even though the innovation market in question was difficult to define. For the most part, if patent scope on upstream invention is kept narrow, regulators will not often have to face the conundrum of having to use innovation markets analysis despite the difficulty of defining the relevant market. But where market transactions threaten to give a single entity control of what appears to be a fundamental platform, the conundrum will have to be faced.

V. CONCLUSION

This Article has engaged the question of whether concentration or competition is the more appropriate market structure for the sequential process that is biopharmaceutical innovation. I have argued that, despite the attractions of concentration as a means of appropriating the value of a lengthy and expensive R&D process, a role for competition needs to be preserved. In the context of the biopharmaceutical industry, broad patents, particularly on upstream research, represent the primary threat to competition. Thus, patent law needs to take the lead in preserving competition, primarily by cabining the scope of patents on upstream inventions. Antitrust law, and especially the theory of innovation markets, should play a secondary role. In this secondary role, innovation markets theory will actually support certain market transactions that aggregate patent rights, in particular procompetitive patent pools. Innovation markets theory will, however, have an important impact in restricting market transactions in those circumstances where the transaction is likely to give a single entity control of what appears to be a fundamental platform technology. In these circumstances, restrictive application of innovation markets theory will be necessary even though there may be uncertainty associated with defining the relevant innovation market.

173. Alternately, it was conceivable that gene therapy of the type generated by the patents at issue would not be a viable therapy at all. In that case, however, the downside of limiting concentration would not have been large (and to some extent still is not, given that gene therapy has yet to yield a marketable product).

