

MAINTAINING COMPETITION IN INFORMATION PLATFORMS: VERTICAL RESTRICTIONS IN EMERGING TELECOMMUNICATIONS MARKETS

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INTRODUCTION

In the past several years, explicit attention to various competition problems (or, at least, alleged competition problems) in emerging information markets has led to something of a revival of vertical theories of competitive restraint. This development stands directly opposed to what had come to be the accepted law and economics approach to vertical restrictions; that there was little reason to think that vertical restrictions harmed consumers. The criticism of tying was only a part of an overall assault on monopoly leveraging theory and antitrust rules forbidding other forms of vertical restrictions, such as resale price maintenance, intrabrand territory and marketing restrictions, and exclusive dealing contracts. Beginning in the 1960s, law and economics scholars argued that vertical restrictions usually did not make sense as monopoly leveraging and, therefore, usually could be explained by economically positive (or at least neutral) motives and effects. This assault, while not completely successful, resulted in the substantial modification of antitrust law. In general, the legal rules that prior to these developments condemned tying, leveraging, and other vertical restraints were either overruled or substantially weakened.

Yet, despite what had become a dominant criticism of tying claims, exactly such a claim was a centerpiece of the most celebrated piece of antitrust litigation of the past twenty years, the Microsoft case. The government alleged that Microsoft illegally tied its Internet Explorer browser to its Windows operating system. Furthermore, the government argued that Microsoft maintained this tie through various illegal restrictions on the actions of downstream computer manufacturers who might otherwise in-

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interrupt the tie (by installing other browsers or removing Explorer). The District Court accepted the tying theory and found against Microsoft on this claim.¹ The Court of Appeals vacated the judgment on the tying theory, on the ground that per se treatment of such a claim was not (yet) appropriate.² However, the Court of Appeals nevertheless affirmed other claims against Microsoft that were based on essentially the same facts.

The first generation criticism of monopoly leveraging has itself been subjected to extensive reevaluation, and it is not my intent (in this paper) to argue its merits or demerits on an absolute basis. Rather, I want to show that this theory has embedded itself in the law in a way that has resulted in some very significant pro-competitive moves in telecommunications regulation. In particular, I want to focus on the manner in which, in this model, the critique of tying, monopoly leveraging, and vertical restrictions on the one hand, and the concomitant importance of the tying claim in the *Microsoft* litigation on the other are not inconsistent on a theoretical level. As many commentators have noted, the tying claim in *United States v. Microsoft* was best conceived as a monopoly maintenance claim. In other words, Microsoft was not attempting to leverage its Windows monopoly into the Internet browser market; rather, Microsoft was attempting to protect its Windows monopoly from erosion by multi-platform browsers and associated middleware.³ This monopoly maintenance claim was the principal theory of the government's complaint,⁴ and it was a theory the Court of Appeals largely en-

1. See *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9, 46-69 (D.D.C. 1999) (findings of fact); *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30, 37-44 (monopoly maintenance), 47-51 (leveraging into the browser market) (D.D.C. 2000), *aff'd in part, rev'd in part*, 253 F.3d 34 (D.C. Cir. 2001), *cert. denied*, 122 S. Ct. 350 (2001).

2. See *United States v. Microsoft*, 253 F.3d 34, 84-90 (D.C. Cir. 2001).

3. See, e.g., James B. Speta, *Tying, Essential Facilities, and Network Externalities: A Comment on Piraino*, 93 Nw. U. L. Rev. 1277, 1282 (1999); Jonathan Zittrain, *The Un-Microsoft Un-Remedy: Law Can Prevent the Problem It Can't Patch Later*, 31 CONN. L. REV. 1361, 1364-70 (1999); Mark A. Lemley & Larry Lessig, *Open Access To Cable Modems*, 22 WHITTIER L. REV. 3, 24 (2000).

4. See Complaint at ¶ 122, *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9 (D.D.C., 1999) (No. 98-1232), available at <http://www.usdoj.gov/atr/cases/f1700/1763.htm> (last visited June 25, 2002)

(Throughout Microsoft's internal analyses there is one consistent theme: Building a dominant Internet browser market share and restraining browser competition will protect Microsoft's Windows operating system monopoly. Microsoft has repeatedly recognized that the reason to win the browser war is to maintain the revenues and profits that flow from the PC operating system monopoly.)

The Complaint did include a straightforward leveraging theory in the alternative, *id.* at ¶ 5, but that was not the focus of the government's case.

dorsed.⁵ In an unregulated market, according to the law and economics view that eventually dominated anti-trust law, an attempt to use tying to leverage a monopoly from one market into another usually does not make economic sense because there is no “second rent” to earn. However, using tying to prevent potential competitors from entering the monopolized market does make economic sense, to protect the existing monopoly rent.

Although it was the most high profile case, *Microsoft* is not the only recent example of a tying or leveraging claim being advanced. In fact, such claims seem reasonably common in what Phil Weiser has helpfully titled “Information Platform” markets, *i.e.*, those markets that surround “software programs or hardware that facilitates the use of other applications.”⁶ For example, tying arguments were current in the cable company mergers of the past several years. Opponents of the mergers argued that cable companies were behaving anticompetitively in the high-speed Internet access market by tying ISP services to the underlying high-speed transport service over which the cable companies had market power.⁷ Similarly, some have expressed concern that cable companies or programmers will use proprietary “triggers” to tie Internet-based enhancements to their particular programs as interactive television markets develop.⁸ More generally, a number of commentators have worried that intellectual property and licensing policies are being used to leverage copyright or patent monopolies and impede competition.⁹

In this paper, I briefly review the evolution of some economic theories concerning vertical restrictions and relate those theories to a number of regulatory rules in telecommunications markets. Over several decades, a number of such regulatory rules have

5. *Microsoft*, 253 F.3d at 84, 89, 95-96; *see infra* notes 40-41 and accompanying text.

6. Philip J. Weiser, *Internet Governance, Standard Setting, and Self-Regulation*, 28 N. KY. L. REV. 822, 834 (2001); *see also* Philip J. Weiser, *The Internet, Innovation, and Intellectual Property Policy*, 102 COLUM. L. REV. (forthcoming 2002); Philip J. Weiser, *Law and Information Platforms*, 1 J. TELECOMMS. & HIGH TECH. L. 1 (2002).

7. *See generally* Mark Cooper, *Open Access to the Broadband Internet: Technical and Economic Discrimination in Closed, Proprietary Networks*, 71 COLO. L. REV. 1011 (2000); Lemley & Lessig, *supra* note 3; Mark A. Lemley & Larry Lessig, *The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era*, 48 UCLA L. REV. 925 (2001).

8. *See* Nondiscrimination in the Distribution of Interactive Television Services Over Cable, *Notice of Inquiry*, 16 F.C.C.R. 1321, 1328-30 (2001).

9. *E.g.*, Mark R. Patterson, *When Is Property Intellectual? The Leveraging Problem*, 73 S. CAL. L. REV. 1133 (2000); Dana R. Wagner, *The Keepers of the Gates: Intellectual Property, Antitrust, and the Regulatory Implications of Systems Technology*, 51 HASTINGS L.J. 1073 (2000) (discussing debate).

created competitive conditions in new markets. Rehearsing some of the successes of industry-specific regulation is itself important because it confronts the argument, which has had consistent strength, that antitrust law can and should provide all of the competition regulation that is necessary in telecommunications markets.¹⁰ However, this regulatory history can also suggest the appropriate regulatory response to the possible use of vertical exclusivity in an emerging information platform. Here, I take as an only somewhat hypothetical case study one evolution of a third generation wireless platform (3G). The extension of vertical exclusivity analysis to the expected 3G market is interesting for two reasons. First, 3G wireless would not only be a significant market in its own right, but would also have significant effects on other markets such as broadcast and wireline services. Second, and more importantly, mobile wireless services are one of the few currently competitive telecommunications markets.

In particular, it is possible that the advent of 3G services and the transformation of mobile wireless from a single-service platform to a multi-service information platform could present a threat to the competitive nature of the wireless market. The threat would develop if the initial developer of 3G infrastructure were to maintain an exclusive relationship with the 3G application providers, denying the other infrastructure providers the applications necessary to drive demand for their service. In fact, there is some anecdotal evidence that this occurred in Japan, when DoCoMo released its i-Mode product to great success. This scenario, which differs both from monopoly leveraging and monopoly maintenance, probably cannot be controlled only by antitrust law, but requires a regulatory response as well.

In all, I think these two different projects—reviewing some of the history of communications regulation and speculating about the possible development of a monopoly over 3G carrier services—establishes three propositions. First, both antitrust and industry-specific regulation have been successful at creating and maintaining competition in emerging communications markets. At times, industry-specific regulation has acted in a situation where antitrust enforcement probably would have not achieved the same result, either because the creation of a newly competitive market involved government requirements that the regulated entities develop new technologies necessary to facili-

10. See Steven Semeraro, *Regulating Information Platforms: The Convergence to Antitrust*, 1 J. TELCOMMS. & HIGH TECH. L. (2002).

tate competition, or because industry regulators acted on their predictive judgments about competitive markets (without establishing a formal antitrust case of abuse of market power). Second, almost all of these precedents can be rationalized under current economic theory in a way that provides a model that predicts a possible competitive problem in the emerging multimedia mobile wireless market. Third, an appropriate rule would forbid long-term exclusive contracting between a dominant 3G carrier and its content and application providers, and both antitrust and industry-specific regulation have a role to play in enforcing that rule.

Part I provides a brief overview of tying, leveraging, and vertical antitrust law. Part II reviews some significant episodes in telecommunications regulation, in which either the antitrust enforcers or the agency regulators forced the abandonment of a tying relationship or a similar vertical restriction in order to promote competition in an information platform market. Part III applies some of these lessons to a potential 3G market, particularly where a first-mover in 3G might enter into exclusive relationships with content and applications providers, forbidding them from dealing with later entrants, and ultimately eliminating the ability of other wireless carriers to upgrade and compete in 3G. Finally, Part IV assesses the likelihood of this scenario and suggests a regulatory response that combines both antitrust and traditional agency regulation.

I. THE EVOLUTION OF THE ANTITRUST RULES AGAINST TYING AND OTHER VERTICAL RESTRICTIONS

The antitrust doctrines forbidding tying and other vertical restrictions have undergone substantial development in response to economic critiques. Antitrust law long treated tying and some other vertical restrictions as per se illegal, until early law and economics scholarship argued that, for the most part, such restrictions either are unlikely to be motivated by anticompetitive intent or are unlikely to injure consumers (or both). In response, antitrust law, although it still labels some such practices as per se illegal, has substantially relaxed its condemnation. This story has been told several times¹¹; for current purposes, however, the important lesson to revisit is that leveraging theory (as a legal theory) had largely been supplanted. Antitrust law now con-

11. See generally Michael S. Jacobs, *The New Sophistication in Antitrust*, 79 MINN. L. REV. 1 (1994); Andy C.M. Chen & Keith N. Hylton, *Procompetitive Theories of Vertical Control*, 50 HASTINGS L.J. 573 (1999).

demns tying and other vertical restrictions principally in circumstances where such devices are used to maintain a monopoly threatened by actual or potential competitors or when used by price-regulated firms.

The Supreme Court historically treated tying¹² as per se illegal under both section 1 of the Sherman Act and section 3 of the Clayton Act, famously stating that tying “serve[s] no legitimate business purpose that cannot be achieved in some less restrictive way.”¹³ Other vertical restrictions, such as minimum¹⁴ and maximum¹⁵ resale price maintenance and intrabrand territorial or customer restrictions¹⁶ were also condemned as per se illegal. The dominant theory for the per se rules with regard to vertical restrictions was that these restrictions were illicit attempts by a company with market power to extend its power into additional markets, injuring competition and consumers in those markets.¹⁷

Beginning in the 1960s and 1970s, the law and economics scholarship that focused on antitrust law subjected the rules against tying and other vertical restrictions to a withering critique. This scholarship argued that, as to tying, “in the absence of price discrimination a monopolist will obtain no additional profits from monopolizing a complementary product.”¹⁸ An increase in the price of a complement necessary to consume a good over which the monopolist has market power will not increase the total profits of the monopolist, because the resulting price increase will simply depress demand for both of the goods.¹⁹ This argument, which is sometimes identified as the “one monopoly

12. Tying is “an agreement by a party to sell one product but only on the condition that the buyer also purchases a different (or tied) product, or at least agrees that he will not purchase that product from any other supplier.” *N. Pac. R.R. v. United States*, 356 U.S. 1, 5-6 (1958). Tying can of course involve services as well as goods. *E.g.*, *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2 (1984) (claim of tying anesthesiology services to surgical admissions).

13. *Fortner Enters. v. United States Steel Corp.*, 394 U.S. 495, 503 (1969); *see also generally* *Standard Oil Co. v. United States*, 337 U.S. 293, 305-06 (1949); *IBM v. United States*, 298 U.S. 131 (1936).

14. *See, e.g.*, *Dr. Miles Med. Co. v. John D. Park & Sons Co.*, 220 U.S. 373 (1911).

15. *See, e.g.*, *Albrecht v. Herald Co.*, 390 U.S. 145 (1968).

16. *See, e.g.*, *United States v. Arnold, Schwinn & Co.*, 388 U.S. 365, 381-82 (1967); *United States v. Bausch & Lomb Optical Co.*, 321 U.S. 707, 720-21 (1944).

17. *See, e.g.*, *N. Pac. R.R.*, 356 U.S. at 6 (tying agreements “deny competitors free access to the market for the tied product, not because the party imposing the tying requirements has a better product or a lower price but because of his power or leverage in another market.”); *Standard Oil*, 337 U.S. at 306; *IBM*, 298 U.S. at 137-40.

18. RICHARD A. POSNER, *ANTITRUST LAW: AN ECONOMIC PERSPECTIVE* 173 (1976).

19. *See id.*

rent” theorem, noted as an exception that price-regulated firms would have an incentive to attempt tying or other leveraging strategies because they were not earning their full monopoly rents in the market in which they had market power.²⁰ The law and economics movement similarly criticized rules against other vertical arrangements, contending that they largely did not injure consumers.²¹

Antitrust law responded to this changed economic analysis. Thus, although the Supreme Court still describes tying arrangements as illegal *per se*,²² it has qualified the claim in such a way that it now requires a showing of market power in the tying good, an explicit tying condition over a separable good or service, and the foreclosure of a “not insubstantial” amount of commerce in the tied market.²³ Although tying analysis has always considered, to some extent, the business justification offered for the tying arrangement, the new requirements²⁴ are such that the test for tying claims is now effectively a rule of reason analysis.²⁵

Similarly, antitrust law now generally has little concern for other vertical restrictions. The Court cut back the *per se* rule against maximum resale price arrangements²⁶ and later explicitly overruled it.²⁷ Additionally, the Supreme Court held that non-price vertical restraints, such as intrabrand territorial restrictions, would generally be subject to rule of reason, not *per se* analysis.²⁸ As the Court later emphasized, “in the vertical restraint context, ‘departure from the rule-of-reason standard must be based on demonstrable economic effect rather than . . . upon formalistic line drawing.’”²⁹ As several commentators have noted, leverage theory and other theories supporting *per se* re-

20. *E.g.*, ROBERT H. BORK, *THE ANTITRUST PARADOX* 376 (1978).

21. *See generally supra* notes 11, 18-20.

22. *See* *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 9 (1984).

23. *E.g.*, *Eastman Kodak Co. v. Image Technical Services*, 504 U.S. 451, 462 (1992); *Jefferson Parish*, 466 U.S. at 12-15.

24. *See* *Int'l Salt Co. v. United States*, 332 U.S. 392, 398 (1947); *IBM v. United States*, 298 U.S. 131, 139-40 (1936); *see also Jefferson Parish*, 466 U.S. at 21 n.33.

25. *See, e.g.*, *Jacobs, supra* note 11, at 10-12.

26. *See* *Atl. Richfield Co. v. USA Petroleum Co.*, 495 U.S. 328 (1990).

27. *See id.* at 335 n.5 (stating that the Court would assume, without deciding, that the *Albrecht* rule was correct); *State Oil Co. v. Kahn*, 522 U.S. 3 (1997) (overruling *per se* rule for maximum resale price maintenance).

28. *See* *Cont'l T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 57-59 (1977).

29. *Bus. Elecs. Corp. v. Sharp Elecs. Corp.*, 485 U.S. 717, 724 (1988) (quoting *Cont'l T.V.*, 433 U.S. at 59).

restrictions on vertical combinations rested upon “erroneous economic theory” and have largely been abandoned by the law.³⁰

Although the foundation of economic analysis maintained that it was generally implausible that a monopolist would use vertical restrictions to extend monopoly power from one market to another, that scholarship always distinguished from cases in which a company with market power uses such a restriction to maintain its monopoly power. The classic legal example is *Lorain Journal Co. v. United States*.³¹ In that case, the Lorain Journal was the only newspaper in town.³² When a new radio station began broadcasting in the area, the Journal required advertisers in the paper to agree that they would not advertise on the radio station.³³ The Supreme Court condemned this tying arrangement as an attempt to maintain the Journal’s monopoly in the advertising market.³⁴

This sort of monopoly maintenance theory made economic sense in the *Microsoft* case.³⁵ The district court found against Microsoft on a tying theory, explicitly finding that Microsoft had tied Internet Explorer (IE) to Windows both in an attempt to protect the Windows monopoly *and* in an attempt to leverage that Windows monopoly into the market for Internet browsers.³⁶ The court of appeals vacated and remanded the tying claims on the ground that per se analysis was inappropriate in this “first up-close look at the technological integration of added functionality into software that serves as a platform for third-party applications.”³⁷ The court of appeals thought there might be merit to Microsoft’s claims that “the bundling of IE APIs (application program interfaces) with Windows makes the latter a better applications platform for third-party software,”³⁸ and that a per se rule

30. *E.g.*, Herbert Hovenkamp, *Tying Arrangements and Class Actions*, 36 VAND. L. REV. 213, 228 (1983); Chen & Hylton, *supra* note 11, at 576-77; Jacobs, *supra* note 11, at 10-15.

31. *Lorain Journal Co. v. United States*, 342 U.S. 143 (1951).

32. *Id.* at 145.

33. *Id.* at 145-46.

34. *Id.* at 152-54.

35. *See, e.g.*, Zittrain, *supra* note 3, at 1361, 1364; David McGowan, *Innovation, Uncertainty, and Stability in Antitrust Law*, 16 Berkeley Tech. L.J. 729, 795-96 (2001); Speta, *supra* note 3, at 1282 (1999).

36. *See United States v. Microsoft Corp.*, 87 F. Supp. 2d 30, 37-44 (D.D.C. 2000) (monopoly maintenance); *id.* at 47-51 (leveraging into the browser market).

37. *United States v. Microsoft Corp.*, 253 F.3d 34, 84; *see also id.* at 93 (“[B]ecause of the pervasively innovative character of platform software markets, tying in such markets may produce efficiencies that courts have not previously encountered and thus the Supreme Court had not factored into the per se rule as originally conceived.”).

38. *Id.* at 90.

against the combination of previously separate products would “chill innovation to the detriment of consumers by preventing firms from integrating into their products new functionality previously provided by standalone products. . . .”³⁹

Nevertheless, the court of appeals did affirm much of the government’s monopoly maintenance theory, and some of the specific practices challenged were themselves tying requirements. Thus, the court found that Microsoft was attempting to maintain its Windows monopoly through its licensing requirements that conditioned a computer manufacturer’s right to buy Windows software on its agreement to refrain from removing visible means of user access to IE⁴⁰ and through the exclusive dealing condition attached to its distribution of IE to Internet access providers.⁴¹ As the court repeatedly noted, “[t]he facts underlying the tying allegation substantially overlap with those set forth . . . in connection with the § 2 monopoly maintenance claim.”⁴²

In summary, into the 1980s and 1990s the economic critique of vertical antitrust law resulted in legal doctrine centered around three principles. First, vertical restrictions were generally not problematic, because monopoly leveraging generally did not make economic sense and because other vertical restrictions generally did not harm consumers. Second, the “one monopoly rent theorem” had several exceptions. The principal two exceptions were (1) instances in which a firm with monopoly power was price-regulated in its principal market⁴³ and (2) instances in which leveraging could facilitate price discrimination.⁴⁴ (Some economists further demonstrated, of course, that price discrimination might not hurt consumer welfare or injure competition.⁴⁵) Other exceptions include situations in which significant economies of scale in the tied good market to obtain⁴⁶ and situations

39. *Id.* at 89 (quoting Brief for Appellant at 69); *see also id.* at 92-93 (questioning “separate demand” test for identifying separate products in “platform software markets”).

40. *See id.* at 60-64.

41. *See id.* at 67-70.

42. *Id.* at 84; *see also id.* at 89; *id.* at 95-96.

43. *See, e.g.,* Bork, *supra* note 20, at 386.

44. *See, e.g.,* Posner, *supra* note 18, at 176.

45. *See generally* Hal R. Varian, *Price Discrimination*, in 1 HANDBOOK OF INDUSTRIAL ORGANIZATION 596, 600-03 (Richard Schmalansee & Robert D. Willig eds., 1989); George Stigler, *United States v. Loew’s Inc.: A Note on Block-Booking*, 1963 SUP. CT. REV. 152, 152-54 (1964); Richard Schmalansee, *Output and Welfare Implications of Monopolistic Third Degree Price Discrimination*, 71 AM. ECON. REV. 242 (1981).

46. *See, e.g.,* Michael D. Whinston, *Tying, Foreclosure, and Exclusion*, 80 AM. ECON. REV. 837 (1990); Patrick DeGraba, *Why Lever into a Zero-Profit Industry: Tying, Foreclosure, and Exclusion*, 3 J. ECON. & MGMT. STRATEGY 433 (1996).

where vertical exclusivity can raise rivals' costs.⁴⁷ Third, tying or vertical exclusivity strategies would make sense in situations in which they could create barriers to entry or otherwise facilitate the maintenance of monopoly power.

II. EXAMPLES OF VERTICAL SEPARATIONS TO CREATE OR PROTECT COMPETITION IN TELECOMMUNICATIONS MARKETS

In telecommunications markets, legal rules have often been used to forbid tying or other vertical relationships. Sometimes these rules have been the result of antitrust litigation; more commonly they have been imposed by agency regulation. Even in the latter instance, however, the regulator generally had in mind an economic result—that a rule requiring vertical separation or otherwise ending an exclusive vertical relationship would create or maintain competition.

This section briefly reviews some of the familiar (and a few less familiar) examples of such vertical separation rules, relating them to the antitrust economics that seemed to inspire them and attempting to group them by kind.⁴⁸ Although the dominant examples are rules that attempt to eliminate leveraging by regulated monopolists or to create competition in potentially competitive markets (or both), there are also significant examples of such rules that are intended to prevent the maintenance of monopoly. In each instance, the rules had the effect of furthering the development of competition in an information platform market or a closely related market. This section concludes with a brief look at the conditions the government imposed on its approval of the AOL/Time Warner merger.

This survey is important not only to review the precedents for rules against vertical exclusivity in telecommunications markets, but also to confront the argument that antitrust can provide all of the competition regulation necessary in telecom-

47. See, e.g., J.A. Ordover, G. Saloner, & S. Salop, *Equilibrium Vertical Foreclosure*, 80 AM. ECON. REV. 127 (1990); Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs To Achieve Power Over Price*, 96 YALE L.J. 209 (1986).

48. Christopher Yoo has recently surveyed some vertical restraints in media markets, such as broadcast networks and cable television. Yoo also provides an excellent discussion, quite accessible to lawyers, of some of the more modern economics that may question the one monopoly rent school. See Christopher Yoo, *Vertical Integration and Media Regulation in the New Economy*, 19 YALE J. ON REG. 171 (2002).

munications markets.⁴⁹ I identify a number of instances in which regulatory rules created competition in circumstances in which the antitrust laws may not have been able to act as efficiently.

A. *Vertical Separation to Eliminate Leveraging and Create Competitive Markets*

The obvious example of vertical separations rules to eliminate leveraging and create competitive markets is the granddaddy of all government antitrust litigation (even after the *Microsoft* case): the break-up of the integrated Bell System as a result of *United States v. American Telephone and Telegraph Company*.⁵⁰ The principal result of the AT&T case was the entry of a consent decree separating the local telephone elements of the Bell System from its long-distance elements. The newly formed Bell Operating Companies were forbidden from re-entering the long-distance market, thereby creating market separation between local and long-distance telephony.⁵¹ Such separation made sense, because competition in long-distance service was technologically feasible, and because the costs of implementing equal access (i.e., non-discriminatory interconnection between local carriers and multiple long-distance carriers) was relatively inexpensive.⁵² Moreover, both courts and commentators agreed

49. See, e.g., PETER HUBER, *LAW AND DISORDER IN CYBERSPACE* (1997); Steven Semeraro, *Regulating Information Platforms: The Convergence to Antitrust*, 1 J. TELECOMMS. & HIGH TECH. L. 143 (2002).

50. See *United States v. AT&T*, 552 F. Supp. 131 (D.D.C. 1982) (Decree Opinion), *aff'd*, *Maryland v. United States*, 460 U.S. 1001 (1983).

51. See *AT&T*, 552 F. Supp. at 188-89. Complete separation was attained only after the entry of the GTE Decree, *United States v. GTE Corp.*, 603 F. Supp. 730 (D.D.C. 1984), and the FCC's promulgation of equal access rules applicable to all local telephone companies, MTS and WATS Market Structure Phase III, *Report and Order*, 100 F.C.C.2d 860 (1985). The GTE Decree and the FCC rules did not forbid the non-BOC local telephone companies from providing both local and long-distance service, and so for these carriers the separation was not a structural quarantine. Rather, in each case, the rules required the local companies to provide equal access to all non-affiliated long-distance companies. See *id.* at 878-80; *AT&T*, 603 F. Supp. at 743-46.

52. See *AT&T*, 552 F. Supp. at 195-200. Howard Shelanski and Greg Sidak, in developing a general test for the appropriateness of divestiture remedies, have persuasively made the point that commentators lauding the success of the AT&T decree usually fail to take into account the unanticipated and continued costs of administering the decree—especially its procedures for seeking waivers (or elimination) of the line of business restrictions. Howard A. Shelanski & J. Gregory Sidak, *Antitrust Divestiture in Network Industries*, 68 U. CHI. L. REV. 1, 35-36, 90-96 (2001). Their general structure, of weighing the competition gains from divestiture against any losses in productive efficiency plus the costs of enforcement in order to determine whether divestiture is the better remedy, does however match with the intent of the entry of the AT&T Decree. See generally *AT&T*, 552 F. Supp. at 165-70.

that AT&T had an economic incentive to attempt to leverage its monopoly power in local telephone markets into the long-distance market, because it was constrained by price regulation from recovering all of the rents of its local monopolies.⁵³

The same theory that underlay the AT&T Consent Decree's separation of local and long-distance also served to justify rules later requiring the separation of local and local toll service. This is true both in the few states that ordered intraLATA toll competition before the 1996 Act⁵⁴ and in the 1996 Act's local dialing parity rules (as interpreted by the FCC).⁵⁵ Similarly, the underlying anti-leveraging theory forms the basis for the Act's continued restriction on BOC entry into long-distance markets until such time as competition is possible in the local exchange.⁵⁶

It is interesting to contrast the 1982 AT&T Consent Decree, with an earlier antitrust proceeding against AT&T, the proceedings which resulted in the so-called Kingsbury commitment. In the early part of the 20th century, local telephony was often provided by competing companies.⁵⁷ At that time, AT&T had developed an extensive nationwide network and held patents over technology providing superior long-distance services. It refused to interconnect that service with unaffiliated local companies, instead offering to purchase them as part of the company's attempt to realize Theodore Vail's motto of "one policy, one system, universal service."⁵⁸ The government filed suit, and the parties

53. See *MCI v. AT&T*, 708 F.2d 1081, 1144 (7th Cir. 1983) (making this point in evaluating MCI's tying claim against AT&T in the private case); BORK, *supra* note 20 at 374-75 (commenting on AT&T litigation); see also, e.g., Paul L. Joskow & Roger Noll, *The Bell Doctrine: Applications in Telecommunications, Electricity, and Other Network Industries*, 51 STAN. L. REV. 1249, 1289-50 (1999).

54. See generally Craig D. Dingwall, *The Last Mile: A Race for Local Telecommunications Competition Policy*, 48 FED. COMM. L.J. 105, 110, 113-18, 127-29 (1995) (discussing status of state regulation of interLATA toll competition); Peter Siembab, *Opening the IntraLATA Market in California: Tolls Drop but Casualties Rise*, 28 LOY. L.A. L. REV. 1453 (1995).

55. See 47 U.S.C. § 251(b)(3) (Supp. V 1999) (requiring local dialing parity); Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, *Second Report and Order and Memorandum Opinion and Order*, 11 F.C.C.R. 19392, 19428 (1996) [hereinafter *Second Local Competition Order*].

56. See 47 U.S.C. § 271 (Supp. V 1999) (requiring BOC compliance with a competitive checklist of unbundling requirements as well as the demonstrated possibility of local competition); see generally Marius Schwartz, *The Economic Logic for Conditioning Bell Entry into Long Distance on the Prior Opening of Local Markets*, 18 J. REG. ECON. 247 (2000).

57. See generally Joseph D. Kearney & Thomas W. Merrill, *The Great Transformation of Regulated Industries Law*, 98 COLUM. L. REV. 1323, 1345 (1998).

58. 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, 1404 n.22 (1999); GERALD W. BROCK, *THE TELECOMMUNICA-*

reached a consent decree that required the Bell System to interconnect with unaffiliated local telephone companies and to suspend its acquisition of unaffiliated local companies.⁵⁹ Although the effectiveness of this decree was short-lived, as it was, in part, nullified by subsequent legislation,⁶⁰ the interconnection obligation, *i.e.*, the rule against vertical exclusivity of long-distance and local, was designed to maintain competition in the competitive local telecommunications industry.

In a manner similar to the 1982 AT&T Consent Decree's elimination of the tie between local and long-distance service, a number of rules restricted the scope of the telephone "network" in order to create competition in network attachments. Perhaps the most familiar of these was the FCC's ruling, in the *Computer II* proceedings, that customer premises equipment (CPE) (*i.e.*, telephones) were no longer to be part of the "network" and had to be competitively provided.⁶¹ The *Computer II* proceeding and the FCC's subsequent rules setting interconnection standards for network attachments⁶² were prodded by a series of court decisions that recognized a customer's right to attach to the network any device that was privately beneficial, so long as it was not harmful to the network.⁶³ The FCC's decision did not explicitly discuss the economic motive that a local telephone company would have to tie telephones to telephone service. Rather, the FCC simply stated that customer premises equipment was now capable of being competitively provided and that the development of such a competitive industry would be in the public interest.⁶⁴ Nevertheless, under the antitrust economics as it was then developing, a rate-regulated local monopolist would have the

TIONS INDUSTRY: THE DYNAMICS OF MARKET STRUCTURE 151-58 (1981); PETER TEMIN & LOUIS GALAMBOS, *THE FALL OF THE BELL SYSTEM* 9 (1987).

59. See *United States v. AT&T*, 1 Decrees & Judgments in Civil Federal Antitrust Cases 554 (D. Or. 1914).

60. The 1921 Willis-Graham Act gave the Interstate Commerce Commission the authority to review telephone company mergers and to immunize the merger from the antitrust laws. This authority was transferred to the FCC, see 47 U.S.C. § 221(a) (1994), where it remained until the provision was repealed as part of the 1996 Act, see Telecommunications Act of 1996, Pub. L. 104-104, § 601(b)(2) (Supp. V 1999).

61. See Amendment of Section 64.702 of the Commission's Rules and Regulations, *Final Decision*, 77 F.C.C.2d 384 (1980) [hereinafter *Computer II*].

62. See Proposal for New or Revised Classes of Interstate and Foreign Message Toll Telephone Service (MTS) and Wide Area Telephone Service (WATS), *Second Report and Order*, 58 F.C.C.2d 736 (1976), *aff'd*, *North Carolina Utils. Comm'n v. FCC*, 552 F.2d 1036 (4th Cir. 1977).

63. See *Hush-A-Phone Corp. v. United States*, 238 F.2d 266 (D.C. Cir. 1956); *Litton Systems, Inc. v. AT&T*, 700 F.2d 785 (2d Cir. 1983).

64. *Computer II*, *supra* note 61, at 439-40.

same incentive to leverage its controlled monopoly over local service into the market for CPE as it would have to leverage it into long distance.⁶⁵

The principle embodied in Computer II, that subscribers could attach anything to the network and use the network in any way they wished so long as they did not damage the network, served to transform the telephone network from a single-service voice network to something more like a modern information platform. It was this rule that opened the possibility of attaching modems to ordinary telephone lines (hence eventually enabling the Internet), along with fax machines and even crude video cameras.⁶⁶ Over the years, the FCC has promulgated a number of rules that similarly redefine the “network” in order to create new, competitive markets. For example, the FCC required the deregulation of so-called “inside wire” by defining the network as to not include the premises wiring of a subscriber.⁶⁷ Although the FCC did not phrase its reasoning in such terms, the rule served to create competition in the markets for installation and repair of such wiring.⁶⁸ Moreover, if there were competing local telephone companies that had their own infrastructure, such a rule would decrease a customer’s switching costs, thereby enhancing competition.⁶⁹ Some have argued that the lack of similarly clear and absolute inside wire rules for cable television impedes the development of competition in that market.⁷⁰ Simi-

65. See Jim Chen, *The Legal Process and Political Economy of Telecommunications Reform*, 97 COLUM. L. REV. 835, 843-44 (1997). Kearney and Merrill note that this is a post-hoc justification for the FCC’s policy, see Kearney & Merrill, *supra* note 57, at 1341, but it is still consistent with the then developing economic theory.

66. See, e.g., Francois Bar, et al., *Access Policy for a Third Generation Internet*, 24 TELECOMMS. POL’Y 498, 503-05 (2000).

67. Review of Sections 68.104 and 68.102 of the Commission’s Rules, *Report and Order*, 5 F.C.C.R. 4686 (1990).

68. *Id.* at 4691 (stating that rules forbidding customer provision of inside wire “restricts consumer options, and imposes costs on the availability of useful devices and services”).

69. E.g., Paul Klemperer, *Competition when Consumers have Switching Costs: An Overview with Applications to Industrial Organization, Macroeconomics, and International Trade*, 62 REV. ECON. STUDIES 515 (1995). Joe Farrell and Carl Shapiro have shown that switching costs may actually induce entry (including inefficient entry), but their result depends upon the incumbent market-leader’s inability to price discriminate between old and new customers. See Joseph Farrell & Carl Shapiro, *Dynamic Competition with Switching Costs*, 19 RAND. J. ECON. 123, 124 (1988). In the competitive telecommunications market envisioned, such price discrimination is possible because service is linked to a particular physical location. As an empirical example, cable companies often offer initial-term discounts as a manner of price-discriminating between old and new customers.

70. See generally Telecomms. Servs. Inside Wiring, *Report and Order and Second Further Notice of Proposed Rulemaking*, 13 F.C.C.R. 3659, 3670-719 (1997) (discussing status of inside wiring rules for cable wiring).

larly, Judge Greene interpreting the AT&T Consent Decree,⁷¹ the FCC by rule,⁷² and the 1996 Act by statute⁷³ have all required the interconnection of pay telephones to the local network, leading to the competitive provision of such services.⁷⁴

B. Rules To Prevent Monopoly Maintenance

There are fewer examples in telecommunications markets of antitrust or agency regulation being used to prevent monopoly maintenance. Of course, each of the foregoing rules could be viewed to some extent as preventing the maintenance of monopoly. Tim Bresnahan and others have persuasively made the point that entry into a formerly monopolized market is most likely to come from participants in a vertically related market.⁷⁵ This is because firms in those related markets will develop relevant technical and business expertise, customer relationships, and a marketing presence. Under this theory, there is always concern, from a long-term perspective, about practices that exclude competition in vertically related markets. Therefore, the rules that created competition in markets adjacent to the local telephone monopoly might be seen as creating the conditions for the degradation of that monopoly. In fact, some of the most effective, aggressive entry into local telephone markets has come from an affiliate of MCI, the initial long-distance competitor.⁷⁶

71. See *United States v. Western Elec. Co.*, 583 F. Supp. 1257, 1259 (D.D.C. 1984) (granting AT&T's request to provide coinless pay telephones, ruling that payphones were necessary for access to interexchange communications).

72. See *Registration of Coin Operated Telephones*, 49 Fed. Reg. 27763 (July 6, 1984).

73. See 47 U.S.C. § 276 (Supp. V 1999).

74. There are a number of differences between these provisions, the most important of which was that the FCC treated the payphones provided by local telephone companies as part of the network and subject to state rate regulation. The 1996 Act ended this by forbidding LEC subsidies of payphone service and prohibiting BOC discrimination in favor of its own payphone services. *Id.* The FCC ruled that local telephone companies must therefore transfer their payphones to unregulated jurisdiction. Implementation of the Pay Tel. Reclassification and Comp. Provisions of the Telecomm. Act of 1996, *Report and Order*, 11 F.C.C.R. 20541, 20611 (1996). But the driving point of all of these requirements was to introduce competition into a new market for payphone service.

75. See Timothy F. Bresnahan, *New Modes of Competition: Implications for the Future Structure of the Computer Industry*, in *COMPETITION, INNOVATION, AND THE MICROSOFT MONOPOLY: ANTITRUST IN THE DIGITAL MARKETPLACE* 155 (1999).

76. AT&T and Sprint are also entrants in the local market, but they often acquired their local companies by acquisition, such as AT&T's acquisition of TCG and Teleport (two competitive access providers) and of TCI and MediaOne (cable companies that were potential CLECs) and Sprint's acquisition of United Telephone, a predominantly rural LEC.

Nevertheless, it is possible to identify a few instances in which monopoly maintenance was the explicit concern of a regulation adopted to forbid vertical exclusivity. The first example, 800 number portability, may seem somewhat esoteric, but is actually an example of a number of related rules. The 800 number portability rules were designed to ensure that AT&T would have no continuing monopoly power over interexchange 800 services (or at least no monopoly power over the subset of customers for whom number portability was important). General number portability is a part of the 1996 Act's local competition requirements. Number portability is, moreover, an example of similar rules designed to ensure that the local monopolist's power erodes as quickly as possible. The second example is the FCC's rules forbidding exclusive contracts between cable programmers and cable operators. As part of the 1992 Cable Act, Congress directed that the FCC develop such rules in order to ensure that cable television companies could not lock up popular programming, thereby stunting the development of alternative multichannel video platforms such as direct broadcast satellite.

Prior to the AT&T Consent Decree, MCI and other specialized carriers provided only a limited amount of such 800 service, yet providing such service was an important component of business long-distance services.⁷⁷ Unlike the general consumer long-distance or even the general business market, the Decree's equal access and line-of-business restrictions would not ensure a fully competitive market in 800 services. This is because many business customers had substantial investments in particular numbers and the equal access decree did not provide a means by which the customer could switch its long-distance provider while retaining its number.⁷⁸

The underlying reason that equal access alone did not solve the problem was technological. In order to implement the "1+" dialing aspect of equal access, a switch simply needed a small block of memory that associated each line attached to the switch with that customer's pre-subscribed interexchange carrier. On the placing of any long-distance call, the switch would simply look to that internal memory block to determine to which inter-

77. See generally *United States v. AT&T*, 604 F. Supp. 316, 320 (D.D.C. 1985) (rejecting request to modify plan of reorganization to require AT&T to provide access to its common channel signaling databases to facilitate 800 portability); *Competition in the Interstate Interexchange Marketplace, Report and Order*, 6 F.C.C.R. 5880, 5903-08 (1991) [hereinafter *Competition Order*].

78. *Competition Order*, *supra* note 77, 6 F.C.C.R. at 5904; see *AT&T*, 604 F. Supp. at 322-24.

exchange carrier the call should be routed. For 800 numbers, routing a call to the correct interexchange carrier is a difficult proposition because the correct interexchange carrier is determined not by the calling party's pre-subscription, but rather by the called party's interexchange company (because the called party pays for the call). Number portability would therefore have required each central office switch⁷⁹ to have memory to store the associations between all possible 800 numbers and particular long-distance carriers. The local switches simply did not have this capability. All that could be done at the local switch level was to associate blocks of 800 numbers with particular carriers (based upon the first three digits of the 800 number). Under the Decree, this was permissible, because the local companies were giving each long-distance carrier access that was equal in terms and quality.⁸⁰

As a result, those customers that had invested in particular 800 numbers, through marketing or otherwise creating an association between their company and a particular 800 number, would face substantial costs in switching their 800-service from one long-distance carrier to another (i.e., from AT&T to a competitor).⁸¹ These switching costs worked in AT&T's favor, making it harder for competitors to win customers simply through lower prices or better service. Therefore, in order to erode AT&T's market power over 800-services, the FCC ordered the development of network technology to implement 800 number portability.⁸² The FCC's rule thus eliminated a source of monopoly maintenance power, carrier control over particular numbers. The 1996 Act ordered local number portability for the same reason.⁸³

Similarly, a few of the items in the competitive checklist, which serves as a precondition to the BOCs' entry into long-distance,⁸⁴ can be viewed as vertical separations rules designed to decrease switching costs and therefore to eliminate a possible source of monopoly maintenance by the BOCs. In particular, the requirements that the BOCs provide nondiscriminatory access to

79. This problem could have been solved at the access tandem level only if no interexchange carrier connected directly to central office switches. But, of course, AT&T did quite extensively.

80. *AT&T*, 604 F. Supp. at 322-24.

81. Compare *supra* note 69 and accompanying text (discussing switching costs).

82. *Competition Order*, *supra* note 77, at 5905.

83. See 47 U.S.C. § 251(b)(2) (Supp. V 1999); Telephone Number Portability, *First Report and Order and Further Notice of Proposed Rulemaking*, 11 F.C.C.R. 8352, 8367-68 (1996).

84. See 47 U.S.C. § 271(c)(2)(B) (Supp. V 1999).

911 service and white-pages directory listings serve such a purpose.⁸⁵ Just as with telephone numbers, 911 service and white-pages directory listing are services which may be best provided singly.⁸⁶

The second example is the provision of the 1992 Cable Act that required programmers affiliated with cable companies to sell their programs on nondiscriminatory terms and conditions to all other providers of multi-channel video programming.⁸⁷ In 1992, Congress had one thing in mind—that direct broadcast satellite service would never become a true competitor to cable service unless it had access to those programs that had achieved substantial popularity via cable systems.⁸⁸ In its implementing regulations, the FCC explicitly stated that such rules were designed to prevent monopoly maintenance strategies by the cable companies.⁸⁹ It may be possible to doubt whether this rule con-

85. See 47 U.S.C. § 271(c)(2)(B)(vii)(I), (viii) (Supp. V 1999).

86. A few additional words of explanation are in order. First, the reasons that these services may best be provided singly probably differ. It is technologically impossible to have duplicative telephone numbers being issued for the public switched telephone network. By contrast, it is technologically possible to have more than one white-pages directory, although it may be that the market is a quasi-natural monopoly market in that consumers would not tolerate more than a single white pages. (The day may come in which computer access is sufficiently cheap and easy that consumers could easily search a number of white-pages listings simultaneously. But that day is not here.) Similarly 911 centers may not be natural monopolies, but the efficiencies to public services from concentrating 911 centers may be sufficient to order their single provision.

Second, I do not view the other elements of 47 U.S.C. § 251(c) or § 271(c)(2)(B) as vertical separations rules designed against monopoly maintenance concerns. These other rules seem to be access requirements designed to permit entrants to take advantage of the incumbent's economies of scale, scope, or density. To take one example, 47 U.S.C. § 271(c)(2)(B)(vii)(II) orders the BOC to provide access to directory assistance services. As the underlying directory information is computerized, there would seem to be no reason that directory assistance centers need be centralized. And, in fact, the FCC has held that directory assistance need not be provided as an unbundled network element under 47 U.S.C. § 251(c)(4). See *Second Local Competition Order*, *supra* note 55, at 19461-63 (while ordering access to the listings).

87. See generally James B. Speta, *The Vertical Dimension of Cable Open Access*, 71 U. COLO. L. REV. 975, 1003-04, 1006 (2000).

88. See *id.* at 1004; S. Rep. No. 102-92, at 26, *reprinted in* 1992 U.S.C.C.A.N. at 1159; Nicholas W. Allard, *The 1992 Cable Act: Just the Beginning*, 15 HASTINGS COMM. & ENT. L.J. 305, 311-33 (1993); James W. Olson & Lawrence Spiwak, *Can Short-Term Limits on Strategic Vertical Restraints Improve Long-Term Cable Industry Market Performance?*, 13 CARDOZO ARTS & ENT. L.J. 283, 292-95 (1993); David Waterman, *Vertical Integration and Program Access in the Cable Television Industry*, 47 FED. COMM. L.J. 511 (1995).

89. Implementation of Sections 12 and 19 of the Cable Television Consumer Protection and Competition Act of 1992, *First Report and Order*, 8 F.C.C.R. 3359, 3383-87 (1993).

tinues to be necessary.⁹⁰ However, it seems clear that the rule helped ensure DBS's initial success,⁹¹ such that it is becoming a serious competitor to cable service.⁹²

C. Something for Everyone: The AOL/Time Warner Merger Decree

The AOL/Time Warner merger proceedings, the most recent of a number of merger proceedings with significance for Internet markets, contained something relevant to all variety of vertical competition theories. I will note two features of the conditions that the Federal Trade Commission and the FCC imposed upon the merger. First, as in the earlier AT&T/TCI and AT&T/MediaOne mergers, opponents argued that the merger would injure competition in the market for broadband ISP services by creating an illicit tie between high-speed transport service and ISP service.⁹³ This was a leverage theory, and the FTC and the FCC apparently accepted some version of this argument, for each agency conditioned the merger on the parties' agreement that, at the time the new company began to offer AOL ISP service over cable systems, a limited number of other broadband ISPs would have the ability to offer service over the same cable systems on nondiscriminatory terms.⁹⁴ The FTC and FCC's opinions supporting this condition are somewhat disappointing; the agencies merely assert that the combined company would have the incentive to discriminate against unaffiliated ISPs, without linking that argument to any economic literature or model.⁹⁵

90. Christopher Yoo has written that, given the present competition to cable from DBS and the expected competition from LMDS, MMDS, and similar services, there is no economic reason to retain them. *See* Yoo, *supra* note 48, at 248. I think it questionable whether prospective competition should be taken into account, for if cable still has sufficient power to drive DBS from the market, then new entrants would similarly be deterred.

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91. *See* Waterman, *supra* note 88, at 513-20.

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92. *See generally* Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, *Eighth Annual Report*, FCC No. 01-389, at ¶¶ 55-66 (Jan. 14, 2002).

93. *See generally supra* note 7.

94. *See* America Online, Inc., and Time Warner Inc.; Analysis To Aid Public Comment, 65 Fed. Reg. 79,861, at 79,863 (Dec. 20, 2000) [hereinafter FTC]; Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and America Online, Inc., Transferors, to AOL Time Warner, Inc., Transferee, *Memorandum Opinion and Order*, 16 F.C.C.R. 6547 (2001) [hereinafter *FCC AOL/TW Order*].

95. The FCC's order explicitly adopts the theory that the combined firm would discriminate against unaffiliated ISPs, but the order makes no reference to any of the economic literature that would call into question such a bald leveraging theory. *See FCC AOL/TW Order, supra* note 94, at 6585-92. The FTC's "Analysis To Aid Public Comment" on its consent decree does not explicitly endorse the theory, but

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Second, the FTC and FCC decrees required AOL to offer its broadband ISP service to Digital Subscriber Line (DSL) carriers on terms and conditions designed to ensure that the DSL carriers received an equal footing with AOL/Time Warner itself.⁹⁶ This condition was explicitly based on a monopoly maintenance theory. Cable systems had a wide lead over DSL in the provision of residential high-speed Internet access services, while AOL had a substantial lead over everyone else in ISP services.⁹⁷ If Broadband AOL were only available over cable lines following the merger, competition from DSL would be substantially hindered.⁹⁸

In summary, there are a number of examples of vertical separations rules in the telecommunications industry that serve to increase competition. These rules are of two principal types, as suggested by a widely recognized set of economic theories: (a) rules designed to eliminate a rate-regulated monopolist's ability to leverage its monopoly into a potentially competitive market, and (b) rules designed to ensure that a monopolist could not employ a tying arrangement or similar vertical strategy to maintain its monopoly against developing competition in that market.

Moreover, the FCC adopted many of these rules in circumstances in which antitrust enforcement to achieve the same result would have been difficult. In the CPE, inside wire, and number portability examples, the FCC's order required the development of technology that did not yet exist in order to achieve separation of the markets.⁹⁹ In a prototypical antitrust case involving tying, by contrast, the plaintiff must establish that there are two separate product markets. As the *Microsoft* case showed, this is sometimes quite difficult,¹⁰⁰ and the difficulty is com-

merely explains that the conditions would "prevent discrimination by Proposed Respondents as to non-affiliated ISPs on the basis of affiliation." FTC, *supra* note 94, at 79,863.

96. See FTC, *supra* note 94, at 79,863.

97. See FCC AOL/TW Order, *supra* note 94, at 6596-600.

98. See FTC, *supra* note 94, at 79,862 ("Currently, AOL's principal means of providing broadband access to its customers is through DSL . . . AOL's merger with Time Warner will reduce its incentives to promote and market broadband access through DSL in Time Warner cable areas, adversely affecting DSL rollout in those areas and nationally. . . ."); FCC AOL/TW Order, *supra* note 94, at 6596-600.

99. Specifically, the orders respectively required the development of technical interconnection standards and jacks for CPE, the development of standard network demarcation devices, and the interconnection of local and long-distance companies' out-of-band signaling networks.

100. In *Jefferson Parish*, the Supreme Court offered what it thought would be a straightforward rule for determining when two goods or services were in separate markets. See *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2 (1984). As has been frequently noted, the difficulties surrounding the proof of separate markets

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pounded where a product (such as the telephone network) had always been provided on an integrated basis. A regulatory solution avoids this problem. Moreover, although the FCC must of course build a record before it adopts rules under the Communications Act, it is not constrained to establish the elements of an antitrust claim. Most importantly in this regard, the FCC has wide authority to rely upon its industry expertise to make a “predictive judgment” of the necessity for regulation to combat a particular, emerging problem.¹⁰¹

III. THE THREAT 3G POSES TO COMPETITION IN MOBILE TELEPHONY

A. *Nature of Current Wireless Market*

One of the more remarkably competitive telecommunications markets today is the market for mobile telephony. The FCC’s most recently completed report on competition in the market notes that the customary metrics of “downward price trends, [high] churn, and continued expansion of mobile networks into new and existing markets demonstrate a high level of competition for mobile telephony customers.”¹⁰² In general, such competition is among facilities-based providers of mobile services, with over 75 percent of the U.S. population “liv[ing] in areas with five or more mobile telephone operators competing to offer service.”¹⁰³ In fact, because of the competitive nature of the market, price regulation has been forbidden.¹⁰⁴

The wireless market is also a very dynamic market. Recent innovations include the introduction of two way paging technol-

which existed before *Jefferson Parish* continued as well afterwards. See, e.g., Carolyn L. Harris, *The Single Product Issue in Recent Tying Litigation*, 1980 ARIZ. ST. L.J. 871, 879-84 (describing five different tests used by courts before *Jefferson Parish*); Daniel E. Lazaroff, *Reflections on Eastman Kodak v. Image Technical Servs., Inc.: Continued Confusion Regarding Tying Arrangements and Antitrust Jurisprudence*, 69 WASH. L. REV. 101 (1994); see also *United States v. Microsoft Corp.*, 253 F.3d 34, 89 (D.C. Cir. 2001) (suggesting that in technology markets, the *Jefferson Parish* test “may not give newly integrated products a fair shake.”).

101. See, e.g., *Aeronautical Radio, Inc. v. FCC*, 928 F.2d 428, 443-45 (D.C. Cir. 1991); *Nat’l Ass’n of Broadcasters v. FCC*, 740 F.2d 1190, 1209-14 (D.C. Cir. 1984).

102. Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services, *Sixth Report*, 16 F.C.C.R. 13350, 13370 (2001) [hereinafter *Annual Report on Commercial Mobile Competition*].

103. *Id.* at 13355; see also *id.* (“[T]o date, 259 million people, or almost 91 percent of the total U.S. population, have three or more different operators (cellular, PCS, and/or digital SMR) offering mobile telephone service in the counties in which they live.”)

104. See Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, *Second Report and Order*, 9 F.C.C.R. 1411, 1463-93 (1994).

ogy that has morphed into wireless e-mail services, wireless data services for laptop computers, and the continued integration of smaller computing platforms (such as PDAs) into wireless handsets. Many expect that the next development in the mobile services market will be the deployment of so-called third-generation mobile services (3G).

B. *The Nature of 3G Wireless*

Although details differ to some degree, many industry participants and commentators share a common vision of the next generation of mobile wireless services. Mobile services will no longer be restricted to voice communications and low-rate data transmissions. Rather, new high-speed platforms will provide access to a wide-variety of services, such as location-based reference and shopping services, data intensive graphical services, real-time video and other multi-media services. Current deployments of DoCoMo's i-Mode in Japan and some of the better-developed WAP applications provide a hint of the high-speed digital wireless future.

The Department of Commerce has termed the deployment of 3G "[o]ne of the most significant high-tech issues facing the U.S." and has aggressively sought to allocate more spectrum to 3G and remove regulatory hurdles to its deployment.¹⁰⁵ Although many remain skeptical about the prospects for near-term deployment and operational success of 3G wireless,¹⁰⁶ most in the industry remain optimistic that these services will be profitably deployed within the next 5-7 years.¹⁰⁷ In fact, U.S. carriers continue to circulate reports that they are deploying 3G infrastructure and technology within the next year.¹⁰⁸

105. See, e.g., NTIA, "Wireless" Internet: What the 3G Challenge Means for U.S. Competitiveness, at <http://www.ntia.doc.gov/ntiahome/threeeg/3gintro.htm> (Oct. 15, 2001).

106. E.g., Tim Kendall, *Investing in Wireless: Are You Nuts?*, CNET NEWS.COM, at <http://news.cnet.com/2010-1075-281602.html> (Nov. 14, 2001); Brett Woodard, *Can 3G Survive Wall Street?*, WIRELESS REVIEW, June 15, 2001, at 16; Julie Creswell, *Telecom's Game of Risk*, FORTUNE, Apr. 30, 2001, at 24.

107. Mark Fowlie, *The Hard Reality Behind 3G Services*, CNET NEWS.COM, at <http://news.cnet.com/2010-1078-281507.html> (July 9, 2001); Allnet, *Study: 3G is "Only Way,"* at http://www.allnetdevices.com/icom/wireless/news/2001/07/23/study_3g.html (July 23, 2001); *Annual Report on Commercial Mobile Competition*, *supra* note 102, at 13397-98.

108. See, e.g., Ben Charny & Tiffany Kary, *Sprint: Calls for 3G This Summer*, ZDNET NEWS, at <http://zdnet.com/2102-1105-807166.html> (Jan. 10, 2002); David Haskin, *Cingular Starts 3G Migration*, INTERNETNEWS.COM, at http://www.internetnews.com/wireless/print/0,,10692_912921,00.html (Oct. 30, 2001); George A. Chidi, *Verizon To Start 3G Rollout This Year*, CNN.COM, at <http://www.cnn.com/2001/TECH/ptech/08/03/verizon.3g.idg/> (Aug. 3, 2001).

Third generation wireless will be a substantially different “information platform” from the current cellular and PCS service, in that it is expected to provide the basis for services linked particularly to the wireless platform. Although some rudimentary data services are being offered by existing digital wireless systems,¹⁰⁹ currently the overwhelmingly dominant application is common voice service.¹¹⁰ As such, the Communications Act’s requirements of interconnection apply, requiring all carriers to integrate into the public switched telephone network.¹¹¹ In turn, the interconnection requirement ensures that no cellular carrier can capture the market on the basis of horizontal network effects; all cellular customers can reach one another (and landline telephones) no matter which carrier provides their particular service.¹¹² By contrast, the expectation is that 3G platforms will offer a much greater variety of services.¹¹³ To some extent, the uncertainty over 3G results from a lack of consensus as to what 3G’s “killer application” really will turn out to be. As one reporter recently put it: “Billions have already been sunk into 3G licenses, millions more into the raw business of making the standards work, yet a compelling business case has yet to be made.”¹¹⁴ Most agree, however, that the demand for the service will depend both on the development of such a killer app and on the development of a wide variety of services to be provided over the 3G infrastructure. “Compelling applications”¹¹⁵ and a “wider cross-section of services”¹¹⁶ are “a must.”¹¹⁷

109. See *Annual Report on Commercial Mobile Competition*, *supra* note 102, at 13402-20. R

110. *Id.* at 13352-56.

111. See 47 U.S.C. §§ 251(a), 332 (1994 & Supp. V 1999).

112. See generally James B. Speta, *Handicapping the Race of the Last Mile?: A Critique of Open Access Rules for Broadband Platforms*, 17 *YALE J. ON REG.* 39, 81-82 (2000) (discussing legal interconnection requirements as a means to eliminate prospects of closed-network competition).

113. NTIA, *supra* note 105. R

114. John Dickinson, *3G’s Killer App: A Great Way To Show and Tell*, ZDNET NEWS, at <http://zdnet.com/2100-1107-531198.html> (Dec. 5, 2001); see also Global Telecoms Business, Dec. 2000, at 41, 42 (“The problem is that 3G service providers are sailing into uncharted waters Even the large operators—who have been involved in communications for more than a century—have yet to make any firm commitment to which 3G services they think will be the ‘killer apps.’”)

115. Craig Eisler, *Build It Right and They Will Come*, CNET NEWS.COM, at <http://news.cnet.com/2010-1078-281552.html> (Sept. 10, 2001).

116. Alan Hadden, *Great Expectations for 3G*, TELECOMMUNICATIONS MAGAZINE, July 2001, at 47, available at http://www.gsacom.com/downloads/great_expectations_for_3g.pdf (last visited June 23, 2002).

117. Eisler, *supra* note 115. R

C. *The Threat 3G Poses*

This developing 3G model presents at least a potential for a tippy market, where a first-mover may capture returns from network size, resulting in a significant barrier to entry and competition. This is a story consistent with even the first generation of anti-monopoly-leveraging theory, which, as noted above, seems to control the legal doctrine. In other words, the success of the 3G infrastructure will depend upon the number and variety of attractive applications that are available on the platform creates exactly the same opportunity for anticompetitive exclusion that was present in *Microsoft*, the cable/DBS battles, and the AOL/Time Warner merger. Under the imagined scenario, the demand relationship between the applications and the 3G carrier's underlying service acts just like: (1) the need for a stable of compatible applications that gave rise to a barrier to entry protecting Microsoft's monopoly position in operating systems,¹¹⁸ (2) the need for a variety of compelling programs meant that cable exclusivity with programmers could have excluded DBS competition,¹¹⁹ and (3) the need for broadband content (or other services) created the need for a requirement that AOL provide its services to DSL companies (lest DSL competition with cable fold).¹²⁰ This is a network effect, because its strength derives from the number of people subscribing to the network, but it is different from general telecommunications network effects because of the feedback mechanism through the applications/software market.

Thus, a first-to-market 3G infrastructure supplier may have the incentive to demand exclusivity arrangements with the content and application providers, in order to stymie the development of other 3G competitors. As one business commentator noted in considering 3G business models: "[E]xclusive third-party content partnerships will be highly sought after by operators because they will make all the difference between them retaining and attracting new subscribers over their competitors."¹²¹ In fact, there is some evidence that DoCoMo's wildly successful i-Mode service was able to consolidate its dominance over other Japanese cell phone providers precisely because it had a head-start in service and because it had developed a wide-vari-

118. See *United States v. Microsoft Corp.*, 253 F.3d 34, 55-56 (D.C. Cir. 2001).

119. See *supra* notes 87-92 and accompanying text.

120. See *supra* notes 96-98 and accompanying text.

121. Matthew Secker, *It's A Whole New Ball Game*, TELECOMMUNICATIONS MAGAZINE (international edition), Sept. 2001, at 30, 32.

ety of exclusive content partnerships.¹²² Moreover, i-Mode appears to have maintained its overwhelming market lead for a time, despite the technological superiority of several subsequent entries.¹²³

If one of the existing cellular companies were to be the first to deploy 3G technology successfully in the United States and to couple that with exclusive arrangements with content suppliers, then “there’ll be no prizes for being third or fourth to market.”¹²⁴ Instead, later market entry will be blocked by the entry barrier created by the link between the first-mover and that first-mover’s content advantage. As Takeshi Natsuno, i-Mode project leader for NTT DoCoMo stated: “‘Without content providers, there are no subscribers, and without subscribers, there are no content providers.’ . . . Reaching subscriber critical mass is hard, ‘but once you do, you can just sit back and collect the revenue.’”¹²⁵

Third generation wireless presents a difficult and potentially more troubling scenario than many of the examples reviewed in Part II. In many of those examples, prior to the regulatory rule, there was simply no competition in the related market, because the network had initially developed as an organic whole and only later did it become clear that pieces of it could be supplied on a competitive basis. However, in the wireless market there is vigorous competition which could be displaced through the evolution to next-generation services. The 3G platform would likely provide new services, as well as displace the existing voice-only service providers, just as cellular and other new wireless services have substantially displaced earlier paging and dispatch services.¹²⁶

There is one prior analogy that fits the unique nature of the developing 3G market, the Kingsbury commitment. AT&T’s

122. See, e.g., Andrea Hoffman & Zev Blut, *I-Mode 101: A Lesson in Success*, *Wireless Bus. & Tech.*, Nov./Dec. 2001, at 62, 63 (“Having had an early mover advantage, the real key factors for the success of i-Mode are based on the fact that NTT DoCoMo managed not only to control the network, but also influence the handset development and select the handset makers, select and create official i-Mode content, and choose content providers.”); *Japan Seeks To Open Mobile Internet Networks*, Jiji Press Ticker, April 12, 2001 (explaining that i-Mode content is only available to i-Mode subscribers) (available in Lexis/News database).

123. See Andrea Hoffman, *The Other I-Modes*, JAPAN INC., June 2001, at 15 (discussing higher data rates and programmability offered by KDDI).

124. Global Telecoms Business, *supra* note 114, at 43.

125. Nikki Schwartz, *Success, I-Mode Style*, *WIRELESS REVIEW*, April 15, 2001, at 8 (quoting Natsuno).

126. See *Annual Report on Commercial Mobile Competition*, *supra* note 102, at 13354-13355.

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power over unaffiliated local companies arose because of the development of a new product, high quality long-distance services.¹²⁷ In other words, telephony over the Bell System offered two products, not just one, and the exclusive availability of high-quality long-distance put the unaffiliated local companies at a serious competitive disadvantage. The Kingsbury commitment addressed this monopoly maintenance concern in an antitrust consent decree (which itself created a quasi-regulatory solution); the next section asks what remedy (if any) should be created if a 3G monopoly maintenance scenario develops.

IV. SHOULD THE 3G “PROBLEM” BE SOLVED AND BY WHAT MEANS?

If there is a possibility that the first carrier to deploy a true 3G system will bond the premier content providers to it in order to eliminate competition from other wireless carriers, then the next question is what, if anything, should be done to prevent this threat to the competitive market. This Section sets out some of the considerations that are necessary to answering this question, in particular: (1) whether such a regulatory rule imposes unacceptable innovation or other regulatory costs; (2) when the regulatory rule ought to be promulgated; (3) whether the regulatory rule ought to forbid all exclusive contracting arrangements, or something less; (4) whether complete structural separation is required, or whether a nondiscrimination obligation is sufficient; and (5) whether the rule should be imposed through agency regulation or antitrust enforcement (or a combination of both). This section concludes that long-term exclusive contracts between content providers and a first-mover 3G carrier should be forbidden, if they develop. The competitive concerns should be met through careful merger review in early stages of the market, supplemented with industry-specific regulatory rules if necessary as the market develops, and backstopped by ex post antitrust enforcement remedies.

A. *Risks of Regulation*

The principal cost of regulation is the possibility that a rule forbidding exclusive contracts between 3G carriers and applications providers would decrease innovation in 3G services. Such a result could come about in a number of ways. First, in order to create the necessary initial subscriber base, a 3G carrier might need to engage in penetration pricing. As a result, it may need to

127. See *supra* notes 57-60 and accompanying text.

recoup some of those foregone profits (i.e., profits foregone on the pricing of the platform) through control over the services provided on the platform.¹²⁸ Preventing the necessary contractual control would prevent the ability to use penetration pricing, restricting the ability to obtain the necessary subscriber base to support further innovation. Second, a rule against exclusive contracts between applications providers and platform providers may eliminate an important source of financing for the development of 3G services. Such contracts are a means of sharing the risk of developing new products such as 3G services, and they can also be an important financing device.¹²⁹ Moreover, financing of 3G innovation by the 3G carriers themselves, because they are the most familiar with the technology, may be available when other external financing is not.¹³⁰ Third, a rule restricting exclusive contracts with 3G content providers could substantially reduce product differentiation between 3G suppliers, forcing competition to focus on price as opposed to features. Although such competition might lead to overall lower consumer prices sooner, it might also reduce incentives for the development of unique services because the rents could not be kept exclusive to a single platform.

B. Meeting the Challenges

These concerns can be met, to some degree, by a well-designed rule. In particular, historical precedents suggest that a leading option would be to forbid long-term exclusive contracting while permitting short-term exclusive contracts. Such a balance may preserve many of the incentives for innovation, by ensuring that exclusive contracts could be used for financing, and by ensuring that carriers could earn rewards from new and innovative services, for at least a period of time. In this latter regard, because high-value customers tend to be the early adopters for

128. Cf. Michael L. Katz & Carl Shapiro, *Systems Competition and Network Effects*, 8 J. ECON. PERSP. 93, 102 (1994) (effect of rents lost from penetration pricing can be mitigated “if the network sponsor captures some of the benefits derived from a larger network. This can occur if the hardware supplier has a stake in the supply of software as well as hardware, either through vertical integration, a joint venture, or contract.”).

129. See generally Henry N. Butler & Barry D. Bensinger, *Vertical Restraints of Trade as Contractual Integration: A Synthesis of Relational Contracting Theory, Transaction Cost Economics, and Organization Theory*, 32 EMORY L.J. 1009, 1037 (1983).

130. Cf. Peter H. Huang & Michael S. Knoll, *Corporate Finance, Corporate Law & Finance Theory*, 74 S. CAL. L. REV. 175, 184 (2000).

most services,¹³¹ carriers could be expected to earn some significant rents during a short-term exclusivity arrangement.

Moreover, a rule against long-term exclusive contracting should not be imposed until it becomes clear that long-term contracts are, in fact, the prevailing market arrangement between a 3G first-mover and its content suppliers. Many content providers, especially established content or service providers that are simply developing new 3G wireless versions of existing services, will resist exclusive contracting, because such contracts would reduce their revenues. At least some, and probably most, content and application providers will prefer to sell their content or applications over many outlets (especially competing outlets which are driving down the cost of the underlying service). Some business analysts have posited just this, that content providers will resist the 3G carriers' expected efforts to make exclusive arrangements.¹³² To some extent, the likelihood of long-term exclusive relationships being negotiated will depend upon the expected head-start of the first-mover. A content or applications provider will be more likely to resist a long-term exclusive arrangement if the second and third competitive carriers are likely to enter quickly. By way of historical contrast, at the time cable operators entered into exclusive agreements with cable programmers, DBS simply was not yet a viable service.¹³³

These concerns also suggest that there ought not be a rule of complete structural separation. For example, the 1992 Cable Act opted for a nondiscrimination requirement, requiring cable programmers that were affiliated with cable service providers to sell their products on nondiscriminatory terms to other multi-channel video suppliers, but not requiring the cable service providers to divest their programming holdings.¹³⁴

Intellectual property protections will also provide some assurance that innovation incentives will be maintained. If the 3G carrier is able to offer new and compelling services because of innovation in the 3G platform itself, instead of merely through an association with a content or services provider, then the 3G carrier should be able to protect that innovation by patent. (Of

131. See Larry Ribstein & Bruce Kobayashi, *Choice of Form and Network Externalities*, 43 WM. & MARY L. REV. 79, 110 (2001). Although early adopters probably have higher intrinsic value for the product, it may not always be possible to extract higher prices from early adopters—in part because early adopters do not garner network benefits to the same extent as later adopters. Cf. Katz & Shaprio, *supra* note 128, at 104.

132. See *supra* note 122.

133. See *supra* notes 87-92 and accompanying text.

134. See *supra* notes 87-92 and accompanying text.

course, it is worth noting that a patent owner might have an incentive to license its patents to its horizontal competitors, in order to assure the adoption of a common standard¹³⁵ or to assure complement suppliers or consumers of fair treatment.¹³⁶)

C. Which Institution?

The last question that arises is the appropriate legal institutions for considering and promulgating (if necessary) such a rule to promote a competitive 3G market. On the one hand, a regulatory solution has the attraction that it need not depend upon proof of market power, a proposition that, as the *Microsoft* litigation showed, may be difficult to establish in an emerging market. Antitrust law and, even more so, antitrust enforcers have been very wary of claims based on the protection of “potential” competitors. Although explicitly endorsed by the 1984 Vertical Merger guidelines,¹³⁷ such arguments have rarely been litigated and endorsed by courts. Most of the examples discussed in Part II were instances in which agency regulators acted to create new competition in a market. On the other hand, one of the very attractions of antitrust law is that no enforcement will take place in the absence of proof of market power, which many argue ensures the appropriate balance between the (high) costs of government regulation and the ability of the market generally to break down most monopolies.¹³⁸

The appropriate balance is probably found in three steps, the last of which is antitrust, the second of which is regulatory, and the first of which is merger review (a mix of both antitrust and agency regulation). The first line of defense in an emerging market is the antitrust authorities’ powers under the Hart-Scott-Rodino Act (HSR)¹³⁹ and the FCC’s parallel authority given by sections 214 and 310 of the Communications Act.¹⁴⁰ This author-

135. See, e.g., CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES 248-53 (1999).

136. See, e.g., Besen & Farrell, *Choosing How To Compete: Strategies and Tactics in Standardization*, 8 J. ECON. PERSP. 117, 122-23 (1994); Katz & Shapiro, *supra* note 128, at 103; Joseph Farrell & Nancy Gallini, *Second-Sourcing as a Commitment: Monopoly Incentives To Attract Competition*, 103 Q.J. ECON. 673, 675 & n.4 (1988).

137. U.S. Dept. of Justice Merger Guidelines, §§ 4.111, 4.112 (June 14, 1984).

138. E.g., Frank Easterbrook, *The Limits of Antitrust*, 63 TEXAS L. REV. 1, 19-23 (1984).

139. See 15 U.S.C. § 18(a) (1994).

140. See 47 U.S.C. §§ 214, 310(d) (1994 & Supp. V 1999). Like others, I am concerned that the FCC has been exceeding its statutory authority by using its authority over the transfer of radio licenses to review mergers—such as the recent cable mega-mergers—that otherwise would not be within its jurisdiction. I have argued elsewhere, however, that some more traditional regulatory tools, especially the com-

ity would come to bear in instances in which the 3G carrier attempted to achieve exclusivity with a content or service provider by acquiring it. The parallel is the AOL/Time Warner merger, which as discussed here was a merger between an infrastructure provider and a content/services provider. Merger review authority could not police all vertically exclusive arrangements in an emerging market, for many would fall outside of the scope of the HSR process or the FCC's current merger review authority. Furthermore, to the extent some vertical exclusive arrangements fell within the HSR process, they might be difficult to reject on a potential competition theory.¹⁴¹

The second line of defense would be a pure regulatory solution in which Congress or the FCC promulgated rules regulating exclusive arrangements, in a similar manner to the 1992 Cable Act. Such a rule could reach content and applications developed by the carriers themselves, as well as contract or venture arrangements between 3G carriers and other companies. In considering such a rule, the extent of competition among 3G carriers will be important. If there are, at most, a few potential competitors, then a non-exclusivity rule may make more sense, in order to prevent a single carrier from dominating the market.

Of course, one response to a dominant, closed network is for the lagging competitors to jointly agree on an open-standards approach to maximize an alternative market, and they might jointly overtake the first-mover. This apparently was a strategy agreed upon by the Japanese wireless companies trying to compete with DoCoMo's i-Mode, although there was not enough time to determine whether it would be successful before the Japanese Ministry of Public Management concluded that DoCoMo should open i-Mode to other carriers.¹⁴² It is also the strategy attempted by firms trying to catch up with AOL's lead in the instant messaging platform, but in that market, it does not yet seem to be working. By contrast to a concentrated market, if there are a large number of interconnected, competing platforms, then any concern over residual product diversity should be minimal.

Finally, antitrust law must backstop this entire process, ensuring that no dominant company seeks to maintain its monopoly against the development of new platforms. As Howard

mon carrier interconnection requirement, ought to be expanded to cover Internet carriers. See James B. Speta, *A Common Carrier Approach to Internet Interconnection*, 54 FED. COMM. L.J. 225 (2002).

141. See Hoffman, *supra* note 123; Jiji Press Ticker, *supra* note 122.

142. See Jiji Press Ticker, *supra* note 122.

Shelanski and Greg Sidak have recently written, antitrust law must be sensitive to the lessons of Shumpeterian competition theory—which include the observation that competition for the market does result in periods in which the market is dominated by a company that prices its goods above marginal cost.¹⁴³ In other words, in those markets where competition will likely occur serially as opposed to simultaneously, each new winner of the market will charge prices above marginal cost (i.e., above those that would prevail in a simultaneously competitive market). Nevertheless, antitrust law provides an appropriate means by which to monitor these markets, to ensure that monopolies are not maintained illicitly. These remedies are *ex post* of course, and they will therefore perhaps result in a period of anticompetitive behavior. But, as the AT&T Consent Decree shows, antitrust may be needed to police the efficacy of regulatory solutions themselves.

CONCLUSION

The foregoing constructs a distinctly legal case for industry-specific regulation playing a role in emerging information platform markets. It is not, and does not claim to be, an economist's case, whereby the applicability of competing models is resolved through empirics. Of course, with emerging markets (and too often with established markets as well) hard data is unavailable or ambiguous. The law, which has evolved to reflect some economics, has a role in these situations by providing default rules. This is a role that it has successfully played at several important points in the development of current information networks. The FCC has the statutory authority to act on its predictive judgment, albeit tying that judgment to evidence, precedents, and economic theory. Antitrust law, in the form of merger review, can perhaps provide the strongest first-stage legal process in analyzing the competitive shape of an emerging market, and antitrust enforcement is a necessary remedy to entrenched anticompetitive forces. But industry-specific regulation, when conducted with sensitivity to its costs, can have a useful intermediate role to play in maintaining competition as new information platforms emerge.

143. See Shelanski & Sidak, *supra* note 52, at 12.

