

University of Pennsylvania Carey Law School

Penn Law: Legal Scholarship Repository

Faculty Scholarship at Penn Law


2007

Mandating Access to Telecom and the Internet: The Hidden Side of *Trinko*

Daniel F. Spulber
Northwestern University

Christopher S. Yoo
University of Pennsylvania Carey Law School

Follow this and additional works at: https://scholarship.law.upenn.edu/faculty_scholarship

 Part of the Antitrust and Trade Regulation Commons, Communications Law Commons, Courts Commons, Digital Communications and Networking Commons, Internet Law Commons, Law and Economics Commons, Other Economics Commons, Policy Design, Analysis, and Evaluation Commons, and the Science and Technology Law Commons

Repository Citation

Spulber, Daniel F. and Yoo, Christopher S., "Mandating Access to Telecom and the Internet: The Hidden Side of *Trinko*" (2007). *Faculty Scholarship at Penn Law*. 778.
https://scholarship.law.upenn.edu/faculty_scholarship/778

This Article is brought to you for free and open access by Penn Law: Legal Scholarship Repository. It has been accepted for inclusion in Faculty Scholarship at Penn Law by an authorized administrator of Penn Law: Legal Scholarship Repository. For more information, please contact PennlawIR@law.upenn.edu.

MANDATING ACCESS TO TELECOM AND THE INTERNET:
THE HIDDEN SIDE OF *TRINKO*

*Daniel F. Spulber**
*Christopher S. Yoo***

Antitrust has played a major role in telecommunications policy, demonstrated most dramatically by the equal access mandate imposed during the breakup of AT&T. In this Article we explore the extent to which antitrust can continue to serve as a source of access mandates following the Supreme Court’s 2004 Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP decision. Although Trinko sharply criticized access remedies and antitrust courts’ ability to enforce them, it is not yet clear whether future courts will interpret the opinion as barring all antitrust access claims. Even more importantly, the opinion contains language hinting at possible bases for differentiating among different types of access, in contrast to previous analyses, which have generally grouped all of the forms of access into a single category. We build upon this language to offer an analytical framework that captures the manner in which different components of a network can interact with one another as parts of a complex system. Our analysis also offers a basis for classifying the different types of access into five categories: retail, wholesale, interconnection, platform, and unbundled. We then employ this framework to analyze a range of policy and doctrinal issues, including the current debate over network neutrality.

INTRODUCTION	1823
I. THE ORIGINS OF THE ESSENTIAL FACILITIES DOCTRINE	1826
II. THE CRITIQUE OF THE ESSENTIAL FACILITIES DOCTRINE	1833
A. The Economics of Vertical Exclusion	1834
1. The Ability to Engage in Vertical Exclusion	1834
2. The Incentive to Engage in Vertical Exclusion	1836
3. Dynamic Efficiency Considerations	1843
4. Empirical Studies of Vertical Exclusion	1846
5. The Evolution of the Law of Vertical Exclusion	
Prior to <i>Trinko</i>	1847
B. The Allocation of Authority Between Antitrust Courts	
and Regulatory Agencies	1851
1. Immunity from Antitrust Scrutiny	1851
a. Displacement of the Antitrust Laws by a	
Federal Regulatory Scheme	1851
b. State Action Immunity	1853

* Elinor Hobbs Distinguished Professor of International Business and Professor of Management Strategy, Kellogg School of Management, and Professor of Law (Courtesy), Northwestern University School of Law.

** Professor of Law and Communication and Director, Technology, Competition, and Innovation Center, University of Pennsylvania. We would like to thank Herbert Hovenkamp and Phil Weiser for their comments on earlier drafts of this Article.

2.	Doctrines Affecting the Timing of Antitrust Scrutiny	1855
a.	Abstention	1855
b.	Primary Jurisdiction	1856
3.	The Rationales Underlying the Balance Between Antitrust and Regulation	1857
4.	Implications for the Essential Facilities Doctrine ..	1859
III.	THE IMPACT OF <i>TRINKO</i>	1864
A.	The Economics of Vertical Exclusion	1864
B.	The Allocation of Authority Between Antitrust Courts and Regulatory Agencies	1867
C.	<i>Trinko's</i> Implications	1869
D.	The Impact of <i>Trinko's</i> Varying Interpretations	1872
IV.	<i>TRINKO'S</i> OVERLOOKED DIFFERENTIATION AMONG DIFFERENT TYPES OF ACCESS	1874
A.	Network Basics.....	1876
B.	Application of the Different Types of Access to Antitrust	1878
1.	Retail Access	1878
a.	The Economics of Retail Access	1880
b.	Retail Access and the Courts	1881
2.	Wholesale Access.....	1883
a.	The Economics of Wholesale Access	1883
b.	Wholesale Access and the Courts	1885
3.	Interconnection Access.....	1888
a.	The Economics of Interconnection Access	1888
b.	Interconnection Access and the Courts	1896
4.	Platform Access	1898
a.	The Economics of Platform Access	1898
b.	Platform Access and the Courts.....	1901
5.	Unbundled Access	1904
a.	The Economics of Unbundled Access.....	1904
b.	Unbundled Access and the Courts.....	1905
CONCLUSION	1907

INTRODUCTION

Antitrust courts have played a pivotal role in shaping the telecommunications industry, most significantly through the private antitrust suits brought against AT&T by MCI and the predecessor to Sprint in the 1970s¹ and the case brought by the federal government against AT&T

1. See *S. Pac. Commc'ns Co. v. AT&T Co.*, 740 F.2d 980, 999 (D.C. Cir. 1984) (affirming lower court decision finding no antitrust liability); *MCI Commc'ns Corp. v. AT&T Co.*, 708 F.2d 1081, 1174 (7th Cir. 1983) (affirming lower court decision finding antitrust liability while remanding for new trial on damages).

that culminated with the breakup of AT&T in 1984.² All three of these cases relied upon the essential facilities doctrine, which requires owners of bottleneck elements unavailable elsewhere in the marketplace to make those elements available to competitors on reasonable terms.³

The essential facilities doctrine has proven quite controversial, inspiring a welter of largely critical commentary challenging its conceptual validity, its administrability, and the extent to which it actually benefits consumers.⁴ After years of signaling ambivalence about the doc-

2. *United States v. AT&T Co. (Modification of Final Judgment)*, 552 F. Supp. 131 (D.D.C. 1982), *aff'd mem. sub nom. Maryland v. United States*, 460 U.S. 1001 (1983). This suit was the third case brought by the federal government against AT&T. See *United States v. W. Elec. Co.*, 1956 Trade Cas. (CCH) ¶ 68,246 (D.N.J. Jan. 24, 1956); *United States v. AT&T Co.*, No. 6082 (D. Or. Mar. 26, 1914) (decree), reprinted in *Decrees and Judgments in Federal Anti-Trust Cases*, July 2, 1890–January 1, 1918, at 483 (Roger Shale ed., 1918).

3. See *S. Pac.*, 740 F.2d at 1007–09; *MCI*, 708 F.2d at 1132–33, 1147–48; *Modification of Final Judgment*, 552 F. Supp. at 1352–53, 1360–61; see also Lawrence A. Sullivan & Warren S. Grimes, *The Law of Antitrust: An Integrated Handbook* § 14.7(a)(1), at 817 (2d ed. 2006) (arguing that government suit against AT&T settled in 1956 was based on essential facilities doctrine).

4. See, e.g., 3A Philip E. Areeda & Herbert Hovenkamp, *Antitrust Law* ¶¶ 770–774, at 164–227, ¶ 787(c)(1), at 301–10 (2d ed. 2002) (criticizing essential facilities doctrine as incompatible with underlying purposes of antitrust law and difficult to administer); Herbert Hovenkamp, *Federal Antitrust Policy* § 7.7, at 309 (3d ed. 2005) (calling essential facilities doctrine “one of the most troublesome, incoherent and unmanageable of bases for Sherman § 2 liability” and arguing that “[t]he antitrust world would almost certainly be a better place if it were jettisoned”); Philip Areeda, *Essential Facilities: An Epithet in Need of Limiting Principles*, 58 *Antitrust L.J.* 841, 841 (1990) (calling essential facilities doctrine “less a doctrine than an epithet” that needs limiting principles to bring it back into line with antitrust policy); Keith N. Hylton, *Economic Rents and Essential Facilities*, 1991 *BYU L. Rev.* 1243, 1245 (finding that in many cases essential facilities doctrine does not promote competition and arguing for presumption against claims that application of doctrine will enhance consumer welfare); Abbott B. Lipsky, Jr. & J. Gregory Sidak, *Essential Facilities*, 51 *Stan. L. Rev.* 1187, 1195 (1999) (“[M]andatory access remedies, such as the essential facilities doctrine, do not fit comfortably within antitrust law.”); 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, 781–806 (1996) (arguing that essential facilities doctrine “embodies some of the most unfortunate tendencies of antitrust” and proposing limiting doctrine to natural monopolies); David Reiffen & Andrew N. Kleit, *Terminal Railroad Revisited: Foreclosure of an Essential Facility or Simple Horizontal Monopoly?*, 33 *J.L. & Econ.* 419, 421–25 (1990) (claiming that economics of vertical exclusion render essential facilities doctrine superfluous and ineffective); Gregory J. Werden, *The Law and Economics of the Essential Facility Doctrine*, 32 *St. Louis U. L.J.* 433, 480 (1987) (arguing that Supreme Court was “wise” not to recognize essential facilities doctrine and that lower courts should reject it); David J. Gerber, Note, *Rethinking the Monopolist’s Duty to Deal: A Legal and Economic Critique of the Doctrine of “Essential Facilities,”* 74 *Va. L. Rev.* 1069, 1071, 1113 (1988) (arguing for narrow essential facilities doctrine). More sympathetic assessments of the essential facilities doctrine also exist. See, e.g., Robert Pitofsky et al., *The Essential Facilities Doctrine Under U.S. Antitrust Law*, 70 *Antitrust L.J.* 443, 444 (2002) (noting importance of essential facilities doctrine to control of monopolies arising out of intellectual property); James R. Ratner, *Should There Be an Essential Facility Doctrine?*, 21 *U.C. Davis L. Rev.* 327, 367–68 (1988) (supporting reformulated essential facilities doctrine); John T. Soma et al., *The Essential Facilities Doctrine in the Deregulated Telecommunications Industry*,

trine,⁵ the Supreme Court once again returned to the subject in *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP*.⁶ Although the Court found “no need either to recognize . . . or to repudiate” the doctrine,⁷ it endorsed many of the criticisms advanced in the commentary.

Most striking is the language in *Trinko* questioning the antitrust courts’ institutional competence to implement access remedies. Since the opinion was issued, courts and commentators have struggled to determine how broadly to read this language. Some have suggested that the presence of a regulatory regime leaves no role for antitrust courts.⁸ Others have read *Trinko* more narrowly, arguing that the scope of judicial authority depends on a more nuanced assessment of the nature of the regulatory regime.⁹ Until the Court resolves this uncertainty, it remains possible that courts will use the antitrust laws to compel access to telecommunications networks.

The lingering possibility of antitrust enforcement in this area makes understanding the scope of compelled access permissible after *Trinko* absolutely critical. The commentary on the essential facilities doctrine has generally treated access as a unitary concept without analyzing in sufficient detail how differences in the type of access can affect its costs and benefits. The *Trinko* opinion contains tantalizing hints suggesting how the nature of the party seeking access, the number of network elements to which access is sought, the technological complexity of the interface, and whether the access sought is already being provided to other customers can each affect the analysis.¹⁰ Unfortunately, the opinion merely offered these observations in passing without developing them in a systematic way.

We intend to correct this shortcoming by providing a framework for analyzing the different types of access that have fallen within the larger umbrella of the essential facilities doctrine. The classification system that we advance offers a basis for differentiating among different types of access based on the nature of the party seeking access, the portion of the network to which access is sought, and the nature of the services that the party seeking access intends to provide. We identify five major types of access to telecommunications networks and the Internet: retail, whole-

13 Berkeley Tech. L.J. 565, 580–613 (1998) (arguing that essential facilities doctrine represents viable alternative to existing government regulation).

5. See *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 388 (1999) (declining to address whether 47 U.S.C. § 251 (2000) incorporated essential facilities doctrine); *id.* at 428 (Breyer, J., concurring in part and dissenting in part) (noting that Court has “never adopted” essential facilities doctrine); *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 611 n.44 (1985) (finding it “unnecessary to consider the possible relevance of the ‘essential facilities’ doctrine”).

6. 540 U.S. 398 (2004).

7. *Id.* at 411.

8. See *infra* notes 254–256 and accompanying text.

9. See *infra* notes 257–265 and accompanying text.

10. See *Trinko*, 540 U.S. at 410, 414.

sale, interconnection, platform, and unbundled. This framework allows us to evaluate the effect that each form of access has on the demand for network services, the network's maximum carrying capacity, its optimal configuration, and its cost structure. At the same time, our framework underscores the impact that the differences between the forms of access can have on transaction costs, both by increasing the cost of obtaining the information needed to manage the network and by forcing the network to deviate from its natural institutional boundaries. In the process, our framework offers the first systematic basis for understanding how the precise nature of each type of access should guide the actions of antitrust courts.

We begin in Part I by discussing the origins of the essential facilities doctrine and the manner in which it has been applied to the telecommunications industry. Part II reviews the scholarly criticism that has been leveled at the doctrine. Part III analyzes the extent to which these criticisms are reflected in the *Trinko* opinion and discusses the controversy over *Trinko*'s impact on antitrust courts' authority to compel access. Part IV analyzes how the essential facilities doctrine in fact encompasses many different types of access, each with a distinctly different impact on the optimal configuration of a network, its total carrying capacity, and the transaction costs associated with imposing access. It then employs a discipline of mathematics known as graph theory to construct a five-part classification system through which these different types of access can be analyzed.

I. THE ORIGINS OF THE ESSENTIAL FACILITIES DOCTRINE

The principal provision of the antitrust laws governing unilateral action taken by firms is section 2 of the Sherman Act, which provides that "[e]very person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony."¹¹ The use of the active verb, "monopolize," is generally interpreted as criminalizing not the mere possession of monopoly power, but rather the anticompetitive conduct used to create and sustain monopolies.¹² Thus, courts have generally concluded that section 2 was not meant to reach monopolies obtained through natural features of the market or through competition on the

11. 15 U.S.C. § 2 (2000).

12. See, e.g., *Standard Oil Co. v. United States*, 221 U.S. 1, 61–62 (1911) (noting that statute "omi[tted] . . . any direct prohibition against monopoly in the concrete," while "reach[ing] every act bringing about the prohibited results"); *United States v. Aluminum Co. of Am. (Alcoa)*, 148 F.2d 416, 429 (2d Cir. 1945) (noting that prior courts had emphasized "the use of the active verb, 'monopolize,'" when concluding that section 2 did not penalize those who "unwittingly find themselves in possession of a monopoly . . . without having intended . . . to put an end to existing competition").

merits. In the words of Learned Hand's landmark decision in *United States v. Aluminum Co. of America (Alcoa)*:

A market may, for example, be so limited that it is impossible to produce at all and meet the cost of production except by a plant large enough to supply the whole demand. Or there may be changes in taste or in cost which drive out all but one purveyor. A single producer may be the survivor out of a group of active competitors, merely by virtue of his superior skill, foresight and industry.¹³

Proposals to criminalize “no fault” monopolization have appeared from time to time, based on the grounds that the mere existence of a monopoly increases price and reduces quantity regardless of whether it arises innocently or through anticompetitive acts.¹⁴ Courts, however, have declined to condemn the mere possession of monopoly power out of concern that doing so would deter firms from engaging in the competition on the merits (through product innovation and cost reduction)

13. *Alcoa*, 148 F.2d at 430; accord *United States v. United Shoe Mach. Corp.*, 110 F. Supp. 295, 342 (D. Mass. 1953) (noting that section 2 does not criminalize monopolies obtained through “superior skill, superior products, natural advantages, . . . economic or technological efficiency, . . . low margins of profit maintained permanently and without discrimination, or licenses conferred by, and used within, the limits of law, (including patents on one’s own inventions, or franchises granted directly to the enterprise by a public authority)”), aff’d mem., 347 U.S. 521 (1954). This reading of section 2 also draws support from the scant legislative history that exists. In the words of Senator George Frisbie Hoar:

I suppose, therefore, . . . a man who merely by superior skill and intelligence . . . got the whole business because nobody could do it as well as he could was not a monopolist, but that it involved something like the use of means which made it impossible for other persons to engage in fair competition, like the engrossing, the buying up of all other persons engaged in the same business.

21 Cong. Rec. 3152 (1890).

14. See Nat’l Comm’n for the Review of Antitrust Laws and Procedures, Report to the President and the Attorney General viii, 141–42, 151–59 (1979) (proposing antitrust liability for persistent monopoly power even in absence of culpable conduct); Phil C. Neal et al., Report of the White House Task Force on Antitrust Policy (1968), reprinted in *Antitrust L. & Econ. Rev.*, Winter 1968–69, at 11, 24–33 (arguing for subjecting concentrated industries to antitrust liability even absent evidence of predatory or abusive conduct); 3 Philip Areeda & Donald F. Turner, *Antitrust Law* ¶ 623(a), at 63–64 (1st ed. 1978) (arguing in favor of antitrust condemnation of substantial and persistent market power even in absence of anticompetitive conduct); Ratner, *supra* note 4, at 368–70 (arguing for using essential facilities doctrine to redress inefficient output reduction and supracompetitive pricing even absent steps to maintain or obtain market power); Oliver E. Williamson, *Dominant Firms and the Monopoly Problem: Market Failure Considerations*, 85 *Harv. L. Rev.* 1512, 1522–25 (1972) (arguing in favor of antitrust liability for firms that achieve dominance through innocent conduct). These proposals draw support for their position from language in *United States v. Griffith*, 334 U.S. 100, 107 (1948) (“[M]onopoly power, whether lawfully or unlawfully acquired, may itself constitute an evil and stand condemned under § 2 even though it remains unexercised.”), and *Alcoa*, 148 F.2d at 428 (suggesting that monopolist violates antitrust statutes simply by existing and conducting business).

that the antitrust laws are designed to foster.¹⁵ As Hand so eloquently put it, “[t]he successful competitor, having been urged to compete, must not be turned upon when he wins.”¹⁶

As a result, courts have long held that a section 2 violation requires more than just proof of monopoly power; it also requires proof of exclusionary conduct, defined in one case as “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.”¹⁷ As a general matter, then, monopolists do not violate section 2 simply by charging monopoly prices¹⁸ or by refusing to deal with a particular party.¹⁹ At the same time, the Court has indicated that “[t]he high value that we have placed on the right to refuse to deal with other firms does not mean that the right is unqualified.”²⁰

The essential facilities doctrine, which made its first explicit appearance in a judicial decision in 1977,²¹ is the result of treatise writers’ efforts to make sense of early decisions requiring monopolists to deal with their rivals.²² The doctrine imposes a duty on firms controlling effec-

15. See *Alaska Airlines, Inc. v. United Airlines, Inc.*, 948 F.2d 536, 547–49 (9th Cir. 1991) (rejecting call to penalize firms that achieve monopoly through superior competitive performance without engaging in predatory conduct); 3 Areeda & Hovenkamp, *supra* note 4, ¶ 630(a), at 44–46 (rejecting condemnation of monopolies that arise without anticompetitive conduct because doing so would create disincentives to compete on merits); Hovenkamp, *supra* note 4, § 6.3, at 275–76 (same); Sullivan & Grimes, *supra* note 3, § 3.4, at 113 (same).

16. *Alcoa*, 148 F.2d at 430.

17. *United States v. Grinnell Corp.*, 384 U.S. 563, 570–71 (1966).

18. See, e.g., *Verizon Commc’ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407 (2004) (“The mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system.”); *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 276, 294 (2d Cir. 1979) (noting that “a large firm does not violate [section] 2 simply by reaping the competitive rewards attributable to its efficient size” and that no violation has occurred “unless the monopoly has bolstered its power by wrongful actions”).

19. See *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 600 (1985) (noting that “even a firm with monopoly power has no general duty to engage in a joint marketing program with a competitor” and approving of jury instruction stating that “a firm possessing monopoly power has no duty to cooperate with its business rivals”); *United States v. Colgate & Co.*, 250 U.S. 300, 307 (1919) (“In the absence of any purpose to create or maintain a monopoly, the [Sherman Act] does not restrict the long recognized right of trader or manufacturer engaged in an entirely private business, freely to exercise his own independent discretion as to parties with whom he will deal.”).

20. *Aspen Skiing*, 472 U.S. at 601.

21. See *Hecht v. Pro-Football, Inc.*, 570 F.2d 982, 992 (D.C. Cir. 1977).

22. See, e.g., A.D. Neale, *The Antitrust Laws of the United States of America* 68–72, 131–37 (1st ed. 1960) (synthesizing early cases in attempt to develop coherent doctrine surrounding monopolistic refusals to deal); Lawrence Anthony Sullivan, *Handbook of the Law of Antitrust* § 48, at 125–32 (1977) (“A firm which holds a lawful monopoly by virtue of ownership of a unique resource is guilty of monopolization if it exploits that resource in ways which exclude or disadvantage customers arbitrarily or invidiously.”). For an overview of the early history of the essential facilities doctrine, see Daniel E. Troy, Note, *Unclogging the Bottleneck: A New Essential Facility Doctrine*, 83 *Colum. L. Rev.* 441, 447–52 (1983).

tively irreproducible bottleneck resources to share those resources with their competitors on reasonable terms.²³ Since 1977, lower courts have invoked it with respect to many different facilities.²⁴

This doctrine is typically traced to the Supreme Court's decision in *United States v. Terminal Railroad Ass'n*,²⁵ which is usually described as arising from a monopolist railroad's refusal to allow other railroads to run their rolling stock over the only bridge crossing the Mississippi River near St. Louis.²⁶ A close examination of *Terminal Railroad's* facts, however, reveals its inaptness as a foundation for limiting a monopolist's unilateral refusal to deal. As an initial matter, the bottleneck in question was controlled not by a monopolist, but rather by a consortium of fourteen of the twenty-four railroads terminating traffic in St. Louis.²⁷ As such, the conduct in question is more properly analyzed under section 1 of the Sherman Act, which governs "combination[s] . . . in restraint of trade,"²⁸ than section 2, which applies to single-firm action. Furthermore, the initial bridge owned by the supposed monopolist actually faced competition from a second bridge as well as three ferry companies, each of which the consortium acquired as part of a concerted effort to foreclose competition.²⁹ Thus, as the Supreme Court would ultimately recognize in *Trinko*, the conduct at issue in *Terminal Railroad* cannot be characterized as the unilateral actions of a solitary monopolist, but rather as the efforts of a cartel pursuing a conscious plan of merger to monopoly.³⁰

23. See, e.g., *Hecht*, 570 F.2d at 992 ("[W]here facilities cannot practicably be duplicated by would-be competitors, those in possession of them must allow them to be shared on fair terms." (quoting A.D. Neale, *The Antitrust Laws of the United States of America* 67 (2d ed. 1970))).

24. See Lipsky & Sidak, *supra* note 4, at 1191–93 (collecting lower court cases applying essential facilities doctrine).

25. 224 U.S. 383 (1912).

26. See, e.g., Adam Candebub, *Trinko* and Re-Grounding the Refusal to Deal Doctrine, 66 U. Pitt. L. Rev. 821, 828, 836 (2005) (emphasizing domination of consortium of railroads by single financier and noting lack of alternatives to bridge at issue); Richard A. Epstein, Monopoly Dominance or Level Playing Field? The New Antitrust Paradox, 72 U. Chi. L. Rev. 49, 66 (2005) (treating Terminal Railroad Association as single firm).

27. See Lipsky & Sidak, *supra* note 4, at 1189.

28. 15 U.S.C. § 1 (Supp. IV 2004).

29. For example, when Congress authorized the construction of the second bridge, it attempted to protect against merger to monopoly by prohibiting anyone from owning stock in both bridges. This was repealed in what the United States described as a "mysterious manner" before the Association obtained control of the second bridge. See Statement and Brief of the Attorney General of the United States at 53, *Terminal R.R.*, 224 U.S. 383 (No. 386); see also Reiffen & Kleit, *supra* note 4, at 426–27 (describing acquisition of second bridge by Association). The Association acquired the ferry companies only after a rival railroad, the Rock Island, attempted to purchase one of the ferries as part of a plan to begin providing service in St. Louis. The bidding war between the Association and the rival railroad ended when the Association acquired the ferry while simultaneously agreeing to admit the Rock Island and seven other railroads to the consortium. See *id.* at 427–29.

30. See *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 410 n.3 (2004); see also 3A Areeda & Hovenkamp, *supra* note 4, ¶ 772(b)(1), at 176–78, ¶ 772(d), at 192–95 (describing *Terminal Railroad* Court's emphasis on combination of

Two other Supreme Court decisions offer more appropriate modern foundations for the essential facilities doctrine. The first case, *Otter Tail Power Co. v. United States*, involved a power company that provided three types of services to a number of cities in Minnesota and the Dakotas.³¹ First, it generated electric power. Second, it provided wholesale distribution of electric power via its long-haul lines, either by transporting electric power from its generation facilities to individual cities or by “wheeling” power generated by third parties located outside Otter Tail’s service area. Third, it provided retail distribution under municipal franchises obtained from cities that did not operate their own municipal distribution grids. Four towns that had previously granted Otter Tail retail distribution franchises terminated those franchises and announced plans to establish their own municipal distribution systems. Otter Tail responded by refusing to sell any power to those systems or to wheel power obtained from other sources.³² The Supreme Court held that Otter Tail was using its monopoly position in wholesale distribution to foreclose potential entrants in retail distribution. Accordingly, the Court upheld a decree enjoining Otter Tail from refusing to sell wholesale power to these cities, leaving it to the Federal Power Commission to resolve disputes over the particular terms and conditions of interconnection.³³ Although the district court had based its decision on reasoning similar to the essential facilities doctrine,³⁴ the Supreme Court did not mention it at all.

Otter Tail has been heavily criticized for both the thinness of its reasoning and its conceptual incoherence.³⁵ As Professors Philip Areeda and Herbert Hovenkamp note in their leading antitrust treatise, claims seeking wholesale access so that the purchased products can be resold at retail “would ordinarily be rejected in the unregulated setting. . . . Anti-trust would not ordinarily countenance the intending car dealer’s claim, for example, that it has a right to purchase the monopoly manufacturer’s cars at wholesale and resell them at retail, when the manufacturer prefers

companies operating bridge and attempting to exclude rivals); Hovenkamp, *supra* note 4, § 7.7, at 309 (pointing out that because *Terminal Railroad* “involve[ed] an agreement among multiple firms who controlled the facility,” it “makes a poor ancestor for the essential facilities doctrine”); Ratner, *supra* note 4, at 336–37 (arguing that *Terminal Railroad* is more appropriately classified as “a classic group boycott” or “horizontal agreements in restraint of trade in violation of section 1”).

31. 410 U.S. 366, 368–72 (1973).

32. *Id.*

33. *Id.* at 375–78. Interestingly, the Court did so even though Congress had explicitly refused to give the Federal Power Commission the authority to require companies like Otter Tail to wheel power. *Id.* at 374.

34. *United States v. Otter Tail Power Co.*, 331 F. Supp. 54, 61 (D. Minn. 1971) (invoking “bottleneck” theory), modified, 410 U.S. 366 (1973).

35. See 3A Areeda & Hovenkamp, *supra* note 4, ¶ 787(c)(1), at 303 (noting that *Otter Tail* court did not “adequately elaborate[]” upon underlying grounds for decision); Thomas E. Kauper, Section Two of the Sherman Act: The Search for Standards, 93 *Geo. L.J.* 1623, 1627 (2005) (“Virtually no discernible principle can be found in *Otter Tail* . . .”).

to retail them directly.”³⁶ As a result, Areeda and Hovenkamp suggest that *Otter Tail* is best understood in light of its “peculiarities.”³⁷ The mandate to wheel power ought to be read in light of the historical common law duty to deal imposed on public utilities.³⁸ The case is also “unique in its remedial aspects,” in that the Federal Power Commission was available to oversee the terms and conditions of the interconnection mandate.³⁹

The second decision, *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, arose from a dispute between operators of ski areas near Aspen, Colorado.⁴⁰ Starting in 1962, the three independently owned ski facilities in the area—Ajax, Buttermilk, and Highlands—jointly offered a multi-day, all-Aspen ticket that could be redeemed at any of the facilities. The owner of Ajax eventually acquired Buttermilk and opened a new ski area called Snowmass. The combined entity, now known as Ski Co., continued to cooperate with Highlands to offer a multi-area pass, now covering all four ski areas. Revenues were divided based on the number of tickets redeemed at each mountain, with the share of the revenue allocated to Highlands ranging from a high of 18.5% during the 1974–75 season to a low of 13.2% in 1976–77. For the 1977–78 season, Ski Co. asked Highlands to fix its compensation at 13.2% of the multi-area pass’s revenues. Subsequent negotiations increased Highlands’s compensation to 15%. The following year, Highlands rejected a proposal that would have reduced its share of the total revenue to 12.5%. In response, Ski Co. terminated the all-Aspen ticket and instead offered a three-area ticket covering only the ski areas that it owned. In addition, it frustrated Highlands’s attempts to reconstruct the four-area ticket by refusing to sell its three-area tickets to Highlands at the full retail price.⁴¹ The Supreme Court held that Ski Co.’s termination of the joint venture constituted monopolization under section 2 of the Sherman Act.⁴² In the process, it upheld the district court’s injunction, which required that the parties jointly offer an all-Aspen ticket modeled on a multi-area ticket that Ski Co. offered at another nearby resort area.⁴³ In so concluding, though, the Supreme Court declined to follow the doctrinal lead of the court of appeals, which explicitly based its decision on the essential facilities doctrine.⁴⁴

The decision in *Aspen Skiing*, like the decision in *Otter Tail*, has been subject to extensive scholarly criticism. Perhaps the most trenchant criti-

36. 3A Areeda & Hovenkamp, *supra* note 4, ¶ 787(c)(1), at 306.

37. *Id.* ¶ 772(b)(3), at 181.

38. *Id.*

39. *Id.* ¶ 787(c)(1), at 305; accord *id.* ¶ 774(e), at 225 (describing tendency of courts imposing access remedies to “submit the matter to a regulatory agency” in cases involving regulated industries).

40. 472 U.S. 585, 587 (1985).

41. *Id.* at 587–94.

42. *Id.* at 605–11.

43. *Id.* at 598 n.23.

44. *Id.* at 599, 611 n.44.

cism involves the definition of the appropriate geographic market. The jury found that the relevant product market was "destination ski resort[s]," whose primary clientele is out-of-town vacationers, as opposed to "day ski area[s]," which cater to local residents.⁴⁵ By definition, patrons of destination ski resorts are free to choose from among the many ski areas in the western United States and Canada. By implicitly assuming that these customers were locked into Aspen, the Supreme Court thus appears to have defined the geographic market too narrowly.⁴⁶

Furthermore, there is some evidence that Highlands was free riding on Ski Co.'s facilities and marketing efforts. For example, Highlands's inability to attract more than 18.5% of the overall business suggests that its ski area was below average in attractiveness. From this perspective, Highlands was simply diverting revenue from skiers attracted by the higher quality mountains provided by Ski Co.⁴⁷ Furthermore, Ski Co. purchased national advertising to bring vacationers to Aspen; Highlands did not. If Ski Co. were to advertise optimally, it should increase its advertising until the marginal return no longer exceeds the marginal cost of increasing advertising any further. To the extent that Highlands siphons off some of the business generated by this advertising, Ski Co.'s returns to advertising will look artificially low and will cause Ski Co. to stop further advertising even when it would be efficient to continue to do so. Highlands's free riding would thus ultimately impede Ski Co.'s ability to compete with other ski areas.⁴⁸

Another possible problem is that the pro rata division did not reflect the marginal benefits provided by each ski area. Although Highlands accounted for between 13.2% and 18.5% of the usage while the four-area

45. *Id.* at 587, 594, 596 n.20 (1985).

46. See 2A Areeda & Hovenkamp, *supra* note 4, ¶ 533(g), at 207-09 (describing inability of party with control over one local ski area to exert market power and charge monopoly prices for destination skiing); Hovenkamp, *supra* note 4, § 3.2(c), at 90 (arguing that trial judge should have explicitly instructed jury "to consider whether downhill skiing in Aspen was a relevant market"); Thomas J. Campbell, *The Antitrust Record of the First Reagan Administration*, 64 *Tex. L. Rev.* 353, 360 (1985) (claiming that market definition adopted in *Aspen Skiing* "is open to question because Aspen competes with many other ski resorts both in Colorado and in other states"); Frank H. Easterbrook, *On Identifying Exclusionary Conduct*, 61 *Notre Dame L. Rev.* 972, 973 n.2 (1986) (arguing that Ski Co. failed to make use of one of "its strongest points" by "not challeng[ing] the definition of the market"); Lipsky & Sidak, *supra* note 4, at 1209 ("[P]roducer substitutability should have made the relevant market not Aspen, Colorado but rather a larger universe of ski resorts in the United States, Canada, and perhaps even Europe."); John Shepard Wiley Jr., "After Chicago": An Exaggerated Demise?, 1986 *Duke L.J.* 1003, 1007 (noting that Ski Co.'s conduct is best understood as "attempt to improve its position in the national skiing market" by eliminating free riding, which requires national geographic market).

47. See Easterbrook, *supra* note 46, at 975-76 ("[Ski Co.] might have said that Highlands was an inefficient 'fringe' firm taking a free ride on the fact that Skiing had developed the resort's principal mountains and attracted tourists . . .").

48. See Wiley, *supra* note 46, at 1005-06 (noting negative impact of Highlands's conduct upon Ski Co.'s ability to compete with other resorts in national market).

pass was in use, its share eventually dropped to 11% after discontinuation of the pass.⁴⁹ This suggests that its marginal contribution might be somewhat smaller than its pro rata usage might suggest. In other words, the value that skiers place on a four-area pass might be only 11% more than the value they would place on a three-area pass. Thus, the proportion in which skiers actually distribute their custom may overstate Highlands's incremental contribution. From this perspective, the dispute between Highlands and Ski Co. may have been nothing more than a disagreement over what the proper baseline was for dividing the benefits created by their joint venture. This is precisely the type of dispute in which antitrust courts should avoid becoming entangled.⁵⁰

Lastly, Ski Co.'s history of selling multi-area tickets both in Aspen and at its other resorts greatly facilitated the remedy in *Aspen Skiing*.⁵¹ The Court could use these parallel transactions as a basis for fashioning a remedy without having to establish the terms and conditions for such a multi-area ticket out of whole cloth. In cases in which such external benchmarks do not exist, courts will doubtlessly find fashioning appropriate remedies in duty-to-deal cases to be much more difficult.

These criticisms, and the decisions' failure to rely upon the essential facilities doctrine, have not stopped lower courts from invoking *Otter Tail* and *Aspen Skiing* when requiring monopolists to provide competitors with access to their facilities. What remains controversial is the precise scope of the duty to deal mandated by these cases.

II. THE CRITIQUE OF THE ESSENTIAL FACILITIES DOCTRINE

Even supporters of the essential facilities doctrine recognize that it "has long been a controversial subject under U.S. antitrust law."⁵² Essential facilities claims posit that a firm is using its control of a monopoly input to restrain competition in a vertically related market, either by charging companies requesting access to that resource excessive prices or by denying those companies access to the resource altogether. Rather than selling the input into the open market and allowing other purchasers to combine it with other inputs and sell their finished products on a competitive basis, the input monopolist excludes certain purchasers either by internalizing production, and thereby becoming the sole source of finished goods, or by entering into strategic partnerships with certain purchasers and giving them preferential terms.

49. *Aspen Skiing*, 472 U.S. at 595.

50. See 3A Areeda & Hovenkamp, *supra* note 4, ¶ 774(e), at 227 (noting reluctance of courts "to interfere when the claim is that the defendant is actually dealing, but only on disadvantageous or onerous terms").

51. See *supra* notes 41, 43 and accompanying text.

52. Pitofsky et al., *supra* note 4, at 443; accord *Byars v. Bluff City News Co.*, 609 F.2d 843, 846 (6th Cir. 1980) (calling doctrine "one of the most unsettled and vexatious in the antitrust field").

The central concern of the essential facilities doctrine is thus vertical exclusion.⁵³ As such, the essential facilities doctrine is susceptible to—and, therefore, should reflect—the economic critique of vertical exclusion that has emerged over the past half-century.⁵⁴ In addition, the doctrine must take into account the emerging debate over the proper division of authority between antitrust courts and regulatory agencies in supervising access mandates.

A. *The Economics of Vertical Exclusion*

The conventional wisdom about vertical integration once generally accepted the notion that firms could use monopoly power in one level of production to reduce the competitiveness of vertically related levels of production.⁵⁵ Over time, economic theorists began to realize that this approach is subject to several conceptual limitations. This scholarship has raised questions about an input monopolist's *ability* and *incentive* to attempt to harm competition in a vertically related level of production. Furthermore, modern analysis has noted that bars upon vertical exclusion can impair dynamic efficiency by paying too little attention to the impact that mandated sharing can have upon long-run incentives to invest in alternative sources of supply of the bottleneck resource.

1. *The Ability to Engage in Vertical Exclusion.* — As a threshold matter, certain structural preconditions must generally be met before the producer of an input can plausibly have any *ability* to harm competition in a vertically related market.⁵⁶ First, the firm must possess monopoly power over the input market. If not, any attempt to charge supracompetitive prices in any market will simply lead the firm's customers to turn to other sources.⁵⁷ In addition and more importantly for our purposes, the vertically related market must be concentrated and protected by entry barriers for a threat to the competitiveness of that market to be credible. If not, any attempt to raise price in the vertically related market will cause ex-

53. See 3A Areeda & Hovenkamp, *supra* note 4, ¶ 771(a), at 169–71 (discussing relationship between essential facilities doctrine and vertical exclusion); Werden, *supra* note 4, at 462 (“The essential facility doctrine . . . involve[s] vertical integration.”).

54. See generally Christopher S. Yoo, *Vertical Integration and Media Regulation in the New Economy*, 19 *Yale J. on Reg.* 171, 187–205 (2002) [hereinafter Yoo, *Vertical Integration*] (reviewing critiques of vertical exclusion).

55. See, e.g., Carl Kaysen & Donald F. Turner, *Antitrust Policy: An Economic and Legal Analysis* 132 (1959) (arguing that vertical mergers “can, through the leverage effects of firms in one market on those in another to which they stand in the relation of supplier or customer, enhance existing power, or enable it to be applied in a new market”).

56. See 3A Areeda & Hovenkamp, *supra* note 4, ¶ 773(c), at 205–06 (noting that firm must be “actual or potential monopolist of a realistically defined market” with high entry barriers in order to harm competition in vertically related market).

57. See, e.g., Aaron Director & Edward H. Levi, *Law and the Future: Trade Regulation*, 51 *Nw. U. L. Rev.* 281, 290 (1956) (“Firms that are competitive cannot impose coercive restrictions on their suppliers or their customers as a means of obtaining a monopoly. They lack the power to do this effectively.”).

isting competitors to increase their production or will attract new competitors until the price is forced back down to competitive levels.⁵⁸

To use an example based on one of the leading Supreme Court cases on vertical integration,⁵⁹ suppose that a shoe manufacturer whose output comprises 10% of the overall shoe market decides to stop distributing its products through the one hundred available independent shoe retailers and instead purchases ten shoe retailers and sells its shoes only through those outlets. Would this decision reduce competition in either shoe manufacturing or shoe retailing? Although competing manufacturers will not be able to sell their products through the ten shoe retailers now owned by the vertically integrated manufacturer, the ninety remaining independent shoe retailers should now have extra capacity from the withdrawal of sales from the vertically integrated manufacturer sufficient to cover all of the other manufacturers' output. In other words, the competitive manufacturers who produce 90% of the market are not excluded from the market at all, since they will still have 90% of the retail distribution capacity available to them. In this case, vertical integration simply realigns the patterns of distribution without affecting the market shares of either the manufacturers or the retailers. Nor is it likely that the vertically integrated manufacturer could foreclose the retail market by purchasing more than 10% of the available retailing capacity. In the absence of entry barriers, any such attempt would only cause existing players to expand their production and stimulate entry by new retail outlets ready and willing to distribute the products of the other manufacturers.

Later scholarship associated with the post-Chicago school of antitrust law and economics has used game theory to identify circumstances under which input producers can engage in vertical exclusion. Interestingly, these models assume dominant-firm and oligopoly market structures that presuppose that the relevant markets are highly concentrated and protected by entry barriers.⁶⁰ In the absence of such structural features, these formal models recognize that vertical integration may be just as

58. See, e.g., Roger D. Blair & David L. Kaserman, *Antitrust Economics* 416–17 (1985) (noting requirement of barriers to entry in secondary market); Sam Peltzman, *Issues in Vertical Integration Policy*, in *Public Policy Toward Mergers* 167, 174 (J. Fred Weston & Sam Peltzman eds., 1969) (noting requirement of concentration in secondary market).

59. *Brown Shoe Co. v. United States*, 370 U.S. 294 (1962).

60. See Oliver Hart & Jean Tirole, *Vertical Integration and Market Foreclosure*, 1990 *Brookings Papers on Econ. Activity: Microeconomics* 205, 207 (using successive duopoly model); Janusz A. Ordover et al., *Equilibrium Vertical Foreclosure*, 80 *Am. Econ. Rev.* 127, 129 (1990) (same); Michael H. Riordan, *Anticompetitive Vertical Integration by a Dominant Firm*, 88 *Am. Econ. Rev.* 1232, 1232 (1998) (assuming existence of dominant firm); Michael H. Riordan & Steven C. Salop, *Evaluating Vertical Mergers: A Post-Chicago Approach*, 63 *Antitrust L.J.* 513, 527–46 (1995) (requiring at least oligopolistic market conditions in both primary market and vertically related market); Michael A. Salinger, *Vertical Mergers and Market Foreclosure*, 103 *Q.J. Econ.* 345, 349 (1988) [hereinafter Salinger, *Market Foreclosure*] (assuming existence of successive oligopoly); Steven C. Salop & David T. Scheffman, *Raising Rivals' Costs*, 73 *Am. Econ. Rev. (Papers & Proc.)* 267, 268 (1983) (applying dominant firm model).

likely to lower price and increase welfare and that the ability of existing players or new entrants to expand their outputs will be sufficient to defeat any attempt to increase price above competitive levels.⁶¹ In other words, the post-Chicago literature presupposes the satisfaction of the same structural preconditions discussed above before vertical integration can harm competition.

The primary exception to this conclusion is a scenario contained in Michael Whinston's seminal analysis of tying, in which an input producer assumed to face competition from an inferior product uses a credible precommitment to tying in order to harm competition in an adjacent market, a situation that Whinston recognized was equivalent to vertical integration.⁶² Interestingly, however, this model incorporates some of the structural preconditions discussed above by assuming that scale economies have rendered the vertically related market oligopolistic.⁶³ Furthermore, Whinston found that even when vertical exclusion was possible, the welfare implications were ambiguous.⁶⁴ Whinston accordingly concluded that the normative implications of his model were unclear and that even when tying led to vertical exclusion, permitting it might actually benefit consumers.⁶⁵ Consequently, any court considering an antitrust claim based on the exception identified by Whinston must ensure that its restrictive assumptions are met and should undertake a complete analysis of the welfare implications before imposing liability.

2. *The Incentive to Engage in Vertical Exclusion.* — At the same time, economic theorists have questioned the input monopolist's *incentive* to engage in vertical exclusion. The driving force behind this critique is the so-called "one monopoly rent theorem," which holds that there is only

61. See Riordan & Salop, *supra* note 60, at 538–41 (describing how competition in output markets can prevent prices from rising even if vertical exclusion raises prices in input markets); Michael A. Salinger, Vertical Mergers in Multi-Product Industries and Edgeworth's Paradox of Taxation, 39 J. Indus. Econ. 545, 550 (1991) [hereinafter Salinger, Edgeworth's Paradox] (noting absence of welfare loss when both upstream and downstream markets are perfectly competitive).

62. See Michael D. Whinston, Tying, Foreclosure, and Exclusion, 80 Am. Econ. Rev. 837, 852–54, 856 (1990). The analysis of Whinston that follows is based on Christopher S. Yoo, What Can Antitrust Contribute to the Network Neutrality Debate?, 1 Int'l J. Comm. 493, 507 (2007), available at <http://www.ijoc.org/ojs/index.php/ijoc/article/view/153/97> (on file with the *Columbia Law Review*) [hereinafter Yoo, What Can Antitrust Contribute].

63. See Whinston, *supra* note 62, at 850. All of the other scenarios Whinston discusses incorporate all of the structural preconditions by assuming that the tying firm holds a monopoly over the tying product. See *id.* at 841–52.

64. See *id.* at 852–54.

65. See *id.* at 855–56; see also Dennis W. Carlton & Michael Waldman, The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries, 33 RAND J. Econ. 194, 215–16 (2002) (extending Whinston's work and similarly concluding that possibility that exclusion could benefit consumers justifies cautioning against "trying to turn the theoretical possibility for harm shown here into a prescriptive theory of antitrust enforcement").

one monopoly profit to be gained in any vertical chain of production.⁶⁶ As a result, the input monopolist can capture all of the available profit without vertically integrating into another level of production simply by selling the input to all comers at the monopoly price. The fact that the input monopolist can already enjoy all of the economic benefits associated with its monopoly without vertically integrating raises serious questions about the input monopolist's incentive to obtain a second monopoly in a vertically adjacent market.

A simple numerical example, based on a classic court of appeals opinion authored by then-Chief Judge Stephen Breyer,⁶⁷ illustrates the intuitions underlying the one monopoly rent theorem. Suppose that a firm holds a patent on a process for refining copper ore that gives it a monopoly over the market for copper ingot. It sells its output to firms that fabricate the ingot into copper pipe. Suppose further that the market for pipe fabrication is competitive, the cost of refining ore into ingot is \$40, the cost of fabricating the ingot into pipe is \$35, and the profit-maximizing price for the final good is \$100.

If the ingot monopolist were to vertically integrate into pipe fabrication, it would charge \$100 for the final good and thereby earn a profit of \$25 per unit (i.e., \$100 - \$40 - \$35). The monopolist need not vertically integrate to capture this profit, however. It could earn the same amount of profit simply by setting the price of ingot at \$65. This would allow it to earn the same profit of \$25 on each unit of ingot sold (\$65 - \$40) without having to vertically integrate into fabrication. Because the pipe fabrication firms operate in a competitive market, they will set their price equal to the input price plus a markup equal to their costs of production (\$65 + \$35). As a result, the final goods will still be sold at the profit-maximizing price. Thus, consumers are no better off if the input monopolist is forced to share its monopoly; absent direct regulation of prices, "price and output [will be] the same as they were when one monopolist used the input alone."⁶⁸ Furthermore, forcing a dominant firm to deal with its rivals runs the risk of facilitating collusion.⁶⁹

66. See, e.g., Ward S. Bowman, Jr., *Tying Arrangements and the Leverage Problem*, 67 *Yale L.J.* 19, 20–21 (1957) (providing seminal statement of this principle).

67. *Town of Concord v. Boston Edison Co.*, 915 F.2d 17, 32 (1st Cir. 1990).

68. 3A *Areeda & Hovenkamp*, supra note 4, ¶ 771(b), at 171–72; accord id. ¶ 774(b), at 215 (“[S]imple refusal to share a monopoly is not antitrust injury . . . [T]here may be cases where the refusal to share seems anticompetitive because there is little hope of competitive alternatives . . . Even here, however, a mere order forcing the defendant to share does nothing to increase market output or decrease price.”).

69. See id. ¶ 772(c)(4), at 191–92. Indeed, in *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, the Colorado Attorney General had previously filed a complaint against the parties to the litigation for price fixing. See 472 U.S. 585, 591 n.9 (1985). Ski Co. thus found itself caught between the proverbial rock and a hard place, in that participation in the joint marketing scheme risked running afoul of section 1 of the Sherman Act, whereas refusal to participate in the joint marketing scheme risked running afoul of section 2.

In the absence of some anticompetitive explanation for vertical exclusion, what explains why firms engage in the practice? Even post-Chicago economic theorists recognize that vertical exclusion can yield substantial efficiencies.⁷⁰ Some efficiencies are attributed to technological effects. Building on the example of copper ingot introduced above, if the input monopolist sold ingot into the open market, purchasers would have to incur the costs of reheating the ingot before fabricating it into pipe. A vertically integrated operation could reduce costs by beginning the pipe fabrication process while the ingot was still hot, although presumably these arrangements could be made between independent firms absent transaction costs. To use another example more closely related to the telecommunications industry, the Federal Communications Commission (FCC) attempted to promote competition in so-called “enhanced” telecommunications services (i.e., services that went beyond mere voice communication) by requiring that they be provided on a vertically disintegrated basis. The digitization of telephone switches means that certain enhanced services, such as caller ID, call forwarding, and call waiting, are most efficiently provided through the data processing capacity already built into the switch itself. Forcing these services to be provided on a vertically disintegrated basis delayed introduction of these services by several years.⁷¹

Other efficiencies are more price theoretic. For example, commentators have long recognized that vertical integration between two successive levels of production that are not fully competitive can increase economic welfare.⁷² In such a case of successive monopolies, firms in each

70. See Hart & Tirole, *supra* note 60, at 212–13 (arguing that vertical merger in imperfectly competitive markets may avoid hold-up problem and encourage investment); Michael W. Klass & Michael A. Salinger, *Do New Theories of Vertical Foreclosure Provide Sound Guidance for Consent Agreements in Vertical Merger Cases?*, 40 *Antitrust Bull.* 667, 673 (1995) (describing ability of vertical mergers to reduce transaction costs associated with contracting); Riordan & Salop, *supra* note 60, at 522–27, 564 (discussing efficiency gains arising from optimal coordination between suppliers and purchasers, prevention of free riding, proper allocation of resources, and elimination of successive monopolies); Salinger, *Market Foreclosure*, *supra* note 60, at 349–50, 354–55 (acknowledging efficiency gains associated with elimination of double marginalization); Ian Ayres, *Vertical Integration and Overbuying: An Analysis of Foreclosure Via Raised Rivals’ Costs* 17–20, 23–24 (Am. Bar Found., Working Paper No. 8803, 1988) (discussing potential efficiency gains arising from increased production and more proper allocation of resources); see also Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals’ Costs to Achieve Power over Price*, 96 *Yale L.J.* 209, 277–80 (1986) (conducting similar analysis with respect to vertical restraints).

For discussions of the potential efficiencies associated with vertical exclusion in the context of the essential facilities doctrine, see 3A *Areeda & Hovenkamp*, *supra* note 4, ¶¶ 757–758, at 23–32, ¶ 787(b), at 298–99; Werden, *supra* note 4, at 462–65; Gerber, *supra* note 4, at 1085–87.

71. See Christopher S. Yoo, *Beyond Network Neutrality*, 19 *Harv. J.L. & Tech.* 1, 24–25 (2005) [hereinafter Yoo, *Beyond Network Neutrality*].

72. For the seminal analysis of successive monopolies, see generally Joseph J. Spengler, *Vertical Integration and Antitrust Policy*, 58 *J. Pol. Econ.* 347 (1950). For

level of production have the incentive to try to extract the lion's share of the available supracompetitive returns. This so-called "double marginalization" causes the aggregate price to be even higher than the price that a vertically integrated monopoly would charge. A company that spans both levels of production would avoid the uncoordinated action that can cause final good prices to exceed monopoly pricing. Thus, under these circumstances, vertical integration would be unambiguously welfare enhancing.⁷³

Vertical integration may also enhance welfare if inputs can be used in variable proportions, although such welfare benefits are not inevitable.⁷⁴ The fact that a monopolist charges supracompetitive prices for an input creates incentives for firms to use alternative inputs whenever possible. The resulting input substitution promotes economic welfare by limiting the input monopolist's ability to exercise market power. At the same time, input substitution creates an alternative potential source of inefficiency by causing production processes to deviate from the most efficient input mix. The net effect is that the ultimate impact on welfare is ambiguous. Determining which of the two countervailing effects will dominate can be quite difficult.⁷⁵ And even when input substitution harms compe-

important extensions, see M.L. Greenhut & H. Ohta, *Related Market Conditions and Interindustrial Mergers*, 66 *Am. Econ. Rev.* 267, 274 (1976) (arguing that vertical mergers between monopolistic input supplier and oligopolistic final good producers bring about greater output and lower prices); M.L. Greenhut & H. Ohta, *Vertical Integration of Successive Oligopolists*, 69 *Am. Econ. Rev.* 137, 138–41 (1979) (finding that vertical mergers between successive oligopolists increase output and lower prices in market for final product); Fritz Machlup & Martha Taber, *Bilateral Monopoly, Successive Monopoly, and Vertical Integration*, 27 *Economica* 101, 114–16 (1960) (arguing that vertical merger between successive monopolists or oligopolists, even in absence of monopsony or oligopsony, may increase output); Salinger, *Market Foreclosure*, *supra* note 60, at 352–54 (arguing that vertical merger between successive oligopolists increases output and has indeterminate effect upon price of final good).

73. See *Fishman v. Estate of Wirtz*, 807 F.2d 520, 563 (7th Cir. 1986) (Easterbrook, J., dissenting) ("A merger of the two monopolists therefore makes consumers better off. Propositions about the economics of mergers often are filled with ifs and maybes; competing schools of thought produce different prescriptions. That successive monopolies injure consumers is a proposition on which there is unanimous agreement." (citations omitted)); Jean Tirole, *The Theory of Industrial Organization* 177 (1988) ("[W]elfare is unambiguously increased by the elimination of the double marginalization.").

74. On the profitability of using vertical integration to stem input substitution, see Bowman, *supra* note 66, at 25–27; M.L. Burstein, *A Theory of Full-Line Forcing*, 55 *Nw. U. L. Rev.* 62, 68, 77–83 (1960); Lionel W. McKenzie, *Ideal Output and the Interdependence of Firms*, 61 *Econ. J.* 785 (1951). For the seminal welfare analysis of input substitution, see John M. Vernon & Daniel A. Graham, *Profitability of Monopolization by Vertical Integration*, 79 *J. Pol. Econ.* 924, 924–25 (1971).

75. See F.M. Scherer & David Ross, *Industrial Market Structure and Economic Performance* 523–24 (3d ed. 1990) ("The mathematical conditions underlying this result are complex . . ."); Yoo, *Vertical Integration*, *supra* note 54, at 189–91 (reviewing literature on welfare effects).

tion, economists estimate that the impact is likely to be small.⁷⁶ The consensus is that any effect upon welfare from preventing input substitution is likely to be sufficiently small as not to pose a problem significant enough to be worth redressing.⁷⁷

Finally, scholars, building on Ronald Coase's seminal work on the theory of the firm, have argued that vertical integration can create further efficiencies by reducing transaction costs. Coase found that firms will vertically integrate into a business activity when the various transaction costs of market purchases exceed the costs of managing that activity within the firm.⁷⁸ If so, the firm will choose to produce the input itself rather than purchasing the input on the open market. Market transaction costs include search, negotiation, and monitoring of performance of trading partners.

Much of the literature focuses on how opportunism can increase the transaction costs of contracting out.⁷⁹ According to this view, an input producer can sell its input into the open market to other firms who combine it with other inputs to produce a finished good.⁸⁰ The problem is that no contract can anticipate every possible contingency, and as a result, all contracts are necessarily incomplete to some degree. Furthermore, rendering contracts more complete is quite costly. Should the input producer find that the transaction costs of negotiating and enforcing contracts with its customers exceed the transaction costs of internally monitoring and managing the resources and employees needed to produce the finished good itself, it would find vertical integration to be the preferred institutional form.⁸¹

The provision of information and specialized services in distribution can require vertical coordination. Suppose that a firm offers a technically

76. See Martin K. Perry, *Vertical Integration: Determinants and Effects*, in 1 *Handbook of Industrial Organization* 183, 192 (Richard Schmalensee & Robert D. Willig eds., 1989) (noting that percentage welfare loss from input substitution appears to be less than "a couple of percent").

77. See *id.* ("[I]t is not clear that variable proportions raises a major policy issue on vertical integration."); David Reiffen & Michael Vita, *Comment, Is There New Thinking on Vertical Mergers?*, 63 *Antitrust L.J.* 917, 923 (1995) ("The variable proportions models of vertical integration seldom have been regarded as providing a sound basis for guiding vertical merger enforcement policy."); Salinger, *Edgeworth's Paradox*, *supra* note 61, at 554-55 ("[I]t is hard to imagine [the variable proportions] model as a serious basis for any public policy concern with vertical mergers.").

78. See R.H. Coase, *The Nature of the Firm*, 4 *Economica* 386 (1937).

79. See, e.g., Oliver Williamson, *Markets and Hierarchies: Analysis and Antitrust Implications* 26-30 (1975) (noting increase in contractual transaction costs associated with "selective or distorted information disclosure" and "self-disbelieved promises regarding future conduct").

80. See Yoo, *Vertical Integration*, *supra* note 54, at 192-200 (reviewing literature).

81. See Benjamin Klein, Robert G. Crawford & Armen A. Alchian, *Vertical Integration, Appropriable Rents, and the Competitive Contracting Process*, 21 *J.L. & Econ.* 297, 298-99, 302-04 (1978) (discussing threat of opportunistic behavior, associated transaction costs, and resulting attractiveness of vertical integration).

complicated product that requires significant presale services (such as the demonstration of the product). Retailers have the incentive to shirk in providing such services in the hopes that customers will obtain the presale services from other retailers. Retailers who free ride on the presale services provided by others may then sell the product at a lower price that does not reflect the cost of having to provide those services. The problem is that if all retailers act in this manner, customers will receive suboptimal levels of information about these new, potentially welfare enhancing products.⁸² A producer facing the possibility of such free riding can rely on a vertical contractual restraint that specifies the level of presale services provided by each retailer⁸³ or eliminates the incentive to free ride by granting territorial exclusivity.⁸⁴ If the transaction costs of contracting become too high, the producer may instead vertically integrate into distribution.⁸⁵ Either solution effectively aligns the retailers' incentives with that of the manufacturers, with transaction costs determining the ultimate choice of institutional form.

The presence of regulation can also affect incentives to integrate vertically. Regulators may explicitly encourage or discourage vertical integration into particular lines of business. The effect of regulation on incentives is illustrated by the classic example sometimes called the "Bell Doctrine" or "Baxter's Law" because of the role it played in the breakup of AT&T during Stanford law professor William Baxter's tenure as head of the Antitrust Division.⁸⁶ It relies upon the fact that an input producer cannot extract all of the available profit simply by charging the monopoly price when the government limits the price it can charge for that input. Vertical integration into an unregulated market allows the monopolist to earn the profits denied to it in the regulated market by charging higher

82. See Lester G. Telser, *Why Should Manufacturers Want Fair Trade?*, 3 *J.L. & Econ.* 86, 91 (1960).

83. See *id.* at 94 ("[The manufacturer] may refuse to sell his product to any retailer who does not provide the requisite special services.").

84. See G. Frank Mathewson & Ralph A. Winter, *An Economic Theory of Vertical Restraints*, 15 *RAND J. Econ.* 27, 36 (1984) (arguing that territorial exclusivity can ameliorate free riding problem).

85. See *supra* note 81 and accompanying text. Klein, Crawford, and Alchian's prime example of the need for vertical integration instead of a vertical contractual restraint is GM's acquisition of Fisher Body. For other analyses that correct their account of this episode, see Ramon Casadesus-Masanell & Daniel F. Spulber, *The Fable of Fisher Body*, 43 *J.L. & Econ.* 67 (2000); R.H. Coase, *The Acquisition of Fisher Body by General Motors*, 43 *J.L. & Econ.* 15, 24-30 (2000); Robert F. Freeland, *Creating Holdup Through Vertical Integration: Fisher Body Revisited*, 43 *J.L. & Econ.* 33 (2000).

86. See, e.g., Joseph Farrell & Philip J. Weiser, *Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age*, 17 *Harv. J.L. & Tech.* 85, 107 (2003) (noting Baxter's role in articulating principle); Paul L. Joskow & Roger G. Noll, *The Bell Doctrine: Applications in Telecommunications, Electricity, and Other Network Industries*, 51 *Stan. L. Rev.* 1249, 1249 (1999) (discussing centrality of doctrine to eventual judgment against AT&T).

prices in the unregulated market.⁸⁷ Such rate regulation, therefore, potentially gives monopoly producers the incentive to vertically integrate into an unregulated market and require all of their customers to purchase both products at prices that include the full monopoly markup.⁸⁸ These incentives can be offset by competitive incentives to attract business in the unregulated market.

A more subtle version of this argument exists when a firm subject to cost-of-service rate regulation provides an unregulated service that shares joint costs with the regulated service.⁸⁹ In that case, it is alleged that the monopolist can attempt to allocate a disproportionate amount of the joint costs onto the regulated service and recover those costs through its regulated rates, which is a real possibility given the inherent arbitrariness and uncertainty surrounding methodologies for allocating joint costs. Shifting a disproportionate amount of the joint costs onto the regulated market allows firms to reduce the size of the markup to cover joint costs included in the prices charged in the unregulated market. The firm's nonvertically integrated competitors, however, will have to charge prices that reflect the genuine allocation of the joint costs to the unregulated

87. 1984 Merger Guidelines § 4.23, 49 Fed. Reg. 26,823, 26,836 (June 29, 1984) ("Non-horizontal mergers may be used by monopoly public utilities subject to rate regulation as a tool for circumventing that regulation.")

88. See *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 36 n.4 (1984) (O'Connor, J., concurring in judgment) ("In a regulated industry a firm with market power may be unable to extract a supercompetitive profit because it lacks control over the prices it charges for regulated products Tying may then be used to extract that profit from the sale of the unregulated, tied products"); *Olympia Equip. Leasing Co. v. W. Union Tel. Co.*, 797 F.2d 370, 374 (7th Cir. 1986) (discussing incentive of provider of regulated service to avoid regulation by requiring purchase of vertically related service); *Byars v. Bluff City News Co.*, 609 F.2d 843, 861 (6th Cir. 1979) ("[R]efusal to deal as part of a vertical integration scheme is anti-competitive . . . where integration facilitates evasion of regulation of monopoly profits."); *Bowman*, supra note 66, at 21–23 (describing use of tying arrangement to avoid price regulation); Timothy J. Brennan, *Why Regulated Firms Should Be Kept Out of Unregulated Markets: Understanding the Divestiture in United States v. AT&T*, 32 Antitrust Bull. 741, 746–64 (1987) (same); Farrell & Weiser, supra note 86, at 105–07 ("[T]he platform provider can compensate for the fact that its platform is priced below the profit-maximizing price by taking additional—and perhaps otherwise inefficient—profits in the applications market."); Joskow & Noll, supra note 86, at 1249–50 ("[R]egulated monopolies have the incentive and opportunity to monopolize related markets in which their monopolized service is an input"); Ratner, supra note 4, at 354 ("[Denial of access to an input] allows a regulated monopolist to skirt regulation by integrating into a downstream market and using its input monopoly to monopolize the downstream market.")

89. See, e.g., Daniel L. Brenner, *Law and Regulation of Common Carriers in the Communications Industry* 171–72 (2d ed. 1996) (noting that monopolist may be able to extract supracompetitive profit through misallocation of common costs); Peter W. Huber et al., *Federal Telecommunications Law* § 2.2.1, at 92–96 (2d ed. 1999) (same); Joseph Farrell, *Creating Local Competition*, 49 Fed. Comm. L.J. 201, 206–07 (1996) (same); Joskow & Noll, supra note 86, at 1267 (same); Lawrence A. Sullivan, *Elusive Goals Under the Telecommunications Act: Preserving Long Distance Competition upon Baby Bell Entry and Attaining Local Exchange Competition: We'll Not Preserve the One Unless We Attain the Other*, 25 Sw. U. L. Rev. 487, 518–27 (1996) (same).

market. As a result, some commentators have argued that the essential facilities doctrine has greater potential relevance in the context of regulated industries.⁹⁰

Although the Bell Doctrine was once an important consideration with respect to telecommunications, economic and technological progress has undercut its significance. As an initial matter, it has no applicability to wireless and broadband communications, which are not subject to rate regulation.⁹¹ The emergence of competitive wireline alternatives has caused federal and state regulators to deregulate almost all aspects of conventional wireline telephone service provided to businesses.⁹² Competition from wireless providers and Voice over Internet Protocol (VoIP) has led state regulatory authorities to begin the process of deregulating wireline residential telephone services as well.⁹³ Once this transformation is complete, the Bell Doctrine will cease to have any continuing application to the telecommunications industry.

3. *Dynamic Efficiency Considerations.* — The discussion up to this point has focused exclusively on courts' consideration of how best to allocate the network that exists today. In so doing, these rationales overlook the impact that the essential facilities doctrine can have on incentives to invest in the network of tomorrow. In other words, the current policy debate has placed too much focus on *static efficiency* and given too little emphasis to the maximization of *dynamic efficiency*.

When competitive entry is possible, the essential facilities doctrine can have a detrimental impact on incentives to invest in alternative network capacity. Exogenous factors—such as shifts in demand, cost-saving changes in technology, and developments of new substitutes and complements—frequently cause markets to deviate from their long-run equilibrium. Antitrust law solves this problem through what one leading treatise calls “a uniquely American, market-affirming response to [market] power.”⁹⁴ It “assumes that strong incentives promote efficiency” and that in the absence of entry barriers, market power “will erode under the pres-

90. See 3A Areeda & Hovenkamp, *supra* note 4, ¶ 787(b), at 295–98, ¶ 787(c)(1), at 307–10 (arguing that essential facilities doctrine has increased importance in regulated industries as result of limitations it places upon monopolist's ability to exert power in downstream market); Ratner, *supra* note 4, at 354 (same); Werden, *supra* note 4, at 466–67, 470, 478 (same); Gerber, *supra* note 4, at 1087–88 (same).

91. See Developing a Unified Intercarrier Compensation Regime, Further Notice of Proposed Rulemaking, 20 F.C.C.R. 4685, 4791 (2005) (“[W]ireless networks . . . have not previously been subject to cost-based rate regulation.”); Glenn A. Woroch, Open Access Rules and the Broadband Race, 2002 Mich. St. L. Rev. 719, 728 (noting that broadband has remained largely free of rate regulation).

92. See Timothy J. Tardiff, Changes in Industry Structure and Technological Convergence: Implications for Competition Policy and Regulation in Telecommunications 16–17, 26–28 (Oct. 1, 2006) (unpublished manuscript presented at the 34th Annual Telecommunications Policy Research Conference, on file with the *Columbia Law Review*), available at <http://web.si.umich.edu/tprc/papers/2006/560/tprc06art.pdf>.

93. See *id.*

94. Sullivan & Grimes, *supra* note 3, § 3.1(b)(1), at 84.

sure of market developments.”⁹⁵ Tolerating a degree of short-run disequilibrium plays an essential role in this process of reequilibration. Indeed, “where supracompetitive pricing accompanies power, erosion of the power is thought to be more likely because high prices signal the need, and promise a reward, for entry.”⁹⁶

This emphasis on allowing monopolists to charge supracompetitive prices in the short run is sometimes mistaken for the type of competition envisioned by Joseph Schumpeter, in which the market is dominated by a succession of monopolists and firms compete by vying to discover the next breakthrough innovation that will give them a cost or quality advantage decisive enough to allow them to displace the current monopolist and dominate the market in its place.⁹⁷ This characterization, however, ignores the key role that short-run supracompetitive returns play in the horizontal competition within a market characterized by perfect competition in which multiple players offer substitute products to consumers and in which any supracompetitive returns will prove transient and quickly dissipate.⁹⁸ Thus, short-run supracompetitive returns not only allocate the scarce network resources, they signal industry participants that the market is in short-run disequilibrium and provide incentives to invest in additional network capacity.

The essential facilities doctrine threatens to derail this process of reequilibration. Those forced to pay supracompetitive prices for a monopoly input or denied access to that input altogether have powerful incentives to invest in alternative sources of supply. As a result, essential facilities plaintiffs are natural candidates either to develop independent capacity themselves or to enter into strategic partnerships with firms interested in becoming alternative suppliers of the input. Rather than simply requiring that the monopoly be shared, entry by independent providers of the input would break up the monopoly, which in turn would lead to long-run, sustainable consumer benefits without any continuing oversight by antitrust authorities. Conversely, anything that discourages investments in alternative sources of supply threatens to impede rather than promote technological and economic development.

The problem is that the essential facilities doctrine threatens to dampen investment incentives in two ways. First, investing in alternative capacity is quite risky and can require substantial capital investment. Forcing the monopolist to share its input rescues other firms from having to undertake the risks associated with supplying the relevant input for

95. *Id.* at 85.

96. *Id.*

97. See Joseph A. Schumpeter, *Capitalism, Socialism and Democracy* 84 (1942). For an example of commentary describing *Trinko* as Schumpeterian, see Philip J. Weiser, *The Relationship of Antitrust and Regulation in a Deregulatory Era*, 50 *Antitrust Bull.* 549, 551–54 (2005).

98. See Yoo, *Beyond Network Neutrality*, *supra* note 71, at 58–60.

themselves.⁹⁹ Second, if the essential facilities doctrine is to yield any consumer benefits, it necessarily requires subjecting the owner of the bottleneck facility to some form of price regulation. This reduction in price reduces the incentives for others to invest in the development of alternative sources of supply of the input. Instead of entering under a price umbrella created by the input monopolist's efforts to maximize its own profits, any new entrant will confront a market with lower price-cost margins, which in turn makes sustainable entry even more difficult.¹⁰⁰ As a result, compelled access can entrench the supposed bottleneck facility by forestalling the emergence of the substitute sources of supply of the input, which in turn has the perverse effect of cementing the input owner's monopoly position into place.

Compelled access also dampens the incentives of the essential facilities defendant to invest in improvements in its facilities, since price regulation will limit the returns it can earn on such investments and force it to share successful investments with its competitors.¹⁰¹ Furthermore, because the monopoly is never displaced, the essential facilities doctrine implicitly presumes that supervision by antitrust courts will be indefinite. This is particularly problematic in technologically dynamic industries. Even if the court strikes the proper balance at the time it renders its decision, subsequent developments may alter the appropriate input price or may render competition in the input market possible. At best, economic welfare will suffer from some degree of delay, as the legal processes adjust to catch up with these changes. At worst, the disincentives created by the essential facilities doctrine will prevent competition from ever emerging.

Of course, concerns about dampening incentives for investing in alternative sources of supply only make sense if competitive entry is feasible. If not, competition policy's traditional response is to abandon the first-order policy goal of using antitrust law to break up the input monopoly and instead subject the input monopoly to rate regulation and pursue the second-order policy goal of promoting competition in complementary markets through access requirements. This explains the rationale underlying the breakup of AT&T. The court's assumption that competition in local telephone service was not viable caused it to focus on promoting competition in complementary services, such as long distance, in-

99. See 3A Areeda & Hovenkamp, *supra* note 4, ¶ 771(b), at 172–73, ¶ 773(a), at 198, ¶ 773(b)(2), at 200–01, ¶ 774(c), at 216–17 (arguing that compelled access reduces incentive to develop independent capacity and, thereby, undermines potential for increased future competition); Hylton, *supra* note 4, at 1261, 1266 (discussing how sharing can discourage investments in cost-reducing facilities).

100. See 3A Areeda & Hovenkamp, *supra* note 4, ¶ 771(b), at 172, ¶ 774(c), at 216–17 (arguing that, in absence of price regulation, compelled access does not preclude supracompetitive pricing); Ratner, *supra* note 4, at 373 (noting that monopoly pricing is stimulus to develop independent capacity).

101. See 3 Areeda & Hovenkamp, *supra* note 4, ¶ 720(b), at 256 (discussing decrease in incentive to develop facilities arising from price regulation).

formation services, and customer premises equipment (CPE).¹⁰² Once technological progress renders competition in the input market feasible, antitrust courts should abandon the second-order policy goal of promoting competition in complementary services and return to the first-order policy goal of promoting competition in the last mile. The problem is that mandating access will make it difficult for antitrust courts to determine when it is possible to do so. In the worst case, the investment disincentives created by mandated access can cause it to be a source of, rather than the solution to, market failure by forestalling last-mile competition from emerging long after it has become viable.

For this reason, commentators have consistently insisted that the allegedly essential facility not be duplicable or available from other sources.¹⁰³ It is not sufficient that duplication of the facility might require significant capital investment and take a long time.¹⁰⁴ Simply put, late is better than never.

4. *Empirical Studies of Vertical Exclusion.* — The theoretical literature thus suggests that vertical exclusion is much less problematic than initially believed. More recent studies have moved beyond theoretical claims and have begun to study empirically the impact of vertical exclusion on consumer welfare. For example, one survey of the empirical literature conducted by four members of the staff of the Federal Trade Commission (FTC) showed that of the seventeen empirical studies of vertical exclusion, only one found consumer harm, and even in that case the magnitude of the harm was quite small.¹⁰⁵

A different survey of the empirical literature on vertical restraints found that only three of the eleven published empirical studies on vertical exclusion concluded that privately imposed vertical restraints reduced consumer welfare.¹⁰⁶ Conversely, this survey found no improvement in consumer welfare when the government intervened to mandate or prohibit the use of a particular vertical restraint, which generally leads to “higher prices, higher costs, shorter hours of operation, and lower consumption.”¹⁰⁷ Although the small number of studies made it difficult to

102. See Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Notice of Proposed Rulemaking, 11 F.C.C.R. 14171, 14173–74 ¶ 4 (1996).

103. See Areeda, *supra* note 4, at 852.

104. See 3A Areeda & Hovenkamp, *supra* note 4, ¶ 774(c), at 216 (showing that essential facilities doctrine can be anticompetitive when “the facility can be duplicated or some substitute developed, *even in the relatively long run*” (emphasis added)).

105. See James C. Cooper et al., Vertical Antitrust Policy as a Problem of Inference, 23 Int'l J. Indus. Org. 639, 648–58 (2005).

106. See Francine Lafontaine & Margaret Slade, Exclusive Contracts and Vertical Restraints: Empirical Evidence and Public Policy, in Handbook of Antitrust Economics (Paolo Buccirossi ed., forthcoming 2007) (manuscript at 21–22, on file with the *Columbia Law Review*), available at <http://www2.warwick.ac.uk/fac/soc/economics/staff/faculty/slade/wp/ecsept2005.pdf>.

107. *Id.*

make definitive claims about robust empirical findings and suggested further study, the authors of this second study described the strength of the support for the proposition that privately imposed vertical restraints benefit consumers—or at least do not harm them—to be “quite striking,” “consistent and convincing,” and “compelling.”¹⁰⁸

Thus, even though a theoretical possibility exists that vertical exclusion will reduce consumer welfare, the empirical literature strongly suggests that the likelihood of any such anticompetitive harm is remote. Although the welfare implications of vertical exclusion are ambiguous as a theoretical matter, the empirical evidence indicating that vertical exclusion tends to promote competition justifies placing the burden of proof on those challenging a particular vertical arrangement to demonstrate actual harm to competition before imposing liability.

5. *The Evolution of the Law of Vertical Exclusion Prior to Trinko.* — Prior to the mid-1970s, the Supreme Court was quite receptive to vertical exclusion claims.¹⁰⁹ In case after case, the Court struck down vertical mergers by firms controlling as little as 5% of the market, largely out of concern that vertical integration would reduce competition in the downstream market.¹¹⁰ This hostility toward vertical exclusion became enshrined in the initial Merger Guidelines issued by the Justice Department in 1968, which disfavored any vertical merger involving firms controlling as little as 6% to 10% of its market.¹¹¹ The Supreme Court followed a similar pattern with respect to vertical contractual restraints, either holding them illegal per se¹¹² or striking them down at such low levels of concentration as to be tantamount to the same thing.¹¹³ In one decision, the Court

108. *Id.* (manuscript at 21–23).

109. For overviews of this literature, see Christopher S. Yoo, *Network Neutrality and the Economics of Congestion*, 94 *Geo. L.J.* 1847, 1885–87 (2006) [hereinafter Yoo, *Network Neutrality and Congestion*]; Yoo, *Vertical Integration*, *supra* note 54, at 187–205.

110. See *Ford Motor Co. v. United States*, 405 U.S. 562, 568, 578 (1972) (striking down vertical merger resulting in 10% foreclosure); *Brown Shoe Co. v. United States*, 370 U.S. 294, 303, 327, 331–34 (1962) (striking down vertical merger between shoe manufacturer with 4% of U.S. market and shoe retailer with less than 2% of U.S. market).

111. Merger Guidelines § 12 (May 30, 1968), reprinted in 4 *Trade Reg. Rep.* (CCH) ¶ 13,101 (1988), available at <http://www.usdoj.gov/atr/hmerger/11247.pdf> (on file with the *Columbia Law Review*).

112. On resale price maintenance, see *Albrecht v. Herald Co.*, 390 U.S. 145, 149–54 (1968), overruled by *State Oil Co. v. Khan*, 522 U.S. 3 (1997); *Dr. Miles Med. Co. v. John D. Park & Sons Co.*, 220 U.S. 373, 398–409 (1911), overruled by *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 127 S. Ct. 2705 (2007). On tying, see *Fortner Enters., Inc. v. U.S. Steel Corp.*, 394 U.S. 495, 498–99 (1969); *United States v. Loew's, Inc.*, 371 U.S. 38, 45 (1962); *N. Pac. Ry. Co. v. United States*, 356 U.S. 1, 5–7 (1958); *Int'l Salt Co. v. United States*, 332 U.S. 392, 396–98 (1947); *IBM Corp. v. United States*, 298 U.S. 131, 134–40 (1936). On territorial exclusivity, see *United States v. Topco Assocs., Inc.*, 405 U.S. 596, 607–08 (1972); *United States v. Arnold, Schwinn & Co.*, 388 U.S. 365, 379–80 (1967), overruled by *Cont'l T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36 (1977).

113. See, e.g., *Standard Oil Co. v. United States*, 337 U.S. 293, 295, 314 (1949) (holding that exclusive dealing contracts may be held illegal even absent proof of any tendency to create monopoly and that foreclosure of 16% of market was sufficient to

went so far as to indicate that liability could lie even in the absence of any intent or ability to acquire a second monopoly in another market.¹¹⁴ The Second Circuit took a similar position in a decision indicating that “the use of monopoly power attained in one market to gain a competitive advantage in another is a violation of § 2, even if there has not been an attempt to monopolize the second market.”¹¹⁵ These decisions spawned a circuit split over whether section 2 requires at least proof that the vertically related market was structured in a way that made the threat of monopolization credible.¹¹⁶

Over time, however, antitrust law began to reflect the characterization of vertical exclusion found in the scholarly commentary. Of particular relevance for our discussion are the Court’s most recent tying decisions, which like the essential facilities decisions are based on unilateral conduct and thus fall within section 2. In those decisions, the Supreme Court has begun to require proof that the structural preconditions discussed above are met before finding liability. For example, the Supreme Court has required that a tying defendant possess monopoly power in a properly defined market.¹¹⁷ Lower courts have followed the Supreme Court’s lead and have begun to incorporate these structural preconditions into the essential facilities doctrine. These decisions have always required the practical unavailability of the input from other sources,¹¹⁸ now formalized into the requirement of proof of a monopoly position in a properly defined market.¹¹⁹ The need for proof of concentration in

render exclusive dealing contract illegal); *Brown Shoe Co.*, 62 F.T.C. 679, 687 ¶ 10, 691 ¶ 33 (1963) (invalidating exclusive dealing arrangement even though it only foreclosed less than 1% (766 of nearly 100,000) of retail outlets), rev’d, 339 F.2d 45 (8th Cir. 1964), rev’d, 384 U.S. 316 (1966).

114. See *United States v. Griffith*, 334 U.S. 100, 106–08 (1948).

115. *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 276 (2d Cir. 1979).

116. See *Lantec, Inc. v. Novell, Inc.*, 306 F.3d 1003, 1024 n.11 (10th Cir. 2002) (recognizing circuit split); *Eleven Line, Inc. v. N. Tex. State Soccer Ass’n*, 213 F.3d 198, 206 n.16 (5th Cir. 2000) (same). See generally 3 *Areeda & Hovenkamp*, supra note 4, ¶ 652(b)(2), at 93–95 (collecting cases).

117. See *Ill. Tool Works Inc. v. Indep. Ink, Inc.*, 547 U.S. 28, 34–35 (2006); *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 462, 464, 481 (1992); *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 12–15 (1984); *U.S. Steel Corp. v. Fortner Enters., Inc.*, 429 U.S. 610, 620 (1977); accord *Nw. Wholesale Stationers, Inc. v. Pac. Stationery & Printing Co.*, 472 U.S. 284, 296–97 (1985) (applying equivalent requirement to group boycotts).

118. See, e.g., *MCI Commc’ns Corp. v. AT&T Co.*, 708 F.2d 1081, 1132 (7th Cir. 1983) (including among requirements of essential facilities doctrine “competitor’s inability practically or reasonably to duplicate the essential facility”); *Hecht v. Pro-Football, Inc.*, 570 F.2d 982, 992 (D.C. Cir. 1977) (noting that doctrine applies only “where facilities cannot practicably be duplicated by would-be competitors” (quoting Neale, supra note 23, at 67)); 3A *Areeda & Hovenkamp*, supra note 4, ¶ 773(b)(2), at 200–01 (collecting cases).

119. See *Ill. Bell Tel. Co. v. Haines & Co.*, 905 F.2d 1081, 1087 (7th Cir. 1990) (“The owner of an essential facility is defined as one who, for all practical purposes, possesses a monopoly . . .”), vacated, 499 U.S. 944 (1991); *City of Malden v. Union Elec. Co.*, 887 F.2d 157, 160 n.4 (8th Cir. 1989) (noting requirement of “possession of monopoly power in the relevant market” in essential facilities claim); *Consul, Ltd. v. Transco Energy Co.*, 805 F.2d

the primary market draws further support from *AT&T Corp. v. Iowa Utilities Board*,¹²⁰ in which the Court addressed a statutory provision requiring incumbent local telephone companies to provide competitors with access to any element of their networks that was “necessary” and without which competitors would be “impair[ed]” in their ability to provide service.¹²¹ The majority declined to decide whether this provision incorporated the standard embodied in the essential facilities doctrine,¹²² but Justice Breyer found the two principles to be “analogous.”¹²³ Tellingly, both the majority and Justice Breyer declined to compel access to any input that was available from other sources.¹²⁴ Courts implementing other statutory access mandates have been similarly reluctant to compel access to inputs that are available from other sources.¹²⁵ Acceptance of this structural precondition is also reflected in the Non-Horizontal Merger Guidelines issued by the Justice Department, which now require that the primary market must surpass a certain threshold level of concentration before antitrust authorities will seriously consider challenging a vertical merger.¹²⁶

These decisions also incorporated another of the structural preconditions suggested by the economic theory by requiring proof of substantial foreclosure in the secondary market before subjecting a restraint to antitrust scrutiny.¹²⁷ The Supreme Court was even more explicit in *Spectrum Sports, Inc. v. McQuillan*, holding that even concededly bad con-

490, 494–95 (4th Cir. 1986) (finding that, even with regard to essential facilities claim, “relevant market must be proven” in which “defendant has market power”).

120. See *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 388 (1999).

121. 47 U.S.C. § 251(d)(2) (2000).

122. *Iowa Utils. Bd.*, 525 U.S. at 388.

123. *Id.* at 428 (Breyer, J., concurring in part and dissenting in part).

124. See *id.* at 389–92 (majority opinion); *id.* at 428 (Breyer, J., concurring in part and dissenting in part).

125. See *Nat’l Cable & Telecomm. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 1001–02 (2005) (upholding FCC’s decision that availability of broadband services from other sources justified refusal to impose access requirements on cable modem systems); *U.S. Telecom Ass’n v. FCC*, 290 F.3d 415, 428–29 (D.C. Cir. 2002) (rejecting order requiring unbundling of DSL-compatible portion of telephone lines because of order’s failure to take into account competition from cable modem systems).

126. 1984 Merger Guidelines § 4.213, 49 Fed. Reg. 26,823, 26,836 (June 29, 1984) (“The Department is unlikely to challenge a merger on this ground unless overall concentration of the primary market is above 1800 HHI . . .”). The 1992 statement that accompanied the issuance of the new Horizontal Merger Guidelines indicated that section 4 of the 1984 Guidelines continued to provide the relevant guidance for nonhorizontal mergers. See 1992 Horizontal Merger Guidelines, 57 Fed. Reg. 41,552, 41,552 (Sept. 10, 1992). The Clinton Administration considered revising the Non-Horizontal Merger Guidelines but chose not to do so. See Yoo, *Vertical Integration*, *supra* note 54, at 201 n.122.

127. See *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 462, 464, 481 (1992) (noting that tying arrangement will constitute antitrust violation “if the arrangement affects a substantial volume of commerce in the tied market”); *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 12–16 (1984) (noting requirement that “substantial volume of commerce [be] foreclosed” by tying arrangement).

duct cannot support a monopolization claim in the absence of evidence of actual monopolization, or a dangerous threat of monopolization, of the secondary market.¹²⁸ Lower courts have similarly made a threat to a vertically related market a structural precondition of the essential facilities doctrine,¹²⁹ while the 1984 Guidelines require that the secondary market be concentrated and protected by entry barriers.¹³⁰

Furthermore, in at least one case four Justices of the Court explicitly recognized the one monopoly rent theorem,¹³¹ as have some lower courts implementing the essential facilities doctrine.¹³² The Supreme Court has also shown greater willingness to entertain efficiency justifications for vertical restraints.¹³³ The Court's willingness in *Aspen Skiing* to consider possible business justifications for apparently anticompetitive conduct established that efficiencies can justify monopolization.¹³⁴ As a result, lower courts applying the essential facilities doctrine have considered whether possible efficiencies might justify a monopolist's unilateral refusal to deal.¹³⁵ The Non-Horizontal Merger Guidelines also explicitly recognize that vertical mergers that violate the structural preconditions may nonetheless be permitted if they create sufficient efficiencies.¹³⁶

Finally, courts have exhibited greater sensitivity to dynamic efficiency. In the words of the Ninth Circuit in *Alaska Airlines, Inc. v. United*

128. 506 U.S. 447, 459 (1993); accord *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 224–25 (1993) (“Earlier this Term, we held in the Sherman Act § 2 context . . . that the plaintiff [must] prove ‘a dangerous probability that [the defendant] would monopolize a particular market.’” (quoting *Spectrum Sports*, 506 U.S. at 459)).

129. See *Alaska Airlines, Inc. v. United Airlines, Inc.*, 948 F.2d 536, 546–47 (9th Cir. 1991) (requiring evidence that defendant “obtain[ed], or attempt[ed] to attain, a monopoly in the downstream . . . market”).

130. 1984 Merger Guidelines §§ 4.211–4.212, 49 Fed. Reg. at 26,835–36.

131. See *Jefferson Parish*, 466 U.S. at 36 (O'Connor, J., concurring in judgment) (“The existence of a tied product normally does not increase the profit that the seller with market power can extract from sales of the *tying* product.”).

132. See, e.g., *Byars v. Bluff City News Co.*, 609 F.2d 843, 861 (6th Cir. 1979) (“[T]here exists one profit-maximizing monopoly price to the consumer of any given product.”).

133. See *State Oil Co. v. Khan*, 522 U.S. 3, 18 (1997) (rejecting treatment of vertical maximum price restraints as per se violation of antitrust laws); *Monsanto Co. v. Spray-Rite Serv. Corp.*, 465 U.S. 752, 762–63 (1984) (recognizing promotion of sales training and presale services as justification for vertical restraint); *Cont'l T.V., Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36, 54–55 (1977) (recognizing that vertical restraints can “allow[] the manufacturer to achieve certain efficiencies in the distribution of his products,” such as recruiting new distributors and encouraging promotional, service, and repair services).

134. See *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 609–11 (1985).

135. See, e.g., *City of Vernon v. S. Cal. Edison Co.*, 955 F.2d 1361, 1365–67 (9th Cir. 1992) (allowing legitimate business justification as defense for refusal to deal); *Illinois ex rel. Burris v. Panhandle E. Pipe Line Co.*, 935 F.2d 1469, 1481–82 (7th Cir. 1991) (same); *Byars*, 609 F.2d at 862–63 (same); 3A Areeda & Hovenkamp, *supra* note 4, ¶ 773(e), at 209–13 (collecting cases).

136. 1984 Merger Guidelines § 4.24, 49 Fed. Reg. 26,823, 26,837 (June 29, 1984).

Airlines, Inc., “[e]very time the monopolist asserts its market dominance” by denying rivals access to a bottleneck input gives the rival “more incentive to find an alternative supplier, which in turn gives alternate suppliers more reason to think that they can compete with the monopolist. Every act exploiting monopoly power to the disadvantage of the monopoly’s customers hastens the monopoly’s end by making the potential competition more attractive.”¹³⁷

Thus, by the time the Supreme Court decided *Trinko*, the law had begun to reflect the theoretical critique of the essential facilities doctrine set forth in the scholarly literature. As we shall see, *Trinko* gave this critique an additional, albeit modest, endorsement.¹³⁸

B. *The Allocation of Authority Between Antitrust Courts and Regulatory Agencies*

Courts and commentators have also expressed concern about the proper division of responsibility between antitrust courts and regulatory agencies. Responding to these concerns, courts have developed a number of doctrines to prevent conflicts between antitrust law and regulatory regimes from arising.¹³⁹ Two doctrines determine whether federal or state law provides outright immunity from antitrust scrutiny. Two additional doctrines address the timing of judicial consideration by postponing it until after a state or federal regulatory agency has had a chance to consider the issues in the first instance. As a general matter, these doctrines have not been particularly restrictive and have tended to give antitrust courts wide latitude to entertain antitrust claims requesting access to telecommunications networks. Scholarship on the essential facilities doctrine, however, has begun to question whether current law strikes the correct balance.¹⁴⁰

1. *Immunity from Antitrust Scrutiny.*

a. *Displacement of the Antitrust Laws by a Federal Regulatory Scheme.* — Courts have long recognized that the enactment of a federal regulatory scheme can immunize particular conduct from antitrust scrutiny. In rare cases, a federal regulatory statute explicitly repeals the antitrust laws with respect to certain conduct. For example, from 1921 until 1996, federal law gave the FCC the authority to exempt telephone company mergers from antitrust scrutiny by the Justice Department and the FTC.¹⁴¹ Such

137. *Alaska Airlines, Inc. v. United Airlines, Inc.*, 948 F.2d 536, 549 (9th Cir. 1991).

138. See *infra* Part III.B.

139. For an overview of these doctrines, see Huber et al., *supra* note 89, §§ 4.3.2–6, at 338–49.

140. See *infra* Part II.B.4.

141. This provision was originally enacted as part of the Willis-Graham Act, ch. 20, 42 Stat. 27, 27–28 (1921). It was subsequently incorporated into the Communications Act of 1934, ch. 652, § 221(a), 48 Stat. 1064, 1080 (previously codified at 47 U.S.C. § 221(a) (1994)). It was eventually repealed by the Telecommunications Act of 1996, Pub. L. No. 104-104, § 601(b)(2), 110 Stat. 56, 143.

explicit repeals are relatively rare, though, and courts have construed them narrowly.¹⁴²

In the absence of statutory language explicitly exempting conduct from the antitrust laws, defendants can still argue that the regulatory scheme is so pervasive as to give rise to implied immunity from the antitrust laws.¹⁴³ The Supreme Court has made clear, however, that “[r]epeal of the antitrust laws by implication is not favored and not casually to be allowed.”¹⁴⁴ As a result, courts have generally insisted that there be “a ‘plain repugnancy between the antitrust and regulatory provision’” before holding conduct impliedly immune from the antitrust laws,¹⁴⁵ and upheld implied immunity “even then only to the minimum extent necessary” to make the regulatory scheme work.¹⁴⁶

Satisfying the “plain repugnancy” standard requires that the agency have imposed affirmative obligations on the regulated entity. Mere agency jurisdiction over particular conduct is not enough.¹⁴⁷ Thus in *United States v. Radio Corp. of America (RCA)*, the Supreme Court held that the fact that conduct was subject to FCC regulation under the public interest standard was not enough to exempt it from the antitrust laws.¹⁴⁸ Similarly, in *Otter Tail*, the Court held that a federal agency’s residual authority to compel access as “necessary or appropriate in the public interest” in the electric power industry did not satisfy the requisites for implied exemption from the antitrust laws.¹⁴⁹ On the contrary, in forgoing direct agency regulation of interconnection, Congress had “rejected a pervasive regulatory scheme . . . in favor of voluntary commercial relationships. When these relationships are governed in the first instance by business judgment and not regulatory coercion, courts must be hesitant to conclude that Congress intended to override the fundamental national policies embodied in the antitrust laws.”¹⁵⁰

As a result, a wide range of lower courts have rejected claims that the federal regulatory scheme overseen by the FCC immunizes telephone

142. See, e.g., *Indus. Commc’ns Sys., Inc. v. Pac. Tel. & Tel. Co.*, 505 F.2d 152, 156 (9th Cir. 1974) (noting that exemptions have been read narrowly and do not create unconditional immunity).

143. See, e.g., *Credit Suisse Sec. (USA) LLC v. Billing*, 127 S. Ct. 2383, 2392 (2007) (offering Court’s most recent statement of this principle).

144. *Gordon v. N.Y. Stock Exch.*, 422 U.S. 659, 682 (1975).

145. *Id.* (quoting *United States v. Phila. Nat’l Bank*, 374 U.S. 321, 351 (1963)).

146. *Id.* at 683 (quoting *Silver v. N.Y. Stock Exch.*, 373 U.S. 341, 357 (1963)); accord *Nat’l Gerimedical Hosp. & Gerontology Ctr. v. Blue Cross of Kan. City*, 452 U.S. 378, 388–89 (1981) (calling these general principles “well established”).

147. See, e.g., *Gordon*, 422 U.S. at 692–93 (Stewart, J., concurring) (“The Court has never held . . . that the antitrust laws are inapplicable to anticompetitive conduct simply because a federal agency has jurisdiction over the activities of . . . the defendants. . . . The mere existence of the Commission’s reserve power of oversight . . . does not necessarily immunize those rules from antitrust attack.”).

148. 358 U.S. 334, 345–46 (1959).

149. *Otter Tail Power Co. v. United States*, 410 U.S. 366, 372–75 (1973).

150. *Id.* at 374.

companies' refusals to allow other companies to interconnect with their networks from antitrust scrutiny.¹⁵¹ Although the Communications Act of 1934 authorizes the FCC to mandate interconnection if it finds that doing so is "necessary or desirable in the public interest,"¹⁵² *Otter Tail* established that such residual authority to order interconnection is insufficient to confer implied immunity.¹⁵³ Even though the FCC has the right to review tariff filings presenting the terms and conditions under which telephone companies will permit others to interconnect with their networks, in practice it can only investigate a small percentage of them.¹⁵⁴ The fact that the vast majority of tariff filings go into effect without FCC review and approval renders antitrust immunity improper, since the tariffs are the result of the telephone companies' business judgment rather than regulatory coercion.¹⁵⁵

b. *State Action Immunity*. — Since its landmark decision in *Parker v. Brown*,¹⁵⁶ the Supreme Court has also recognized that state regulatory

151. For cases holding that regulations governing the interconnection of local and long distance services did not impliedly immunize conduct from the antitrust laws, see *S. Pac. Commc'ns Co. v. AT&T Co.*, 740 F.2d 980, 999–1000 (D.C. Cir. 1984); *MCI Commc'ns Corp. v. AT&T Co.*, 708 F.2d 1081, 1101–05 (7th Cir. 1983); *Mid-Tex. Commc'ns Sys., Inc. v. AT&T Co.*, 615 F.2d 1372, 1377–81 (5th Cir. 1980); *United States v. AT&T Co.*, 461 F. Supp. 1314, 1320–30 (D.D.C. 1978). For a similar decision regarding the interconnection of paging systems, see *Indus. Commc'ns Sys., Inc. v. Pac. Tel. & Tel. Co.*, 505 F.2d 152, 156 (9th Cir. 1974). For similar decisions regarding the interconnection of CPE, see *Phonetele, Inc. v. AT&T Co.*, 664 F.2d 716, 726–35 (9th Cir. 1981), modified, 1982 WL 11277 (9th Cir. Mar. 15, 1982); *Ne. Tel. Co. v. AT&T Co.*, 651 F.2d 76, 82–84 (2d Cir. 1981); *Sound, Inc. v. AT&T*, 631 F.2d 1324, 1327–31 (8th Cir. 1980); *Essential Commc'ns Sys., Inc. v. AT&T Co.*, 610 F.2d 1114, 1116–25 (3d Cir. 1979); *Jarvis, Inc. v. AT&T Co.*, 481 F. Supp. 120, 123–24 (D.D.C. 1978); *Int'l Tel. & Tel. Corp. v. Gen. Tel. & Elecs. Corp.*, 449 F. Supp. 1158, 1163–69 (D. Haw. 1978); *Macom Prods. Corp. v. AT&T Co.*, 359 F. Supp. 973, 976 (C.D. Cal. 1973). The only exceptions are two district court decisions that were later overturned on appeal, see *Phonetele, Inc. v. AT&T Co.*, 435 F. Supp. 207 (C.D. Cal. 1977), rev'd, 664 F.2d 716; *Dasa Corp. v. Gen. Tel. Co.*, 1977-2 Trade Cas. (CCH) ¶ 61,610 (C.D. Cal. May 10, 1977), rev'd sub nom. *Phonetele*, 664 F.2d 716, and a third, thinly reasoned decision that relied entirely on the authority of the two previous decisions, see *Monitor Bus. Machs. v. AT&T Co.*, 1978-1 Trade Cas. (CCH) ¶ 62,030 (C.D. Cal. May 5, 1978) (relying on *Phonetele* and *Dasa*).

152. 47 U.S.C. § 201(a) (2000).

153. See *supra* notes 149–150 and accompanying text.

154. See *United States v. AT&T Co.*, 461 F. Supp. at 1326.

155. See *MCI*, 708 F.2d at 1103–05 (holding antitrust immunity inapposite because "the initial decision whether to interconnect rests with the utility, and the record shows that the FCC did not control or approve of AT & T's actions here"); *Phonetele*, 664 F.2d at 733–34 (rejecting antitrust immunity when FCC permitted tariff to go into effect while agency conducted its own review of interconnection-related issues); *Sound*, 631 F.2d at 1330–31 (finding that decisions based upon the business judgment of firm rather than regulatory mandate are not exempted from antitrust laws); *Essential Commc'ns*, 610 F.2d at 1124 (drawing support for lack of exemption from agency failure to rule on tariff application); *United States v. AT&T Co.*, 461 F. Supp. at 1326–28 (describing inability of FCC to review all tariff filings and weakness of FCC's regulatory regime); *Jarvis*, 481 F. Supp. at 123–24 (noting lack of formal approval of tariffs by FCC).

156. 317 U.S. 341 (1943).

schemes can confer antitrust immunity in much the same manner as federal regulatory schemes. The Supreme Court has identified two standards that must be satisfied before state action immunity can attach. "First, the challenged restraint must be 'one clearly articulated and affirmatively expressed as state policy'; second, the policy must be 'actively supervised' by the State itself."¹⁵⁷ The Court noted in a later case:

The [active supervision] requirement is designed to ensure that the state-action doctrine will shelter only the particular anticompetitive acts of private parties that, in the judgment of the State, actually further state regulatory policies. To accomplish this purpose, the active supervision requirement mandates that the State exercise ultimate control over the challenged anticompetitive conduct. The mere presence of some state involvement or monitoring does not suffice.¹⁵⁸

Thus, the Supreme Court has held that for state action immunity to apply, the state must actively review the rate increases in question; mere authority to review those rates is not sufficient.¹⁵⁹ Although some courts have concluded that the state tariffing process is enough to immunize retail access,¹⁶⁰ others have refused to confer state action immunity on the refusals of local telephone companies to open their networks to independent providers of long distance services and CPE.¹⁶¹ In addition, the enactment of the Telecommunications Act of 1996 gave the federal government jurisdiction over areas of local telephone service that had previously been the exclusive province of the states, further narrowing the potential scope of state action immunity.¹⁶² Moreover, as noted earlier, the emergence of competition in last-mile distribution has led state public utility commissions to begin deregulating retail services.¹⁶³ As this pro-

157. *Cal. Retail Liquor Dealers Ass'n v. Midcal Aluminum, Inc.*, 445 U.S. 97, 105 (1980) (quoting *City of Lafayette v. La. Power & Light Co.*, 435 U.S. 389, 410 (1978)).

158. *Patrick v. Burget*, 486 U.S. 94, 100–01 (1988) (citations omitted).

159. See *FTC v. Tico Title Ins. Co.*, 504 U.S. 621, 638 (1992) ("The mere potential for state supervision is not an adequate substitute for a decision by the State. . . . In the absence of active supervision in fact, there can be no state-action immunity for what were otherwise private price-fixing arrangements.").

160. See *DFW Metro Line Servs. v. Sw. Bell Tel. Co.*, 901 F.2d 1267, 1269 n.6 (5th Cir. 1990); *Davis v. S. Bell Tel. & Tel. Co.*, 755 F. Supp. 1532, 1539–42 (S.D. Fla. 1991); *Metro Mobile CTS, Inc. v. NewVector Commc'ns, Inc.*, 661 F. Supp. 1504, 1508–21 (D. Ariz. 1987), *aff'd on other grounds*, 892 F.2d 62 (9th Cir. 1989); *Sonitrol of Fresno, Inc. v. AT&T Co.*, 629 F. Supp. 1089, 1094–1101 (D.D.C. 1986).

161. For long distance services, see *Mid-Tex. Commc'ns Sys., Inc. v. AT&T Co.*, 615 F.2d 1372, 1381–82 (5th Cir. 1980); *United States v. AT&T Co. (Modification of Final Judgment)*, 552 F. Supp. 131, 156–59 (D.D.C. 1982), *aff'd mem. sub nom. Maryland v. United States*, 460 U.S. 1001 (1983). For CPE, see *Phonetele, Inc. v. AT&T Co.*, 664 F.2d 716, 735–37 (9th Cir. 1981); *Sound, Inc. v. AT&T Co.*, 631 F.2d 1324, 1331–35 (8th Cir. 1980); *Essential Commc'ns Sys., Inc. v. AT&T Co.*, 610 F.2d 1114, 1125 (3d Cir. 1979); *Jarvis, Inc. v. AT&T Co.*, 481 F. Supp. 120, 124 (D.D.C. 1978).

162. See *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 378 n.6 (1999).

163. See *supra* notes 92–93 and accompanying text.

cess proceeds to its logical conclusion, the basis for state action immunity will eventually disappear.

2. *Doctrines Affecting the Timing of Antitrust Scrutiny.* — The foregoing discussion reveals that the existing state and federal regulatory schemes are unlikely to insulate telecommunications companies from claims seeking access to their networks under the antitrust laws. Although the presence of regulatory schemes may not provide antitrust immunity, it may nonetheless forestall judicial consideration of the merits of claims until after the relevant agency has had the opportunity to address the issues in the first instance.

a. *Abstention.* — When the regulatory regime at issue arises under state law, the timing of judicial consideration is determined by one of two abstention doctrines. The first, known as administrative or *Burford* abstention,¹⁶⁴ applies when “the exercise of jurisdiction by the federal court would disrupt a state administrative process.”¹⁶⁵ The Supreme Court recently described *Burford* abstention as follows:

Where timely and adequate state-court review is available, a federal court sitting in equity must decline to interfere with the proceedings or orders of state administrative agencies: (1) when there are “difficult questions of state law bearing on policy problems of substantial public import whose importance transcends the result in the case then at bar”; or (2) where the “exercise of federal review of the question in a case and in similar cases would be disruptive of state efforts to establish a coherent policy with respect to a matter of substantial public concern.”¹⁶⁶

Lower courts have generally declined to apply *Burford* abstention to challenges to denial of access to telecommunications networks either because the state law at issue was relatively clear¹⁶⁷ or because the issue was purely a question of federal law that may result in the overturning of a state policy.¹⁶⁸ As a result, there was little risk of disrupting the policies reflected in the state administrative processes.

164. See *Burford v. Sun Oil Co.*, 319 U.S. 315, 317–18 (1943) (establishing doctrine); Paul M. Bator et al., *Hart & Wechsler’s The Federal Courts and the Federal System* 1364 (3d ed. 1988) (calling form of abstention initiated by *Burford* “administrative abstention” (internal quotation marks omitted)).

165. *County of Allegheny v. Frank Mashuda Co.*, 360 U.S. 185, 189 (1959); accord *Zwickler v. Koota*, 389 U.S. 241, 249 n.11 (1967) (noting possibility of abstention “in cases involving possible disruption of complex state administrative processes”); *Lumbermen’s Mut. Cas. Co. v. Elbert*, 348 U.S. 48, 53 (1954) (characterizing *Burford* as decision “to avoid a potential interference with a state’s administrative policy-making process”).

166. *New Orleans Pub. Serv., Inc. v. Council of New Orleans*, 491 U.S. 350, 361 (1989) (quoting *Colo. River Water Conservation Dist. v. United States*, 424 U.S. 800, 814 (1976)).

167. See *GTE N., Inc. v. Strand*, 209 F.3d 909, 920–21 (6th Cir. 2000) (“[T]o abstain pending state review of GTE’s claims would be inappropriate because the dictates of [state law] are clear . . .”).

168. See *Bell Atl.-Pa., Inc. v. Pa. Pub. Util. Comm’n*, 107 F. Supp. 2d 653, 665–66 (E.D. Pa. 2000) (finding *Burford* abstention inapplicable where issue concerned assertion of federal control over state regulation).

The second, known as *Younger* abstention, is based on the premise that the federal government should not interfere with those governmental functions that are more properly regarded as falling within the province of the states under the system of federalism established by the Constitution.¹⁶⁹ The paradigmatic state function into which the federal government should not intrude, illustrated by the *Younger* case itself, is the prosecution of state crimes.¹⁷⁰ Subsequent decisions have extended *Younger* to state administrative proceedings implicating important state interests, including attorney malpractice,¹⁷¹ claims of sex discrimination,¹⁷² and misconduct by state police and prosecutors.¹⁷³ The Supreme Court has noted that *Younger* has only been applied to administrative proceedings that were essentially backward looking. Forward-looking proceedings, such as ratemaking, are more closely allied with the legislative than the judicial process and thus are poor candidates for *Younger* abstention.¹⁷⁴ As a result, lower courts have generally declined to subject challenges to denial of access to telecommunications networks to *Younger* abstention.¹⁷⁵

b. *Primary Jurisdiction*. — When the regulatory regime at issue is a federal one, the timing of judicial consideration is determined by a doctrine known as “primary jurisdiction,” which requires courts to permit agencies responsible for administering federal regulatory schemes the opportunity to be the first to address issues within their competence. As a result, the doctrine of primary jurisdiction requires the federal courts to stay its proceedings or dismiss a claim without prejudice until the relevant agency has had a chance to address the issue.¹⁷⁶

169. See *Younger v. Harris*, 401 U.S. 37, 44 (1971).

170. See *id.* at 46.

171. See *Middlesex County Ethics Comm. v. Garden State Bar Ass’n*, 457 U.S. 423, 431–37 (1982) (finding that bar disciplinary hearings implicate important state interests, justifying abstention).

172. See *Ohio Civil Rights Comm’n v. Dayton Christian Sch., Inc.*, 477 U.S. 619, 627–28 (1986) (treating elimination of sex discrimination as significant state interest).

173. See *Rizzo v. Goode*, 423 U.S. 362, 378–80 (1976) (discussing federalism concerns raised by federal judicial interference with state criminal proceeding).

174. *New Orleans Pub. Serv., Inc. v. Council of New Orleans*, 491 U.S. 350, 370–71 (1989) (discussing analytical framework for determining whether agency action is legislative or judicial in nature).

175. See *GTE N., Inc. v. Strand*, 209 F.3d 909, 921 (6th Cir. 2000) (finding *Younger* abstention inapplicable where only forward-looking state agency proceedings are ongoing); *Bell Atl.-Pa., Inc. v. Pa. Pub. Util. Comm’n*, 107 F. Supp. 2d 653, 666 (E.D. Pa. 2000) (same).

176. See, e.g., *Ricci v. Chi. Mercantile Exch.*, 409 U.S. 289, 302–06 (1973) (staying action pending resolution of agency proceeding where certain facets of dispute fell within statutory jurisdiction of agency and resolution would aid overall resolution); *Pan Am. World Airways, Inc. v. United States*, 371 U.S. 296, 309–12 (1963) (dismissing claim more properly falling within statutory jurisdiction of agency); *United States v. W. Pac. R.R.*, 352 U.S. 59, 65–69 (1956) (allocating responsibility for undertaking initial resolution of disputed issues to agency where disputed facts fall within agency, and outside judicial, competence).

The Supreme Court examined the foundations of primary jurisdiction in *RCA*, which addressed whether the existence of FCC regulation prevented federal courts from considering an antitrust claim:

[W]hen rates and practices relating thereto were challenged under the antitrust laws, the agencies had primary jurisdiction to consider the reasonableness of such rates and practices in the light of the many relevant factors including alleged antitrust violations, for otherwise sporadic action by federal courts would disrupt an agency's delicate regulatory scheme, and would throw existing rate structures out of balance.¹⁷⁷

Primary jurisdiction is the only doctrine ever to serve as a meaningful limit on antitrust courts' jurisdiction over claims seeking access to telecommunications networks. A number of early courts relied on primary jurisdiction to require that antitrust courts defer their consideration of requests for access until after they had been addressed by the FCC.¹⁷⁸ Later decisions have accorded antitrust courts a greater scope of authority. For example, the district court hearing the case that would lead to the breakup of AT&T took a narrower view of primary jurisdiction, permitting the antitrust case to go forward while reserving the right to refer issues to the FCC at a later point in the litigation.¹⁷⁹ This position had the effect of bringing the doctrine of primary jurisdiction more into line with the other doctrines discussed above.

3. *The Rationales Underlying the Balance Between Antitrust and Regulation.* — Over the years, the Supreme Court has offered several justifications for its doctrines allocating decisionmaking authority between antitrust courts and administrative agencies. First and foremost is the need to avoid conflict between the mandates of the antitrust courts and those of the relevant regulatory regime. With respect to immunity implied from other federal statutes, the Court has held that the law must ensure that “the federal agency entrusted with regulation in the public interest could carry out that responsibility free from the disruption of conflicting judgments that might be voiced by courts exercising jurisdiction under the

177. *United States v. Radio Corp. of Am. (RCA)* 358 U.S. 334, 348 (1959).

178. For an invocation of primary jurisdiction in an antitrust suit challenging AT&T's refusal to allow independent long distance companies to connect with its network, see *MCI Commc'ns Corp. v. AT&T Co.*, 496 F.2d 214, 219–24 (3d Cir. 1974). For invocations of primary jurisdiction in the context of CPE, see *Carter v. AT&T Co.*, 250 F. Supp. 188, 190–92 (N.D. Tex. 1966), *aff'd*, 365 F.2d 486 (5th Cir. 1966); Huber et al., *supra* note 89, § 8.4.1.1, at 664–65 (collecting cases); see also *Carter*, 365 F.2d at 498 n.23 (citing four unreported district court cases in which courts invoked doctrine of primary jurisdiction when confronted with antitrust challenge to foreign attachments tariff).

179. See *United States v. AT&T Co.*, 461 F. Supp. 1314, 1329, 1336, 1349–50 (D.D.C. 1978); *United States v. AT&T Co.*, 427 F. Supp. 57, 61–62 (D.D.C. 1976).

antitrust laws.”¹⁸⁰ It has invoked similar rationales in the context of state action immunity,¹⁸¹ *Burford* abstention,¹⁸² and primary jurisdiction.¹⁸³

In the context of state action immunity, the Supreme Court also has invoked federalism as an additional consideration. As the Court noted in *Parker*, “In a dual system of government in which, under the Constitution, the states are sovereign, save only as Congress may constitutionally subtract from their authority, an unexpressed purpose to nullify a state’s control over its officers and agents is not lightly to be attributed to Congress.”¹⁸⁴ The Court based *Younger* abstention on notions of “comity” and “Our Federalism,” which it described as “a proper respect for state functions, a recognition . . . that the entire country is made up of a Union of separate [States], and a continuance of the belief that the National Government will fare best if the States . . . are left free to perform their separate functions in their separate ways.”¹⁸⁵ The inclusion of federalism as a justification with respect to these two doctrines, though, did not make them any broader than when federalism was not implicated. As the Court noted, “Congress could hardly have intended state regulatory agencies to have broader power than federal agencies to exempt private conduct from the antitrust laws. Therefore, . . . the standards for ascertaining the existence and scope of [this] exemption surely must be at least as severe as those applied to federal regulatory legislation.”¹⁸⁶

Interestingly, the Supreme Court’s decisions on primary jurisdiction and *Burford* abstention added a third consideration: the differences in institutional competence between antitrust courts and regulatory agencies. For example, the Court’s opinion in *RCA* underscored that, in addition to the need to avoid conflicting mandates, primary jurisdiction was also based in part on “the need for administrative skill ‘commonly to be found only in a body of experts’ in handling the ‘intricate facts’” needed

180. *United States v. Nat’l Ass’n of Sec. Dealers*, 422 U.S. 694, 734 (1975).

181. In the words of the Supreme Court:

In this case we are asked to hold that private conduct required by state law is exempt from the Sherman Act. Two quite different reasons might support such a rule. First, if a private citizen has done nothing more than obey the command of his state sovereign, it would be unjust to conclude that he has thereby offended federal law. Second, if the State is already regulating an area of the economy, it is arguable that Congress did not intend to superimpose the antitrust laws as an additional, and perhaps conflicting, regulatory mechanism.

Cantor v. Detroit Edison Co., 428 U.S. 579, 592 (1976).

182. See *Burford v. Sun Oil Co.*, 319 U.S. 315, 327 (1943) (observing how “double system” of state administrative and federal judicial review can lead to “[d]elay, misunderstanding of local law, and needless federal conflict with the state policy”).

183. See *United States v. Radio Corp. of Am. (RCA)*, 358 U.S. 334, 346 (1959) (noting that primary jurisdiction was “grounded on the necessity for administrative uniformity”); *id.* at 347–48 (noting that some primary jurisdiction decisions “emphasized the need for administrative uniformity and uniform rates” (citing *Keogh v. Chi. & Nw. Ry. Co.*, 260 U.S. 156 (1922))).

184. *Parker v. Brown*, 317 U.S. 341, 351 (1943).

185. *Younger v. Harris*, 401 U.S. 37, 44 (1971).

186. *Cantor*, 428 U.S. at 596–97 (footnote omitted).

to regulate an industry.¹⁸⁷ *Burford* similarly relied on the need to allow state agencies and the state courts reviewing those agencies' decisions "to acquire a specialized knowledge which is useful in shaping the policy of regulation of the ever-changing demands in this field."¹⁸⁸ Concerns about institutional capabilities also appeared in lower court decisions applying primary jurisdiction to the telecommunications industry, which based the doctrine in part on "the court's lack of expertise with the subject matter of the agency's regulation."¹⁸⁹

4. *Implications for the Essential Facilities Doctrine.* — Considerations of institutional competence have particular resonance for the essential facilities doctrine. Commentators have recognized that the doctrine necessarily presupposes some form of price regulation.¹⁹⁰ In the absence of price regulation, the owner of the bottleneck facility would simply provide access at the monopoly price. While such access would be beneficial to the monopolist's competitors, simply requiring that the monopoly be shared would provide no benefits to consumers, since the monopoly would be left intact without any improvements in price or output.¹⁹¹

Setting prices is not a function to which antitrust courts are institutionally well suited. If courts were to adopt a role in setting prices, they would be forced to address the problems of valuing assets, distinguishing between prudent and imprudent investments, separating capital from op-

187. *RCA*, 358 U.S. at 346 (quoting *Great N. Ry. Co. v. Merchs.' Elevator Co.*, 259 U.S. 285, 291 (1922)); accord *id.* at 348 (emphasizing "the need for administrative experience in distilling the relevant facts in a complex industry as a foundation for later court action" (citing *United States Navigation Co. v. Cunard S.S. Co.*, 284 U.S. 474 (1932); *Far E. Conference v. United States*, 342 U.S. 570 (1952); *Fed. Mar. Bd. v. Isbrandsten Co.*, 356 U.S. 481, 497-99 (1958))).

188. *Burford v. Sun Oil Co.*, 319 U.S. 315, 327 (1943).

189. *MCI Commc'ns Corp. v. AT&T Co.*, 496 F.2d 214, 220 (3d Cir. 1974).

190. See, e.g., 3A *Areeda & Hovenkamp*, *supra* note 4, ¶ 774(3), at 223-24 (noting that the essential facilities doctrine requires courts to oversee disputes over the price of access to the facility); *Hovenkamp*, *supra* note 4, § 7.7(d)(1), at 313 ("[C]ompelling a single firm to deal requires a court to set terms and conditions of the sale, thus turning it into a kind of regulatory agency."); Richard A. Posner, *Antitrust Law: An Economic Perspective* 208, 211 (1976) [hereinafter Posner, *Antitrust Law*] (noting that "[i]t is difficult to understand how [the decree in *Terminal Railroad*] protects the public; its purpose and effect are, rather, to let the defendants' competitors share in the monopoly position enjoyed by the defendants" and that by ordering the defendant to deal, "[t]he antitrust court becomes charged with the detailed and continuous supervision of an ongoing commercial relationship, a function that courts are ill equipped to perform effectively"); *Sullivan & Grimes*, *supra* note 3, § 3.4(b)(3), at 125 ("[W]ithout some control on rates, the relief accorded to [plaintiffs] could be meaningless.").

191. See 3A *Areeda & Hovenkamp*, *supra* note 4, ¶ 771(b), at 171-73 (arguing that compelled sharing fails to decrease price or to increase output while perpetuating the monopoly by reducing or removing incentives to invest in alternative network capacity); Posner, *Antitrust Law*, *supra* note 190, at 208 (noting that decree mandating nondiscriminatory access merely accomplishes distribution of monopoly profit without social benefit); *Areeda*, *supra* note 4, at 852 (claiming that compelled sharing is unlikely to increase competition where "the plaintiff merely substitutes itself for the monopolist or shares the monopolist's gains").

erating expenses, allocating shared costs across multiple products, and determining the appropriate rate of return that have long plagued the administrative ratemaking process.¹⁹² This difficulty explains why the Supreme Court noted in *United States v. Trenton Potteries Co.* that “[t]he reasonable price fixed today may through economic and business changes become the unreasonable price of tomorrow” and warned against “placing on the government in enforcing the Sherman Law the burden of ascertaining from day to day whether it has become unreasonable through the mere variation of economic conditions.”¹⁹³ The Court continued:

[I]n the absence of express legislation requiring it, we should hesitate to adopt a construction making the difference between legal and illegal conduct in the field of business relations depend upon so uncertain a test as whether prices are reasonable—a determination which can be satisfactorily made only after a complete survey of our economic organization and a choice between rival philosophies.¹⁹⁴

Subsequent decisions by both the Supreme Court and lower courts have reiterated the difficulties that antitrust courts face in determining what constitutes a reasonable price.¹⁹⁵

Commentators have invoked the difficulties that antitrust courts face in implementing access mandates when criticizing the essential facilities doctrine. As Philip Areeda notes in his now-classic critique of the essential facilities doctrine, “No court should impose a duty to deal that it cannot explain or adequately and reasonably supervise. The problem should

192. See 3 Areeda & Hovenkamp, *supra* note 4, ¶ 720(b), at 256–58.

193. 273 U.S. 392, 397–98 (1927).

194. *Id.* at 398.

195. See *Catalano, Inc. v. Target Sales, Inc.*, 446 U.S. 643, 647 (1980) (citing *Trenton Potteries*, 273 U.S. at 397–98, and *United States v. Trans-Mo. Freight Ass’n*, 166 U.S. 290, 340–41 (1897), as authorities for declining to evaluate the reasonableness of prices); *United States v. Masonite Corp.*, 316 U.S. 265, 281–82 (1942) (“As in case of an appraisal of the reasonableness of prices which are fixed, such a determination could satisfactorily be made ‘only after a complete survey of our economic organization and a choice between rival philosophies’ and only after weighing a host of intangibles.” (quoting *Trenton Potteries*, 273 U.S. at 398)); *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, 212–14 (1940) (reiterating principle that determination of reasonable price involves broad and sweeping factual investigation beyond competence of court); *Cline v. Frink Dairy Co.*, 274 U.S. 445, 462–63 (1927) (same); *Chi. Prof’l Sports Ltd. P’ship v. NBA*, 95 F.3d 593, 597 (7th Cir. 1996) (“[T]he antitrust laws do not deputize district judges as one-man regulatory agencies.”); *Town of Concord v. Boston Edison Co.*, 915 F.2d 17, 25 (1st Cir. 1990) (“[H]ow is a judge . . . to determine a ‘fair price?’ Is it the price charged by other suppliers . . . ? None exist. Is it the price that competition ‘would have set’ were the primary level not monopolized? How can the court determine this price . . . without acting like a rate-setting regulatory agency . . . ?”); cf. *Trans-Mo. Freight Ass’n*, 166 U.S. at 331–42 (pre-*Trenton Potteries* decision citing difficulties in determining reasonableness of rates as justification for “leav[ing] the question of reasonableness to the companies themselves”). See generally 3 Areeda & Hovenkamp, *supra* note 4, ¶ 720(b), at 256–58 (reviewing these arguments and collecting cases).

be deemed irremedial by antitrust law when compulsory access requires the court to assume the day-to-day controls characteristic of a regulatory agency.”¹⁹⁶

Areeda elaborated on this critique in his treatise. As the current version (now coauthored with Herbert Hovenkamp) notes, if access is compelled without placing any restrictions on the price charged, the essential facilities doctrine will provide no benefits to consumers through decreases in price and increases in output, as the monopolist will simply charge the full monopoly price.¹⁹⁷ Antitrust courts will likely find, however, that their attempts at regulating prices are likely to be extremely difficult to administer. Since the monopolist has already evinced a lack of willingness to deal with its competitor, it is likely that disputes over the terms and conditions of the compelled access will surround the relationship:

The plaintiff is likely to claim that the defendant’s price for access to an essential facility is (1) so high as to be the equivalent of a continued refusal to deal, or (2) is unreasonable, or (3) creates a “price squeeze” in that the defendant charges so much for access and so little for the product it sells in competition with the plaintiff that the latter cannot earn a reasonable profit.¹⁹⁸

The disputes, moreover, will not be limited just to price. The parties are likely to disagree on nonprice terms and conditions as well.¹⁹⁹ Should the demand outstrip the existing capacity, compelled access would force network owners not merely to sell out of excess capacity, but to reduce their own output or expand their plants in order to service rivals.²⁰⁰ As a result, mandating access requires “price regulation of the kind undertaken by regulatory agencies—something for which both the federal courts and the antitrust litigation process are extremely ill-suited and which is, in any event, inconsistent with antitrust’s fundamental ‘market’ orientation to problems of lack of competition.”²⁰¹ Other commen-

196. Areeda, *supra* note 4, at 853. Areeda acknowledged that compelling access is more justifiable where the monopolist is a consortium that can admit additional members or where a regulatory agency already exists to control the terms of dealing. See *id.*

197. See 3A Areeda & Hovenkamp, *supra* note 4, ¶ 771(b), at 171–72, ¶ 773(a), at 197; see also *id.* ¶ 765(c), at 101, ¶ 774(e), at 224–27 (describing inability of courts to determine proper price and judicial reluctance to even attempt to do so).

198. *Id.* ¶ 774(e), at 224; see also *id.* ¶ 765(c), at 101–02, ¶ 772(d), at 194 (noting that remedies inevitably involve regulating prices and terms of sale and that courts are ill suited to such tasks).

199. See *id.* ¶ 774(e), at 227 n.44, ¶ 782(k), at 281–82 (listing cases in which parties litigated nonprice terms of compelled access and describing potential of monopolists to abuse litigation).

200. See *id.* ¶ 774(e), at 223.

201. *Id.* ¶ 771(b), at 172; accord *id.* ¶ 772(d), at 194, ¶ 773(a), at 198, ¶ 774(e), at 227–28 (favoring alternative remedies or even no remedy at all when courts would otherwise be required to undertake regulatory functions).

tators have drawn similar conclusions.²⁰²

These criticisms of antitrust courts' institutional competence to oversee access mandates are part of a broader debate about the relative merits of structural and conduct remedies.²⁰³ Richard Posner's statistical study of antitrust enforcement distinguished between "once-for-all" decrees that render a market structurally competitive and thereafter do not require continuing judicial oversight, and "regulatory" decrees, which require antitrust courts to maintain continuing supervisory relationships.²⁰⁴ Posner questioned the institutional competence of courts to superintend regulatory decrees. In addition to requiring scrutiny over price, regulatory decrees require antitrust courts to allocate market share and restrict the lines of business that the entities subject to the decree may enter, actions that require an extraordinary level of intervention into the market and can limit competition.²⁰⁵ Most importantly, Posner questioned the expedience of creating ad hoc regulatory regimes administered by scattered district courts. Indeed, he found that "the entry of such a decree is tantamount to a confession that the antitrust action has not suc-

202. See Hylton, *supra* note 4, at 1283–84 (proposing presumption against plaintiffs where claim requires court to engage in problems as difficult as price regulation); Werden, *supra* note 4, at 460–61 (noting conclusion of various commentators that difficulty of providing relief should cause courts to avoid intervention in absence of regulation). But see Ratner, *supra* note 4, at 370–72, 376–78 (recognizing that antitrust courts are not well suited to regulate price, but arguing that intervention is only meaningful remedy available to increase output toward competitive levels).

203. Compare Kevin J. O'Connor, *The Divestiture Remedy in Sherman Act § 2 Cases*, 13 *Harv. J. on Legis.* 687, 692–93 (1976) (advocating structural over conduct remedies), with Robert W. Crandall, *The Failure of Structural Remedies in Sherman Act Monopolization Cases*, 80 *Or. L. Rev.* 109, 109–15 (2001) (arguing that structural remedies provide insufficient benefit to consumers), and Thomas A. Piraino, *Identifying Monopolists' Illegal Conduct Under the Sherman Act*, 75 *N.Y.U. L. Rev.* 809, 879–83 (2000) (criticizing judicial use of structural remedies as failing to consider underlying market conditions and requiring expertise lacking in courts). This debate has gained new salience with the proposal of structural relief in the *Microsoft* case. See John E. Lopatka & William H. Page, *Devising a Microsoft Remedy That Serves Consumers*, 9 *Geo. Mason L. Rev.* 691, 707–08 (2001) (arguing that structural remedies in *Microsoft* are ineffective and counterproductive); Piraino, *supra*, at 883–91 (noting proposal of structural remedies, but arguing for imposition of conduct remedies); R. Craig Romaine & Steven C. Salop, *Slap Their Wrists? Tie Their Hands? Slice Them Into Pieces? Alternative Remedies for Monopolization in the Microsoft Case*, *Antitrust*, Summer 1999, at 15, 16–22 (discussing proposed structural and conduct remedies); Howard A. Shelanski & J. Gregory Sidak, *Antitrust Divestiture in Network Industries*, 68 *U. Chi. L. Rev.* 1, 73–90 (2001) (arguing that lack of necessary information renders choice between structural and conduct remedies on economic efficiency grounds impossible).

204. See Richard A. Posner, *A Statistical Study of Antitrust Enforcement*, 13 *J.L. & Econ.* 365, 386–88 (1970) [hereinafter Posner, *Statistical Study*]. For an updated analysis, see Richard A. Posner & Frank H. Easterbrook, *Antitrust: Cases, Economic Notes and Other Materials* 761–63 (2d ed. 1981).

205. See Posner, *Statistical Study*, *supra* note 204, at 388.

ceeded in restoring competitive conditions.”²⁰⁶ Posner later elaborated in the casebook he coauthored with Frank Easterbrook:

There is a sense in which the entry of a regulatory decree signifies that the case should never have been brought. The decree is an acknowledgement that competition will not work in the particular circumstances of the case. . . . The question is thus posed whether antitrust enforcement, the cardinal purpose of which is to prevent and destroy monopolies, is also a suitable tool for domesticating those monopolies that are ineradicable at acceptable cost.²⁰⁷

The remedial difficulties associated with the essential facilities doctrine have led courts granting relief under the doctrine to be rather vague regarding the terms and conditions of access.²⁰⁸ The resulting degree of ongoing supervision required by a regulatory decree is aptly demonstrated by *Terminal Railroad*, in which the Supreme Court was constantly called upon to adjudicate the application of the decree.²⁰⁹ Although such problems might be minimized if the monopolist already sells the product to other customers, since an antitrust court could simply order that it provide access on a nondiscriminatory basis,²¹⁰ administering such a remedial scheme would still be extremely difficult. In any event, this solution is completely unavailing if the bottleneck owner does not sell its input externally and instead devotes all available capacity to its own output.

It is easy to make the case that complex subjects like telecommunications should be the province of administrative agencies and not courts. Agencies enjoy advantages that go beyond technical expertise. Unlike courts, agencies can set their own agendas and are less dependent on the parties for the development of the factual record and legal arguments than are courts. Administrative processes also provide greater opportunities for public participation than do judicial processes, in which interested third parties are generally limited to filing amicus briefs. Agencies are also in a better position to take all aspects of a regulatory scheme into account than are courts, which by their nature will limit their consideration to the dispute at hand. Permitting courts to entertain antitrust suits might simply invite disappointed parties who failed to obtain relief from the agency to try to take a second bite of the apple.

206. *Id.*

207. Posner & Easterbrook, *supra* note 204, at 762–63.

208. See 3A Areeda & Hovenkamp, *supra* note 4, ¶ 774(e), at 225 (“[T]he few decisions that have granted relief never offer detailed directives for dealing.”); Werden, *supra* note 4, at 460–61 (noting that courts generally have not addressed difficulties of providing remedies).

209. See *Terminal R.R. Ass’n v. United States*, 266 U.S. 17, 27 (1924); *Terminal R.R. Ass’n v. United States*, 236 U.S. 194, 195–96 (1915); *Ex parte United States*, 226 U.S. 420, 421 (1913); see also Lipsky & Sidak, *supra* note 4, at 1196–98 (discussing continuing judicial involvement and repeated interpretation of original decree).

210. See 3A Areeda & Hovenkamp, *supra* note 4, ¶ 772(d), at 194.

These considerations suggest that regulatory agencies are in a better position to supervise access mandates than are antitrust courts. As we shall see, these concerns would find voice in the Supreme Court's decision in *Trinko*.

III. THE IMPACT OF *TRINKO*

The Supreme Court's *Trinko* decision arose out of a dispute over the speed with which Verizon and its predecessors²¹¹ were meeting the obligation that the Telecommunications Act of 1996 imposed on existing local telephone companies, called incumbent local exchange carriers (LECs), to provide access to all of their network elements on an unbundled basis. The specific source of concern was the computer system that Verizon used to process requests for service, known as its operations support system (OSS). Verizon's competitors complained that Verizon was not fulfilling the orders that they placed through the OSS in a timely manner. Parallel investigations by both federal and state regulatory authorities led both agencies to adopt orders providing some relief. A customer of one of Verizon's competitors filed an antitrust suit arguing that the same conduct violated section 2.²¹²

The Supreme Court rejected the customer's claims in an opinion that accepted many of the criticisms of the essential facilities doctrine discussed above.²¹³ In so doing, the opinion has touched off a lively debate about the proper scope of section 2 liability and in particular about the future of the essential facilities doctrine.

A. *The Economics of Vertical Exclusion*

The Supreme Court's discussion of the substantive antitrust claim began by noting that the antitrust laws do not penalize the mere possession of monopoly power absent proof of exclusionary conduct.²¹⁴ Indeed:

The mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system. The opportunity to charge monopoly prices—at least for a short period—is what attracts “business acumen” in the first place; it induces risk taking that produces innovation and economic growth.²¹⁵

211. Over the course of the litigation, the company originally named NYNEX first merged with Bell Atlantic and then merged with GTE to form a new corporation called Verizon. We will follow the Supreme Court's convention by referring to all of these entities as Verizon. See *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 402 n.1 (2004).

212. *Id.* at 402–05.

213. See *id.* at 406–10, 411–15 (discussing economic and institutional criticisms of judicial intervention in context of unilateral refusal to deal).

214. *Id.* at 407.

215. *Id.*

Because investments in telecommunications networks represent a legitimate form of competition on the merits,²¹⁶ antitrust principles must be structured so as not to deter such procompetitive conduct.²¹⁷ As the Court noted later in the opinion, expansions of section 2 liability that penalize procompetitive conduct can be particularly harmful “because they chill the very conduct the antitrust laws are designed to protect.”²¹⁸

The Court’s concern was that requiring a monopolist to share its bottleneck facility could impede dynamic efficiency. The Court noted, “Compelling such firms to share the source of their advantage . . . may lessen the incentive for the monopolist, the rival, or both to invest in those economically beneficial facilities.”²¹⁹ Later portions of the opinion emphasized “the uncertain virtue of forced sharing” and how mandating access under section 2 “seem[ed] destined to distort investment.”²²⁰ It is for this reason that “as a general matter, the Sherman Act ‘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.’”²²¹

At the same time, the Court recognized that “[t]he high value that we have placed on the right to refuse to deal with other firms does not mean that the right is unqualified,”²²² although the Court “ha[s] been very cautious in recognizing such exceptions.”²²³ The Court noted that the leading case supporting antitrust liability for a refusal to cooperate with a rival is the *Aspen Skiing* decision summarized above, which the Court described as “at or near the outer boundary of § 2 liability.”²²⁴ According to the Court, the fact that Ski Co. was willing to terminate unilaterally “a voluntary (*and thus presumably profitable*) course of dealing suggested a willingness to forsake short-term profits to achieve an anticompetitive end,” as did the fact that Ski Co. was unwilling to renew the all-Aspen ticket even if compensated at full retail price.²²⁵ Verizon, in contrast, had never dealt with its rivals voluntarily, but instead did so only under regulatory compulsion at regulated, wholesale prices.²²⁶ In the absence of a preexisting relationship, Verizon’s actions did not reveal any

216. See *id.* (“Firms may acquire monopoly power by establishing an infrastructure that renders them uniquely suited to serve their customers.”).

217. *Id.* at 407–08 (noting that some monopoly power is necessary to preserve principles of free market system).

218. *Id.* at 414 (quoting *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 594 (1986)).

219. *Id.* at 407–08.

220. *Id.* at 408, 414.

221. *Id.* at 408 (alteration in original) (quoting *United States v. Colgate & Co.*, 250 U.S. 300, 307 (1919)).

222. *Id.* (alteration in original) (quoting *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 601 (1985)).

223. *Id.*

224. *Id.* at 409.

225. *Id.*

226. *Id.* at 409–10.

“anticompetitive bent.”²²⁷ The Court also distinguished *Otter Tail* as a case in which the network owner “was already in the business of providing a service to certain customers . . . and refused to provide the same service to certain other customers.”²²⁸ This fact rendered *Otter Tail* inapposite, as Verizon had never publicly marketed the wholesale access to the OSS at issue in *Trinko* in the absence of regulation.²²⁹

These distinctions represent sharp limitations on the scope of liability for a network’s unilateral refusal to deal. They clearly suggest that liability will not lie in the absence of a preexisting joint venture or a demonstrated willingness to offer the service to others at a full retail price, since *Trinko* regarded the willingness to sacrifice profits as a key indicator that the conduct in *Aspen Skiing* was anticompetitive. Some commentators have argued that the presence of a preexisting course of dealing reveals little, if anything, about a practice’s likely competitive impact²³⁰ and that attaching significance to the abandonment of an initial willingness to deal ignores the fact that circumstances change²³¹ and risks discouraging firms from dealing in the first place.²³² Others have suggested that a preexisting willingness to deal provides at least some evidence that the joint venture was efficient.²³³

There is also language in the opinion that appears to recognize the structural preconditions that are necessary for vertical exclusion to be plausible. For example, as noted earlier, the Court recognized that “the indispensable requirement for invoking the doctrine is the unavailability of access to the ‘essential facilities’” and the doctrine “serves no purpose” when the input in question is available through other means.²³⁴ In so

227. *Id.* at 409.

228. *Id.* at 410.

229. See *id.*

230. See Tom Campbell & Nirit Sandman, A New Test for Predation: Targeting, 52 UCLA L. Rev. 365, 388 (2004) (noting lack of economic significance attached to existence of prior business relationship); John E. Lopatka & William H. Page, Bargaining and Monopolization: In Search of the “Boundary of Section 2 Liability” Between *Aspen* and *Trinko*, 73 Antitrust L.J. 115, 142–44 (2005) (discussing several reasons for disregarding prior existence of business relationship, focusing primarily upon dynamic market conditions and lack of impact of short-term actions).

231. See *MetroNet Servs. Corp. v. Qwest Corp.*, 383 F.3d 1124, 1132 (9th Cir. 2004) (noting that defendant changed prior business practice after determining that it was causing “significant[] negative impact on its own profitability” (internal quotation marks omitted)).

232. See Eleanor M. Fox, Is There Life in *Aspen* After *Trinko*? The Silent Revolution of Section 2 of the Sherman Act, 73 Antitrust L.J. 153, 160 (2005) (“Monopoly firms would hesitate to cooperate in the first instance; the law would put a premium on old ways of doing things.”).

233. See 3A Areeda & Hovenkamp, *supra* note 4, ¶ 772(c)(2), at 188 (noting that existence of prior arrangements in market under dispute, as well as similar arrangements in other markets, “indicate[s] that [these arrangements] satisfy consumer desire and are optimally efficient”); see also *id.* ¶ 772(c)(3), at 190–91 (proposing that limiting *Aspen* to preexisting joint ventures renders scope of liability and remedies more tractable).

234. *Trinko*, 540 U.S. at 411.

holding, it implicitly recognized that proof of a monopoly over an input is a necessary condition to stating a vertical exclusion claim. The emphasis on monopoly power is further reinforced by the Court's concern that forced cooperation with rivals also risks becoming a focal point for collusion.²³⁵ In addition, the opinion accepted the reading of *Spectrum Sports* discussed above²³⁶ when it underscored that any claim that a monopolist is attempting to use the leverage provided by its monopoly to attack a second market must show "a 'dangerous probability of success' in monopolizing [the] second market."²³⁷ This language has been widely interpreted as requiring proof of market concentration and entry barriers in the secondary market before a monopolization claim will lie.²³⁸

Read together, this language represents a sweeping acknowledgement of how compelling access to bottleneck facilities may impair economic efficiency. When alternative sources of supply exist, simply allocating the resource that exists is not the best solution. The better course is to allow any supracompetitive returns to serve as the signal and the incentive for others to develop independent sources, which in turn will provide sustainable benefits to consumers without the continuing oversight of the terms and conditions of sharing by antitrust courts.

B. *The Allocation of Authority Between Antitrust Courts and Regulatory Agencies*

Trinko directed its strongest language toward the proper division of authority between antitrust courts and regulatory agencies. As an initial matter, the Court concluded that the Telecommunications Act of 1996 did not constitute an implied repeal of the antitrust laws.²³⁹ The Court noted that extensive access requirements imposed by the Telecommunications Act of 1996 were sufficiently detailed to be "a good candidate for implication of antitrust immunity, to avoid the real possibility of judgments conflicting with the agency's regulatory scheme 'that might be voiced by courts exercising jurisdiction under the antitrust laws.'"²⁴⁰ However, any such conclusion was vitiated by the fact the Act contained an antitrust savings clause specifically providing that "nothing in this Act . . . or the amendments made by this Act shall be construed to modify, impair, or supersede the applicability of any of the antitrust

235. *Id.* at 408.

236. See *supra* note 128 and accompanying text.

237. *Trinko*, 540 U.S. at 415 n.4 (quoting *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 459 (1993)).

238. See Philip E. Areeda & Herbert Hovenkamp, *Antitrust Law* ¶ 652, at 190, ¶ 773(g), at 302–03 (2d ed. Supp. 2007) (reading *Trinko* to require proof of "'dangerous probability of success' in monopolizing the second market") (quoting *Trinko*, 540 U.S. at 415 n.4); Kauper, *supra* note 35, at 1629 (noting requirement of market concentration).

239. See *Trinko*, 540 U.S. at 406.

240. *Id.* (quoting *United States v. Nat'l Ass'n of Sec. Dealers*, 422 U.S. 694, 734 (1975)).

laws.”²⁴¹ Although some lower courts had initially held that the 1996 Act represented more specific legislation that took precedence over the antitrust laws,²⁴² the Supreme Court held that the antitrust savings clause definitively foreclosed any suggestion that the 1996 Act could serve as the basis for implied antitrust immunity.²⁴³

The balance of the opinion, however, adopted a quite narrow view of antitrust courts’ institutional competence. The Court noted, “Enforced sharing . . . requires antitrust courts to act as central planners, identifying the proper price, quantity, and other terms of dealing—a role for which they are ill suited.”²⁴⁴ Moreover, the existence of a regulatory framework capable of remedying the relevant harm dictated that subjecting the conduct in question to antitrust scrutiny would yield only slight benefits.²⁴⁵ In particular, disputes over access to telecommunications networks “are difficult for antitrust courts to evaluate, not only because they are highly technical, but also because they are likely to be extremely numerous, given the incessant, complex, and constantly changing interaction of competitive and incumbent LECs implementing the sharing and interconnection obligations.”²⁴⁶ Policing this “‘death by a thousand cuts’ . . . would surely be a daunting task for a generalist antitrust court.”²⁴⁷ Also, “[j]udicial oversight under the Sherman Act would seem destined to distort investment and lead to a new layer of interminable litigation, atop the variety of litigation routes already available to and actively pursued by competitive LECs.”²⁴⁸ Furthermore, “[m]istaken inferences and the resulting false condemnations ‘are especially costly, because they chill the very conduct the antitrust laws are designed to protect.’”²⁴⁹

Because “[e]ffective remediation of violations of regulatory sharing requirements will ordinarily require continuing supervision of a highly detailed decree,” supervising access requirements “may be . . . ‘beyond the practical ability of a judicial tribunal to control.’”²⁵⁰ Indeed, the Court cited with approval Areeda’s conclusion that “[n]o court should

241. 47 U.S.C. § 152 note (2000).

242. See, e.g., *Goldwasser v. Ameritech Corp.*, 222 F.3d 390, 401 (7th Cir. 2000) (“The antitrust laws would add nothing to the oversight already available under the 1996 law. . . . [T]he 1996 Act imposes duties on the ILECs that are not found in the antitrust laws.”).

243. *Trinko*, 540 U.S. at 406.

244. *Id.* at 408.

245. *Id.* at 412–13.

246. *Id.* at 414; see also *id.* (noting that mandating access under section 2 “‘can be difficult’ because ‘the means of illicit exclusion, like the means of legitimate competition, are myriad’” (quoting *United States v. Microsoft Corp.*, 253 F.3d 34, 58 (D.C. Cir. 2001) (en banc) (per curiam))).

247. *Id.* (quoting Brief of New York et al. as Amici Curiae Supporting Respondent at 10, *Trinko*, 540 U.S. 398 (No. 02-682)).

248. *Id.*

249. *Id.* (quoting *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 594 (1986)).

250. *Id.* at 414–15 (quoting *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 223 (1993)).

impose a duty to deal that it cannot explain or adequately and reasonably supervise” and that “[t]he problem should be deemed irremedia[ble] by antitrust law when compulsory access requires the court to assume the day-to-day controls characteristic of a regulatory agency.”²⁵¹ In short, “[a]n antitrust court is unlikely to be an effective day-to-day enforcer of these detailed sharing obligations.”²⁵²

C. *Trinko’s Implications*

Although *Trinko* did not explicitly repudiate the essential facilities doctrine, commentators generally acknowledge that its reasoning certainly casts serious doubts on the doctrine’s continuing vitality.²⁵³ *Trinko* also substantially narrowed the potential for antitrust law to serve as a source of access mandates. What is less clear is just how much narrower the scope of antitrust law will be.

On the one hand, the Court’s acceptance of Areeda’s admonitions that “[n]o court should impose a duty to deal that it cannot explain or adequately and reasonably supervise” and that “[t]he problem should be deemed irremedia[ble] by antitrust law when compulsory access requires the court to assume the day-to-day controls characteristic of a regulatory agency”²⁵⁴ represents a rejection of courts’ capacity to oversee access mandates. Indeed, *Trinko’s* challenge to the courts’ institutional competence goes far beyond the critiques appearing in the earlier doctrines designed to allocate authority between courts and agencies.²⁵⁵ More than suggesting that courts should take advantage of agencies’ superior expertise and factfinding capability by postponing judicial consideration until after the agency had considered the matter, the language of

251. *Id.* at 415 (citing Areeda, *supra* note 4, at 853).

252. *Id.*

253. See, e.g., Joseph P. Bauer, Refusals to Deal with Competitors by Owners of Patents and Copyrights: Reflections on the *Image Technical* and *Xerox* Decisions, 55 DePaul L. Rev. 1211, 1228 (2006) (noting that *Trinko* called essential facilities doctrine “into serious question”); Fox, *supra* note 232, at 154 (claiming that *Trinko* “nearly obliterated” essential facilities doctrine); Damien Geradin & Robert O’Donoghue, The Concurrent Application of Competition Law and Regulation: The Case of Margin Squeeze Abuses in the Telecommunications Sector, 1 J. Competition L. & Econ. 355, 396 n.104 (2005) (arguing that *Trinko* “cast[s] serious doubt on future reliance on the ‘essential facilities’ doctrine”); Michael Jacobs, Introduction, 55 DePaul L. Rev. 1177, 1183 (2006) (noting that *Trinko* “cast[s] very serious doubt on the vitality of [the essential facilities] doctrine”); James A. Keyte, The Ripple Effects of *Trinko*: How It Is Affecting Section 2 Analysis, Antitrust, Fall 2005, at 44, 44 (noting that *Trinko* “clearly signaled that the demise of the essential facilities doctrine . . . may be on the horizon”); Roger G. Noll, “Buyer Power” and Economic Policy, 72 Antitrust L.J. 589, 613 n.47 (2005) (noting that *Trinko* “all but abandoned the essential facilities doctrine”); Howard A. Shelanski, Adjusting Regulation to Competition: Toward a New Model for U.S. Telecommunications Policy, 24 Yale J. on Reg. 55, 101 (2007) (noting “the absence . . . of a meaningful essential-facilities doctrine in U.S. antitrust law” after *Trinko*).

254. *Trinko*, 540 U.S. at 415 (quoting Areeda, *supra* note 4, at 853).

255. See *supra* Part II.B.

the *Trinko* opinion, read for all it is worth, arguably takes mandating access to essential facilities outside the scope of section 2 altogether.²⁵⁶

Alternatively, other scholars have advanced narrower readings of *Trinko*. Building on the requirement that state regulatory authorities be actively supervising the conduct in question before courts will defer to their jurisdiction,²⁵⁷ these scholars suggest that determining the proper allocation of authority between antitrust courts and regulatory agencies requires a closer assessment of the details of the regulatory regime. The stronger form of this argument, advanced by Philip Weiser, would require courts to evaluate whether the regulatory regime is “reasonably effective at addressing the relevant anticompetitive conduct” before yielding the field to an agency.²⁵⁸ Weiser’s proposal is reminiscent of earlier proposals that would assess whether particular regulatory regimes furthered particular economic goals²⁵⁹ or were the result of failures in the political process²⁶⁰ before conferring antitrust immunity. Even taken on their own terms, these proposals will require courts to determine whether a particular regulatory scheme is socially beneficial, an assessment that will vary depending on the assumptions employed. Even if measured in purely economic terms, determining the effectiveness of a regulatory program is likely to be extremely controversial, and courts are understanda-

256. See George A. Hay, *Trinko: Going All the Way*, 50 *Antitrust Bull.* 527, 528, 537, 539–47 (2005) (arguing that reasoning underlying *Trinko*, if fully adopted, renders judicial interference with unilateral refusal to deal rarely, if ever, appropriate).

257. See *supra* Part II.B.

258. Weiser, *supra* note 97, at 562.

259. See John Cirace, *An Economic Analysis of the “State-Municipal Action” Antitrust Cases*, 61 *Tex. L. Rev.* 481, 498 (1982) (arguing that antitrust immunity should be limited to “scope of the substantial market failure” at which state action displacing competition is directed); Matthew L. Spitzer, *Antitrust Federalism and Rational Choice Political Economy: A Critique of Capture Theory*, 61 *S. Cal. L. Rev.* 1293, 1318–21 (1988) (proposing economic efficiency as criterion for determining whether state or local regulation supplants antitrust laws).

260. The leading article is John Shepard Wiley, Jr., *A Capture Theory of Antitrust Federalism*, 99 *Harv. L. Rev.* 713, 764–73 (1986). For other prominent proposals, see Frank H. Easterbrook, *Antitrust and the Economics of Federalism*, 26 *J.L. & Econ.* 23, 45–46 (1983) (advocating revising state action immunity so as to promote regulatory competition among states when each state bears entire cost of its enacted regulatory scheme); Einer Richard Elhauge, *The Scope of Antitrust Process*, 104 *Harv. L. Rev.* 667, 696–729 (1991) (proposing that state action immunity be granted only to policies established by financially disinterested and politically accountable decisionmakers and rejecting capture theory as failing to articulate coherent analytical framework, inconsistent with existing doctrine, and impossible to administer); Robert P. Inman & Daniel L. Rubinfeld, *Making Sense of the Antitrust State-Action Doctrine: Balancing Political Participation and Economic Efficiency in Regulatory Federalism*, 75 *Tex. L. Rev.* 1203, 1250–71 (1997) (characterizing state action doctrine as process oriented and focusing upon promoting political participation at state level); Richard Squire, *Antitrust and the Supremacy Clause*, 59 *Stan. L. Rev.* 77, 111–23 (2006) (arguing in favor of allowing state and local governments to regulate in such fashion as to benefit interest groups only if interests of third parties are taken into account, generally through direct government management of market).

bly chary of making antitrust liability turn on their assessment of another government entity's performance. Assessing the effectiveness of political process is further complicated by the lack of any consensus normative conception of a properly functioning regulatory system that can serve as a benchmark for evaluation as well as the fact that regulation is often motivated by multiple concerns that are often openly redistributive and noneconomic in character.²⁶¹

A more modest version of this proposal can be constructed from language in the Supreme Court's opinion in *FTC v. Ticor Title Insurance Co.*, which took the position that the active supervision requirement did not require courts "to determine whether the State has met some normative standard, such as efficiency, in its regulatory practices."²⁶² Instead, in determining whether an agency was actively supervising particular conduct, courts should simply ask whether the regulation in question represents the "independent judgment and control" of the state, and "not simply . . . agreement among private parties."²⁶³ Framed in this manner, "[t]he question is not how well state regulation works but whether the anticompetitive scheme is the State's own."²⁶⁴ Under this standard, as developed by Herbert Hovenkamp, it is not necessary that the conduct in question "have been reviewed and approved by the agency"; it is sufficient if the conduct is "under ongoing study" or if the agency has "manifested its ability and will to evaluate the conduct if asked."²⁶⁵

Finally, while many observers have assumed that *Trinko* effectively eliminated section 2 liability in regulated industries such as telecommunications,²⁶⁶ some lower courts have read *Trinko* narrowly, concluding that it barred essential facilities claims, but did not invalidate other types of monopolization claims.²⁶⁷ Although these courts did not analyze the issue in these terms, a close examination of the regulatory regime erected by the Telecommunications Act of 1996 reveals the complexity of these

261. See Hovenkamp, *supra* note 4, § 20.2(b), at 740–41.

262. 504 U.S. 621, 634 (1992).

263. *Id.* at 634–35.

264. *Id.* at 635.

265. Herbert Hovenkamp, *Antitrust and the Regulatory Enterprise*, 2004 *Colum. Bus. L. Rev.* 335, 352.

266. See, e.g., Steven C. Salop, *Exclusionary Conduct, Effect on Consumers, and the Flawed Profit-Sacrifice Standard*, 73 *Antitrust L.J.* 311, 372 n.224 (2006) ("[*Trinko*] suggested . . . that the [essential facilities] doctrine would be relevant only when access to the facility is not regulated.").

267. See *Linkline Commc'ns, Inc. v. SBC Cal., Inc.*, No. 05-56023, 2007 WL 2597258, at *4–*7 (9th Cir. Sept. 11, 2007) (holding that *Trinko* foreclosed refusal to deal and essential facilities claims, but did not foreclose price squeeze claims); *Covad Commc'ns Co. v. BellSouth Corp.*, 374 F.3d 1044, 1049–50 (11th Cir. 2004) (same); *Z-Tel Commc'ns, Inc. v. SBC Commc'ns, Inc.*, 331 F. Supp. 2d 513, 535–43 (E.D. Tex. 2004) (holding that *Trinko* foreclosed essential facility claim, but did not foreclose claims based on *Aspen Skiing* and monopoly leveraging); cf. *Covad Commc'ns Co. v. Bell Atl. Corp.*, 398 F.3d 666, 670, 672–76 (D.C. Cir. 2005) (upholding dismissal of essential facilities claims, but reversing dismissal of predation claims).

issues. The Act envisions that interconnection will occur primarily through voluntary agreements negotiated by the parties.²⁶⁸ Only if those negotiations fail is the interconnection dispute submitted to binding arbitration before the state public utility commission.²⁶⁹ The fact that the terms of interconnection are more a reflection of business judgment than regulatory coercion counsels against allowing immunizing this conduct from antitrust scrutiny.²⁷⁰

D. *The Impact of Trinko's Varying Interpretations*

The importance of how broadly to read *Trinko* is underscored when one considers how it would apply to one of the most hotly debated issues of the last Congress: network neutrality. Although the various network neutrality proposals differ in their details, their basic thrust is to prohibit cable modem and digital subscriber line (DSL) providers from discriminating against any particular content, applications, or devices.²⁷¹ Formal regulatory consideration of the issue began in March 2002, when the FCC issued a declaratory ruling concluding that cable modem services were not subject to the common carriage requirements imposed on conventional telephone networks by Title II of the Communications Act of 1934 and seeking comment on whether it should impose access requirements under the ancillary jurisdiction provided by Title I.²⁷² As part of those proceedings, several industry players requested that the FCC prohibit last-mile broadband providers from imposing any restrictions on end users' ability to run the applications, attach the devices, and access the content of their own choosing.²⁷³

The inevitable judicial challenge to the FCC's declaratory ruling was not resolved until June 2005, when the Supreme Court upheld the FCC's conclusion that cable modem systems fall within the agency's ancillary jurisdiction under Title I.²⁷⁴ Two months later, the FCC extended the cable modem regulatory regime approved in *National Cable & Telecommunications Ass'n v. Brand X Internet Services* to DSL.²⁷⁵ In so rul-

268. See 47 U.S.C. § 252(a)(1) (2000).

269. *Id.* § 252(b)(1).

270. See *supra* notes 147–155 and accompanying text.

271. See Yoo, Network Neutrality and Congestion, *supra* note 109, at 1855–60 (providing overview of network neutrality debate).

272. See Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities, Declaratory Ruling and Notice of Proposed Rulemaking, 17 F.C.C.R. 4798, 4820–41 ¶¶ 34–74, 4843–48 ¶¶ 83–95 (2002).

273. See Christopher S. Yoo, Would Mandating Broadband Network Neutrality Help or Hurt Competition? A Comment on the End-to-End Debate, 3 J. on Telecomm. & High Tech. L. 23, 40–41 (2004).

274. See *Nat'l Cable & Telecomm. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 996 (2005).

275. See Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, Report and Order and Notice of Proposed Rulemaking, 20 F.C.C.R. 14853, 14856 ¶ 2 (2005) [hereinafter Wireline Broadband Access Order].

ing, the FCC declined to adopt regulations prohibiting DSL and cable modem providers from blocking or discriminating against particular content providers on the grounds that there was insufficient evidence that such practices were occurring.²⁷⁶ At the same time, the FCC issued a policy statement announcing its general support for consumers' right to access content, run applications, and attach devices as they saw fit and indicating that those principles would guide its future policymaking activities.²⁷⁷ The FCC also indicated that it would not hesitate to take action against such conduct should such evidence emerge.²⁷⁸ Indeed, just five months earlier, it had acted swiftly when a small, rural telecommunications carrier known as Madison River Communications blocked the ports that its DSL customers needed to access VoIP services.²⁷⁹ In clearing a number of recent mergers, the FCC noted the lack of record evidence that network providers were discriminating against particular content and applications providers and reaffirmed its conclusion that the broadband market was sufficiently competitive to prevent network owners from discriminating in a way that harmed economic welfare.²⁸⁰ The FCC did accept voluntary commitments regarding network neutrality offered by the parties to the SBC-AT&T, Verizon-MCI, and AT&T-BellSouth mergers as

276. *Id.* at 14862–65 ¶¶ 12–17, 14904 ¶ 96.

277. See *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Policy Statement, 20 F.C.C.R. 14986, 14987–88 ¶ 4 (2005). These principles were subject to certain exceptions, such as the needs of law enforcement and “reasonable network management.” *Id.* at 14987–88 ¶ 4 & n.15.

278. *Wireline Broadband Access Order*, *supra* note 275, at 14904 ¶ 96.

279. See *Madison River Communications, LLC*, Order, 20 F.C.C.R. 4295, 4295 (2005). Because the action against Madison River preceded its order ruling that DSL was an information service governed by Title I, the consent decree reserved the right to entertain future complaints under its Title II authority. *Id.* at 4298.

280. See *AT&T Inc. and BellSouth Corp. Application for Transfer of Control*, Memorandum Opinion and Order, 22 F.C.C.R. 5662, 5724–27 ¶¶ 116–120, 5738–39 ¶¶ 151–153 (2007) [hereinafter *AT&T-BellSouth Order*] (concluding that “the strong and increasing competition for mass market high-speed Internet access services will limit the incentives and ability of the merged entity to discriminate” and noting lack of record evidence of discrimination against any “content, service[], or application[]” provider); *Applications for Consent to the Assignment and/or Transfer of Control of Licenses, Adelphia Communications Corp., Assignors, to Time Warner Cable Inc., Assignees, et al.*, Memorandum Opinion and Order, 21 F.C.C.R. 8203, 8296–99 ¶¶ 217–223 (2006) (concluding that competition among broadband providers was sufficiently “vigorous” to protect against exclusion of Internet content, services, or applications and noting absence of evidence that access providers “willfully blocked a web page or other Internet content, service, or application” outside of context of spam prevention); *Verizon Communications, Inc. and MCI, Inc. Applications for Approval of Transfer of Control*, Memorandum Opinion and Order, 20 F.C.C.R. 18433, 18507–09 ¶¶ 139–142 (2005) [hereinafter *Verizon-MCI Order*] (arguing that customers’ ability to switch access providers reduces incentive to discriminate and that network architecture renders discrimination difficult, if not impossible); *SBC Communications, Inc. and AT&T Corp. Applications for Approval of Transfer of Control*, Memorandum Opinion and Order, 20 F.C.C.R. 18290, 18366–68 ¶¶ 140–143 (2005) [hereinafter *SBC-AT&T Order*] (same).

being in the public interest.²⁸¹ Most recently, the FCC issued a notice of inquiry seeking specific examples on any deviations from network neutrality as well as commentary on the impact of any such deviations on consumers.²⁸²

The impact of these actions on antitrust claims depends on how broadly one reads *Trinko*. The broadest reading of *Trinko* would hold that antitrust courts' institutional unsuitability to supervising access requirements would bar such claims.²⁸³ The narrowest reading would hold *Trinko* inapposite on the grounds that, unlike in *Trinko*, access to the bottleneck input was not available through regulation.²⁸⁴ Finally, the reading of *Trinko* that makes judicial authority to entertain antitrust claims turn on the effectiveness of the agency's efforts to address the anticompetitive conduct would require courts to evaluate the success and failure of the FCC's efforts. The narrower version of this approach would find it sufficient that the FCC is studying the issue and exhibited some willingness to curb deviations from network neutrality.²⁸⁵ The broader version would focus on the fact that the FCC has yet to impose any affirmative obligations on broadband providers that could directly conflict with an antitrust mandate and would also undertake a more specific assessment of the impact of the steps the FCC has taken.²⁸⁶

It is too soon to say with any certainty which of these positions will eventually emerge as the enduring reading of *Trinko*, with the early lower court decisions evincing some desire to strike a middle ground. Until that issue is resolved, it remains possible that courts will be willing to entertain claims that a telecommunications company's refusal to provide other firms with access to their networks violates the antitrust laws.

IV. *TRINKO'S* OVERLOOKED DIFFERENTIATION AMONG DIFFERENT TYPES OF ACCESS

The real possibility that antitrust law will continue to serve as a basis for compelling access to telecommunications networks counsels in favor of plumbing the *Trinko* opinion for additional indications about precisely how antitrust law might apply. The existing commentary has largely overlooked the fact that the *Trinko* opinion contains some tantalizing hints about certain considerations that may play a key role in the analysis. For

281. See AT&T-BellSouth Order, *supra* note 280, at 5726 n.339 (noting AT&T's voluntary commitment to uphold network neutrality principles); Verizon-MCI Order, *supra* note 280, 18,509 ¶ 143 (noting similar commitments by Verizon and MCI); SBC-AT&T Order, *supra* note 280, at 18,368 ¶ 144 (noting similar commitment by SBC).

282. See Broadband Industry Practices, Notice of Inquiry, 22 F.C.C.R. 7894, 7896–98 ¶¶ 8–11 (2007).

283. See *supra* notes 254–256 and accompanying text.

284. See Jonathan L. Rubin, The Truth About *Trinko*, 50 Antitrust Bull. 725, 740–41 (2005) (noting potential limitations of *Trinko* arising from its reliance upon particular regulatory scheme).

285. See *supra* notes 262–265 and accompanying text.

286. See *supra* notes 257–261 and accompanying text.

example, the language in the opinion contrasting access provided to consumers with access provided to rivals suggests that the application of the antitrust law might depend on the nature of the party to whom access is granted.²⁸⁷ The opinion also drew a distinction between access to services that are already sold into the open market and access to network elements that are only available to the public because of regulation.²⁸⁸ In addition, *Trinko* indicated that unbundled access can only be provided “at considerable expense and effort,” because network elements “exist only deep within the bowels of Verizon” and because “[n]ew systems must be designed and implemented” to make access to those network elements possible.²⁸⁹ Later in the opinion, the Court mentioned that unbundled access requirements “are difficult for antitrust courts to evaluate, not only because they are highly technical, but also because they are likely to be extremely numerous, given the incessant, complex, and constantly changing interaction of competitive and incumbent LECs implementing the sharing and interconnection obligations.”²⁹⁰ This language suggests that the application of the antitrust laws may depend on certain key aspects of the type of access sought, such as whether access is to only a portion of the network or to its entirety and whether the network owner already offers the services sought to other customers.

The problem is that the *Trinko* opinion did not analyze these considerations in a systematic manner. Equally importantly, it failed to take into account that networks are complex systems whose elements interact in ways that can be sharply discontinuous and hard to predict. The absence of an analytical framework that captures the interaction among network elements makes it impossible to assess how altering the costs of particular elements and introducing additional flows into a network can affect network design, capacity, and reliability. It also prevents any realistic assessment of the impact that different types of access can have on transaction costs.

In this Part, we employ a conceptual framework that we have developed based on a branch of mathematics known as graph theory to analyze the impact of various types of access in a way that reflects one networks’ key attributes, i.e., the manner in which the whole exceeds the sum of the parts. We begin by laying out the basic concepts of network analysis. We then deploy the five-part system for classifying different types of access that we have developed to analyze the various types of access imposed under the antitrust laws.

287. *Verizon Commc’ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 410 (2004) (“The unbundled elements . . . are . . . offered not to consumers but to rivals . . .”).

288. *Id.*

289. *Id.*

290. *Id.* at 414.

A. *Network Basics*

Graph theory models networks as consisting of two types of elements.²⁹¹ *Nodes* are the key points from which network traffic originates, terminates, or is routed. Connections between nodes are known as *links*. In a conventional wireline telephone system, nodes consist of the customer premises from which traffic originates and terminates as well as the central offices, remote terminals, and other locations in which providers maintain switching equipment. The links are the wires connecting these nodes. In the Internet, the nodes consist of the individual computers operating at the edges of the network from which traffic originates and to which traffic terminates, as well as the routers that direct traffic within the network, with links again being the wires connecting these nodes. Each network component varies in terms of cost, capacity, location, and underlying technology.

Graph theory provides tools that can help analyze network design. One basic concept in network design is the *spanning tree*, which represents the network architecture that connects all of the nodes with the fewest links.²⁹² Because the costs and capacity of different potential links and nodes vary, one basic optimization concept is to survey the entire universe of possible spanning trees to identify the *minimum spanning tree*, which is the architecture that connects all of the nodes at the least cost. The fact that the number of spanning trees increases exponentially with the number of nodes means determining cost-minimizing architecture can be quite complicated even for small networks.²⁹³ Fortunately, algorithms exist that can quickly determine which of the many spanning trees is the minimum spanning tree.²⁹⁴

The total network demand determines how many links are necessary to ensure that the network has sufficient capacity to carry all of the network flows. The availability of high-volume technologies can also change the optimal network configuration. For example, if network traffic along a particular path is sufficiently large, a network designer may find it more cost-effective to replace several low-capacity links with a single higher-capacity trunk line and allow the lower variable costs to offset the higher fixed costs of installing the more sophisticated technology.²⁹⁵

291. For our initial discussion of these principles, see Daniel F. Spulber & Christopher S. Yoo, *On the Regulation of Networks as Complex Systems: A Graph Theory Approach*, 99 *Nw. U. L. Rev.* 1687, 1693–1707 (2005) [hereinafter Spulber & Yoo, *Regulation of Networks*].

292. For a network of n nodes, a spanning tree would consist of $n - 1$ links.

293. According to Cayley's Formula, the number of different spanning trees in a network of n nodes is n^{n-2} , where n is greater than or equal to two. See Arthur Cayley, *A Theorem on Trees*, 23 *Q.J. Pure & Applied Mathematics* 376, 376 (1889). Thus for ten nodes, there are 100 million possible different spanning trees.

294. See, e.g., R.C. Prim, *Shortest Connection Networks and Some Generalizations*, 36 *Bell Sys. Tech. J.* 1389, 1398–400 (1957) (describing one such algorithm).

295. See Spulber & Yoo, *Regulation of Networks*, *supra* note 291, at 1701–03.

Cost and capacity only represent two possible measures of network performance. Networks also vary in terms of their reliability. One of the weaknesses of spanning trees is that the path connecting any two nodes is unique. Since a malfunction in any element would necessarily disconnect part of the network, cost-minimizing architectures are vulnerable to network failure. In addition, if the capacity of any network element becomes saturated, quality of service may deteriorate as traffic is forced into a queue. Greater variability of traffic flows makes guaranteeing certain levels of reliability all the more difficult. Reliability can be enhanced by adding links so that more than one path exists connecting particular nodes. While deviating from the cost-minimizing architecture, this level of redundancy protects against outright network failure as well as deterioration of network performance.²⁹⁶

The cost and capacity associated with different network components, the magnitude and variability of demand for network capacity, and consumer demand for reliability all interact to determine the optimal network configuration. Requiring a network owner to provide others with access to its network can change each of these parameters. Granting other providers the right to access portions of the network can radically change the network's optimal configuration, either by occupying a portion of the capacity of particular network elements, by effectively raising their costs, or by introducing new flows into the network.²⁹⁷ In addition, siphoning off a portion of the network flows can prevent the network owner from using trunk lines to reduce cost by aggregating traffic.²⁹⁸

Graph theory provides a basis for modeling how networks can compensate for changes in the effective cost or capacity of one network element, either by taking advantage of excess capacity or by rerouting the traffic along alternative paths. The result of this systemic process of adjustments is that changes to one part of the network can degrade the performance in areas of the network located far from the access point. In so doing, graph theory captures the extent to which networks are complex systems in which each component can only be understood in light of its relationship to other network components and the projected flows through the network.

In addition, the fact that access forces a network to interconnect with nodes outside of its own boundaries dramatically changes the transaction costs of network management. At a minimum, the fact that some traffic will originate and terminate outside the network owner's control will make obtaining the information for creating the optimal network for tomorrow's needs all the more difficult. More fundamentally, as Ronald Coase first pointed out, transaction costs determine the natural boundaries of a firm.²⁹⁹ Thus, forcing a network to interconnect with some net-

296. See *id.* at 1699–701.

297. See *id.* at 1698–99, 1709.

298. See *id.* at 1717.

299. See Coase, *supra* note 78, at 394–98.

work components that exist outside of its control interferes with the network's optimal institutional arrangement and disrupts the network's natural boundaries.

We capture some of these insights by offering a system for analyzing the impact that different types of access have on network capacity, optimal network configuration, and the transaction costs associated with network management.³⁰⁰ This system classifies access regimes into five categories: (1) retail access, (2) wholesale access, (3) interconnection access, (4) platform access, and (5) unbundled access. The different types of access are depicted in Figure 1, with networks owned as unified facilities by a particular company depicted by solid nodes and lines and networks formed through access by the combination of market transactions and network interfaces depicted by dotted lines.

The different categories of access depend on the type of entity to whom access is provided (e.g., customers, competitors, or suppliers of complementary products and services), as well as the specific network elements to which access is provided. Retail access is provided to final customers; platform access is provided to companies offering complementary services; while wholesale, interconnection, and unbundled access are provided to competitors. The categories also vary in terms of the extent of the network. Unbundled access involves isolated portions of the entire network; retail access typically involves the entire network; while wholesale, interconnection, and platform access involves the entire physical network minus certain key elements. Finally, the categories vary in terms of the type of access provided. Platform access means that the network facilities conform to a technological standard that allows other companies to provide complementary services. Interconnection access refers to reciprocal connection agreements between networks that provide access to each other's facilities, forming a larger network in the process.

As we shall see, different types of access can have different effects on the network owner's ability to manage its network in terms of cost, capacity, and reliability. In addition, the different types of access vary in terms of their transaction cost implications. Together these considerations provide a more systematic framework for courts to use when considering antitrust claims seeking access to telecommunications networks.

B. *Application of the Different Types of Access to Antitrust*

1. *Retail Access.* — *Retail access* is a right given to customers to use the services provided by the entire network.³⁰¹ It has its roots in the common law duty to serve all customers applied to common carriers. Typically, retail access takes the form of a regulatory mandate implemented

300. See Daniel F. Spulber & Christopher S. Yoo, *Network Regulation: The Many Faces of Access*, 1 J. Competition L. & Econ. 635, 638–39 (2005) [hereinafter Spulber & Yoo, *Network Regulation*].

301. For a more detailed analysis of the impact of retail access, see *id.* at 639–40, 647–50, 661–62.

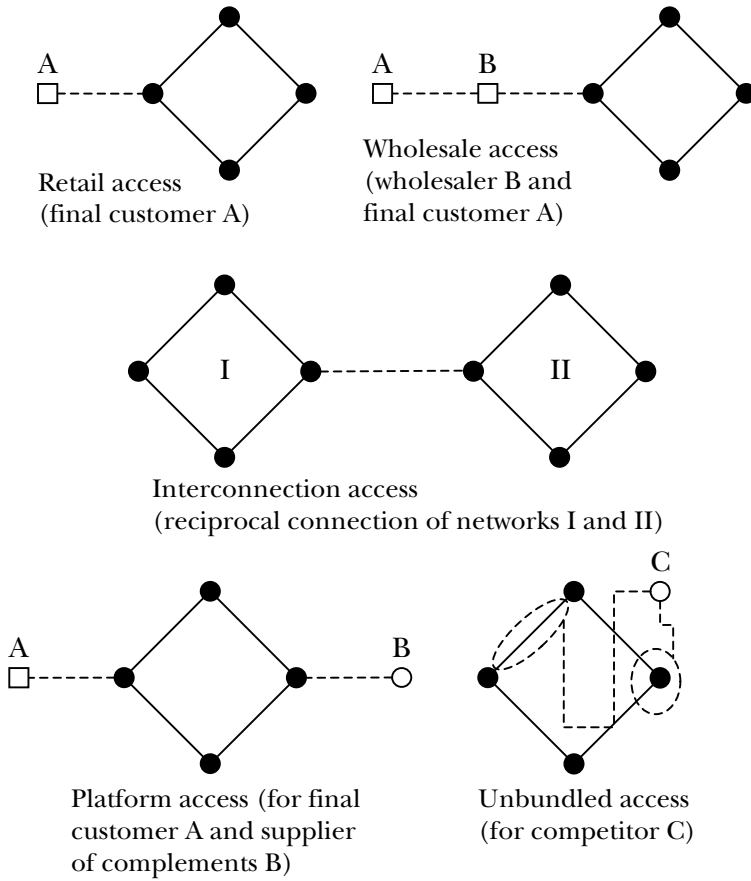


FIGURE 1. THE FIVE FORMS OF ACCESS TO NETWORKS

through public tariffs, which announce the terms under which the carrier will provide service to all comers.³⁰² In its modern form, retail access normally is justified by the theory of natural monopoly. An industry is a natural monopoly if one firm can serve the entire market demand at lower cost than could two. When that is the case, even markets that begin as competitive will eventually come to be dominated by a single player. Retail access protects consumers against denial of service under circumstances when alternative sources of supply are unlikely to exist. In order to ensure that consumers benefit from the mandated sharing of the monopoly, retail access is often accompanied by rate regulation, typically based on the cost of providing service.³⁰³

302. See *id.* at 639–40.

303. See Jim Rossi, *The Common Law “Duty to Serve” and Protection of Consumers in an Age of Competitive Retail Public Utility Restructuring*, 51 *Vand. L. Rev.* 1233, 1271–73 (1998) (discussing price regulation of public utility monopolies).

a. *The Economics of Retail Access.* — Retail access can interfere with a network owner's ability to manage its network. As noted earlier, a network owner will configure its network in a manner that minimizes costs, brings capacity into line with demand, and guarantees the appropriate level of reliability based on its prediction of the likely network demand. Should the network demand exceed forecasted levels, a network owner has four alternatives for restoring equilibrium. First, the network owner can increase network capacity. Because capacity cannot be expanded instantaneously, this solution is typically infeasible in the short run. Second, the network owner can simply refuse to meet the excess demand by limiting the service provided to existing customers and by turning away new customers. A retail access mandate prevents a network owner from employing this solution. Third, the network owner can increase retail price, which will reduce quantity demanded along the demand curve until it no longer exceeds network capacity. To the extent that the network is subject to price controls that typically accompany a retail access mandate, this solution is also foreclosed. Fourth, the network owner can restore equilibrium by degrading the quality of service. This will cause the demand curve to shift backwards until demand is brought back into balance with network capacity. While relatively unpalatable, the presence of a retail access mandate may make degradation of quality the only viable short-run option.³⁰⁴

A rational network owner faced with the infeasibility and unattractiveness of the four alternatives described above will be forced to carry excess capacity to guard against the possibility that it will gain new customers unexpectedly if its competitors fail. In effect, retail access forces the network to carry capacity as insurance against failure by its competitors, with the premium for that insurance being paid by the network's customers.³⁰⁵ The resulting deviation from the optimal network configuration inevitably results in an increase in cost. Subjecting the network to the price controls associated with retail access also has the effect of reducing incentives for upgrading the existing network and for others to build out alternative network capacity.

Retail access can also increase transaction costs by forcing network owners to gather and format the information necessary to preannounce and preclear all of their service offerings. The tariff process also imposes delays in service innovation and requires carriers to bear the costs of defending their tariff filings against challenges filed by competitors. Tariffing also facilitates oligopolistic behavior by making prices and service offerings both transparent and homogeneous. To the extent that retail access requires that all customers pay uniform rates for uniform services, it also limits network owners' ability to customize their offerings to the needs of particular customers and bars potentially welfare-enhancing

304. See Spulber & Yoo, *Network Regulation*, supra note 300, at 647–50.

305. See J. Gregory Sidak & Daniel F. Spulber, *Deregulatory Takings and the Regulatory Contract* 119–27 (1997).

forms of price discrimination. A complete analysis of the issues raised by price discrimination exceeds the scope of this Article.³⁰⁶ For our purposes, it suffices to point out that price discrimination can be particularly beneficial in industries like telecommunications, which involve large, up-front fixed costs. When fixed costs are so large relative to the variable cost that the average cost curve lies above the marginal cost curve over the entire industry output, the prices charged to individual customers must cover a portion of the fixed cost as well marginal cost. The fact that prices necessarily exceed marginal cost makes some degree of deadweight loss inevitable. Discriminatory pricing regimes, such as Ramsey pricing,³⁰⁷ can take advantage of variations in different customer's price sensitivity to minimize those deadweight losses. Customers who are extremely price sensitive (i.e., have highly elastic demands) are likely to curtail their consumption in response to a price increase to a greater degree than customers who are relatively price insensitive (i.e., have fairly inelastic demands). Firms can thus minimize deadweight loss by allocating a smaller proportion of the fixed costs on price sensitive customers and allocating a greater proportion of the fixed costs to price insensitive customers. If fixed costs are allocated in inverse proportion to each consumer's elasticity of demand, price discrimination can lead to the efficient outcome.³⁰⁸

That said, retail access is not as disruptive as other forms of access. Because access is provided only to the network in its entirety at locations that the network already serves, the traffic patterns are likely to be quite similar to those already in the network, and thus retail access may have only a minimal impact on the network's optimal configuration. Retail access also obviates the need for carriers to negotiate service contracts with each customer. In addition, because all of the traffic travels through a single network, the network owner should be able to obtain all of the information it needs to determine the optimal configuration fairly easily.

b. *Retail Access and the Courts.* — To our knowledge, no court has ever mandated retail access under the essential facilities doctrine. As noted earlier, the essential facilities doctrine requires that network owners provide *competitors* with access to the services of bottleneck *inputs*. Retail access, in contrast, provides *customers* with access to the services provided by the *entire network*. Indeed, retail access does not fit naturally with any aspect of antitrust law. As noted earlier, antitrust law does not impose liability on firms that obtain monopolies through natural features of

306. For an overview of price discrimination, see generally Hal R. Varian, Price Discrimination, in 1 Handbook of Industrial Organization, supra note 76, at 597.

307. See F.P. Ramsey, A Contribution to the Theory of Taxation, 37 Econ. J. 47, 58–59 (1927) (arguing that price should be allocated between products in inverse relation to elasticity of demand).

308. See Yoo, Network Neutrality and Congestion, supra note 109, at 1901–03.

the market.³⁰⁹ In the words of a leading court of appeals decision on the subject, “a natural monopoly market does not of itself impose restrictions on one who actively, but fairly, competes for it, any more than it does on one who passively acquires it.”³¹⁰ To hold otherwise, in the words of another leading court of appeals decision, would be to “require the impossible—a competitive market under conditions of natural monopoly.”³¹¹ In the absence of other anticompetitive behavior, such firms are generally free to charge the full monopoly price and to refuse to deal with whom-ever they wish. Indeed, if the market is a natural monopoly, retail access would simply dictate how the output of the monopoly is distributed. Not only would this require antitrust courts to make the type of regulatory assessments that *Trinko* recognized they are ill suited to perform, but, in addition, simply managing output falls outside antitrust’s purpose, which is to make markets more competitive by breaking down monopolies rather than merely requiring that they be shared.³¹²

Judicial impositions of retail access have been based not on the anti-trust laws, but rather on the common law duty to serve imposed on busi-

309. See *supra* note 13 and accompanying text. This is true regardless of whether the natural monopoly arises because of declining average costs or network economic effects. See Mark A. Lemley & David McGowan, Legal Implications of Network Economic Effects, 86 Cal. L. Rev. 479, 503 (1998) (“Courts cannot normally ‘undo’ network effects with the tools of antitrust. Network effects are an inherent part of certain markets, not a ‘market failure’ for which the law must necessarily correct.”).

310. *Union Leader Corp. v. Newspapers of New England, Inc.*, 284 F.2d 582, 584 (1st Cir. 1960).

311. *Omega Satellite Prods. Co. v. City of Indianapolis*, 694 F.2d 119, 126 (7th Cir. 1982); see also *Alaska Airlines, Inc. v. United Airlines, Inc.*, 948 F.2d 536, 548 (9th Cir. 1991) (“The Sherman Act . . . has not been interpreted to penalize natural monopolies.”); *Hecht v. Pro-Football, Inc.*, 570 F.2d 982, 990–91 (D.C. Cir. 1977) (noting that particular characteristics of natural monopoly make it unsuitable for application of antitrust laws absent predatory conduct); *Greenville Publ’g Co. v. Daily Reflector, Inc.*, 496 F.2d 391, 397 (4th Cir. 1974) (“The characteristics of a natural monopoly make it inappropriate to apply the usual rule that success in driving competitors from the market is evidence of illegal monopolization.”); *Lamb Enters., Inc. v. Toledo Blade Co.*, 461 F.2d 506, 515 (6th Cir. 1972) (“In a natural monopoly situation any successful competitor gets the market. Thus, it cannot be unreasonable, per se, to foreclose competitors from any substantial market where such foreclosure is the natural result of success in a natural monopoly situation.” (citation and internal quotation marks omitted)); *Am. Football League v. Nat’l Football League*, 323 F.2d 124, 131 (4th Cir. 1963) (“When one has acquired a natural monopoly by means which are neither exclusionary, unfair, nor predatory, he is not disempowered to defend his position fairly.”); 3 *Areeda & Hovenkamp*, *supra* note 4, ¶ 658(b), at 121 (defining and explaining natural monopoly).

312. See 3A *Areeda & Hovenkamp*, *supra* note 4, ¶ 771(b), at 171–72 (emphasizing that purpose of antitrust is to prevent and eliminate monopolies in order to improve overall welfare and noting that mere forced sharing of monopoly input fails to improve consumer welfare and decreases dynamic efficiency); James B. Speta, *Resale Requirements and the Intersection of Antitrust and Regulated Industries*, 31 J. Corp. L. 307, 319–21 (2006) (arguing that retail access requirements cannot be justified by standard purposes of antitrust).

nesses “affected with the public interest.”³¹³ This concept received its fullest exposition when the Court established in *Munn v. Illinois* that businesses affected with a public interest represented an exception to the constitutional limits on regulation imposed by the *Lochner* era conception of economic rights protected by substantive due process.³¹⁴ The Court abandoned this line of jurisprudence in its landmark opinion in *Nebbia v. New York*, in which the Court concluded that “there is no closed class or category of businesses affected with a public interest.”³¹⁵ The Court further elaborated:

In several of the decisions of this court wherein the expressions “affected with a public interest,” and “clothed with a public use,” have been brought forward as the criteria of the validity of price control, it has been admitted that they are not susceptible of definition and form an unsatisfactory test of the constitutionality of legislation directed at business practices or prices.³¹⁶

The collapse of the conceptual foundation for the common law duty to serve essentially eviscerated it as a basis for judicial imposition of retail access to telecommunications networks.³¹⁷

2. *Wholesale Access.* — *Wholesale access* is a right given to a network owner’s competitors to resell the network’s services to end users.³¹⁸ As is the case with retail access, under wholesale access the network’s elements are kept together and purchased as a whole except for certain retail merchant activities. The key distinction is that in retail access, access is provided to the customer, whereas in wholesale access, access is provided to a competitor.

a. *The Economics of Wholesale Access.* — Wholesale access has two primary effects. First, it changes the overall demand of the network, which in turn changes its cost, capacity, reliability, and optimal configuration. Wholesale access thus confronts network owners with the same quandary as retail access, complicated still further by the fact that market demand now depends on two prices—the price of wholesale access and the price of retail service—rather than just one. The existence of two prices makes the net impact on demand ambiguous.³¹⁹ To the extent that wholesale access carries with it a nondiscrimination mandate, it can also prevent

313. Yoo, *Beyond Network Neutrality*, supra note 71, at 56 (internal quotation marks omitted).

314. See 94 U.S. 113, 126 (1876).

315. 291 U.S. 502, 536 (1934).

316. *Id.*; see also *Jackson v. Metro. Edison Co.*, 419 U.S. 345, 353 (1974) (applying same reasoning in context of public utility’s refusal to serve customer).

317. See Yoo, *Beyond Network Neutrality*, supra note 71, at 56 (noting general abandonment of concept following *Nebbia*).

318. For a more detailed analysis of the impact of wholesale access, see Spulber & Yoo, *Network Regulation*, supra note 300, at 640–41, 650–56, 662–69.

319. See *id.* at 651–52.

network owners from using price discrimination to minimize welfare losses.³²⁰

Second, wholesale access takes the marketing functions outside the boundaries of the firm. Forcing the externalization of functions is problematic from the standpoint of the theory of the firm because it forces the network to deviate from the configuration that minimizes its transaction costs.³²¹ Forcing firms to externalize their marketing functions requires the creation of mechanisms to allow those invoking wholesale access to obtain the services of the network. Although the fact that the network owner already offers this service to its own customers means that systems already exist for placing orders and requesting service, wholesale access would still require that these systems be redesigned to make them accessible to outside personnel.³²²

The complexity of this analysis is demonstrated by the variety of distribution channels employed by the wireless industry, which typically sells part of its output through proprietary outlets while simultaneously selling part of its output through independent retailers, such as Circuit City, Radio Shack, and Best Buy. This system of “dual distribution,” in which output is sold simultaneously through company-owned and independent retailers, can reduce distribution costs, encourage the provision of presale services, and provide manufacturers with better information about customers’ responses to their products. Although dual distribution systems have raised anticompetitive concerns, commentators generally agree that such concerns are misplaced. In the words of one leading anti-trust scholar:

A manufacturer who has no market power cannot use dual distribution to create it. Furthermore, even a monopoly manufacturer generally cannot increase its market power by insulating its wholly-owned retail outlets, even if the effect is to injure competing, independent retailers. If the manufacturer has market power, any monopoly profits earned at the retailer level could also be earned at the manufacturer level.³²³

At the same time, dual distribution systems are less vulnerable to collusion, since concerns about double marginalization will give the manufacturer-owned outlets no incentive to participate in a cartel seeking to create market power at the retail level.³²⁴ That said, dual distribution systems are more vulnerable to free riding, since independent dealers will recognize that retail outlets owned by the manufacturer are essentially guaranteed to provide the full range of presale services. It is reasonable to expect manufacturers employing dual distribution systems to impose

320. See *supra* notes 306–308 and accompanying text.

321. See Spulber & Yoo, *Network Regulation*, *supra* note 300, at 662–69.

322. See *id.* at 666–67.

323. Hovenkamp, *supra* note 4, § 11.6(e), at 490.

324. *Id.*

territorial restrictions on independent retailers and mandate a degree of exclusivity in order to protect against free riding.³²⁵

The extent to which wholesale access would benefit consumers is thus far from clear. As noted in the passage from the Areeda and Hovenkamp antitrust treatise quoted in Part I, antitrust law typically allows manufacturers to sell their products directly if they so choose and does not require them to sell their products to other retailers at wholesale prices.³²⁶ As Areeda and Hovenkamp rightly conclude, “Why price regulation of the output should make any difference is not clear, since customers are no better off by the forced insertion of an intermediary and—if costs increase as a result—they could be worse off.”³²⁷ The only exception is if wholesale prices were regulated, in which case vertical integration into retailing might be an attempt to evade rate regulation at the wholesale level.³²⁸

b. *Wholesale Access and the Courts.* — Courts have been quite reluctant to use the antitrust laws to mandate wholesale access. The closest that the Supreme Court has come to doing so is *Otter Tail*, in which the Court required an electric power company to provide wholesale distribution of power to cities seeking to replace the retail distribution franchises they had previously granted to Otter Tail with municipally owned retail distribution power grids. The analogy to wholesale access is not perfect. By seeking to create the infrastructure needed to provide retail distribution, the cities were seeking to do more than just replace the marketing functions provided by Otter Tail.³²⁹ Even so, leading commentators have described the situation presented in *Otter Tail* as being analogous to wholesale access.³³⁰

As noted earlier, scholarly commentators have raised serious doubts about *Otter Tail*'s vitality as a precedent.³³¹ The language in *Trinko* distinguishing *Otter Tail* on the grounds that “the defendant was already in the business of providing a service to certain customers . . . and refused to provide the same service to certain other customers”³³² arguably suggests a more limited version of wholesale access. Although this reasoning does not place network owners that are not currently offering wholesale access under any obligation to provide such access, it can be read as requiring

325. *Id.*

326. See *supra* note 36 and accompanying text.

327. 3A Areeda & Hovenkamp, *supra* note 4, ¶ 787(c)(1), at 306.

328. See *id.* at 304–05.

329. See *supra* notes 31–33 and accompanying text.

330. See 3A Areeda & Hovenkamp, *supra* note 4, ¶ 787(c), at 306 (arguing that “[r]educed to essentials,” *Otter Tail*-type fact patterns amount to “the plaintiff’s claim of the right to distribute the defendant’s product, charging an intermediate markup”).

331. See *supra* notes 35–39 and accompanying text.

332. *Verizon Commc’ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 410 (2004) (citing *Otter Tail Power Co. v. United States*, 410 U.S. 366, 370–71, 377–78 (1973)).

firms that already offer wholesale access to do so on a nondiscriminatory basis.³³³

That said, attempts to turn *Otter Tail* into a basis for imposing wholesale access must come to grips with the language in *Trinko* discussing *Aspen Skiing*. According to *Trinko*, the problem in *Aspen Skiing* was not that Ski Co. refused to sell lift tickets to Highlands at *wholesale prices*, a practice Ski Co. followed without drawing any criticism from the *Trinko* Court.³³⁴ Instead, the problem was that Ski Co. was unwilling to sell lift tickets to Highlands at the *full retail price*, which the Court believed “revealed a distinctly anticompetitive bent.”³³⁵ This latter observation appears to be at least somewhat probative of anticompetitive behavior, since the literature on transfer pricing indicates that a firm that offers a product that is used both as a final good and as an input in making other goods maximizes both its profits and welfare when it charges a uniform price for the good.³³⁶ This language thus provides no support for a duty by monopolists to permit competitors to access its network at wholesale prices. At most, this language suggests that monopolists may have some duty to serve those who are willing to pay the full retail price.³³⁷ Moreover, to the extent that courts have been willing to mandate access at full retail prices, the duty has been limited to customers and has not been extended to competitors.³³⁸

Any arguments that firms providing wholesale access must do so on a nondiscriminatory basis must address the long line of Supreme Court precedent recognizing the benefit of allowing manufacturers to enter into exclusivity arrangements with certain retailers. Although the Supreme Court was once quite hostile to agreements giving preferential

333. See *Z-Tel Commc'ns, Inc. v. SBC Commc'ns, Inc.*, 331 F. Supp. 2d 513, 536–39 (E.D. Tex. 2004) (claiming that *Trinko*, through discussion of *Otter Tail*, required nondiscriminatory provision of wholesale services).

334. *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 593 (1985) (noting Ski Co.'s refusal to sell Highlands lift tickets at “tour operator's discount or at retail”).

335. *Trinko*, 540 U.S. at 409.

336. See Paul Milgrom & John Roberts, *Economics, Organization and Management* 79–83 (1992) (“[A]dopting the outside market price as the transfer price both directs divisional quantity decisions to maximize corporate profits and provides the right signals regarding performance and investment.”).

337. See *MetroNet Servs. Corp. v. Qwest Corp.*, 383 F.3d 1124, 1132–34 (9th Cir. 2004) (holding *Aspen Skiing* inapplicable when network owner is willing to sell at full retail price, even when retail price is discriminatory).

338. See *St. Louis, Iron Mountain & S. Ry. Co. v. S. Express Co.* (Express Cases), 117 U.S. 1, 26–29 (1886) (declining to impose duty upon railroads to grant access to competitors); *Pac. Tel. & Tel. Co. v. Anderson*, 196 F. 699, 703 (E.D. Wash. 1912) (acknowledging telephone companies' duty to serve consumers, but declining to extend obligation to wholesale access for competitors); Huber et al., *supra* note 89, § 1.3.1, at 13–16, § 5.1.1, at 406–08 (tracing history in which courts declined to require telephone companies to deal with competitors).

treatment to certain retailers over others,³³⁹ it has recognized over time that restrictions on *intra*brand competition can promote *inter*brand competition. As the Supreme Court reasoned in its landmark *Continental T.V., Inc. v. Sylvania* decision:

Economists have identified a number of ways in which manufacturers can use . . . restrictions [on the distribution of their products] to compete more effectively against other manufacturers. For example, new manufacturers and manufacturers entering new markets can use the restrictions in order to induce competent and aggressive retailers to make the kind of investment of capital and labor that is often required in the distribution of products unknown to the consumer. Established manufacturers can use them to induce retailers to engage in promotional activities or to provide service and repair facilities necessary to the efficient marketing of their products. . . . The availability and quality of such services affect a manufacturer's goodwill and the competitiveness of his product. Because of market imperfections such as the so-called "free rider" effect, these services might not be provided by retailers in a purely competitive situation, despite the fact that each retailer's benefit would be greater if all provided the services than if none did.³⁴⁰

The Supreme Court has reiterated these concerns in subsequent cases and has developed an elaborate jurisprudence to ensure that manufacturers remain free to enter into exclusivity agreements with some retailers and to refuse to deal with others.³⁴¹

Given the amount of information that customers interested in purchasing telecommunications services need about service plans and necessary equipment, telecommunications markets would seem susceptible to this type of market failure. Conversely, limiting network owners' ability to shift to proprietary sales forces or exclusive retail outlets would only serve to give manufacturers the incentive to vertically integrate into retailing or to enter into exclusivity arrangements from the outset, an outcome that would have the perverse effect of harming retailers.³⁴²

339. See *FTC v. Brown Shoe Co.*, 384 U.S. 316, 320–21 (1966) (rejecting exclusive dealing arrangement involving small fraction of retailers); *Standard Oil Co. v. United States (Standard Stations)*, 337 U.S. 293, 314 (1948) (striking down exclusive dealing contract that foreclosed 16% of market); *Eastman Kodak Co. v. S. Photo Materials Co.*, 273 U.S. 359, 375 (1927) (invalidating exclusive dealing contract despite absence of direct evidence of purpose to monopolize).

340. *Cont'l T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 54–55 (1977) (citation and footnote omitted).

341. See, e.g., *Bus. Elecs. Corp. v. Sharp Elecs. Corp.*, 485 U.S. 717, 723–25 (1988) (quoting above language from *Sylvania* with approval); *Monsanto Co. v. Spray-Rite Serv. Corp.*, 465 U.S. 752, 762–63 (1984) (recognizing legitimacy of using vertical restraints to limit free riding). For a discussion of other cases approving a manufacturers' shift to an exclusivity arrangement, see *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 454–55 (1993).

342. See *State Oil Co. v. Khan*, 522 U.S. 3, 16 (1997) (claiming that limitations upon vertical restraints have driven manufacturers to vertically integrate); *Bus. Elecs.*, 485 U.S. at

A wide range of justifications thus exists for providing wholesale access in a discriminatory manner and permitting producers to internalize or externalize marketing functions as they see fit. The compelling nature of these economic arguments and the weight of Supreme Court authority make the imposition of wholesale access by an antitrust court very unlikely.

3. *Interconnection Access.* — *Interconnection access* refers to reciprocal connections between networks that provide similar services to similarly situated customers.³⁴³ One example would be requiring all wireless telephone networks operating in the same area to terminate calls originating on other wireless telephone networks. Another example would be requiring top-level backbone providers to interconnect with all other top-level backbone providers.

a. *The Economics of Interconnection Access.* — Interconnection access complicates network management to a much greater degree than retail and wholesale access. Increasing the number of users causes the number of possible connections to increase geometrically.³⁴⁴ The net effect on the demand on any particular firm's network is unclear, however. Making it possible to reach other firms' customers may cause demand for network capacity to increase. On the other hand, the presence of other networks can place downward pressure on network demand, as customers substitute away and the other networks fulfill some of the functions previously provided by the primary network.

In addition, unlike retail and wholesale access, under which service is provided at points at the edge of the network where service is already available, interconnection access requires network owners to permit interconnection at new points of entry in the middle of the network, although they are likely to be at major nodes. Not only does this require designing new interfaces to permit interconnection at locations other than customers' premises; it also alters the traffic on the network by introducing flows into the network at points where flows would otherwise not occur. The resulting diversion of traffic to other networks can disaggre-

725 (arguing that imposing limitations upon vertical restraints will provide "perverse incentive for manufacturers to integrate vertically"); *Sylvania*, 433 U.S. at 57 n.26 ("To the extent that a per se rule prevents a firm from using the franchise system to achieve efficiencies . . . important to its successful operation, the rule creates an incentive for vertical integration into the distribution system, thereby eliminating to that extent the role of independent businessmen."); *Standard Stations*, 337 U.S. at 309–12 (arguing that invalidation of moderate vertical restraint may bring about more serious anticompetitive behavior); *Dr. Miles Med. Co. v. John D. Park & Sons Co.*, 220 U.S. 373, 411 (1911) (Holmes, J., dissenting) (noting that manufacturer can avoid rule against vertical price restraints by integrating vertically), overruled by *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 127 S. Ct. 2705 (2007).

343. For a more detailed analysis of the impact of interconnection access, see Spulber & Yoo, *Network Regulation*, supra note 300, at 641–42, 656–57, 669–70.

344. See Spulber & Yoo, *Regulation of Networks*, supra note 291, at 1696 (noting that network consisting of n nodes has $(1/2)n(n - 1)$ possible links).

gate traffic to the point where it is no longer economical to take advantage of the scale economies provided by higher volume networking technologies.³⁴⁵ The fact that traffic now originates and terminates outside of a single network also increases the cost of obtaining the information necessary for network planning and creates the possibility of strategic behavior to take advantage of the information asymmetries.³⁴⁶

The impact of interconnection access on total network demand is complicated by the presence of “network economic effects,” which arise when the value of a network increases with the number of end users connected to it.³⁴⁷ The increase in value caused by providing customers with access to the customers of other networks can cause network traffic to increase relative to a noninterconnected network. At the same time, the fact that some traffic now originates and terminates outside the incumbent’s network raises the possibility of diversion of traffic below the levels that would exist under retail and wholesale access, in which all traffic originates and terminates on a single network. The impact of interconnection access on the demand for network services is thus ambiguous.

Some commentators have also warned that networks can harm competition by refusing to engage in interconnection access.³⁴⁸ Network economic effects are often described as giving rise to demand-side economies of scale. In the absence of interconnection, customers will naturally flock to the largest network. Once the market reaches its tipping point, the value of the network of the dominant player will so far outstrip that of its competitors that the market collapses into a natural monopoly. Once tipped, the difficulties that new entrants face in generating sufficient volume to untip the market can cause the resulting monopoly to become locked in.

345. See Spulber & Yoo, *Network Regulation*, supra note 300, at 656–57.

346. See *id.* at 669–70.

347. For an overview of the associated literature, see Daniel F. Spulber & Christopher S. Yoo, *Access to Networks: Economic and Constitutional Connections*, 88 *Cornell L. Rev.* 885, 921–33 (2003) [hereinafter Spulber & Yoo, *Access to Networks*].

348. See Nicholas Economides et al., *Regulatory Pricing Rules to Neutralize Network Dominance*, 5 *Indus. & Corp. Change* 1013, 1014 (1996) (discussing incumbent carriers’ incentive to refuse to interconnect); Gerald R. Faulhaber, *Bottlenecks and Bandwagons: Access Policy in the New Telecommunications*, in 2 *Handbook of Telecommunications Economics* 487, 502–03 (Sumit K. Majumdar et al. eds., 2005) [hereinafter Faulhaber, *Bottlenecks and Bandwagons*] (describing how dominant firm can use refusal to interconnect to harm competition); Eli M. Noam, *Will Universal Service and Common Carriage Survive the Telecommunications Act of 1996?*, 97 *Colum. L. Rev.* 955, 973–74 (1997) (discussing means by which firms can use refusals to interconnect to harm competition when markets are not competitive); Shelanski, supra note 253, at 99–100 (arguing that incumbents with asymmetric market share have little incentive to interconnect); James B. Speta, *A Common Carrier Approach to Internet Interconnection*, 54 *Fed. Comm. L.J.* 225, 268–79 (2002) (arguing in favor of interconnection requirement for Internet carriers); Kevin Werbach, *Only Connect*, 22 *Berkeley Tech. L.J.* (forthcoming 2007) (manuscript at 9, on file with the *Columbia Law Review*) (arguing in favor of mandating interconnection).

Network owners presented with a request for interconnection access are thus subject to conflicting impulses. Interconnection would enable its customers to reach a larger number of other end users, which would increase the value of its network. Refusing to interconnect, on the other hand, would lead to a race to become the dominant player. Firms will choose among these conflicting strategies based on the skewness of the potential returns from winning and losing the resulting competition and the likelihood that they will emerge as the dominant player.³⁴⁹

Because so much of the literature on network economic effects focuses on the potentially anticompetitive consequences of tipping and lock-in, it is often overlooked that the primary effect of network economic effects is to provide powerful incentives in favor of interconnection.³⁵⁰ For example, in a market in which five equally sized players are already interconnected, any player that refused to interconnect would put itself at a tremendous competitive disadvantage.³⁵¹ In addition, commentators from a wide range of perspectives acknowledge that lock-in is less likely in markets undergoing rapid growth, in which new entrants will be able to compete for new users.³⁵² Conversely, the formal models dem-

349. See Stanley M. Besen & Joseph Farrell, *Choosing How to Compete: Strategies and Tactics in Standardization*, *J. Econ. Persp.*, Spring 1994, at 117, 119–21 (discussing choice between competing to become dominant standard and voluntary cooperation with competitors). For an application to broadband, see generally Woroch, *supra* note 91.

350. See Michael L. Katz & Carl Shapiro, *Systems Competition and Network Effects*, *J. Econ. Persp.*, Spring 1994, at 93, 105 [hereinafter Katz & Shapiro, *Systems Competition*] (noting that “[i]n markets with network effects, there is natural tendency toward de facto standardization”).

351. See Faulhaber, *Bottlenecks and Bandwagons*, *supra* note 348, at 501–02; see also Nicholas Economides, *The Economics of the Internet Backbone*, in 2 *Handbook of Telecommunications Economics*, *supra* note 348, at 373, 390 (recognizing that network economic effects give firms strong incentives to interconnect); Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 *Am. Econ. Rev.* 424, 429 (1985) (noting that “[a]s the number of firms becomes increasingly large,” equilibrium in which all firms interconnect converges to perfectly competitive equilibrium). The theoretical literature does suggest that a network providing service under a caller-pays regime may nonetheless be able to use its control over interconnection to harm competition even though it faces competition. When the calling party pays, the originating network must compensate the terminating network through some form of access charge. In essence, originating networks make contributions to a common pool that is used to compensate terminating networks. Terminating networks that are free to negotiate their own access charge arrangements have the incentive to free ride on the contributions of others by withdrawing a disproportionate amount from the common pool. This problem need not be solved by mandating interconnection access. It can also be solved through a system of reciprocity, or any form of uniform access charges, including benchmarking and central office bill and keep. For a more complete discussion, see Yoo, *What Can Antitrust Contribute*, *supra* note 62, at 519–21.

352. See Michael L. Katz & Carl Shapiro, *Product Introduction with Network Externalities*, 40 *J. Indus. Econ.* 55, 67, 73 (1992) (showing that exponential market growth renders lock-in impossible); S.J. Liebowitz & Stephen E. Margolis, *Should Technology Choice Be a Concern of Antitrust Policy?*, 9 *Harv. J.L. & Tech.* 283, 312 (1996) (noting that markets can overcome lock-in “[i]f a market is growing rapidly” and thus “the number of users who have made commitments to any standard is small relative to the number of

onstrating how refusal to interconnect can harm competition have generally been based on duopoly and dominant firm market structures.³⁵³ In the absence of such market concentration, a firm cannot plausibly use its interconnection policies to harm competition. Even if risks of anticompetitive conduct exist, private ordering offers a variety of potential solutions aside from regulation.³⁵⁴ Furthermore, mandating access in an attempt to redress such anticompetitive problems risks delaying entry by additional providers and inducing the adoption of inefficient network technology.³⁵⁵ Thus, when markets are sufficiently competitive, imposing interconnection access is superfluous at best and may even be harmful.

This conclusion is reflected in the FCC's current policy toward wireless-to-wireless interconnection, in which the FCC has concluded that, in the absence of a dominant player, competition already provides wireless providers with sufficient incentives to interconnect.³⁵⁶ The FCC took a similar position with respect to backbone interconnection when approving the Verizon-MCI and SBC-AT&T mergers, concluding that "[s]o long as there is 'rough equality' among backbone providers, each has an incentive to peer with the others to provide universal connectivity to the Internet."³⁵⁷ It reiterated this position when approving AT&T's acquisition of BellSouth.³⁵⁸ Conversely, in approving WorldCom's acquisition of MCI, the FCC was concerned that the merged company would have a sufficiently dominant market share to harm competition in the backbone market. Consequently, the FCC made divestiture of MCI's backbone bus-

future users"); Carl Shapiro, *Aftermarkets and Consumer Welfare: Making Sense of Kodak*, 63 *Antitrust L.J.* 483, 490 (1995) ("A manufacturer will find installed-base opportunism less attractive, the greater is the growth rate of the market . . ."); cf. Joseph Kattan, *Market Power in the Presence of an Installed Base*, 62 *Antitrust L.J.* 1, 8, 11 (1993) (noting that lock-in is most likely when "the installed base is large relative to the population of 'new' buyers" and that ability to exercise market power depends upon "ratio of 'locked-in' customers to 'new' purchasers").

353. See Besen & Farrell, *supra* note 349, at 119–29 (examining interconnection payoffs in duopoly model); Jacques Crémer, Patrick Rey & Jean Tirole, *Connectivity in the Commercial Internet*, 48 *J. Indus. Econ.* 433, 448–53 (2000) (same); Michael L. Katz & Carl Shapiro, *Technology Adoption in the Presence of Network Externalities*, 94 *J. Pol. Econ.* 822, 824 (1986) (examining "industry evolution in a market with technological change where there are two inherently incompatible technologies").

354. See Spulber & Yoo, *Access to Networks*, *supra* note 347, at 928–29.

355. See Woroch, *supra* note 91, at 722–23, 733–41.

356. *Interconnection & Resale Obligations Pertaining to Commercial Mobile Radio Servs.*, Fourth Report and Order, 15 F.C.C.R. 13523, 13534 ¶ 28 (2000).

357. Verizon-MCI Order, *supra* note 280, at 18496 ¶ 118; SBC-AT&T Order, *supra* note 280, at 18354 ¶ 117; accord Michael Kende, *The Digital Handshake: Connecting Internet Backbones* 18–22, 31–32 (FCC Office of Plans & Pol'y, Working Paper No. 32, Sept. 2000), available at http://www.fcc.gov/Bureaus/OPP/working_papers/oppwp32.pdf (on file with the *Columbia Law Review*) (arguing that larger market participants have incentive to offer interconnection services to smaller competitors for fee, if not to interconnect as peers).

358. See AT&T-BellSouth Order, *supra* note 280, at 5731 ¶ 129, 5734–36 ¶¶ 140–144.

iness a condition to its approval of the merger.³⁵⁹ At the same time, the FCC declined to mandate interconnection as a separate merger condition. The divestiture of MCI's backbone business ensured that the market would remain sufficiently competitive to make direct regulation of interconnection unnecessary.³⁶⁰

The theoretical literature does identify one scenario in which participants in a market without a dominant player may nonetheless refuse to interconnect. If the market consists of two players of equal size, they may reject compatibility and instead engage in a race for the market.³⁶¹ Interestingly, though, this type of competition does not necessarily lead to the delays in technology adoption and supracompetitive returns associated with refusals to interconnect by dominant firms.³⁶² It also has the virtue of promoting the rapid buildout of new network technologies.

The nature of this type of competition is illustrated by the often overlooked competitive era in local telephone service that began when the initial Bell patents lapsed in 1894. During this period, entry by new local telephone companies eroded the Bell monopoly, with the independents capturing 51% of the market by 1907.³⁶³ After that point, the independent telephone movement declined steadily until, by the time of the enactment of the Communications Act of 1934, the Bell System once again controlled over 80% of the nation's local telephone lines.³⁶⁴

Many scholars mistakenly suggest that the demand-side economies of scale associated with network economic effects allowed the Bell System to drive its competitors out of business simply by refusing to interconnect with them.³⁶⁵ A close analysis of the market conditions renders this perspective implausible. Because the independents had captured roughly

359. See Application of WorldCom, Inc. and MCI Communications Corp. for Transfer of Control of MCI Communications Corp. to WorldCom, Inc., Memorandum Opinion and Order, 13 F.C.C.R. 18025, 18108–11 ¶¶ 150–151 (1998).

360. *Id.* at 18115 ¶ 155.

361. See Besen & Farrell, *supra* note 349, at 122–24 (analyzing ways in which competition between two incompatible networks might unfold).

362. See *id.* at 119–20, 122–24 (noting how competition between incompatible networks can accelerate as well as delay market growth, may dissipate any supracompetitive returns, and may lead to penetration pricing and long-term commitments to lower prices).

363. See Robert Bornholz & David S. Evans, *The Early History of Competition in the Telephone Industry*, in *Breaking Up Bell: Essays on Industrial Organization and Regulation* 7, 13 (David S. Evans ed., 1983); see also Richard Gabel, *The Early Competitive Era in Telephone Communications, 1893–1920*, 34 *Law & Contemp. Probs.* 340, 344 (1969) (reporting 3.0 million independent lines in 1907, compared with 3.1 million Bell lines).

364. See Gerald W. Brock, *The Telecommunications Industry* 177 (1981).

365. See, e.g., Mark A. Lemley, *Antitrust and the Internet Standardization Problem*, 28 *Conn. L. Rev.* 1041, 1046 n.19 (1996) (arguing that refusal to interconnect allowed AT&T to reassert dominance after telephone service became competitive in 1890s); Shelanski & Sidak, *supra* note 203, at 8 (“The history of local telephone service in the first decades of the twentieth century, during which AT&T refused to connect with independent competitors, illustrates how [network economic effects] can lead to monopoly.”).

half of the market by 1907, the independents could have defeated whatever advantage the Bell System might have gained from its refusal to interconnect simply by banding together to make a network of equal size.³⁶⁶ The traditional account is also belied by the business strategy pursued by the independents. If the Bell System had been in a dominant position, one would have expected the independents to have been clamoring to interconnect with it. In fact, the independents did not want to interconnect with the Bell System any more than the Bell System wanted to interconnect with the independents.³⁶⁷ In many cases, having been the first to establish connections to surrounding areas, the independents were able to use network economic effects to their advantage.³⁶⁸ Any suggestion that the Bell System was able to use refusal to interconnect as a competitive weapon is further belied by the fact that the Bell System began to regain its dominance only after it abandoned its policy of refusing to interconnect with the independents.³⁶⁹

The more careful histories of the era reveal that between 1893 and 1907, the Bell System and the independent telephone systems engaged in

366. See Roger G. Noll & Bruce M. Owen, *The Anticompetitive Uses of Regulation: United States v. AT&T*, in *The Antitrust Revolution* 290, 292 (John E. Kwoka, Jr. & Lawrence J. White eds., 1989). Noll and Owen suggest that it was the Bell System's control of certain long distance patents that allowed it to reassert its dominance. See *id.* at 292; see also Brock, *supra* note 364, at 117–19 (arguing that AT&T's eventual success in developing long distance technology provided competitive advantage over geographically isolated rivals); Gerald R. Faulhaber, *Telecommunications in Turmoil* 3–5 (1987) [hereinafter Faulhaber, *Telecommunications in Turmoil*] (arguing that AT&T's control of superior long distance technology made assets of independent providers more valuable to AT&T than to other entities, bringing about eventual sale to AT&T); John V. Langdale, *The Growth of Long-Distance Telephony in the Bell System: 1875–1907*, 4 *J. Hist. Geography* 145, 155 (1978) (arguing that AT&T's technological advantage in long distance market, reinforced by network effects, created corresponding advantage in local markets). The argument that superior long distance service could provide a key competitive advantage is belied by the fact that interstate calls constituted less than half a percent of all telephone traffic. See *Smith v. Ill. Bell Tel. Co.*, 282 U.S. 133, 147 (1930). Even contemporary businessmen conceded that long-haul long distance traffic was “of little commercial or social importance.” For short-haul long distance traffic, AT&T and the independents were using the same technology. AT&T's real advantage lay not in technology, but rather in its ability to leverage its greater regional density and better coordination to provide superior short-haul long distance service. See Milton L. Mueller, Jr., *Universal Service* 72–76 (1997).

367. See Mueller, *supra* note 366, at 10, 51, 78–79, 115–17, 121–22 (describing independent opposition to interconnection); Bornholz & Evans, *supra* note 363, at 25–27 (same); Gabel, *supra* note 363, at 353–54 (same).

368. See Mueller, *supra* note 366, at 55–60 (describing independent telephone companies' initial acquisition of dominant market shares in rural areas, small cities, and suburban areas).

369. See *id.* at 76–80, 107–10 (describing AT&T's success in regaining dominant position through liberalization of interconnection with key independent phone companies); David F. Weiman & Richard C. Levin, *Preying for Monopoly? The Case of Southern Bell Telephone Company, 1894–1912*, 102 *J. Pol. Econ.* 103, 115, 118 (1994) (describing Southern Bell's use of interconnection with select independent phone companies to regain dominant position).

what amounted to a race for the market by investing heavily in providing service to the smaller cities, suburbs, and rural areas that the Bell System's focus on long distance commercial traffic had caused it to bypass.³⁷⁰ By 1907, the Bell System recognized that its attempt to outbuild the independents had failed. The Morgan banking interests that took over the Bell System installed Theodore Vail as president and turned to a strategy that has long been part of the anticompetitive arsenal: merger to monopoly. If an independent refused to merge, the Bell System would instead adopt the equally classic anticompetitive practice of dividing the market with the independent by offering to withdraw from the territory in return for the independent's promise to restrict its activities to a "small and compact" territory and to interconnect exclusively with the Bell System's long distance network.³⁷¹ Dividing the markets gave both the Bell System and the independents a welcome respite from the rigors of competition. Unlike competing telephone systems, geographically isolated monopolists that are restricted to their service areas have strong incentives to interconnect, since doing so increases the value of their systems without affecting the level of competition.³⁷² The biggest problem with the disappearance of competition was pricing. Therefore, the Bell System dropped its previous opposition to government intervention and instead embraced regulation as an alternative to competition as a means for reining in price.³⁷³ As part of this regulatory compact, the Bell System insisted on protection against entry.³⁷⁴

The antitrust authorities and the independents were initially quite skeptical of the Bell System's new strategy. This change in tactics prompted the federal government to bring its first major antitrust suit against the Bell System, which was ultimately settled by the so-called Kingsbury Commitment, named after the AT&T vice president who negotiated the terms of the consent decree with Attorney General J.C. McReynolds.³⁷⁵ Under the Kingsbury Commitment, the Bell System agreed to stop acquiring independent local telephone companies with

370. See Mueller, *supra* note 366, at 39–42, 55–60, 70–71, 74–75 (describing AT&T's attempts to provide service to rural and residential areas and small cities it initially neglected, as well as independent telephone companies' extensive development of such markets); Gabel, *supra* note 363, at 344–45 (describing "vigorous pursuit of new markets" by both AT&T and independents between 1895 and 1907).

371. Weiman & Levin, *supra* note 369, at 118 (internal quotation marks omitted); see also Mueller, *supra* note 366, at 78, 107–13 (describing AT&T's practice of interconnecting with key independent local telephone companies).

372. See Noam, *supra* note 348, at 973.

373. See Mueller, *supra* note 366, at 99–100, 127–28 (describing AT&T's 1907 embrace of both local and national regulation as justification for permitting reestablishment of monopoly); Gabel, *supra* note 363, at 355–58 (same); Weiman & Levin, *supra* note 369, at 120–25 (same).

374. See Gabel, *supra* note 363, at 355–58.

375. See Letter from Nathan C. Kingsbury, Vice President, AT&T Co., to Attorney General J.C. McReynolds (Dec. 19, 1913), *in* AT&T Co., 1913 Annual Report 24, 24–26 (1914) [hereinafter Kingsbury Commitment]; see also Faulhaber, *Telecommunications in*

which it competed, although the agreement permitted the Bell System to acquire independent local telephone companies operating in areas that it did not serve.³⁷⁶ AT&T also agreed to allow the independent telephone companies to interconnect with its long distance network.³⁷⁷ Although the Kingsbury Commitment ostensibly forbade the Bell System from acquiring competing independent telephone systems, the government immediately backtracked on this position, announcing that the settlement was not meant to prevent communities from eliminating dual service if they so chose.³⁷⁸ In practice, the government permitted Bell acquisitions of competing independents so long as the Bell System and the independents swapped lines so that neither obtained a net increase in total subscribers.³⁷⁹ As a result, during the time the Kingsbury Commitment was in effect, the federal government nonetheless approved the Bell System's acquisition of a total of 241,000 additional stations while transferring 58,000 stations to the independents.³⁸⁰ The result was a division of markets in which both the Bell System and the independents ended up with a monopoly within their service areas.

In the end, the regulatory regime created by the Kingsbury Commitment was abolished (with the full support of the independents) by the enactment of the Willis-Graham Act, which immunized telephone mergers from antitrust scrutiny.³⁸¹ Instead, antitrust mergers would be reviewed by the Interstate Commerce Commission (ICC), which effectively became a rubber stamp that approved essentially all telecommunications mergers.³⁸² During this period, both the Bell System and the independents also endorsed rate regulation of local telephone services by state public utility commissions.³⁸³

Turmoil, *supra* note 366, at 6, 18 n.6 (discussing resolution of government suit and involvement of Kingsbury therein).

376. See Kingsbury Commitment, *supra* note 375, at 24.

377. See *id.* at 25.

378. See *United States v. AT&T Co.*, No. 6082 (D. Or. Sept. 7, 1914) (order modifying decree) (authorizing AT&T's acquisition of competing local telephone company in Spokane), reprinted in *Decrees and Judgments in Federal Anti-Trust Cases*, July 2, 1890–January 1, 1918, at 497 (Roger Shale ed., 1918).

379. See Mueller, *supra* note 366, at 133–34.

380. See Gabel, *supra* note 363, at 353.

381. See Ch. 20, 42 Stat. 27 (1921).

382. See Bureau of Statistics, Interstate Commerce Comm'n, *Interstate Commerce Commission Activities, 1887–1937*, at 201 (1937) (reporting that out of 288 merger applications, “281 were approved, 4 were withdrawn, and 3 denied”); Glen O. Robinson, *The Federal Communications Act: An Essay on Origins and Regulatory Purpose*, in *A Legislative History of the Communications Act of 1934*, at 3, 8 n.25 (Max D. Paglin ed., 1989) (noting AT&T submission reporting ICC approval of 272 out of 275 proposed mergers).

383. Mueller, *supra* note 366, at 99–100 (describing AT&T's newfound commitment to government regulation); Gabel, *supra* note 363, at 357 (noting AT&T's “promotion of regulatory authority in utility commissions” and provision of “legislative consultants to ‘help and advise’ state . . . legislators”); Robinson, *supra* note 382, at 6–7 (noting support

This history underscores the extent to which refusal to interconnect need not be anticompetitive. It may also yield some insights into current broadband policy. It suggests that refusing to require interconnection could foster a race for the market between cable modem and DSL that could help meet the FCC's and state public utility commissions' statutory obligations to "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans."³⁸⁴ The primary worry is that the race logically ends with one of the two competitors emerging as the dominant player.³⁸⁵ An end result with a single dominant player, as noted earlier, no longer becomes a stable outcome if a third (and possibly a fourth) competitor emerges. According to *Trinko*, therefore, solutions that alter market structure to make them competitive are preferred to solutions like interconnection access, which require continuing price regulation.³⁸⁶ Furthermore, as the ongoing deployment of broadband fiber optic service demonstrates, the pace of technological change may dictate that the winner of an initial race may find its dominance destabilized by a new race to deploy a new technology.³⁸⁷

Skepticism about mandating interconnection access does not require embracing this Schumpeterian vision of competition. As one of us has argued at length elsewhere, networks may deviate from perfect interoperability in order to distinguish their service offerings from those of their competitors. Not only does this differentiation allow the network to provide new services that depend on a different network architecture, but it also allows multiple players to survive notwithstanding the presence of supply-side and demand-side economies of scale through a niche strategy that targets subsegments of the market that place a particularly high value on different types of network services.³⁸⁸ The result is not the promotion of *vertical* competition in which a succession of monopolists competes for the market, but rather the enhancement of more conventional *horizontal* competition in which multiple providers compete *in* the market.³⁸⁹

b. *Interconnection Access and the Courts.* — Interconnection access claims have not fared well under antitrust law, even when asserted against a dominant firm. For example, the literature often ignores the fact that MCI's private antitrust suit against AT&T involved two distinct essential facilities doctrine claims. The more celebrated claim, which we discuss in greater detail in the next section, involved what we call platform access, in which MCI sought access to a monopoly input controlled by AT&T

for regulation as means for avoiding "vigorous competition" among both AT&T and independent telephone companies).

384. 47 U.S.C. § 157 note (2000).

385. See Mueller, *supra* note 366, at 25.

386. See *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 414–15 (2004).

387. See Faulhaber, *Bottlenecks and Bandwagons*, *supra* note 348, at 506–08.

388. See Yoo, *Beyond Network Neutrality*, *supra* note 71, at 27–37 (arguing that network differentiation allows smaller service providers certain competitive advantages).

389. See *id.* at 58–60.

(local telephone service) in order to sell a complementary service (long distance telephone service).³⁹⁰ The often-overlooked claim is that MCI also sought to interconnect its long distance network with portions of AT&T's long distance network that reached areas that it did not yet serve. In this claim, MCI did not seek access to AT&T's network to sell complementary services. Instead, it sought connection with the larger network in order to sell the same services to similarly situated customers.³⁹¹ Its concern was that its smaller network size put it at a competitive disadvantage. As a result, it sought interconnection to put itself on an equal footing with AT&T. The court of appeals overturned a jury verdict in favor of MCI on the interconnection access claim for the simple reason that "[t]here was no sufficient explanation as to why MCI, on the one hand, was building its own network, and, on the other, was entitled to access in the interim to AT&T's facilities."³⁹²

At first glance, this answer seems somewhat anomalous. AT&T was clearly a dominant firm and thus arguably posed a serious anticompetitive threat. The court's focus on the supply-side feasibility of constructing alternative network capacity ignored the demand-side scale economies associated with network economic effects. If refusing to allow MCI to interconnect with AT&T's long distance network prevented MCI's customers from calling AT&T's customers, the demand-side scale economies would reinforce AT&T's market dominance regardless of the feasibility of constructing a second long distance network.

The solution to this puzzle lies in the fact that AT&T did not have complete control over long distance calls placed by its subscribers. Long distance calls also require the services of local telephone companies. Those local telephone companies were required by a D.C. Circuit interpretation of the specialized common carrier tariff that AT&T filed with the FCC to terminate calls from MCI as well as AT&T,³⁹³ a conclusion that would later be reinforced by the "equal access" provisions of the decree ordering the breakup of AT&T.³⁹⁴ The fact that the local telephone company, rather than AT&T, controlled access to the customer meant that AT&T could not prevent MCI's customers from calling AT&T's customers simply by refusing to allow MCI to interconnect with its long distance network. The regulatory and antitrust obligations that prevented local telephone companies from discriminating against MCI made mandating interconnection access unnecessary.

390. See *MCI Commc'ns Corp. v. AT&T Co.*, 708 F.2d 1081, 1132–33 (7th Cir. 1983).

391. See *id.* at 1147.

392. *Id.* at 1148.

393. See *MCI Telecomms. Corp. v. FCC*, 580 F.2d 590, 594–99 (D.C. Cir. 1978); *MCI Telecomms. Corp. v. FCC*, 561 F.2d 365, 378–79 (D.C. Cir. 1977).

394. See *United States v. AT&T Co.* (Modification of Final Judgment), 552 F. Supp. 131, 195–200 (D.D.C. 1982) (noting that operating companies will be required to provide third parties with services equivalent to those provided to AT&T and its affiliates), *aff'd mem. sub nom. Maryland v. United States*, 460 U.S. 1001 (1983).

The closest analogue to interconnection access in Supreme Court precedent is *Aspen Skiing*. Recall that in *Aspen Skiing*, the owner of one ski area sought to compel the owner of three other ski areas located near Aspen, Colorado, to continue marketing a multi-area pass good for all four facilities.³⁹⁵ Although skiing facilities are not usually regarded as networks, it is possible to conceive of this arrangement as a form of interconnection access. The fact that the courts found Ski Co. liable thus provides some doctrinal support for mandating interconnection access.

As noted earlier, *Aspen Skiing* has been heavily criticized.³⁹⁶ Indeed, the *Trinko* Court distanced itself from *Aspen Skiing*, calling it “at or near the outer boundary” of antitrust liability.³⁹⁷ After *Trinko*, *Aspen Skiing* can at most be read as imposing some obligation to assert a valid business justification before discontinuing a preexisting business relationship and refusing to allow a competitor to resell a monopolist’s services at the full retail price.³⁹⁸ The Supreme Court thus flatly rejected the idea that *Aspen Skiing* could serve as the basis for granting access to a competitor with whom the network owner has not previously done business. There is thus little reason to believe that a court will mandate interconnection access.

4. *Platform Access*. — *Platform access* requires network owners to open their networks to providers of complementary services sold through the network.³⁹⁹ It requires a network owner to provide carriage to any provider of a complementary service that presents its traffic at a designated interface in a standardized format.⁴⁰⁰ The early cases involved requests to force local telephone systems to open their networks to providers of long distance, information services, and CPE.⁴⁰¹ The current debate over network neutrality focuses on compelling broadband systems to provide platform access to all Internet content and applications providers.⁴⁰²

a. *The Economics of Platform Access*. — It is widely recognized that network owners already possess powerful incentives to provide platform access.⁴⁰³ That is because enabling customers to reach the broadest possi-

395. See *supra* notes 40–43 and accompanying text.

396. See *supra* notes 46–50 and accompanying text.

397. *Verizon Commc’ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 409 (2004).

398. See *id.* (contrasting Ski Co.’s prior willingness to conduct business at retail price with Verizon’s reluctance ever to do so).

399. For a more detailed analysis of the impact of platform access, see Spulber & Yoo, *Network Regulation*, *supra* note 300, at 643–45, 657–58, 670–71.

400. See Yoo, *Network Neutrality and Congestion*, *supra* note 109, at 1896 (discussing regulatory requirements necessary for network neutrality).

401. The classic example is, of course, the government’s 1974 case that led to the breakup of AT&T. See *United States v. AT&T Co. (Modification of Final Judgment)*, 552 F. Supp. 131, 195–97 (D.D.C. 1982), *aff’d mem. sub nom. Maryland v. United States*, 460 U.S. 1001 (1983). For other examples, see the cases cited in *supra* notes 151, 160–161, and 178.

402. See Yoo, *Network Neutrality and Congestion*, *supra* note 109, at 1850–51.

403. As Joseph Farrell and Philip Weiser note, “the platform monopolist has an incentive to be a good steward of the applications sector for its platform.” Farrell &

ble range of complementary services generally represents the best way to maximize the network's value (and thus the amount that the network owner can charge for service).

At the same time, the standardization implicit in platform access imposes a number of costs. For example, standardization decreases welfare by reducing product variety by "prevent[ing] the development of promising but unique and incompatible new systems."⁴⁰⁴ Indeed, incompatible networks may simply represent the natural outgrowth of heterogeneous consumer preferences.⁴⁰⁵ Equally importantly, the nature of the protocol on which the network standardizes has the inevitable effect of favoring some applications and disfavoring others. Consider TCP/IP, which represents the de facto standard protocol for the Internet. One of TCP/IP's distinguishing features is that it routes packets on a "first come, first served" basis without giving priority to traffic associated with any particular application. TCP/IP also routes traffic on a "best efforts" basis without any guarantee as to if or when the packets will actually arrive.⁴⁰⁶ While such an approach was appropriate for applications such as e-mail and web browsing, in which delays of half of a second are virtually unnoticeable, it is less well suited to emerging applications such as streaming media, online gaming, and VoIP, which are extremely sensitive to delay.⁴⁰⁷

Standardization also has the inevitable effect of commoditizing network services. By preventing service differentiation, platform access forces network owners to compete solely based on price and network size, which are considerations that reinforce the advantages enjoyed by the largest players. Differentiation can play a particularly important role in industries like telecommunications, in which the presence of fixed costs that are large relative to marginal costs forces network providers to produce on the declining portion of the average cost curve. As Edward Chamberlin pointed out in his classic work on monopolistic competition, product differentiation can create stable equilibria with multiple produc-

Weiser, *supra* note 86, at 104; see also Besen & Farrell, *supra* note 349, at 117 ("A firm's strategy toward vertically related firms—the suppliers of complementary goods—normally involves trying to encourage a generous supply of complements, while perhaps also trying to discourage the supply of complements to rivals.").

404. Katz & Shapiro, *Systems Competition*, *supra* note 350, at 110; accord Joseph Farrell & Garth Saloner, *Standardization, Compatibility, and Innovation*, 16 *RAND J. Econ.* 70, 71 (1985) (counting "reduction in variety" as among "important social costs" of standardization); Katz & Shapiro, *Systems Competition*, *supra* note 350, at 110 (noting that "the primary cost of standardization is a loss of variety: consumers have fewer differentiated products to pick from").

405. See Katz & Shapiro, *Systems Competition*, *supra* note 350, at 106 (noting that "market equilibrium with multiple incompatible products reflects the social value of variety"); Liebowitz & Margolis, *supra* note 352, at 292 ("Where there are differences in preferences regarding alternative standards, coexistence of standards is a likely outcome.").

406. See Yoo, *Beyond Network Neutrality*, *supra* note 71, at 21.

407. See *id.* at 21–22.

ers each producing on the declining portion of the average cost curve.⁴⁰⁸ Thus, smaller players can survive despite cost and size disadvantages by targeting subsegments of the market.⁴⁰⁹

Platform access also involves significant transaction costs, both in terms of establishing the governing standards and in terms of reconfiguring the network to open it to providers of complementary services. The breakup of AT&T provides a useful example. Implementing the divestiture decree's equal access mandate required the local telephone companies to redesign their switches so that they could accommodate multiple long distance providers, a process that entailed considerable cost and delay as well as close regulation of both the price and nonprice terms and conditions of interconnection.⁴¹⁰ Such oversight is particularly onerous when the interface and the information requirements needed to implement it are complex.⁴¹¹

In addition, the governing standard must be updated to reflect changes in technology. In the meantime, standardization locks the location of the interface into place, an effect that is particularly problematic in industries in which technological change is forcing the natural interfaces between firms to shift constantly. Instead, the FCC and the court overseeing the breakup of AT&T had to create an elaborate set of rules forcing the local telephone companies to undertake certain modifications, limiting their ability to change their interfaces, and requiring them to provide advance notice of any changes that would be approved. Forcing such decisions to be decided as a matter of regulation represented a significant hindrance in such a technologically dynamic industry.⁴¹²

Furthermore, like any form of compelled access, platform access requires direct regulation of prices in order to be effective. As *Trinko* recognized, price regulation is not a task to which antitrust courts are particularly well suited.⁴¹³ For example, as noted earlier, the Kingsbury Commitment required that AT&T make its long distance network available to independent local telephone companies.⁴¹⁴ The problem was that the decree allowed AT&T to charge prices that were so unattractive as to render this form of platform access useless.⁴¹⁵

408. See Edward Hastings Chamberlin, *The Theory of Monopolistic Competition: A Reorientation of the Theory of Value* 97–100 (8th ed. 1962).

409. See Yoo, *Beyond Network Neutrality*, *supra* note 71, at 29–33.

410. See Gerald R. Faulhaber, *Policy-Induced Competition: The Telecommunications Experiments*, 15 *Info. Econ. & Pol'y* 73, 82–84 (2003).

411. See *id.* at 77, 81.

412. See Yoo, *Beyond Network Neutrality*, *supra* note 71, at 43–45 (noting how access requirements can stifle competition and innovation in technologically dynamic industries by locking interfaces into place).

413. See *supra* notes 244–252 and accompanying text.

414. See *supra* note 377 and accompanying text.

415. See Mueller, *supra* note 366, at 131–32 (describing large surcharges, exclusive control arrangements, and use restrictions implemented by AT&T following Kingsbury Commitment).

Most problematic is platform access's long-run impact on dynamic efficiency. As noted earlier, the primary policy goal should be to promote entry in those segments of the industry that are the least competitive.⁴¹⁶ Only if competition in a particular segment proves unsustainable should policymakers pursue the second-best policy goal of promoting competition in complementary services.

At the time of the consent decree settling the government's 1974 antitrust suit against AT&T (known as the "Modification of Final Judgment"), entry by competitive local telephone providers was thought to be infeasible, making the promotion of competition in long distance and information services a legitimate policy goal.⁴¹⁷ After competition in local telephone providers became feasible, platform access became counterproductive. Long distance providers were natural strategic partners for companies wishing to enter into local telephone service, yet they had no incentive to undertake such investments so long as the antitrust decree breaking up AT&T provided them with access to the existing network.⁴¹⁸ The recent patterns of investment following the Supreme Court's *Brand X* decision bear out this dynamic. Once the Supreme Court made clear that regulation would no longer guarantee providers of complementary services access to existing broadband networks, content and application providers and device manufacturers began pouring capital into alternative network technologies such as wireless broadband and broadband over powerline.⁴¹⁹ Proper administration would thus require the court to monitor technological developments in the telecommunications industry and to release the local telephone companies from their equal access obligations the minute competition from other local telephone companies became sustainable. It is doubtful that any antitrust court, no matter how well intentioned, would be up to such a task.

b. *Platform Access and the Courts.* — Despite these problems, platform access represents the most common form of access imposed under the antitrust laws. For example, MCI's antitrust suit against the Bell System and the Modification of Final Judgment both attempted to promote competition in the complementary service of long distance by mandating platform access to the Bell System's local telephone networks.⁴²⁰ The Modification of Final Judgment also extended this equal access requirement to the predecessors to the providers of Internet content (then

416. See *supra* notes 94–98 and accompanying text.

417. See *supra* note 102 and accompanying text.

418. See Spulber & Yoo, *Access to Networks*, *supra* note 347, at 975–76.

419. See Yoo, *Network Neutrality and Congestion*, *supra* note 109, at 1894–95.

420. See *MCI Commc'ns Corp. v. AT&T Co.*, 708 F.2d 1081, 1132–33 (7th Cir. 1983) (requiring AT&T to provide MCI with platform access to local telephone networks for use in developing competitive long distance telephone service); *United States v. AT&T Co. (Modification of Final Judgment)*, 552 F. Supp. 131, 195–97 (D.D.C. 1982) (requiring AT&T to provide nondiscriminatory platform access to all long distance providers), *aff'd mem. sub nom. Maryland v. United States*, 460 U.S. 1001 (1983).

called information service providers).⁴²¹ Although the Modification of Final Judgment did not initially address platform access for CPE, later modifications brought CPE within the equal access mandate as well.⁴²² The court also imposed similar equal access requirements on GTE, the largest non-Bell provider of local telephone service, when approving its merger with Sprint.⁴²³ The proposed consent decree that would have approved AT&T's 1994 acquisition of the largest cellular provider contained a similar equal access requirement before the case was mooted by the Telecommunications Act of 1996.⁴²⁴

To facilitate enforcement of equal access, the Modification of Final Judgment included line of business restrictions prohibiting the newly divested local telephone companies from offering long distance or information services or from manufacturing CPE.⁴²⁵ To ensure that the local telephone companies did not evade rate regulation by entering into an unregulated complementary market, the Modification of Final Judgment included a catch-all line of business restriction prohibiting them from "provid[ing] any other product or service, except [local telephone service], that is not a natural monopoly service actually regulated by tariff."⁴²⁶

There is considerable irony that platform access is where antitrust plaintiffs have fared the best. The economic logic suggests that the anticompetitive risks surrounding platform access are much lower than that of other forms of access and are in the process of being rendered nonexistent in the telecommunications industry by the emergence of wireless and other alternatives to conventional local telephone service. As noted earlier, an exception exists when the underlying markets are subject to rate regulation.⁴²⁷ This exception, however, is largely inapposite in the telecommunications context as many telecommunications markets, such as broadband and wireless, have never been subject to rate regulation, and the others have already been rate deregulated or are now on their way to becoming so.⁴²⁸

Indeed, the extent to which the emergence of last-mile competition has undercut the justification for imposing platform access is well illustrated by the D.C. Circuit's decision holding that the emergence of last-

421. See *Modification of Final Judgment*, 552 F. Supp. at 195–97.

422. See Michael K. Kellogg et al., *Federal Telecommunications Law* § 5.3.2, at 259–63 (1992).

423. See *United States v. GTE Corp.*, 603 F. Supp. 730, 743–44 (D.D.C. 1984).

424. See Huber et al., *supra* note 89, § 4.4.5, at 385.

425. See *Modification of Final Judgment*, 552 F. Supp. at 227; see also *United States v. W. Elec. Co.*, 673 F. Supp. 525, 529 (D.D.C. 1987) (referring to line of business restrictions as *Modification of Final Judgment*'s "core restrictions"), *aff'd in part, rev'd in part*, 900 F.2d 283 (D.C. Cir. 1990). The court imposed these line of business restrictions notwithstanding the objections of the FCC. See Huber et al., *supra* note 89, § 9.6.1, at 816.

426. *Modification of Final Judgment*, 552 F. Supp. at 228.

427. See *supra* notes 86–90 and accompanying text.

428. See *supra* notes 91–93 and accompanying text.

mile alternatives justified waiving the Modification of Final Judgment's line of business restriction on information services⁴²⁹ as well as the catch-all restriction on untariffed services.⁴³⁰ Controversies over the remaining line of business restrictions continued until the Modification of Final Judgment was superseded by the Telecommunications Act of 1996.⁴³¹

The Justice Department's and the FCC's recent approvals of the Verizon-MCI and SBC-AT&T acquisitions further attest to the extent to which control of the local loop has ceased to be a justification for imposing platform access. Indeed, as recently as 1997, a merger between a long distance company and one of the local telephone companies that used to make up the Bell System was regarded as "unthinkable."⁴³² But the FCC approved these two mergers, disposing of requests for platform access in a few brief paragraphs finding that the level of competition and the existence of excess capacity were sufficient to guard against anticompetitive harms.⁴³³ Indeed, the judicial decision evaluating the acquisitions under the antitrust laws did not even mention platform access.⁴³⁴

The experience implementing the platform access provisions of the Modification of Final Judgment provides an eloquent demonstration of how difficult administering platform access can be. The court overseeing the decree was bombarded with complaints charging the local telephone companies with failing to live up to their equal access obligations.⁴³⁵ The technological dynamism of the telecommunications industry forced the court to confront hundreds of requests to waive the line of business restrictions.⁴³⁶ These requests often took from three to four years to process, with estimates of the total welfare loss associated with these delays exceeding \$1 billion.⁴³⁷

These developments provide a useful perspective on the ongoing debate over platform access to the Internet, which goes by the name of "network neutrality." One key question is whether antitrust law permits last-mile broadband providers to give preferential access to particular content and application providers.⁴³⁸ Indeed, the FTC recently held a public

429. See *United States v. Elec. Co.*, 993 F.2d 1572, 1578–80 (D.C. Cir. 1993).

430. See *W. Elec. Co.*, 673 F. Supp. at 599.

431. See Huber et al., *supra* note 89, § 9.6.12, at 823–30.

432. Reed E. Hundt, Chairman, Fed. Commc'ns Comm'n, *Thinking About Why Some Communications Mergers Are Unthinkable*, Address Before the Brookings Institution (June 19, 1997), available at <http://www.fcc.gov/Speeches/Hundt/spreh735.html> (on file with the *Columbia Law Review*).

433. See Verizon-MCI Order, *supra* note 280, at 18510–12 ¶¶ 145–152; SBC-AT&T Order, *supra* note 280, at 18368–71 ¶¶ 146–152.

434. See *United States v. SBC Commc'ns, Inc.*, 489 F. Supp. 2d 1 (D.D.C. 2007).

435. See *Kellogg et al.*, *supra* note 422, §§ 5.3–5.4, at 253–73.

436. See *id.* § 7.1, at 52 (Supp. 1995).

437. See Paul H. Rubin & Hashem Dezhbakhsh, *Costs of Delay and Rent-Seeking Under the Modification of Final Judgment*, 16 *Managerial & Decision Econ.* 385, 385–88, 397 (1995).

438. See Yoo, *What Can Antitrust Contribute*, *supra* note 62, at 511–17, 525–29 (exploring implications of antitrust for network neutrality).

workshop exploring whether the antitrust laws should impose platform access to the Internet.⁴³⁹ Just as the existence of alternative sources of network capacity undercuts the justification for platform access on behalf of information services, so too does competition between cable modem and DSL systems and the imminent emergence of other broadband alternatives undercut the justification for imposing network neutrality.

5. *Unbundled Access.* — *Unbundled access* requires network owners to lease portions of their networks to their competitors.⁴⁴⁰ Like wholesale access, unbundled access is provided to competitors. Rather than provide the services of the entire network, as is the case under wholesale access, unbundled access involves the use of the services of selected inputs.

a. *The Economics of Unbundled Access.* — Unbundled access has an impact on the demand for network services that is similar in some ways to that of wholesale access. Because unbundled access can create new services, it can cause demand to increase. At the same time, diverting traffic off the network can cause the demand for network services to decrease. These changes in network demand can alter the optimal network design by changing the cost of certain components, by changing the variability of network flows, and by diverting traffic onto other networks to the point where traffic-aggregating technologies will no longer be cost effective.

That said, unbundled access disrupts the network in ways that are far more intrusive than wholesale access. Unlike wholesale access, which involves access to the entire network, unbundled access ties up only isolated portions of the network. Because networks are complex systems, tying up network elements in one part of the network can have an adverse impact on portions of the network located far from the element being accessed.⁴⁴¹ Like interconnection access, unbundled access also introduces new sources of network flows at places other than customers' premises. The problem is that the interconnection points for unbundled access are far more varied than those for interconnection access. Therefore, unbundled access's impact on the network's cost, capacity, and reliability is likely to be quite unpredictable.

Unbundled access also requires the network owner to establish systems for provisioning and metering components deep within its system at points that do not normally serve as external interfaces with other firms. As the protracted litigation surrounding the provisions of the 1996 Act demonstrates, implementation of unbundled access is unusually complex.

439. See FTC, Public Workshop on Broadband Connectivity Competition Policy, at <http://www.ftc.gov/opp/workshops/broadband/> (last updated Aug. 29, 2007) (on file with the *Columbia Law Review*) (describing conference held Feb. 13–14, 2007, in Washington, D.C.).

440. For a more detailed analysis of the impact of unbundled access, see Spulber & Yoo, *Network Regulation*, *supra* note 300, at 645–46, 658–60, 671–73.

441. See Spulber & Yoo, *Regulation of Networks*, *supra* note 291, at 1703–07.

b. *Unbundled Access and the Courts.* — Antitrust courts have entertained requests for mandating unbundled access from time to time. For example, the court overseeing the Modification of Final Judgment was asked to approve a proposed modification that would have provided unbundled access to Ameritech's local telephone network in return for allowing Ameritech to offer long distance service.⁴⁴² As noted earlier, the failure to provide unbundled access also formed the foundation for *Trinko*.⁴⁴³

Courts have been quite critical of the effect that unbundled access can have on dynamic efficiency. For example, Justice Breyer noted in his separate opinion in *Iowa Utilities Board*:

[A] sharing requirement may diminish the original owner's incentive to keep up or to improve the property by depriving the owner of the fruits of value-creating investment, research, or labor. . . . [One cannot] guarantee that firms will undertake the investment necessary to produce complex technological innovations knowing that any competitive advantage deriving from those innovations will be dissipated by the sharing requirement.⁴⁴⁴

Justice Breyer also raised questions about administrability. He warned that "[e]ven the simplest kind of compelled sharing . . . means that someone must oversee the terms and conditions of that sharing," which in turn can give rise to "significant administrative and social costs."⁴⁴⁵ Indeed,

The more complex the facilities, the more central their relation to the firm's managerial responsibilities, the more extensive the sharing demanded, the more likely these costs will become serious. And the more serious they become, the more likely they will offset any economic or competitive gain that a sharing requirement might otherwise provide.⁴⁴⁶

Thus, "[r]ules that force firms to share *every* resource or element of a business would create not competition, but pervasive regulation, for the regulators, not the marketplace, would set the relevant terms."⁴⁴⁷

The Supreme Court's *Trinko* decision offered similar criticisms of using the antitrust laws to compel unbundled access to a telecommunications network. These critiques are discussed at length above and need be

442. See Huber et al., *supra* note 89, § 5.4.8, at 453–54.

443. See *supra* note 212 and accompanying text.

444. *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 428–29 (1999) (Breyer, J., concurring in part and dissenting in part); accord *Verizon Commc'ns, Inc. v. FCC*, 535 U.S. 467, 550–51 (2002) (Breyer, J., concurring in part and dissenting in part) (noting that compelling incumbents to share cost-reducing benefits of successful innovation destroys incumbents' incentives to innovate).

445. *Iowa Utils. Bd.*, 525 U.S. at 428 (Breyer, J., concurring in part and dissenting in part).

446. *Id.* at 429 (citation omitted).

447. *Id.*

revisited only briefly here. Specifically, the Court rejected calls for imposing unbundled access under the antitrust laws because “[c]ompelling [infrastructure] firms to share the source of their advantage is in some tension with the underlying purpose of antitrust law, since it may lessen the incentive for the monopolist, the rival, or both to invest in those economically beneficial facilities.”⁴⁴⁸

In addition, mandating unbundled access poses significant problems of administrability. In the words of the Court, “[e]nforced sharing also requires antitrust courts to act as central planners, identifying the proper price, quantity, and other terms of dealing.”⁴⁴⁹ Furthermore, because unbundled access affects network elements “deep within the bowels” of a local telephone network, they can only be made available if “[n]ew systems [are] designed and implemented simply to make that access possible.”⁴⁵⁰ Additionally, requests for unbundled access “are difficult for antitrust courts to evaluate, not only because they are highly technical, but also because they are likely to be extremely numerous, given the incessant, complex, and constantly changing interaction of competitive and incumbent LECs implementing the sharing and interconnection obligations.”⁴⁵¹ The “uncertain virtue of forced sharing and the difficulty of identifying and remedying anticompetitive conduct by a single firm” made the Court loath to mandate unbundled access under the antitrust law.⁴⁵²

In sum, all five forms of access share a number of common characteristics. For example, access invariably has a dramatic impact on the cost, capacity, and reliability of the network. In addition, by requiring networks to externalize certain functions that would otherwise be internalized, access forces networks to diverge from the natural boundaries dictated by the Coasean theory of the firm. Every form of access also has the inevitable effect of reducing incentives for both incumbents and competitors to invest in alternative network capacity. Judicially imposed access also inevitably requires antitrust courts to undertake price-setting and output-allocation functions to which they are institutionally poorly suited.

That said, these overarching similarities do not justify disregarding the differences among the various types of access. By capturing how various network components interact with one another within the context of a complex system, our framework shows how the nature and the magnitude of each of these problems varies with the precise type of access being sought. The saving grace is that the emergence of competition in the last mile is in the process of undermining the conceptual justification for im-

448. *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407–08 (2004).

449. *Id.* at 408.

450. *Id.* at 410.

451. *Id.* at 414.

452. *Id.* at 408.

posing all forms of access, although the degree of competition and the precise nature of the potential competitive problems vary across the different types. Until the expansion of wireless and other alternative network technologies renders access superfluous, courts and policymakers will continue to need tools to analyze the unique problems that each type of access poses.

CONCLUSION

The antitrust laws continue to represent an uncertain basis for mandating access to telecommunications networks. Not only have the theories upon which the essential facilities doctrine rests long been under conceptual attack; scholars have increasingly questioned courts' institutional competence to supervise access decrees. Both of these concerns came together in the Supreme Court's decision in *Trinko*. After that decision, the presence of a regulatory regime with authority to impose access affects more than just the timing of judicial review; it may serve as a substantive bar to judicial imposition of access requirements.

The *Trinko* opinion also contains clues underscoring the mistake of treating all types of access alike. This Article offers a framework for organizing and analyzing different types of access. To the extent that antitrust survived *Trinko* as a source of access requirements, we hope this framework provides some guidance. Interestingly, the courts have been most sympathetic to platform access, particularly in opening up AT&T's local telephone networks to long distance competitors, and the issue has taken center stage in the debates about network neutrality. Based on our analysis, this is the type of access to networks in which antitrust and regulatory intervention is the least justified.